

SJIF Impact Factor : 7.001
ISI I.F Value : 1.241

ISSN:2455-7838 (Online)
DOI : 10.36713/epra2016



EPRA International Journal of
RESEARCH & DEVELOPMENT
(IJRD)

Monthly, Peer Reviewed (Refereed) & Indexed International Journal

Volume - 5 Issue - 8 August 2020



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EPRA International Journal of Research & Development (IJRD)

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International Online Journal

Volume: 5, Issue:8, August 2020

Indexed By:



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SYNTHESIS OF TRIAZOLOTHIADIAZOLE DERIVATIVES

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ABSTRACT

6-(substituted phenyl)-3-phenyl[1,2,4]triazolo[3,4-b][1,3,4]thiadiazole are nucleus for developing numerous biologically active heterocycle. Cyclization with acids gives five six membered heterocycle derivatives. In this article we report the synthesis of a series of 1,2,4-triazolo-1,3,4-thiadiazoles starting from benzohydrazide obtaining potassium salts which is stir at RT for 16 hrs. to form 1,2,4-triazole which is heat in microwave with substituted acids using phosphorous oxychloride as cyclizing agent.

KEYWORDS: Triazolothiadiazole, Heterocycle, Microwave, IR, NMR, GCMS

1. INTRODUCTION

Triazolothiadiazole heterocyclic containing triazolothiadiazole nucleus having immense pharmacological activities. The triazolothiadiazole moiety present in compounds are obtaining for new products which possess most important pharmacological actions. Triazolothiadiazole consist of important class of biologically active drug molecules which has attracted attention of researchers due to their wide range of pharmacological properties. These compounds are being synthesized as drugs by many researchers in order to combine diseases with minimal toxicity and maximal effects. These active compounds

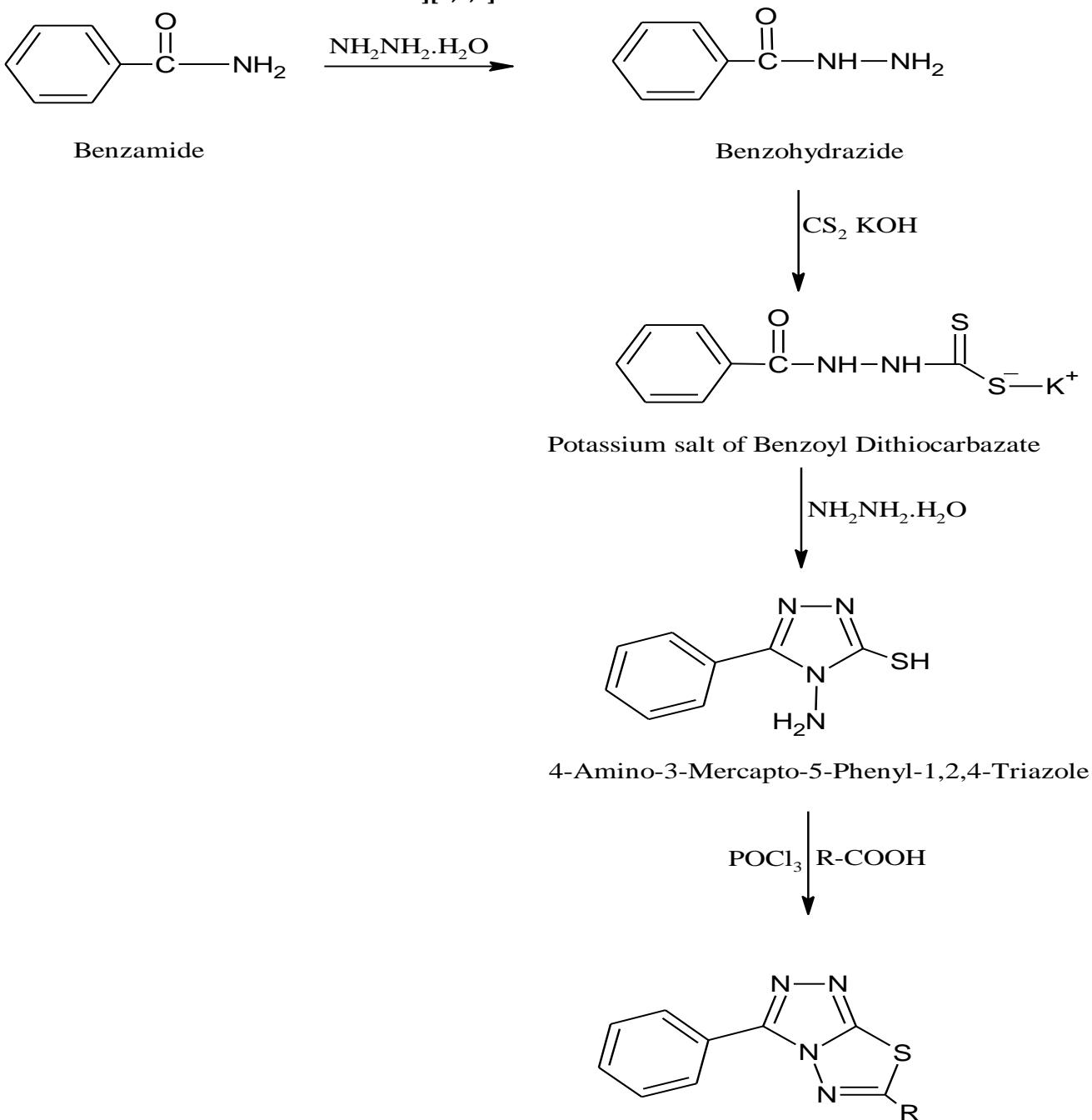
provided therapeutic path to develop effective biologically active triazolothiadiazole.^{1, 2, 3}

2. MATERIALS AND METHODS

All solvents are of analytical grade and reagents purchased from sigma-aldrich. ¹H NMR spectra recorded on Bruker AVANCE III™ 500 spectrometer in DMSO as solvent, using TMS as an internal standard and chemical shifts expressed as ppm. GCMS spectra were determined on Shimadzu GCMS real time analysis while IR spectra done by Bruker IR Solution 8400s. The reaction progress was monitored by TLC pre-coated silica gel G plates.



General schemes for synthesis of 6-(substituted phenyl)-3-phenyl[1,2,4]triazolo[3,4-b][1,3,4]thiadiazole



6-(Substituted Phenyl)-3-Phenyl[1,2,4]triazolo[3,4-b][1,3,4]Thiadiazole

Scheme 1: Synthetic pathway for the compound (R1-R4; Ra1-Ra2)



2.1 Microwave Synthesis of benzohydrazide (R1)

5gm (0.04M) of benzamide, 2.4mL (0.05M) of hydrazine hydrate were placed in RBF. Reaction mixture was irradiated for 15 min. in microwave oven at 280 watt. The reaction was monitored using TLC. After completion of reaction the reaction mixture was brought to R.T and the precipitated product was filtered. Melting point was determined.

White coloured solid; MF= C₇H₈N₂O; MW= 136 gm/mol; MP= 110-112°C; Mobile Phase = Chloroform: ethanol (8:2)

2.2 Microwave Synthesis of potassium benzoyl dithiocarbamate (R2)

To a stir suspension of 1.9gm (0.035M) of potassium hydroxide in 5mL of ethanol, added 4.32gm (0.03M) of benzohydrazide in portion taking care that earlier portion dissolved completely. Later, dropping funnel was clamped over the flask and 2.1 mL (0.035M) of carbon disulfide solution was added with in a period of 2-3 min. in reaction mixture. As the addition of carbon disulfide, yellowish white solid separate out from the solution and finally whole solution thicken up. To this 30ml ethanol was further added and stirred for 16hrs. at R.T. The RM was filtered, the salt prepared was obtained in nearly quantitative yield and was employed without further purification.

2.3 Microwave Synthesis of 4-amino-3-mercapto-5-phenyl-1,2,4-triazole (R3)

6.6gm (0.03M) of suspension of potassium salt in 5mL of ethanol, 2mL (0.04M) of hydrazine hydrate was irradiated for 10 min. in microwave oven at 210 watt. The colour of the RM changes to green with evolution of H₂S gas, and homogeneous solution resulted. Cold water was added and the solution was slowly acidified with conc. HCl. The precipitated solid was filtered. Melting point was determined.

White coloured solid; MF= C₈H₈N₄S; MW= 192 gm/mol; MP= 192-194°C; Mobile Phase = Chloroform: ethanol (8:2)

2.4 Microwave Synthesis of 6-(substituted phenyl)-3-phenyl [1,2,4]triazolo[3,4-b] [1,3,4]thiadiazole (R4)

A mixture of (0.007M) 4-amino-3-mercapto-5-phenyl-1,2,4-triazole and (0.007M) appropriate substituted aromatic acid in (0.2ml) phosphorous oxychloride was irradiated in microwave oven for 5-8 min. at 210 watt.

The reaction was monitored using TLC. After completion of reaction the reaction mixture was cooled to RT and gradually poured onto crushed ice. The separated solid was filtered, washed with water. Melting point was determined.

2.5 Microwave synthesis of 6-(2-chloro phenyl)-3-phenyl[1,2,4]triazolo[3,4-b][1,3,4]thiadiazole (Ra1)

White coloured solid; MF = C₁₅H₉ClN₄S; MW = 312gm/mol; MP = 120-122°C; Percentage Yield = 1.70gm; 80.23%; Mobile Phase = Chloroform: ethanol (8:2); R_f value = 0.65; ¹H NMR (Ar-H:7.5-7.6); FTIR (C=C Ar 1681, C=N Str 1610, C-Cl 742, C-S-C Str 709); GCMS (m/z= 314, 250, 236, 202, 177, 101, 90, 63).

2.6 Microwave synthesis of 6-(4-nitro phenyl)-3-phenyl[1,2,4]triazolo[3,4-b] [1,3,4]thiadiazole (Ra2)

Pale yellow coloured solid; MF = C₁₅H₉N₅O₂S; MW = 325 gm/mol; MP = 167-169°C; Percentage Yield = 2.12gm; 83.33%; Mobile Phase = Chloroform: ethanol (8:2); R_f value = 0.59; ¹H NMR (Ar-H: 8.1-8.3); FTIR (C=C Ar 1688, C=N Str 1610, C-NO₂ Str 1538, C-S-C Str 714); GCMS (m/z= 325, 261, 247, 152, 137, 101, 90, 76).

3. RESULT AND DISCUSSION

In the present work, a mixture of 1,2,4-triazole and substituted aromatic acid in phosphorous oxychloride was irradiated in microwave oven for 5-8 min. at 210 watt to obtain 6-(substituted phenyl)-3-phenyl [1,2,4]triazolo[3,4-b] [1,3,4]thiadiazole (R4). Further the reaction progress of synthesized compounds was monitored by TLC pre-coated silica gel G plates. Structure of all the synthesized compounds was confirmed by their spectral data interpretation.

4. CONCLUSION

We perform synthesis of a library of synthetic small molecules and identification of triazolo-thiadiazole derivative. The target triazolothiadiazole derivatives synthesized by microwave irradiation as time required for completion of reaction was too less as compare to conventional heating whereas compound synthesized by microwave irradiation was more pure as compare to compounds synthesized by conventional synthesis.



5. ACKNOWLEDGEMENT

Authors are thankful to the Management and Dean of School of Pharmaceutical Sciences, Sandip University, Nashik. Authors are also grateful to R. G. Sapkal college of Pharmacy and MGV's Pharmacy College, Panchavati, Nashik for providing spectral data.

6. REFERENCES

1. Desai SR, Laddi U, Bennur RS, Patil PA, Bennur S. *Synthesis and Pharmacological Activities of Some New 3-Substituted-4-Amino-5-Mercapto-1,2,4-Triazoles*. *Indian J Pharm Sci* 2011; 73(1): 115–120.
2. Kumar GVS, Prasad YR, Mallikarjuna BP, Chandrashekar SM. *Synthesis and pharmacological evaluation of clubbed isopropyl thiazole derived triazolothiadiazoles, triazolothiadiazines and mannich bases as potential antimicrobial and antitubercular agents*. *Eur J Med Chem* 2010; 45: 5120-5129.
3. Reddy CS, Rao LS, Nagaraj A. *Synthesis and Evaluation of Novel Bis[1,2,4]triazolo[3,4-b][1,3,4]thiadiazoles as Potent Antimicrobial Agents*. *Acta Chim Slov* 2010; 57: 726-732.
4. Almajan GL, Saramet I, Barbuceanu S-F, Draghici C, Bancescu G, Cristea C. *New 1,2,4-triazolo[3,4-b]-1,3,4-thiadiazoles bearing Substituted (phenylsulfonyl) phenyl Moiety as Possible Antimicrobial Agents*. *REV. CHIM. (Bucharest)* 2010; 61(9): 886-889.
5. Ashok M, Holla BS. *Convenient Synthesis of some Triazolothiadiazoles and Triazolothiadiazines carrying*
6. Gilani SJ, Suroor A, Khan SA Siddiqui N. *Synthesis and pharmacological evaluation of condensed heterocyclic 6-substituted 1,2,4-triazolo-[3,4-b]-1,3,4-thiadiazole and 1,3,4-oxadiazole derivatives of isoniazid*. *J Bio-org Med Chem Lett* 2010; 20:4762-65.



PERFORMANCE ANALYSIS OF DUAL BAND BANDPASS FILTER DESIGN TECHNOLOGIES

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ABSTRACT

This paper focuses on different design techniques of dual band band-pass filter and their results are compared. Improvement of filter performance and reduction in components size is become prime concern with rapid advancement of technologies. In this paper, Coupled Stepped Impedance Resonators, Series Coupled Ring Resonator, Single Ring Resonator and Stub-Loaded Meander Line Resonator.

INTRODUCTION

These days, there is an extraordinary interest for multiband and multimode transceivers with the end goal that diverse wireless gauges coincide and permit worldwide use. For instance, a GSM-CDMA handset must have the option to get and transmit signals at 900 MHz and 1900 MHz [1, 2]. To obtain this multi-usefulness, one can utilize separate chips for every standard, which implies that everyone must be independently planned, tried and stuffed and, along these lines, a costly arrangement. The profoundly attractive arrangement depends on equipment reuse. In this unique circumstance, we present a double band structure system for one of the RF front-end obstructs the pass-band channel. Different dual-band band-pass filters have been introduced, [3-5].

Double band bandpass channels (DBBPF) have as of late become appealing parts in wireless correspondence frameworks [6-13]. In [6] the DBBPF is accomplished by combining two individual single-band channels by means of a common input/output port. This sort of DBBPF is anything but difficult to acknowledge, in light of the fact that the sign of the two bands go through various resonators, allowing the two individual single band channels to be designed independently. Be that as it may, this sort of channel

requires in any event four resonators, on the grounds that a single-band channel design requires multiple resonators. In [7-9], a double mode resonator, which has a controllable first harmonic resonant frequency, is utilized to make the second passband. This kind of DBBPF can just determine the focal frequencies of two passbands. They experience issues in regulating the bandwidths of the two passbands in request to accomplish different particulars for each passband. DBBPFs with controllable bandwidths have been examined [10-13]. Nonetheless, these channels have constrained controllable bandwidth resulting from the common coupling way and require a complex design methodology. In this paper, diverse design systems for double band-pass channel is contrasted with break down their presentation.

LITERATURE SURVEY

He Zhu and Amin M. Abbosh [14] proposed new sort of stepped-impedance resonator with embedded coupled-line section. Contrasted and the creators' design [15] where a double band channel was designed using multi-mode resonators, the new channel utilizes a couple of coupled stepped-impedance resonator with embedded coupled-line for both of single-and double band channel designs. The investigation of the proposed resonator is firstly introduced, and afterward



two BPFs (a single-band and a double band model) are assembled and tried for confirmation of the design approach.

N. A. Wahab[16] displayed a novel ring based topology which utilizes just one quarter-wavelength coupled-line. This design proposed two rings cascaded in series side by side, coupled by means of a single quarter-wavelength coupled-line to display double band double mode bandpass channel. By using just one coupled-line and two identical rings had diminished the quantity of controlled parameters along these lines rearranges the tuning procedure. Adding to this, the pseudo-elliptic attributes of the two rings will improve the selectivity of the double band channel since transmission zeros are shaped both at the lower and upper stopbands of the double band. Further examination on the channel bandwidth, passband reaction and out-of-band reaction are additionally displayed by controlling the channel components of line impedances, Z_r , odd-and even-mode impedances of the coupled-line, Z_{oo} and Z_{oe} separately reaction.

ShaLuo [17] centers around a novel double mode double band BPF with two transmission shafts in two passbands is designed dependent on a single microstrip ring resonator on a single-layer substrate. The two energized ports are put along the ring with a partition of 135 and they are capacitively coupled to this ring through parallel-coupled lines. The remaining pieces of this work depict the principle of the proposed ring resonator double band channel and show its double band execution through an equal circuit model. Finally, a reduced double BPF with occasionally loading of opened stubs is designed for 2.4/5.8 GHz wireless local area network applications, and the anticipated outcomes are affirmed tentatively.

Naoto Sekiya[18] introduced a minimized high-temperature superconductor (HTS) double band bandpass channels by using stub-stacked wander open-circle resonator. Specifically, they depict the new technique for deftly adjusting the coupling coefficient for two bands. Use of the double band bandpass channels to a tri-band bandpass channels was portrayed with simulation.

DUAL BAND BANDPASS FILTER DESIGNING TECHNIQUES

A pair of coupled stepped-impedance resonators and its use to build single- and dual-band bandpass filter (BPF) is shown in fig. 1.

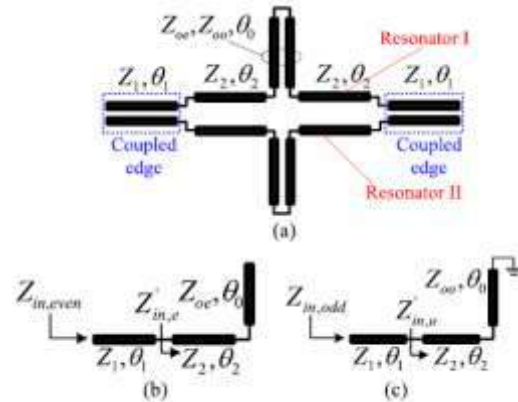


Fig. 1 (a) coupled stepped-impedance resonators (b) even- and (c) odd-mode equivalent circuits

This design includes a pair of coupled stepped-impedance resonators with embedded coupled-line sections. The utilized resonator is composed of two stepped-impedance transmission lines (Z_1, Z_2, θ_1 , and θ_2) and an embedded coupled-line section (Z_{oe}, Z_{oo}, θ_0). The overall length of the structure is about half guided-wavelength ($\lambda_g/2$) at the center frequency f_0 . The proposed resonator is asymmetric, and thus, odd- and even-analysis methods can be adopted to analyze its structure and deduce its resonant frequencies. Fig. 1(b) and (c) show the even- and odd-mode equivalent circuits, which can be used to derive the resonant frequencies. For the even-mode case, the resultant input impedance can be expressed as

$$Z_{in,even} = Z_1 \frac{Z'_{in,e} + jZ_1 \tan \theta_1}{Z_1 + jZ'_{in,e} \tan \theta_1}$$

$$Z'_{in,e} = jZ_2 \frac{Z_2 \tan \theta_2 - Z_{oe} \tan \theta_0}{Z_2 + Z_{oe} \tan \theta_2 \tan \theta_0}$$

The even-mode resonant frequencies can be determined by setting $Z_{in,even} = 0$. Here the first three even-modes (f_{e1}, f_{e2} , and f_{e3}) are investigated. For odd-mode case, the resultant input impedance can be expressed as

$$Z_{in,odd} = Z_1 \frac{Z'_{in,o} + jZ_1 \tan \theta_1}{Z_1 + jZ'_{in,o} \tan \theta_1}$$

$$Z'_{in,o} = jZ_2 \frac{Z_2 \tan \theta_2 + Z_{oo} \tan \theta_0}{Z_2 - Z_{oo} \tan \theta_2 \tan \theta_0}$$

The odd-mode resonant frequencies can be determined by setting $Z_{in,odd} = 0$. Here, the first three odd-modes (f_{o1}, f_{o2} , and f_{o3}) are investigated. This filter is a second-order structure composed of two resonators. The



coupling between the two resonators is realized by the open-ended transmission line (Z_1 and θ_1), as marked as coupling edges in Fig. 1(a). The electrical length (at the center frequency of the first passband f_1) of the stepped impedance and coupled-line section should meet the equation

$$2(\theta_1 + \theta_2) + \theta_0 = 180^\circ.$$

For different kinds of filter types (single- or dual-band), the following relation should be satisfied to find the values of θ_0, θ_1 , and θ_2 based on extensive parametric studies:

$$\begin{cases} \theta_1 = 2\theta_0 & \text{single-band} \\ \theta_1 = \theta_0 & \text{dual-band.} \end{cases}$$

Equation (6) defines the conditions of exciting or highly suppressing the first even-mode resonant frequency f_{e1} .

A **dual-band ring filter** using two identical microstrip dual-mode ring resonators shown in Fig. 2 (a), two identical rings are coupled in series with a single quarter-wavelength coupled-line at the center of the structure to form a dual-band bandpass filter. The input and output power of the resonator is fed via the ring lines which created a dual-path effect. The basic cell having one wavelength long at frequency f_0 with a coupled-line produced a dual-mode response with two transmission zeros. It is also known that a quarter-wavelength coupled-line behaves as a bandstop filter. Hence, by having a four-port coupled-line at the center of the structure has helped to create isolation between the two passbands resulting to a center transmission zero.

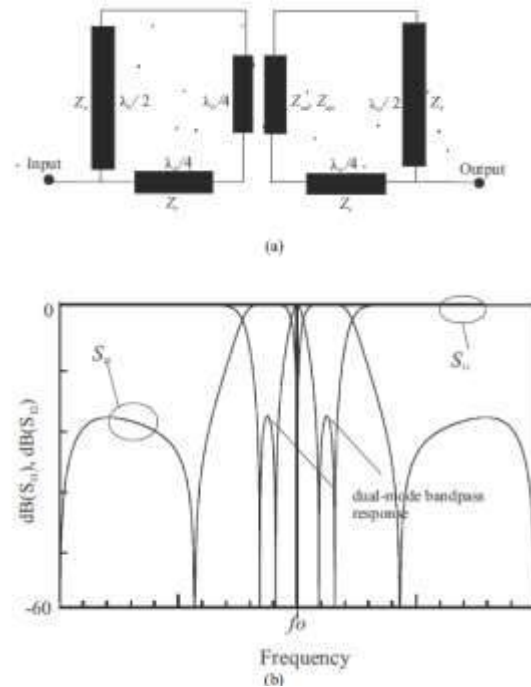


Fig.2 (a) A proposed dual-band ring filter topology, (b) Ideal response of the dual-band [16]

A set of impedance values of the ring resonators are chosen to obtain an ideal response of the bandpass filter, i.e. $Z_r = 50 \Omega$, $Z_{oe} = 243 \Omega$ and $Z_{oo} = 74 \Omega$ for reference frequency, f_0 at 2 GHz. Fig. 2(b) demonstrates the dual-mode dual-band response with sharp rejection skirt and center transmission zero at f_0 to isolate the two passbands.

Further investigation to analyze the filter behavior is performed. Figs. 3, 4, and 5 illustrate the characteristics of the bandpass filter with center frequency, f_0 at 2 GHz. The filter elements of Z_r , Z_{oe} and Z_{oo} are investigated to analyze their influence as the controlling parameters on the responses of the dual-band filter. The investigation is conducted by varying one of the controlling parameters while the other two impedances are fixed.

Figs. 3 and 4 illustrate the bandwidth variations when Z_r or Z_{oe} is varied. Fig. 3 demonstrates the effect of Z_r , in which when the impedance is increased while fixing both Z_{oe} and Z_{oo} , the bandwidth is decreased. Whereas when the impedance Z_{oe} is increased and Z_r and Z_{oo} are fixed, the bandwidth will be increased.

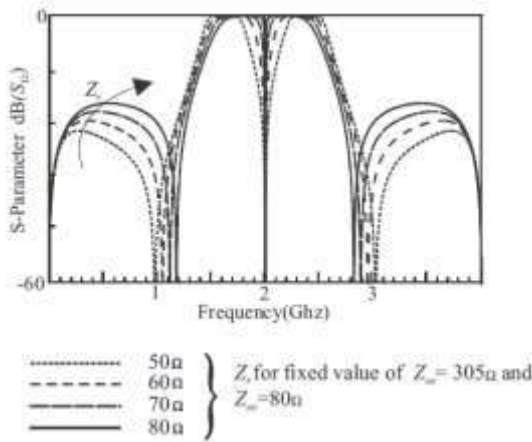


Fig. 3 Variations of bandwidth and rejection level when Z_r is varied while Z_{oe} and Z_{oo} are fixed

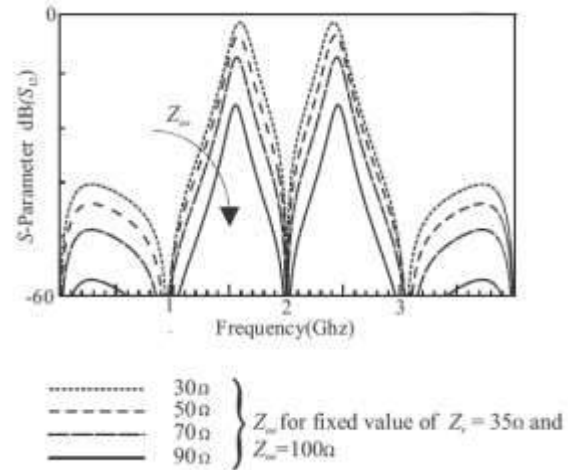


Fig. 5 Variations of passband and insertion loss when Z_{oo} is varied while Z_{oe} and Z_r are fixed

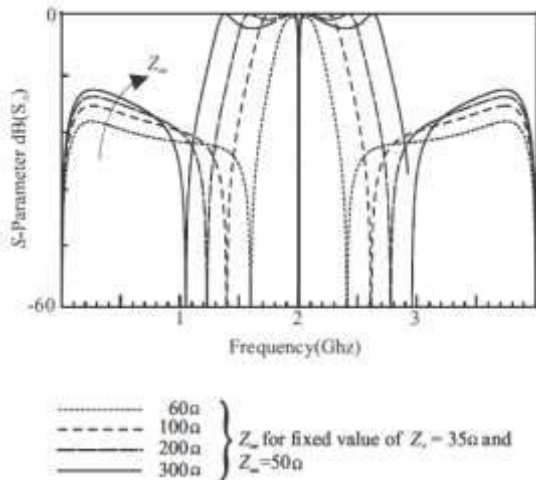


Fig. 4 Variations of bandwidth when Z_{oe} is varied while Z_r and Z_{oo} are fixed

Next, when Z_{oo} is varied, and both Z_r and Z_{oe} are fixed, the insertion loss and rejection level will be affected. Fig. 5 illustrates the outcome of varying Z_{oo} while the other two parameters are fixed. Meanwhile, by increasing Z_{oo} , the insertion loss deteriorates but the rejection level will be improved.

These observations had demonstrated that to achieve desired response, all the three parameters i.e. Z_r , Z_{oe} and Z_{oo} must be tuned to achieve desired bandwidth, insertion loss and rejection level. Therefore, the filter elements that influenced the overall response of this design is contributed by the line impedance of the two rings, Z_r and the single quarter wavelength coupled-line impedances, Z_{oe} and Z_{oo} respectively.

Fig. 6(a) depicts the schematic of the proposed dual-mode dual-band microstrip ring resonator, where is the input and output port impedance, and are the inner and outer radii of this ring, and is the characteristic impedance of the ring. In our design, the parallel-coupled lines are one quarter of the length of the ring, with a width of w and a spacing of s . As illustrated in Fig. 6(a), a three-port parallel-coupled line can be treated as a capacitive impedance, a voltage transformer with turns ratio n and two parallel-connected lines at port 2 and 3 as discussed in [19]. and denote the even and odd-mode characteristic impedances of this parallel-coupled line, while is their effective electrical length.

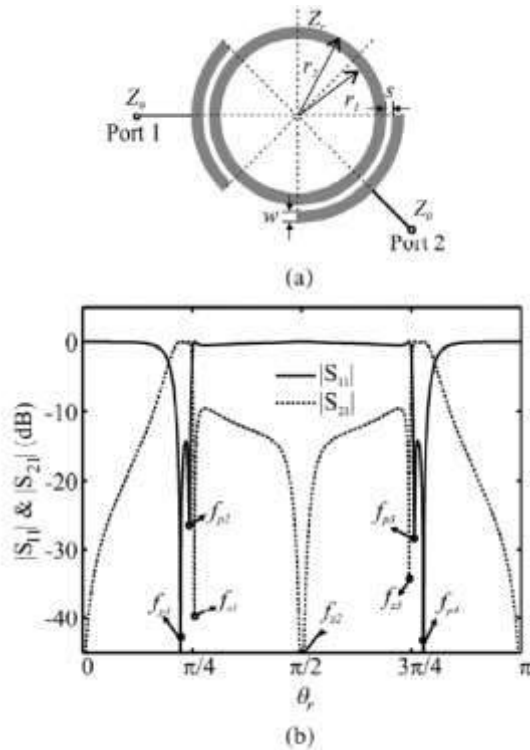


Fig. 6 Proposed dual-mode dual-band BPF using a single uniform ring resonator. (a) Schematic. (b) S-parameters versus electrical length θ_r with θ_r and θ_r .

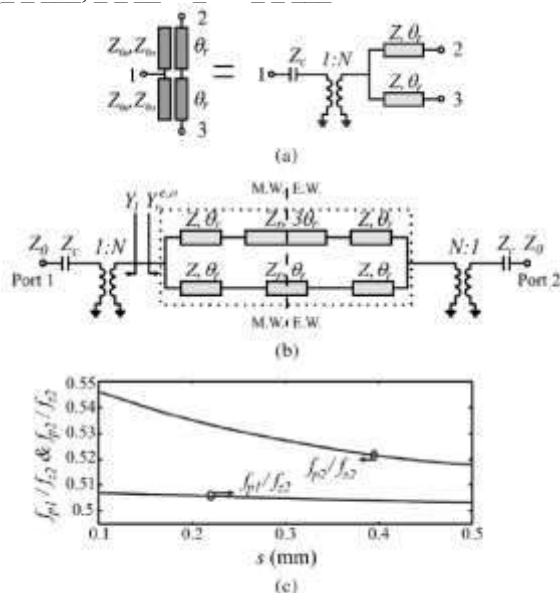


Fig. 7 (a) Equivalent-circuit diagram of three-port parallel-coupled lines. (b) Complete equivalent-circuit model for the filter in Fig. 1(a). (c)

Normalized frequencies of the two poles (f_{p1} and f_{p2}) in the first passband versus spacing s with s and s . Substrate: ϵ_r and μ_r . Follow the work in [20], the relationship between all the element parameters of the two networks in Fig. 7(a) can be derived as

$$Z_c = -j \frac{Z_{0e} Z_{0o}}{\tan \theta_r (Z_{0e} + Z_{0o})}$$

$$N = \frac{Z_{0e} + Z_{0o}}{Z_{0e} - Z_{0o}}$$

As such, the equivalent-circuit model of the filter in Fig. 6(a) can be derived as shown in Fig. 7(b). Fig. 6(b) plots its simulated parameters versus electrical length. As can be observed, the first and second passbands with two transmission poles at each band appear at f_{p1} and f_{p2} , respectively.

The two lower ones (f_{p1} and f_{p2}) are symmetrically located at the low sides of the two higher ones (f_{s1} and f_{s2}) with respect to θ_r . In addition, there exist three transmission zeros, f_{z1} , f_{z2} , and f_{z3} , between the two passbands. We can analyze this proposed ring resonator filter based on Fig. 7(b). According to the transmission theory, transmission zeros of this ring filter occur at the frequencies where the overall mutual admittance of the network inside the dash square in Fig. 7(b) equals to 0, such that

$$Z \sin 2\theta_r (\cos \theta_r + \cos 3\theta_r) + A (\sin \theta_r + \sin 3\theta_r) = 0$$

where $A = \frac{Z_{0e} - Z_{0o}}{Z_{0e} + Z_{0o}}$ and $Z = \frac{Z_{0e} Z_{0o}}{Z_{0e} - Z_{0o}}$.

By solving (2), all the zeros can be determined as

$$\theta_r = \sin^{-1} \sqrt{\frac{Z_r}{Z + Z_r}}$$

$$\theta_r = \left(n + \frac{1}{2} \right) \pi.$$

Equation (3a) determines the first and third transmission zeros, and while the second zero, f_{z2} , is derived under in (3b).

Stub-loaded resonators, which have an easily controlled resonant frequency, have been applied to normal conductor DBPFs. They have two resonance



modes of even and odd modes. The even-mode resonant frequency can be easily tuned while keeping the odd-mode one basically the same. However, it is difficult to keep the even-mode one basically the same while tuning the odd-mode one. Therefore, we proposed a novel dual-band bandpass stub-loaded resonator which can be independently controlled of the resonant frequency of the even and odd modes.

Fig. 8(a) shows the configuration of the double band bandpass stub-stacked resonator we created. It comprises of a meander open-loop resonator and an open stub. The meander resonator is utilized for miniaturizing the double band resonator size as well as decreasing the space between resonators because of feeble coupling property. This symmetric configuration empowers investigation as far as even- and odd-mode excitation's (the An A_ plane carries on as an electric/magnetic wall for odd/even excitation). Fig. 8(b) and (c) show the odd-mode excitation and even-mode excitation.

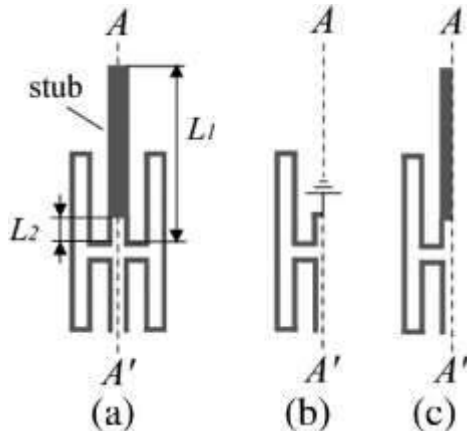


Fig. 8 (a) Configuration of proposed dual-band resonator, (b) odd-mode, and (c) even-mode excitation

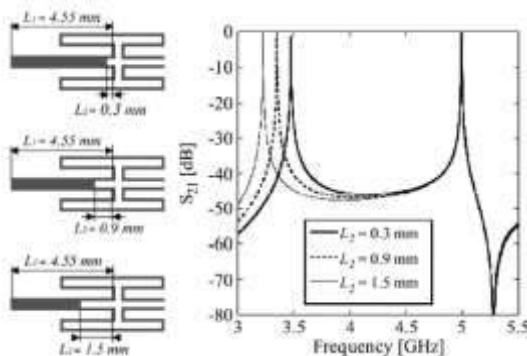


Fig. 9 Configuration of proposed resonator with length L_2 of 0.3, 0.9, 1.5 mm and simulated resonant frequency responses for different values of L_2 .

For odd-mode excitation, there is a voltage null along the middle of the resonator, as shown in Fig. 8(b). Hence, the tapping point of the stub is actually a virtual ground for the odd-mode. As a consequence, the stub does not affect the odd mode resonant frequency. For even-mode excitation, there is no current flow through the symmetrical plane. Thus, we can bisect the circuit with open circuits at the A-A_ plane, so that an even mode resonator which is constructed with meander line and the open stub is obtained, as shown in Fig. 8(c).

To investigate the frequency response of the developed resonator, we used full-wave simulation using electromagnetic (EM) analysis software (Sonnet EM) based on the moment method [21]. The odd-mode resonant frequency was mainly determined by the length of the meander open-loop resonator as in Fig. 8(b). The configuration of the proposed resonator for three values of length L_2 , and the simulated resonant frequency responses for the three values are plotted in Fig. 2. Increasing L_2 from 0.3 to 1.5 mm effectively shifted the odd-mode resonant frequency 250 MHz while leaving the even-mode resonant frequency basically the same. This is because the electrical length of even mode resonance was not changed, as shown in Fig. 9, and the stub does not affect the odd-mode resonant frequency.

The even-mode resonant frequency is mainly determined by the total length of the meander open-loop resonator and stub see Fig. 8(c). The configuration of the proposed resonator for three values of length L_1 , and the simulated resonant frequency responses for the three values are plotted in Fig. 10. Reducing L_1 from 4.55 to 3.55 mm without changing L_2 effectively shifted the even-mode resonant frequency 407 MHz while leaving the odd-mode resonant frequency basically the same. This is

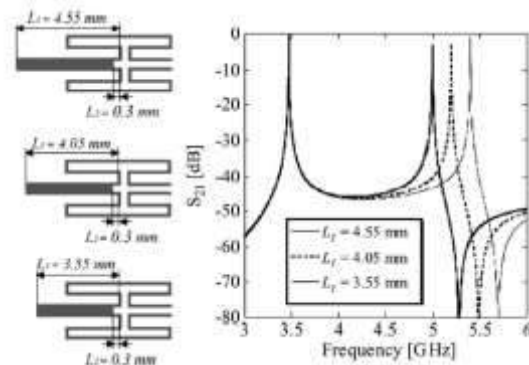




Fig. 10 Configuration of proposed resonator with length $L1$ of 4.55, 4.05, 3.55 mm and simulated resonant frequency response for different values of $L1$ because the electrical length of odd-mode resonance was not changed, as shown in Fig. 10, and the stub does not affect the odd-mode resonant frequency.

CONCLUSION

There are several methods available to design a filter. In this paper, some of these methods are discussed and compared along with their results and advantages. Compatibility of methods may differ according to the desired filter specification required for the particular use. Discussed filtering techniques led to the evolution of the number of filters. These filters have been used in a wide range of applications.

REFERENCES

1. C. Y. Chen, C. Y. Hsu and H. R. Chuong, "Design of Miniature Planar Dual Band Filter Using Dual-Feeding Structures and Embedded Resonators," *IEEE Microwave and Wireless Components Letters*, Vol. 16, No. 12, 2006, pp. 669-671. doi:10.1109/LMWC.2006.885621
2. S. F. Chang, Y. H. Jeng and J. L. Chen, "Dual-Band Step Impedance Band Pass Filter for Multimode Wireless LANs," *Electronic Letters*, Vol. 40, No. 1, 2004, pp. 38-39. doi:10.1049/el:20040065
3. H. Miyake, S. Kitazawa, T. Ishizaki, T. Ymada and Y. Nagatomi, "A Miniaturized Monolithic Dual-band Filter Using Ceramic Lamination Technique for Dual Mode Portable Telephones," *IEEE MTT-S International Microwave Symposium Digest*, 8-13 June 1997, Vol. 2, pp. 789-792.
4. J. T. Kuo, T. H. Yeh and C. Yeh, "Design of Microstrip Bandpass Filters with a Dual Pass Band Response," *IEEE Microwave Theory and Techniques Transactions*, Vol. 53, No. 4, April 2005, pp. 1331-1337. doi:10.1109/TMTT.2005.845765
5. X. Y. Zhang, J. X. Chen and Q. Xue, "Dual-band Band Pass Filters Using Stub-Loaded Resonators," *IEEE Microwave and Wireless Components Letters*, Vol. 17, No. 8, 2007, pp. 583-585. doi:10.1109/LMWC.2007.901768
6. C. -Y. Chen, C. -Y. Hsu, "A simple and effective method for microstrip dual-band filters design," *IEEE Microwave and Wireless Component Letters*, vol. 16, no. 5, pp. 246-248, May 2006.
7. S. Gao, Z. -Y. Xiao, and W. -F. Chen, "Dual-band bandpass filter with source-load coupling," *Electronics Letter*, vol. 45, no. 17, pp. 894-895, Aug. 2009.
8. J. Lee, J. Jung, K. Kim, and Y. Lim, "Compact dual-mode interdigital-loop resonator and filter application," *Wireless Information Technology and Systems 2010*, pp. 1-4, 2010.
9. P. Mondal, M. -K. Mandal, "Design of dual-band bandpass filters using stub-loaded open-loop resonators," *IEEE Transaction Microwave Theory and Techniques*, vol. 56, no. 1, pp. 150-155, Jan. 2008.
10. C.-Y. Chen, C.-Y. Hsu, and H.-T. Chuang, "Design of miniature planar dual-band filter using dual-feeding structures and embedded resonators," *IEEE Microwave and Wireless Component Letters*, vol. 16, no. 12, pp. 669-671, Dec. 2006.
11. M. Zhou, X. Tang, and F. Xiao, "Compact dual band bandpass filter using novel e-type resonators with controllable bandwidths," *IEEE Microwave and Wireless Components Letters*, vol. 18, no. 12, pp. 779-781, 2008.
12. Tsu-Wei, Lin, U-Hou, Lok, and Jen-Tasi, Kuo, "New dual mode dual-band bandpass filter with quasi-elliptic function passbands and controllable bandwidths," *Microwave Symposium Digest*, pp. 576-579, 2010.
13. M. -L. Chuang, M. -T. Wu, and S. -M. Tsai, "Dual-band filter design using L-shaped stepped impedance resonators," *IET Microwave Antennas Propagation*, vol. 4, Iss. 7, pp. 855-862, 2010.
14. He Zhu and Amin M. Abbosh, "Single- and Dual-Band Bandpass Filters Using Coupled Stepped-Impedance Resonators With Embedded Coupled-Lines," *IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS*, VOL. 26, NO. 9, SEPTEMBER 2016.
15. H. Zhu, E. Ahmed, and A. Abbosh, "Single- and dual-band bandpass filter using multi-mode resonator of short-ended and open ended coupled lines," in *Proc. Asia-Pacific Microw. Conf.*, Nanjing, China, Dec. 2015, pp. 1-3.
16. N. A. Wahab, M. K. M. Salleh, Z. I. Khan and Z. Awang, "Dual-Band Dual-Mode Bandpass Filter Using Series-Coupled Ring Resonators," 2012 IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2012), December 11 - 13, 2012, Melaka, Malaysia.
17. Sha Luo and Lei Zhu, "A Novel Dual-Mode Dual-Band Bandpass Filter Based on a Single Ring Resonator," *IEEE MICROWAVE AND WIRELESS COMPONENTS LETTERS*, VOL. 19, NO. 8, AUGUST 2009.
18. Naoto Sekiya and Shunsuke Sugiyama, "Design of Miniaturized HTS Dual-Band Bandpass Filters Using Stub-Loaded Meander Line Resonators and Their Applications to Tri-Band Bandpass Filters," *IEEE TRANSACTIONS ON APPLIED*



-
- SUPERCONDUCTIVITY, VOL. 25, NO. 3, JUNE 2015.*
19. Y. T. Kuo, J. C. Lu, C. K. Liao, C. Y. Chang, "New multiband coupling matrix synthesis technique and its microstrip implementation," *IEEE Transactions on Microwave Theory and Techniques*, vol. 58, no. 7, pp. 1840-1850, July 2010.
20. Y. Nemoto, K. Kobayashi, and R. Sato, "Graphy transformations of nonuniform coupled transmission line networks and their application," *IEEE Trans. Microw. Theory Tech.*, vol. MTT-33, no. 11, pp. 1257-1263, Nov. 1985.
21. *EM User's Manual*, Sonnet Software, Inc., Syracuse, NY, USA, 2009. North



VIZAG GAS LEAK- A CASE STUDY ON THE UNCONTROLLED STYRENE VAPOUR RELEASE FOR THE FIRST TIME IN INDIA

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Article DOI: <https://doi.org/10.36713/epra4907>

ABSTRACT

Industrial emergencies involving hazardous chemicals are not uncommon in India. During the last several decades there has been a growing awareness of the expanding risks and consequences of major industrial disasters. Industrial hazards can occur at any stage in the production process, including extraction, processing, manufacture, transportation, storage, use, and disposal. Losses generally involve the release of damaging substances (e.g. chemicals, radioactivity) or damaging levels of energy from industrial facilities or equipment into surrounding environments. This usually occurs in the form of explosions, fires, spills, leaks, or wastes. In a recent occurrence on the wee hours of 7th May 2020, an accident of uncontrolled release of Styrene vapor occurred at LG Polymers India Pvt. Ltd. (LG Polymers) in RR Venkatapuram Village, Visakhapatnam from one of the Styrene storage tanks. The hazardous Styrene vapors spread beyond the factory premises, affecting the populace of five villages / habitations. The officials from the District administration along with Police Department, GVMC, National Disaster Response Force (NDRF) and local people rushed to the spot for rescue operations. However, the grave accident led to 12 citizens losing their lives and 585 citizens being hospitalized. In this regard let's take a brief look into the causes of the accident which led to this grave mishap.

KEYWORDS: *Vizag gas leak, styrene vapour, MSIHC 1989, Pre-Startup Safety Review (PSSR), Hazardous Material Information System (HMIS), Process safety management.*

1. INTRODUCTION

On 7th May 2020, an incident of uncontrolled Styrene vapour Release occurred at LG Polymers, RR Venkatapuram, Visakhapatnam from one of the Styrene storage-tanks (M6 Tank). The uncontrolled Styrene

vapour release from a storage tank into the atmosphere occurred for the first time in India.

The accident took the life of 12 persons in the immediate subsequent period and 585 people had to undergo treatment in hospitals, besides causing loss of livestock and vegetation. This Styrene vapour release,



widely referred to as “Vizag Gas Leak”, is one of the major Styrene vapour release incidents from a bulk storage tank anywhere in the world. It was decided that a team from CBRN (Chemical, Biological, Radiological and Nuclear) unit of NDRF from Pune, along with an expert team of National Environmental Engineering Research Institute (NEERI), Nagpur would be rushed to Vishakhapatnam immediately to support the State Government in the management of the crisis on the ground.

The National Disaster Management Authority arranged a special aircraft for airlifting joint team of four response experts from 5th Battalion, NDRF Pune along with PPE, other equipment and five environmental experts from Nagpur. The aircraft reached Vishakhapatnam on 7th May and the team immediately supported the local administration in controlling the situation.

As per the Manufacture, Storage and Import of Hazardous Chemicals Rules, (MSIHC) 1989,- “*major accident*” means an occurrence including any particular major emission, fire or explosion involving one or more hazardous chemicals and resulting from uncontrolled developments in the course of an industrial activity or due to natural events leading to serious effects both immediate or delayed, inside or outside the installation likely to cause substantial loss of life and property including adverse effects on the environments.”

As per the above definition, the uncontrolled Styrene vapour release from the M6 Tank at LG Polymers Visakhapatnam, commonly reported as “Vizag Gas Leak” qualifies as a major accident under MSIHC Rules, 1989.

1.1 About LG Polymers, Visakhapatnam

Industrial activity at the current premises of M/s LG Polymers at R.R. Venkatapuram, Visakhapatnam started in 1961, under the name and style of M/s Sri Rama Mills to manufacture alcohol from molasses. Later, in 1962 M/s Sri Rama Mills was taken over by M/s Hindustan Polymers Ltd. In 1967 (as per Factories Department License), M/s Hindustan Polymers Ltd. replaced the manufacturing activity of alcohol with manufacturing activity of Polystyrene & Co-Polymer. Manufacturing of Styrene Monomer was reportedly initiated in 1973. In 1978, M/s Hindustan Polymers Ltd. merged with McDowell & Co. Ltd of United Breweries Group. The Company terminated manufacturing of Styrene monomer and started importing it in the year 1993.

As per the information provided by the management, the LG Chemicals (South Korea) Ltd set up the LG Chemicals India Pvt. Ltd., as a 100%

subsidiary of LG Chemical, South Korea. The LG Chemicals India Pvt. Ltd. acquired M/s Hindustan Polymers Ltd in 1997 and renamed the company as M/s LG Polymers India Private Limited, Visakhapatnam. The LG Polymers is a 100% subsidiary of LG Chemicals India Pvt. Ltd. After acquisition, the LG Polymers continued manufacturing of Polystyrene & Expandable Polystyrene and expanded the manufacturing capacities from time to time.

At present, LG Polymers is spread over a total area of 213 Acres and engaged in manufacturing of Polystyrene used for General Purpose Polystyrene (GPPS) & High Impact Polystyrene (HIPS) to the tune of 313 Tons per day, Expandable Polystyrene (EPS) to the tune of 102 Tons per day and Engineering Plastics 36.67 Tons per day. M/s LG Polymers is storing Styrene, Pentane and other raw materials within the plant premises.

2. REASONS FOR THE RELEASE OF STYRENE VAPOUR IN LG POLYMERS INDIA PVT. LTD.

The first term of reference is to enquire into the reasons for leakage including verifying if the company had adhered to all the safety protocols. The studies reveal that there are number of contributory factors which led to the accident as per the observations received from the various inputs by the committee. During the deliberations, the following quote of Trevor A. Kletz was noted by the committee “A case history shows that an accident generally does not have one cause, but many, and that, the deeper we go, the more causes we find.”

Major Raw Materials:

- Styrene Monomer
- Ethyl Benzene
- Pentane

2.1 Styrene Monomer storage M6 Tank involved in the accident

This tank was originally constructed by Hindustan Polymers Ltd. It was initially used for storing Molasses from 1967. Later it was converted as Styrene storage tank. The PESO authorities at Visakhapatnam confirmed that the plan of this tank was approved and the license for filling this tank were accorded by PESO under Petroleum Act & Rules in 1977.

2.2 Activities during the lockdown

a) It is reported that before the Covid-19 lockdown was imposed, the manufacturing activities were carried out normally. Owing to the lockdown, the factory was shut



down on the intervening night of 24th / 25th March 2020.

b) For the maintenance of the plant during the lockdown period, LG Polymers had applied permission for 60 persons, of which they received permission to engage 45 persons (at the rate of 15 per shift) by the district administration.

c) All the factories except those in containment zones were relaxed from the Covid-19 lockdown with effect from 4th May 2020 and allowed to resume operations. The management had proposed to undertake the restart of the factory from 7th May 2020. LG Polymers stated that as per the Covid-19 protocol, they carried out activities like cleaning, sanitization, disinfestations etc. between 4th to 6th May 2020.

d) Regular day to day activities were undertaken on 6th May 2020 at LG Polymers. The refrigeration of Styrene storage tanks M5 & M6 was stopped around 03.45 p.m. All the other activities in Styrene Monomer Handling (SMH) area were also closed by 05:00 p.m., with chiller

2.3 Reasons for uncontrolled release of Styrene vapour in LG Polymers

The temperature recorded in the M6 Tank from 05:00 p.m. of 6th May 2020 to 09:00 a.m. of 9th May 2020, by the DCS. It is evident from the temperature graph that the temperature probe was by and large stable below 20°C until about 03:00 a.m. of 7th May 2020 and started increasing thereafter. The rise in temperature was sudden and occurred at a fast rate. The rate of increase of temperature slightly reduced between 05:00 a.m. to 09:00 a.m. and thereafter again started increasing. From 03:00 p.m. there was a further increase in the rate and finally the temperature peak of 153.7°C was recorded at about 10:00 p.m. The Technical Committee has estimated that the boiling temperature of Styrene monomer is 153.7°C at 1.25 atm. This also indicates that the pressure of 1.25 atm developed in the M6 Tank due to limited sized vents, which led to uncontrolled Styrene vapour release. There is a flat line between the time 10:00 p.m. of 7th May 2020 to about 3:00 a.m. of 8th May 2020, implying that the temperature remained constant. The temperature in the tank started reducing from 03:00 a.m. of 8th May 2020 and the temperature reduced to 58.8°C at 7:00 a.m. on 16th May 2020.

It is also important to note that M6 Tank was insulated. This implies that the heat generated in the M6 Tank was by and large not transmitted outside. The insulation was reported to be partially stripped as a part of the emergency response measures to enable faster cooling of the M6 Tank after the accident.

3. ANALYSIS OF PREVIOUS STYRENE RELATED ACCIDENTS

The determination of the root cause of the Styrene vapour release needs knowledge and analysis of previous accidents. From the records compiled on similar accidents and literature available, it is understood that accidents occurring due to runaway reactions are limited and in most of those accidents, runaway reaction had resulted in explosion of the tank. The LG Polymers Styrene vapour release from a bulk storage tank is a unique and exclusive accident. The only accident, called as Cincinnati Styrene Release, on 28th August 2005, from a rail tanker containing about 80 MT of Styrene, has been reported before. It was stated in the report – “The safety valve had opened to release excessive pressure build up, slowly avoiding a catastrophic explosion”. The error was that the stationary rail car was allowed for nine months, during which time the inhibitor became depleted and possibly the temperature increased due to ambient heat. The increase in pressure was attributed to heat generated within the tank due to polymerisation of the Styrene monomer within the tank.

The Technical Committee has followed the Guidelines for Investigating Process Safety Incidents issued by the “Centre for Chemical Process Safety, American Institute of Chemical Engineers (AIChE)” for the root cause analysis.

3.1 Parameters that contributed to the calamitous accident

All the factors/parameters have been analyzed to arrive at the root cause of uncontrolled Styrene vapour release from the M6 Tank of LG Polymers. The parameters that influenced the increase of temperature of Styrene in the tank (M6) are categorized into the following:

- 1) Tank Design,
- 2) Tank Temperature Measurement and Control,
- 3) Recirculation and Refrigeration System,
- 4) Inhibitor Addition Protocols,
- 5) Polymerisation & Runaway reaction.

4. TANK DESIGN

The M6 Tank is made of mild steel without any inside lining and insulated outside. It operates under atmospheric pressure and has a Flame Arrestor / Vent (N6) and a Vent / Dip hatch (N1). In addition, there is a manhole / foam pourer (N2). There are a total of 17 nozzles in the M6 Tank.



Tank Size	Dia: 18.002 Mtrs. Height: 12.15Mtrs.
Total Capacity – KL	3090.96
Operating Capacity – KL/MT	2450 / 2200



Fig 1: M6 Tank with vents on top of the tank

4.1.1 Poor Maintenance of M6 Tank

The last time the tank was cleaned, as per the records, was in 2015. The company informed that their standard protocol is to clean tanks once in 5 years. The literature on Styrene monomer bulk storage in tank suggests the periodical internal cleaning, visual inspection and application of appropriate coating in order to prevent the accumulation of polymer inside of the roof of the tank is undertaken once in every two years. This complacency certainly increased the potential for accumulation of polymerised Styrene monomer vapour at the roof top.

During the observations of technical Committee the inner side of the tank is not lined, rust might have formed at the inside wall due to the long period of absence of inside maintenance of the M6 Tank. The presence of contaminants inside the tank like iron oxide (rust), oxidizing agents, metallic hydrides, iron chlorides and other solid compounds due to insufficient and incorrect cleaning of storage, is a potential source for initiation of polymerization of Styrene which can overwhelm the inhibition effects of TBC. The presence of rust (particles) inside the tank can promote and initiate polymerization.

4.2 Roof of M6 Tank

In the case of M6 Tank, the conical roof is supported within the tank interior. This is conducive for Styrene vapour to condense and collect upon the internal structure or surface irregularities available. This condensate does not contain polymerization inhibitor and so it tends to polymerize to polystyrene. It collects on the parts of internal structures and forms

stalactites. The company has reported that the float valve got stuck in the stalactites, as a result of which, in October – December 2019, they had to discard the piping connected to the float valve and bring in alternate piping. This clearly proves that the design of roof of this M6 Tank is poor as the structure supporting the roof of this tank is inside the tank, which is more prone for stalactite formation, unlike the modern tank (M5 in this factory) where this roof supporting structure is on the top of the roof outside the tank.

4.3 Nozzles of M6 Tank

The number of idle nozzles should also be kept at minimum so as to avoid dead pockets filled with Styrene. There are a total of 17 nozzles of which many are spare nozzles.

4.4 Life of M6 Tank

This Styrene storage tank was not subjected to any mechanical integrity assessment study and the plant has never implemented any Life Extension Programme (LEP), since the Styrene tank has performed beyond its designed life period. Even the PESO license was accorded in 1977 (Life span till now 43 years) and if we consider that the tank was earlier used as a molasses tank from the date of factories license in 1967, the life of the tank is 53 years. It is a very risky proposition to store a hazardous chemical in about a 50-year-old tank, that too without implementing any life extension program.

4.5 Material of the tank

It is also observed that the Styrene tanks and pipelines of the LG Polymers plant are made of mild steel, which is a serious non-conformance to the laid



down standards and guidelines. Lined carbon steel tanks are generally used for the bulk storage of Styrene monomer. The inlet and outlet lines for these tanks are located near the bottom. It is also seen that the bottom and lower 6 to 8 inches (15-20 cm) of vertical storage tanks have not been coated with inorganic zinc silicate linings to provide electrical grounding. Piping is normally of carbon steel, although stainless steel and aluminum may also be used. Therefore, the M6 Tank is inferior in design in all respects for storing Styrene.

4.6 Vents open to atmosphere

As the vents of the tank are open to atmosphere, emissions of Styrene are prevalent. Unlike the modern designs, the tank neither has a flare system that burns the Styrene vapours forming carbon dioxide nor did a cryogenic system to condense Styrene vapours that can be collected separately. The M6 Tank is not provided with any of the above safety systems.

4.7 Change of Design in the suction and discharge lines of recirculation circuit in M6 Tank

The LG Polymers management in its hearing on 7th June 2020, informed the High-Power Committee on a query that they modified the M6 Tank in December 2019 to the present design. On specific query about the changes carried out, they have further informed that the modification had not been informed to PESO or any other concerned statutory organization to get it

approved. The company management further informed that they have not informed the modification as they considered it only a change in the piping only. This was a critically wrong assessment on the part of the company. The Committee noted that any modification of equipment or plant should be subjected to HAZOP and Risk Assessment Study. Originally, the tank was having a swing pipe arrangement to discharge the cooled Styrene from the recirculation and refrigeration unit, just below the liquid surface. Thus, the cooled liquid was delivered at the top of the tank and by its chemical property; it would slowly circulate to the bottom of the tank from where it would be pumped through the refrigeration unit. Thus, the contents of the tank were well mixed by the chemical properties, as the denser cold Styrene moves down towards the bottom by gravity and natural convection, such that the temperature would be less thermally stratified in the tank. The management of the company has reported that the float valve got stuck in the stalactites in the M6 Tank, as a result of which, they had to discard the piping connected to the float valve and bring in alternate piping of dip leg arrangement. The alternate piping provided for the cooled Styrene monomer liquid to be delivered at the bottom of the tank. The modified system of the tank, as carried out by December 2019 and confirmed by the company management in its statement.

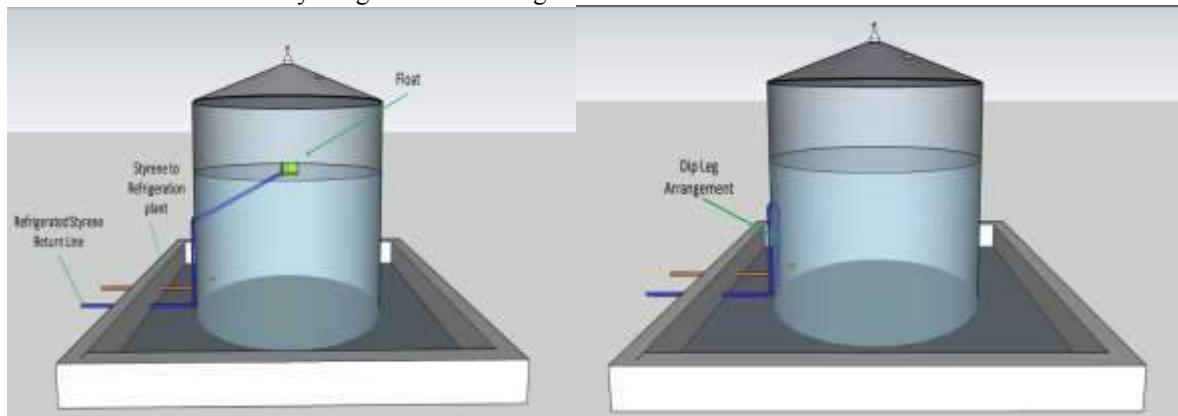


Fig 2: Before and after the modification of Storage tank

The modified piping design provided for the cooled Styrene return line from the refrigeration unit to the nozzle located about 300 mm above the bottom of the tank. Not only it totally disturbed the chemical circulation system, it led to significant thermal stratification in the M6 Tank with high temperature gradient. The top level of the Styrene monomers in M6 Tank experienced much higher temperatures than the bottom. On the whole this change in design, in a way, sowed the seeds of disaster.

5. TANK TEMPERATURE MEASUREMENT & CONTROL

5.1 Single Temperature Measuring Probe at the Bottom

The M6 Tank is provided with a temperature measuring probe (RTD sensor) at the bottom only. The probe is located 0.7 m from the bottom and about 4.09 m distance between the discharge port, N13 and the port of the temperature probe, N14. From the location, the Committee is of the view that the location of the



temperature probe is not adequate to give a representative value of temperature in the tank. The temperature measurement is restricted to the bottom zone liquid, whereas top and middle zones may have different temperatures.

In fact, there must be four or five temperature measurement locations along the 12m height of the tank that would have measured the true temperature of the liquid Styrene in the different zones of the tank. For the long-time storage of Styrene, in large tanks, it is necessary to measure the temperatures at different locations across the height of the tank to identify the temperature differentials.

5.2 Temperature differentials and Mixing in storage tanks

The density of Styrene is a function of its temperature. When Styrene is warmer; it gets less dense for each increment in degree celsius. This allows for thermal layering; where warmer Styrene moves on to the top of colder Styrene which is defined as “thermal stratification”. Due to this, there will always be a level of “self-induced” thermal stratification in the Styrene storage.

It has been estimated that the M6 Tank temperature at 41.7°C, calculated on the basis of the DCS level percentage data (56.8%), recorded on 28-4-2020, which continued till the early hours of 7th May 2020.

5.3 Temperature Profile of Liquid Styrene in M6 Tank

The management of the company informed that the Standard Operating Procedure provides for their temperature to be kept below 35°C. This cut off temperature of 35°C is not supported by any literature. In fact, the flash point of Styrene Monomer itself is 31°C. Harold Fisher¹⁷ has simulated auto-polymerization initiation at 33.9°C after depletion of TBC. In light of the above, the company’s protocol temperature of 35°C maximum for all their Styrene Storage is highly questionable when the Guidelines given by Chevron Philips¹⁸ and Plastic Europe¹⁹ say that the temperature in the Styrene Storage Tank should not exceed 25°C.

5.4 Wrongful assumption of Bottom Temperature as Temperature of the Whole Liquid Styrene in M6 Tank

As the bottom temperature was showing constantly at about 17°C, the operators in the shifts recorded the same in the logs following the company’s SOP. The operator log data in respect of M6 Tank

temperature is conforming to the DCS log in the control room. There is no separate temperature data collection within the M6 Tank by the operator, except the inlet / outlet pipe data temperature recording during operations. The ignorance and negligence towards this fact of temperature at the top level being much higher than 17°C has been one of the major factors in making the management complacent and taking no corrective action.

As the ambient temperatures are high in summer, the Styrene vapour in the vapour space of tank is heated due to heat leaks from the roof of the tank. The vapour in the tank is liable to be heated through several flanges and other parts which were not insulated. Invariably, the liquid surface gets heated up and reaches an equilibrium temperature with the heated vapour. However, there is no temperature probe for measuring the vapour temperature in the top of the tank. The tank had only one temperature measurement probe at the bottom of the tank.

6. RECIRCULATION AND REFRIGERATION SYSTEM

Under no circumstances the temperature of Styrene in whole tank should exceed 25°C according to the standard guidelines for Styrene storage. Hence, it necessitates maintenance of lower storage temperature in the tank. Higher temperatures are bound to cause Styrene vaporization and subsequent build-up of polymer. Usually, the preferred storage temperature is in the range of 10 – 18°C. If the temperature approaches 20°C, the tank contents must be cooled. Thus, proper refrigeration–recirculation systems need to be provided. As the tank is insulated, the exothermic polymerization heat cannot be dissipated. The M6 Tank does not have proper mixing arrangement to take care of any increase in temperature in middle and upper zones. Although the company has stated that there are temperature alarms at 35°C and 37.5°C, the temperature data recorded in the DCS on the 7th of May does not record any temperature alarm either at 35°C or 37.5°C. The Technical Committee, in its report has mentioned that there is no temperature alarm also for the M6 Tank. The temperature of liquid Styrene Monomer is a very crucial factor. The temperature maintenance throughout the large storage tanks at 15-20°C is essential in light of possibility of runaway polymerization characteristic of Styrene.

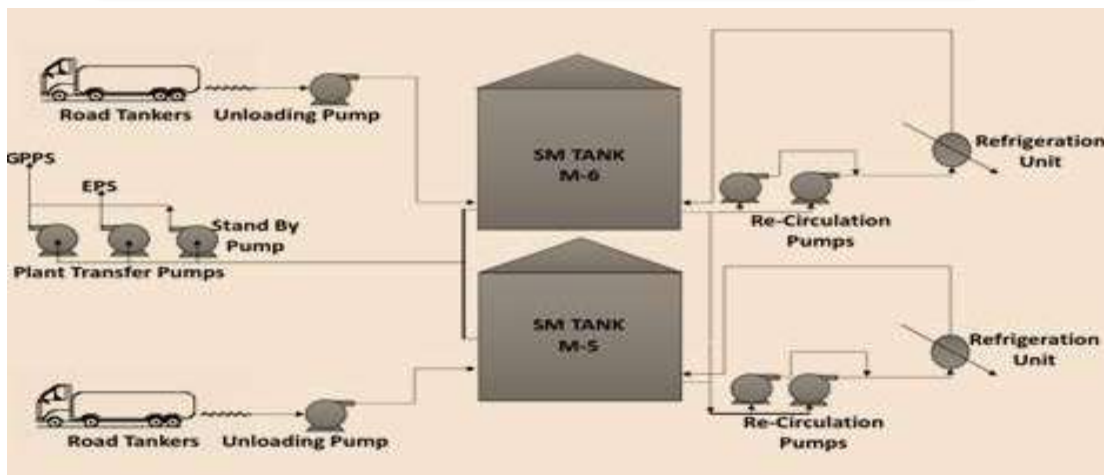


Fig 3 : PFD of Styrene Monomer Handling Plant

6.1 Inadequate Time for Refrigeration and Manual Operation

The refrigeration system of the M6 Tank (as well as of the M5 tank) are manually operated. The company management informed that it is their normal practice to switch on the refrigeration / cooling system at 08:00 a.m. and close at 05:00 p.m. every day, except when unloading of Styrene Monomer from tanker takes place, during which refrigeration system is kept on. The management also informed that all through the lockdown period, the refrigeration subsystem was operated from 08:00 a.m. to 05:00 p.m. However, on the 6th May 2020, as per the logbook, the Director of Factories has reported that the refrigeration system was switched off at 3:45 p.m. For a place like Visakhapatnam, with temperatures mostly ranging from 20°C to 36°C, it is but essential to operate the refrigeration system on a continuous basis to ensure temperature at all levels of tank below 20°C. This is one of the major shortcomings in the refrigeration system followed by the LG Polymers.

The refrigeration system of the Styrene storage tank should have been provided with a fully automated instrumentation system of adequate safety integrity level, coupled with the temperature sensor for automatic switching-on and off the system based on the temperature reading of the gauges. The non-provision of this system has permitted the human error and onset of reactive hazard resulting in the release of toxic vapour cloud.

6.2 Improper Cooling of Styrene Monomer due to Design Change in the Refrigeration

The float swing pipe arrangement was replaced with dip leg arrangement with release of cooled Styrene Monomer liquid at virtually at the bottom of the tank viz., 300 mm from the bottom. Similarly, the liquid

Styrene monomer is taken into the refrigeration cooling system from the N13 port, located at nearly the bottom of the tank at 100 mm. It totally destroyed the natural chemical circulation (mixing) system. Moreover, it resulted in cooled liquid Styrene Monomer being pumped for further cooling in the refrigeration system. This is the cause why the temperatures at the bottom of the M6 Tank recorded low temperatures in the range of 17°C.

6.3 Other possibilities

- Possibility of R-22 contamination of Styrene Monomer in M6 Tank
- Insufficient Capacity of refrigeration unit
- Clogging of Valves and Lines of the Refrigeration Systems

7. POLYMERIZATION & RUNAWAY REACTION

A critical question to be answered is why polymerization took place, why temperature rose and why runaway reaction took place. LG Polymers in its reports has stated that “Polymerization generally takes place by free radical reactions initiated thermally or catalytically. Polymer formation occurs slowly even at ambient temperatures and becomes rapid at elevated temperatures”. The Committee has reflected on a lot on the issue and has concluded that there are mainly two possibilities or a combination of both the possibilities for initial polymerization viz. (a) Thermal Radical Polymerization or (b) Polymerization due to presence of a catalyst or a combination of both (a) and (b) which are listed below.

7.1 Thermal radical polymerization

As the temperature in the upper zone of the M6 Tank was higher than 35°C, (estimated to be 41.7°C) the effectiveness of the TBC inhibitor had been lost and



thermal radical polymerization must have set in and being an adiabatic tank (insulated) the heat generated could not be dissipated. It must have resulted in further temperature increase leading to further polymerization and finally leading to runaway reaction. It is at temperatures above 65°C, when a runaway polymerization reaction occurs.

When a runaway polymerization occurs, temperatures can quickly reach the boiling point of Styrene monomer. Vapors may erupt violently from tank vents or if vents become plugged with polymer, excessive pressure can be generated that may rupture the containment vessel.

7.2 Presence of Catalyst

The polymerization of Styrene vapour in the storage tank cannot be prevented with inhibitor as the same is ineffective for vapours, making accumulation on the inside of the roof top and formation of stalactite inevitable. These stalactites eventually cause contamination and potentially create bulk polymerization hotspot where the exothermic polymerization reaction can propagate.

It is possible, when the accumulated polymer falls into the Styrene below, it can act as a catalyst, provide the initial polymer seed and further trigger the polymerization. As the Styrene level in M6 Tank at the time of accident was about 7 mts., the polymer lumps if fallen, must have fallen through a depth of about 5 mts causing an impact / friction between lumps and Styrene liquid. This may have generated more free radicals of Styrene, initiating or aggravating the polymerization at the top layers of Styrene in the tank and planted the seed for creation of hot spots at the top layers of Styrene in the tank towards runaway polymerization which the management had failed in capturing it due to lack of temperature measurement system at the top level of the tank. The M6 Tank is an old tank with high possibilities of rust and other contamination. These contaminations could have also acted as catalyst and led to further polymerization and finally runaway reactions.

7.3 Increase in temperature, runaway reaction & vaporization

Combination of both the possibilities of Thermal Radical Polymerization and Polymerization due to presence of catalyst, caused the polymerization in the M6 Tank. Styrene monomer polymerization reaction is exothermic evolving (16700 kcal/kg mole or 160.36 kcal / kg). The M6 Tank is insulated and thus, there is no provision for heat dissipation. Thus, the initial polymerization led to further increase in temperature, which led to further increase in polymerization. Without any effective inhibitor being available in the

M6 Tank, the temperatures in the hotspot areas in the top layers of the tank increased to above 65°C. At temperatures above 65°C runaway polymerization reaction occurs. If excess heat is not adequately dissipated, the product temperature will rise with a subsequent rise in the rate of polymerization.

8. LOCKDOWN PERIOD

The analysis of the lockdown period is very important as the company management in their statement have stated that the accident occurred due to the long storage arising during the lockdown period, without the regular operations. In the list of 25 essential industries “Manufacturing Polystyrene and Expandable Polystyrene and Engineering Plastics Compounds”, are not included. Subsequently, the company applied for minimum staff for maintaining the factory. Permission was granted on 28th March 2020 and passes were issued for 45 personnel @ 15 per shift.

Further, the management did not take up the matter with the higher authorities like the Commissioner of Industries, the Principal Secretary of Industries Department, Government of Andhra Pradesh, if they had felt the absolute necessity for continuing the operations during the Covid-19 lockdown period, keeping the safety of the factory into account, in view of hazardous Styrene in bulk storage. The Technical Committee has reported that it is learnt that all the Styrene-based plants around the world are being operated smoothly in spite of the Covid-19 lockdowns in several countries and however the management of the company did not take up this issue in full earnestness.

As per the SOPs for handling and storage of Styrene given by the company, the operators have been maintaining parameters and noting the values in the logs. From the analysis of Styrene samples collected from the storage M6 Tank along with other tanks, it can be seen that the measurements were carried out in the same manner as before the lockdown. While, the minimum sampling was conducted, no special measures were taken for the lockdown period. In summer, it warrants daily sampling and testing should be carried out as per the guidelines. But, in LG Polymers, daily sampling and testing was not practiced even in normal times and as stated above no special measures were taken during the lockdown period.

White Cloud Formation of Styrene vapor

As light passes through a cloud of vapour, it passes through the liquid droplets in the vapor making its appearance white. This concept is known as Mie scattering. The moisture in the original liquid Styrene is also vaporised when the temperature in the tank reaches



100°C. The white vapor is an admixture of Styrene vapour, water vapour and the water present in the air as humidity.

9. KNOWLEDGE / TALENT DEFICIT

There was a dearth of knowledge talent among the top, middle and shift management in LG Polymers. Many chemical engineers with 20 – 30 years of experience in the Styrene and its polymers plants have either retired or left the company for better opportunities. Most of the present shift in-charges / engineers are not qualified engineers. The operators once upon a time with science degree / intermediate qualifications have been promoted based on their experience as engineers. These candidates may run the process plants meticulously according to the process operating manuals and SOPs. But their knowledge and

skills would not be adequate when faced with a challenge or an emergency. Such decision-making experience and capability are important in dealing with major upsets during processing hazardous chemicals like Styrene.

10. ROOT CAUSE

The total release of Styrene vapour up to 07:40 a.m. on 8th May 2020 is approximately 562.43 MT. The total loss of Styrene till 11:52 a.m. is approximately 818.16 MT. This is based on the assumption that 95 MT of Styrene monomer was withdrawn during the emergency response measures; otherwise the quantities will be 95 MT more. The fishbone diagram explaining the root causes is also prepared.

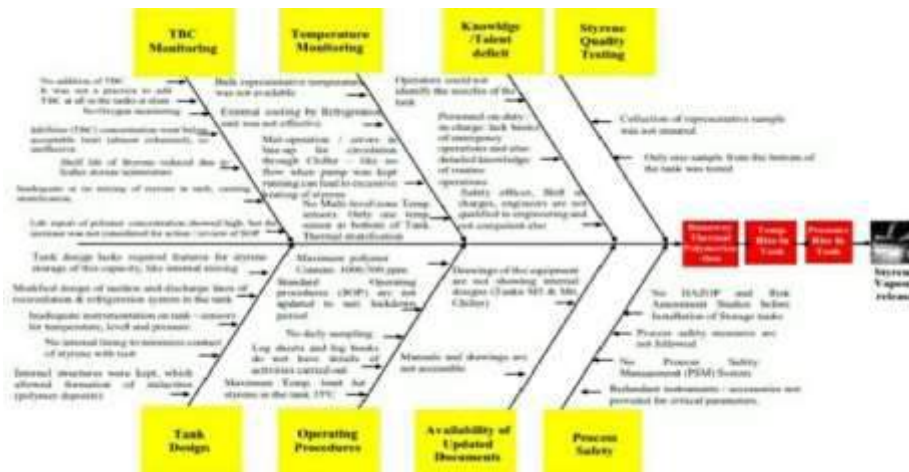


Fig 4: Ishikawa fish bone diagram explaining the root causes

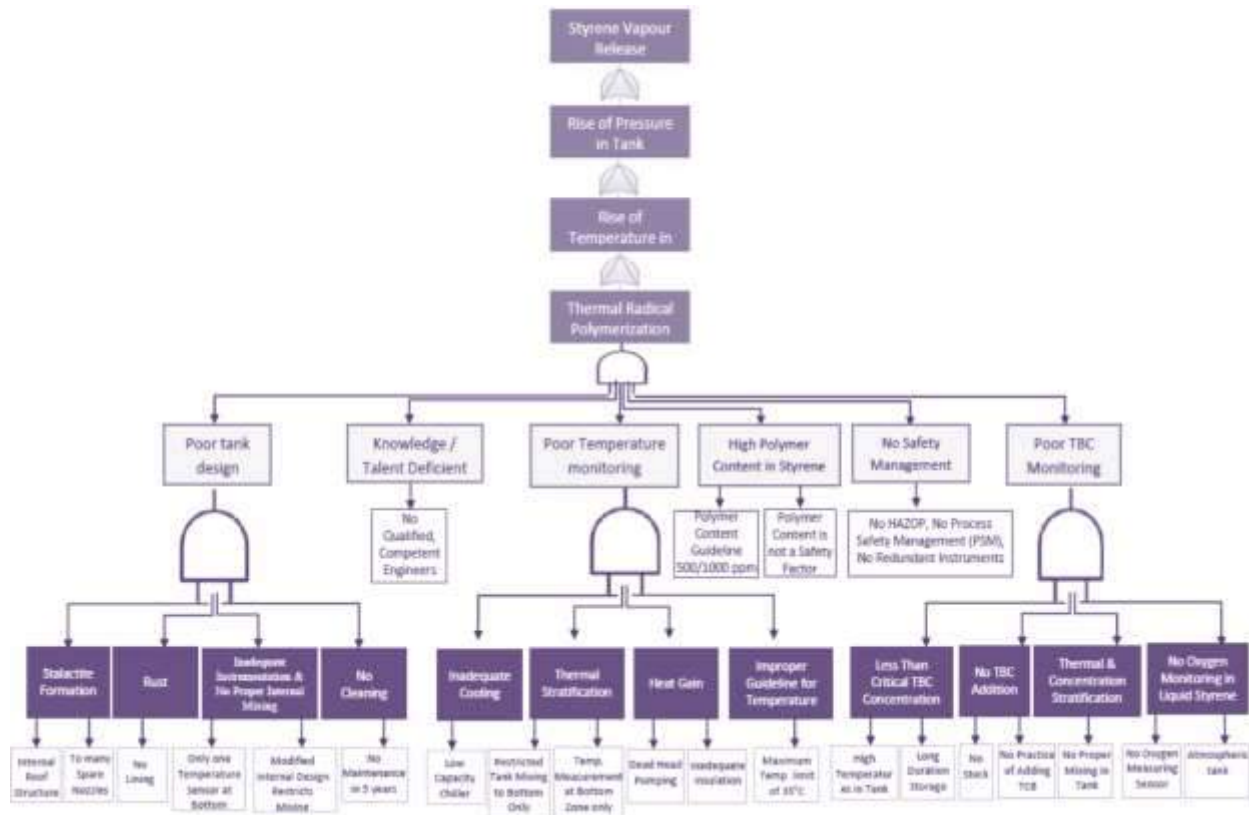


Fig 5: Fault Tree Diagram (FTD) explaining Styrene Vapor release

10.1 Safety Protocols

- The Occupier of the factory has failed to provide and ensure the information, instruction, training and supervision to ensure health and safety of all workers during start-up operations. The restarting process has not been carried out as per the standard procedures, protocols and guidelines in the presence of entire technical team, including safety officer and factory medical officer of the factory.
- The Occupier has failed to provide and maintain the plant and systems to be safe and without risks to the health of the workers. The arrangements for ensuring safety and health of the workers by ensuring absence of risks in connection with the use, handling, storage and transport of chemicals in the factory premises have also been not provided.
- The Pre-Startup Safety Review (PSSR), which is a safety review conducted prior to startup of a processing/manufacturing plant to ensure that installations meet the original design or operating intent, to catch, re-assess any potential hazard due to changes during the lockdown period, has not been done. The identified hazards through the Pre-Startup Safety Review (PSSR) study have not been

eliminated, prevented and controlled before starting the operations in plant. A record on this was also not maintained for the review by the regulatory authorities.

- The two Styrene storage tanks have not been provided with a buffer tank inter-connected to these tanks and in case of emergency in a tank, the Styrene in the damaged or affected tank might have been transferred to the buffer tank thus preventing, controlling and reducing the emergency.
- The Styrene storage tanks have not been marked, labeled and/or placarded with Hazardous Material Information System (HMIS).
- The plant has not implemented any training programme covering entire management representatives, staff and workers, at least once in every year, consisting of the following training modules:
 - Properties and health hazards of Styrene.
 - Styrene physical hazards including the potential for fire and explosion.
 - Styrene's primary routes for entry into body.
 - Safe work and good housekeeping practices.



- The importance of protection from Styrene contact; the proper clothing and cleaning requirements.
- Signs and symptoms of Styrene exposure and action to be taken and medical conditions aggravated by exposure to Styrene.
- The care that must be taken whenever and wherever Styrene is used, handled, stored and transported.
- The availability of written Styrene usage, health hazard and training program procedures.
- Emergency procedures for leaks, spills, and fires, including protective clothing to be worn in such instances.

11. CONCLUSION

The Occupier and Manager of the factory have individually failed to provide, maintain and monitor safe and risk free work environment by ensuring that the permissible limits of exposure of Styrene monomer (TWA : 50 ppm and 215 mg/m³; STEL: 100 ppm and 425 mg/m³) as laid down under Section 41-F of the Factories Act, 1948, are never exceeded.

In the light of the causes mentioned above, the accident in the Styrene storage M6 Tank can be attributed to poor design of tank, inadequate refrigeration and cooling system, absence of circulation & mixing systems, inadequate measurement parameters, poor safety protocol, poor safety awareness, inadequate risk assessment and response, poor process safety management systems, slackness of management, insufficient knowledge amongst staff, insufficient knowledge of the chemical properties of Styrene, especially during storage under idle conditions. LG Polymers does not have any process safety management system. On the whole, it can be concluded that LG Polymers did not have proper safety protocols and violated a number of safety protocols.

Mistakes could be catastrophic in a chemical plant, but it is a great opportunity to learn from previous incidents and develop new procedures, practices and management systems and design a safer plant. These incidents reveal many hidden facts about safety and provide efficient tools for prevention of similar incidents in the future.

12. REFERENCES

1. <https://www.ap.gov.in/wp-content/uploads/2020/07/The-High-Power-Committee-Report.pdf>
2. "Visakhapatnam gas leak live updates". *The Hindu*. 7 May 2020. Retrieved 7 May 2020.

3. ^ Bhashkar, Utpal (9 May 2020). "LG Polymers admits leaking vapor from gas storage tank caused Vizag tragedy". *The Livemint*. Retrieved 10 May 2020.
4. ^ Jump up to:^{a b} "Vizag Gas Leak LIVE Updates: 11 Dead, Over 5,000 Sick After Leak at LG Polymers Plant; CM Announces Rs 1 Crore for Kin of Deceased". *News18*. 7 May 2020. Retrieved 7 May 2020.
5. ^ Jump up to:^{a b c} "Company History". *LG Polymers India*.
6. ^ Oct 10, TNN | Updated:; 2012; Ist, 01:54. "'Mallya's UB group involved in land scam' | Hyderabad News - Times of India". *The Times of India*. Retrieved 3 July 2020.
7. ^ Jump up to:^{a b c d e} "Indian LG Plant Lacked Environmental Clearance Before Leak". *The Associated Press (AP)*. *U.S. News & World Report*. 13 May 2020. Retrieved 14 May 2020.
8. ^ Jump up to:^{a b c} "Thick air, pungent smell: How gas leakage tragedy unfolded at Visakhapatnam's LG Polymers plant". *The Indian Express*. 7 May 2020. Retrieved 7 May 2020.
9. ^ Jump up to:^{a b} "(Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii) Ministry of Environment and Forests, New Delhi, 14th September, 2006-Notification" (PDF). *Ministry of Environment, Forests and Climate Change (MoEFCC)*. 14 September 2006. Retrieved 14 May 2020.
10. ^ Jump up to:^{a b c} Aryan, Ashish; Mukul, Pranav (8 May 2020). "Vizag gas leak: Don't have green nod, company told state last May". *The Indian Express*. Retrieved 15 May 2020.
11. ^ "Vizag gas leak: LG Chem plant operated with state permits since 1997 despite lacking environmental clearance from Centre". *The Associated Press (AP)*. *The Firstpost*. 13 May 2020. Retrieved 14 May 2020.
12. ^ "Vizag gas tragedy: LG Polymers lacked environmental clearance before styrene gas leak". *The India TV news*. 13 May 2020. Retrieved 15 May 2020.
13. ^ Jump up to:^{a b} "Hundreds injured and eight dead in Indian gas leak". *BBC News*. 7 May 2020. Retrieved 7 May 2020.
14. ^ Jump up to:^{a b c} "Vizag Gas Leak LIVE Updates: 8 Dead, 300 Hospitalised & Over 5,000 Sick After Leak at LG Polymers Chemical Plant; PM Modi Calls for NDMA Meet at 11am". *News18*. 7 May 2020. Retrieved 7 May 2020.
15. ^ Gettleman, Jeffrey; Raj, Suhasini; Schultz, Kai; Yasir, Sameer (7 May 2020). "Gas Leak in India at LG Factory Kills 11 and Sickens Hundreds". *The New York Times*. ISSN 0362-4331. Retrieved 7 May 2020.



16. ^ "Safe handling and storage of styrene monomer" (PDF). Chevron Phillips Chemical. Retrieved 8 May 2020.
17. ^ "Gas Leak in Vizag: Glitch in refrigeration unit led to Vizag gas leak | Visakhapatnam News - Times of India". *The Times of India*. 7 May 2020. Retrieved 7 May 2020.
18. ^ Jump up to:^{a b} "Visakhapatnam gas leak live updates: Jagan announces Rs. 1 crore relief". *The Hindu*. 7 May 2020. ISSN 0971-751X. Retrieved 7 May 2020.
19. ^ Jump up to:^{a b} "Massive gas leak in Visakhapatnam, thousands affected, Centre monitoring situation: 10 points". *India Today*. Retrieved 7 May 2020.
20. ^ Jump up to:^{a b} G, Siva. "Vizag LG Polymers Gas leak: 11 dead, over 5,000 fall sick after gas leak from LG Polymers". *The Times of India*. Retrieved 7 May 2020.
21. ^ Ellis-Petersen, Hannah; Safi, Michael; Dhillon, Amrit; Chandrasekhar, Aruna (7 May 2020). "Gas leak at chemical factory in India kills at least nine and hospitalises hundreds". *The Guardian*. ISSN 0261-3077. Retrieved 7 May 2020.
22. ^ Jump up to:^{a b} Bhattacharjee, Sumit (7 May 2020). "Visakhapatnam gas leak claims 11 lives; over 350 in hospitals". *The Hindu*. Retrieved 7 May 2020.
23. ^ Sud, Vedika; Sharma, Akanksha; Yeung, Jessie; Mitra, Esha; Reynolds, Emma. "Toxic gas leak at Indian chemical plant kills at least 11 and hospitalizes hundreds". *CNN*. Retrieved 7 May 2020.
24. ^ "Gas Leak Kills 13, Injures Hundreds in Visakhapatnam, Andhra Pradesh". *The Weather Channel*. Retrieved 8 May 2020.
25. ^ "Vizag Gas Leak News Update: No! There was no second Gas Leak in Vizag". *SA News Channel*. 8 May 2020.
26. ^ "'Evacuation precautionary': Vizag police dismiss report of second gas leak". *Hindustan Times*. 8 May 2020.
27. ^ Jump up to:^{a b c} "Experts detect more gas leak risks at LG Polymer factory in Vizag". *The Deccan Chronicle*. 12 May 2020. Retrieved 15 May 2020.
28. ^ Jump up to:^{a b c} "Vizag gas leak Updates: Andhra govt to airlift 500 kgs of PTBC from Daman to neutralise chemical; special NDRF team to fly in from Pune". *Firstpost*. Retrieved 7 May 2020.
29. ^ Vora, Rutam. "Gujarat to airlift PTBC chemical for Vizag gas leak crisis". *Business Line*. *The Hindu*. Retrieved 7 May 2020.
30. ^ "LG Polymers in Vizag gets 'Styrene inhibitor' to boost safety after gas leak". *The Hindustan Times*. 14 May 2020. Retrieved 14 May 2020.
31. ^ "Visakhapatnam gas leak:LG Chem dispatches technical team from Seoul for investigation, rehabilitation works". *The Hindu*. 13 May 2020. Retrieved 14 May 2020.
32. ^ "Visakhapatnam Gas Leak Updates: Day after tragedy, gas fumes begin leaking again". *India Today*. Retrieved 7 May 2020.
33. ^ Pathak, Analiza (7 May 2020). "Technical glitch in refrigeration unit caused Visakhapatnam gas leak: Official". *India TV News*. Retrieved 8 May 2020.
34. ^ "Vizag gas leak: What is styrene and how does it affect the body?". *The News Minute*. 7 May 2020. Retrieved 7 May 2020.
35. ^ "Vizag gas leak live news updates: Toll rises to 11; NHRC sends notice to Andhra Pradesh govt, Centre". *The Times of India*. Retrieved 7 May 2020.
36. ^ Basu, Mohana (7 May 2020). "How styrene, chemical being blamed for Vizag gas leak deaths, affect human body". *ThePrint*. Retrieved 7 May 2020.
37. ^ "Plea in NGT seeks judicial probe into Visakhapatnam gas leak incident". *Asian News International*. 7 May 2020. Retrieved 7 May 2020.
38. ^ "NGT to take up Visakhapatnam gas leak case on Friday". *The Statesman (India)*. 7 May 2020. Retrieved 7 May 2020.
39. ^ "Vizag Gas Leak: NGT Issues Notice To Centre, Directs LG Polymers To Deposit Rs 50 Cr". *Press Trust of India*. *The Outlook*. Retrieved 8 May 2020.
40. ^ Ghosh, Shinjini (8 May 2020). "Visakhapatnam gas leak: NGT directs LG Polymers India to deposit ₹50 crore". *The Hindu*. Retrieved 8 May 2020.
41. ^ "Probe blames safety lapses for deadly India gas leak". *AP NEWS*. 31 May 2020. Retrieved 1 June 2020.
42. ^ "NHRC notice to Andhra Pradesh Government and Centre over deaths and sufferings to several people due to styrene gas leakage in Vizag District (07.05.2020)". *National Human Rights Commission of India*. Retrieved 7 May 2020.



LIFE IN A BHUMIJ VILLAGE DURING LOCKDOWN: AN EXPLORATIVE STUDY

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Article DOI: <https://doi.org/10.36713/epra4902>

ABSTRACT

Since midnight of March 25, 2020, India's 1.3 billion people had gone under total lockdown to combat the spread of the novel coronavirus (COVID-19) pandemic and this prolonged countrywide lockdown has a serious impact on the life of the Indian tribes like their income, occupation, social life, personal life etc., as they are the most vulnerable and poor marginalized people of India, having neglected through the ages in every aspect of their life and livelihood. Bhumij tribe is one of them. They mainly reside in the Indian state of Odisha, Jharkhand, and West Bengal. Lutia is a typical Bhumij concentrated village in the area of Simlabandh under Hirbandh community development block of Khatra sub-division in the district of Bankura of the Indian state of West Bengal. By maintaining proper social distance and wearing face mask we have taken in-depth interview of 25 villagers of different age group and gender belong to Bhumij tribal community in this village on the various aspects of their day to day life, their education, their health awareness especially about the awareness regarding COVID-19, their culture, religious and supernatural beliefs, etc. by adopting purposive sampling technique method along with tried to know their opinion and views regarding the impact of countrywide lockdown to their daily life. Therefore, in this paper, an attempt has been made to explore their life during the lockdown.

KEY WORDS: Bhumij tribe, Life of Bhumij, Lockdown, Covid-19, Lutia Village of Bankura district.

1. INTRODUCTION

Prime Minister of India had announced complete lockdown throughout the country from the midnight of 25th March 2020 in his address to the Nation through television on 24th March 2020. Since midnight of March 25, 2020, India's 1.3 billion people had gone under total lockdown for 21 days to combat the spread of the novel coronavirus (COVID-19) pandemic. Then after phase by phase, this

countrywide complete lockdown had extended up to May 31, 2020. This prolonged 68 days countrywide lockdown has a serious impact on every section of life of the Indian like their income, occupation, social life, personal life etc. This lockdown has severely affected the most vulnerable and the poor marginalized people of India. Indian tribes through the ages are neglected in every aspect of their lives and livelihood. This lockdown has seriously affected



their life and livelihood as they are the most vulnerable neglected marginalized community among the Indians. There are about 645 distinct tribes in India with their total population of 10.43 crore as per the Census 2011 which accounts for 8.6% of the total population of the country. Bhumij tribe are one of them and they mainly reside in the Indian state of Odisha, Jharkhand, and West Bengal. Etymologically the term 'Bhumij' means one who is born from the soil. The Bhumij as being the earlier settlers were in possession of the land. They are settled, agriculturists. The tribe is mainly divided into four endogamous groups like Tamudia or Tamarua Bhumij, Haldipokhoria Bhumij, Teli Bhumij and Desi or Dehuri Bhumij. Each section of these groups consists of a number of exogamous totemic sub-groups called *killi*. The Bhumij family is nuclear, patrilineal and patripotestal. Famous anthropologists like E. T. Dalton and H. M. Risley identified the Bhumij as a Hinduised branch of Mundas who entirely had been transformed into the Hindu caste in the eastern fringe of Ayodhya Range. Risley observed, Bhumij are the pure Dravidian race have lost their original language now speak only in Bengali; they worship Hindu god and goddess in addition to their own (the tendency being to relegate the tribal gods to the women) and more advanced among them employ Brahmans as family priests. They still retain a set of totemic exogamous subdivision closely resembling those of the Mundas and Santals. As a result, there was an impact of both tribal Mundari socio-cultural traits and Hindu traits on the Bhumij people. Bhumij is known by different names to Mundari linguistic family within the 'kherwari' group which an important branch of under the great Austro-Asiatic family. In the Indian state of West Bengal Bhumij tribe are mainly concentrated in the districts of Paschim Medinipur, Jhargram, Purulia, Bankura, South 24 Parganas and North 24 Parganas. Bhumij are the 4th largest tribal community in West Bengal after the Santal, Oraon and Munda. As per the Census 2001, their total population was 336,436 which were the 7.6% of the total Scheduled Tribe (ST) population in West Bengal. In this paper, an attempt has been made to discuss the life of the Bhumij during lockdown due to combat of the spread of novel coronavirus (COVID-19) pandemic of a village, Lutia. Lutia is a typical Bhumij concentrated village in the area of Simlabandh under Hirbandh community development block of Khatra sub-division in the district of Bankura of the Indian state of West Bengal.

1.1. OBJECTIVES OF THE STUDY

The objectives of this explorative study on Bhumij tribal community of a village, Lutia of Bankura district in the Indian state of West Bengal are given below:

- To know the life of Bhumij of a village namely Lutia of Bankura district in West Bengal.
- To know the impact of Lockdown due to COVID-19 in their day to day life.

2. AN OVERVIEW OF THE VILLAGE

The village Lutia is a typical Indian tribal village of Bhumij tribal community. The village situated beside the river of *Kangsabati*. This Bhumij concentrated village, Lutia of Moshira gram-panchayat in the area of Simlabandh post office under Hirbandh community development block and Hirbandh police station of Khatra sub-division in the district of Bankura of the Indian state of West Bengal are geographically located at 23.05°N latitude and 86.81°E longitude. The mouza of Lutia village is also with the name of Lutia with J.L. No.-47. This village is situated approximately 12.4 km away from its block headquarter Hirbandh. Bankura is the districts headquarter of Lutia village. The total geographical area of this village is 303.71 hectares. According to census 2011, Lutia has a total population of 108 peoples. There are about 19 houses in Lutia village. Nearby some villages of Lutia are Bamni, Kundurka, Paira, Simlabandh, Bhedia and Manora. The nearest town of this village is Khatra with distance from this village about 22 km. The villagers go to this town by bus mainly as this village is not connected with railway transportation. When we went to this village we saw that village road has been constructed into the concrete. By interviewing with a senior villager, Kanad Ranjan Kotal (name changed due to protect his privacy) of 75 years old of this village we know that their ancestors displaced due to struggle in their community people from the nearest Purulia district area had come to this area before 150 years ago and later on they gradually developed the present village area by cutting the jungle.

3. METHODOLOGY OF THE STUDY

In this pandemic situation it is not an easy task to carry out any research especially in the field of social sciences. As the tribal people generally are isolated from their outer world in so many reasons and as well as due to our special interest to know about various tribal community not only in India but also in abroad, we have decided to know at least one tribal village population's life in this lockdown period. Before the field survey to this tribal village we have talked to the local administration and let them know our desire of field survey, then also we have gathered various information about this village and surrounding area along with total Hirbandh block situation regarding COVID-19 pandemic from the



different websites of the government of West Bengal. Every statistics showed that the entire Hirbandh block area was COVID-19 free area along with that particular Bhumij concentrated tribal village i.e. Lutia village. So then we decided to take a visit to Lutia village. We went to this village on June 27, 2020; June 28, 2020, and on June 29, 2020, i.e. during the unlock phase 1.0 period and we have spent the whole day to this village by maintaining every norms and regulation of World Health Organization (WHO), Indian Council of Medical Research (ICMR), and as well as the various directives measure of Government of West Bengal and local government regarding COVID-19 pandemic. We have taken enough dry food, drinking water, hand sanitizer and face masks with us before every day to enter the village and always wore face mask properly and also used hand gloves during the field visit. When we talked to the villagers, we always maintained the proper social distance at least more than 6 feet. By maintaining proper social distance and wearing face mask we have taken in-depth interview of 25 villagers of different age group and gender belong to Bhumij tribal community on the various aspects of their day to day life, their education, their health awareness especially about the awareness regarding COVID-19, their culture, religious and supernatural beliefs, etc. by adopting purposive sampling technique method along with tried to know their opinion and views regarding the impact of countrywide lockdown to their daily life. In this field visit, we have also emphasised upon the techniques of observation for knowing their life in their day to day activities. We have taken enough field notes about their life especially in this pandemic situation during our field visit and taken some photographs of them in various moments for documentation their life and livelihood with due verbal permission from them.

4. FINDINGS AND DISCUSSIONS

The details findings, as well as discussions of this explorative study in a Bhumij tribal village, Lutia of Bankura district in the Indian state of West Bengal, have described in the following subsections:

4.1. Demography: As per the Population Census 2011, a total of 19 families are residing in the village Lutia. The total population of Lutia is 108 out of which 57 are males and 51 are females thus the Average Sex Ratio of Lutia is 895. The population of Children of age group 0-6 years in Lutia village is 8 which are 7% of the total population. There are 6 male children and 2 female children between the age group 0-6 years. Thus as per the Census 2011, the Child Sex Ratio of Lutia is 333 which is less than

Average Sex Ratio (895) of Lutia village. Both the sex ratio of Bhumij tribe at Lutia village is far below from the national average. The child sex ratio of Bhumij tribe at Lutia village is in the danger position; it is a serious matter to be concerned if they will be survived in future.

As per the information shared by the villagers of this Bhumij concentrated village, it has seen that at present total 21 families are residing in the village, Lutia. The total population of Lutia is 128 out of which 72 are males and 56 are females thus the Average Sex Ratio of Lutia is 777. At present, the population of Children of age group 0-6 years in Lutia village is 11 which are 8.5% of the total population. There are 8 male children and 3 female children between the age group 0-6 years. Thus at present, the Child Sex Ratio of Lutia is 375. Thus at present, a very slight improve has seen in child sex ratio at Lutia village concerning census 2011, but it has remained in very danger and the average sex ratio of this village has declined by 118 points with respect to the population census 2011 which also the very alarming situation for this tribal community at this village. It is also informed to us by the villagers that most of the Bhumij people of this village i.e. about 70% have no valid scheduled tribe (ST) certificate and about 50% have no bank account in their name.

4.2. House Pattern: All the houses of this Bhumij village are kutcha and with the typical traditional tribal structure of the house. The wall of those houses is made with mud and roof is made with corrugated tin, asbestos, mud-tiles, etc. Most of the houses have only one room at the centre of the house and besides the four sides are like to see veranda. Bhumij peoples generally sleep in this veranda in the night and during the summer season they like to sleep under the sky. We did not see any kitchen room in their houses. We also did not see sanitary toilet facility to any house of this village. Drinking water facilities are well in this village and this facility has done by the local gram-panchayat authority by providing running water through pipe-line to this village. We saw that females have cooked in front of their house in mud made oven with firewood during our field visit. One housewife, Rani Kotal (name changed due to protect her privacy) of 26 years old informed us that no families in this village use LPG gas for their cooking. Electricity facilities have found in every house in this village. In this context, Sadhan Sing Sardar (name changed



due to protect his privacy), the only graduate unmarried person of 43 years old said to us that they do not get any direct subsidy in their electric bill though they all belong to below poverty line.

4.3. Family Pattern: As already stated, among the 21 families in this village, most of the small-sized family (3 members or less) have seen. The number of such families is 14 (66.66%) and the rest of the families i.e. 7 (33.33 %) is a medium-sized family having 4-6 members correspond to the simple family consisting of father, mother and their dependent children.

4.4. Using Of Modern Electronic Gadgets and Internet: In every family there is at least one normal mobile and we have seen only 4 young Bhumij people with a smartphone in their hand during our 3 days field visit at this village. Among the 21 families, only 2 (9.52%) families have a television with direct to home (DTH) connection. No one in this village uses the internet in their day to day life except only those 4 young people who frequently use their mobile internet to access mainly various social media like Facebook, WhatsApp, YouTube, etc.

4.5. Education: As per the Census 2011, the literacy rate of Lutia is 62%. So it has seen that Lutia village has a lower literacy rate compared to 62.1% of Bankura district. The male literacy rate is 78.43% and the female literacy rate is 44.9% in Lutia village. Sadhan Sing Sardar (name changed due to protect his privacy), the only graduate unmarried person of 43 years old said to us that there is no Primary School in their village area. The nearest primary school from this village is about 2 km away and the connective road from this village to that school is throughout a jungle with fear of Hyenas. Primary school-going children from this village frequently off their school due to the fear of Hyenas. He also said that most of the literate person's education levels of this village are up to primary level i.e. below or class IV standard education and he also added in this context that at present younger generation from this village quit their education after class VI or VII due to poor income of their family and also due to the no guaranty of a job after completion of education. Only two high school girl students from this village have got *Kanyashree (Kanyashree Prakalpa)*, an initiative made by the Government of West Bengal since 2012, seeks to improve the status

and wellbeing of girls, specifically those from socio-economically disadvantaged families through Cash Transfers to their bank account) from their school. Sunil Kotal (name changed due to protect his privacy), father of a Class VII student, of 44 years old said to us that his son was reading in Class VII by staying at Moshiara High School hostel, which was dedicated to the schedule tribes (ST) students only but in 2019 school authority suddenly stopped the hostel, as a result, his son left that school during his class VII studies and his son now helps him in his work. He very sadly shared his experience and blamed the school authority for their sudden stopping of the hostel, which was the main cause of his son's drop-out from school. Rupai Sing Sardar (name changed due to protect his privacy), father of a Class VI student, of 41 years old said to us that his son was reading in Class VI by staying at Gopalpur High School hostel, which was dedicated to the schedule tribes (ST) students only but from the month of December, 2019 school authority suddenly stopped the hostel, as a result, his son left that school during his class VI studies and his son now helps him in his work. He very sadly shared his bitter experience and blamed the school authority for their sudden stopping of the hostel, which was the main cause of his son's drop-out from school. In addition to that, he also informed that Deulgaria High School, one of the nearby schools from this village area, also stopped their hostel facility for the tribal students since 2019. As tribal people prefer residential school, so local school authority and as well as government administrations and officials should always try to run tribal hostels smoothly otherwise tribal students deprived so much from getting their education, which is the main key elements to uplift them in mainstreaming society and as well as the wellbeing of them. When we asked a senior villager of this village, Nirapada Sing Sardar (name changed due to protect his privacy), aged about 50 years about the effect of lockdown to their community's students in their village, he replied that students are now engaged to their family work and almost all are detached from their studies as schools remained closed since last 3.5 months and also he shared his wordiness in this context that so many students will not go back to their school when it will reopen as they are long time detached from their studies. So the scenario in the field of secondary education and higher education of this Bhumij people dominated village is alarmingly very poor. Local



administrations, as well as government authorities, should focus this tribal community's needs and demands as their children will get proper secondary education as well as higher education.

4.6. Health Awareness With Special Reference To COVID-19:

Sadhan Sing Sardar (name changed due to protect his privacy), the only graduate unmarried person of this village of 43 years old said to us that people from their community are now a day's conscious about their health. Women from this village regularly have taken consultation from doctors of the primary health centre and block health centre during their pregnancy period and admitted to hospitals for delivery of the baby. They regularly have taken their children immunization from the primary health centre and for any illness, they go to doctors besides that he also added still there is a practice to go to exorcists (*Ojha*) mainly for snake bites, jaundice, skin diseases, Scorpion bites, etc. He also said to us that, ASHA workers (One of the key components of the National Rural Health Mission is creating a band of female health volunteers since April, 2005, appropriately named "Accredited Social Health Activist" (ASHA) in each village within the identified States. These ASHAs would act as a 'bridge' between the rural people and health service outlets and would play a central role, in achieving national health and population policy goals.) are very active in their village and they regularly monitor every household person regarding their health matter.

We have asked many villagers of this village that do they know about the recent pandemic of COVID-19 and its preventive measures, in reply to that all said to us that they have heard about this disease and aware about its preventive measures from the ASHA workers, though during our field visit we have seen that people did not use face-mask or face-mask like any cloth in outside of their home and did not maintain proper social distance in public places. Rani Kotal (name changed due to protect her privacy) of 26 years old housewife said to us that they used soap and detergent in their daily life but she did not know about hand-sanitizer. During our field visit once morning we observed that younger Bhumij people cleaned their teeth by brush with toothpaste while older Bhumij people used branch of Babool (*Acacia nilotica*) tree for cleaning their teeth. Maheswar Sing Sardar (name changed due to protect his privacy), aged about 52 years said to us that very

recently 15 migrant workers having an original resident of their village came back from their workplace of different Indian states like Maharashtra, Gujarat, Kerala, and Odisha and they all have kept themselves in home-quarantine for 14 days and ASHA workers have regularly monitored them.

4.7. Occupation: Most of the Bhumij people in this village have engaged in fishing from the *Kangsabat* River and they sell fishes in their nearby market. Some are engaged in MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) work which is popularly known as 100 days work. In this context, we have informed by the villagers that only about 40% have a job card in this MGNREGA scheme. Bhumij people in this village have no land in their name except their house, though very few Bhumij people do cultivate *boro* paddy (*boro*: rice sown in winter and harvested in summer season is called *boro* rice) in the bank of the river *Kangsabati* once in a year. Most females along with some male of this Bhumij dominated village earn money by doing work in the field of animal husbandries like cattle, sheep, hen, goat, goose, etc.

4.8. Marriage: The Bhumij in this village belong to different clans, such as *Jag Rishi*, *Tesa* and *Path Hembram*. Marriage within the same gotra (clan or lineage) is forbidden. The average age of marriage of male and female Bhumij people in this village are 16-21 and 14-16 years respectively as per the information shared by most of the villagers of this village during our field survey. So it has seen that early marriage is very much prominent among the Bhumij people in this village.

4.9. Religious Beliefs and Rituals: The Bhumij in this village are traditional Hindus in religious belief. They worship Hindu deities like *kali* and *mansha* by inviting Hindu brahmins to act as priests. They still preserve some of the customs of their ancient religion. Some of their primaevial deities are *Deota*, *Daram Deota*, *Singbonga* and *Jahubora*. Their traditional religious place in this village is called as *Kadamtala*, where they worship their primaevial deities by the priests from their community people who are called *Javas* by sacrificing different animals like goat, hen, etc. to their deities.

4.10. Festivals: Some of their traditional festivals are *Salui Hula*, *Bandana*, *Tushu* and *Karam*. Among these festivals, *Salui Hula* (a festival of Bhumij people, when Sal [*Shorea*



robusta] tree evolves its new leaf) is celebrated very gorgeously by the Bhumij people in this village. During every festival of them, Bhumij male drinks *haria* (a special country liquor made by fermentation of rice).

4.11. Impact of Lockdown in Their Life:

The countrywide lockdown since March 25, 2020 to May 31, 2020 has a long term impact on these indigenous people i.e. Bhumij tribe in this village. As already stated, 15 migrant labours, having an original resident of this village, came back to their village from different states and they are now completely jobless. Not only those 15 migrant labours but this countrywide lockdown due to COVID-19 has also greatly affected the whole Bhumij people residing in this village. They cannot earn money from their different occupation for example who earn their daily wages from fishing in nearby *Kangsabati* river by selling fish, they sold their fishes with very low price as due to lockdown a negligible number of the local customer only took fishes from them, no outside customer could not reach their fish-market due to lockdown. Besides that, who runs their livelihood on animal husbandry, they also faced the same crisis of low market price of their animal husbandry product like egg, animal, etc. In this context, one housewife engaged in animal husbandry, Rekha Kotal (name changed due to protect her privacy), age of 37 years old said to us that she sold egg of chicken, goose and goat at half of the price with respect to the selling price before lockdown. She also sadly expressed that at present during this unlock phase 1.0, she cannot get proper market price of her product. She said to us if the government helps us by providing loan at reasonable subsidy for their animal husbandry then they can minimize their loss and can continue their life-battle through this their small profession. Sadhan Sing Sardar (name changed due to protect his privacy), the only graduate unmarried person of this village of 43 years old said to us that during lockdown period and after that they got rice, sugar, kerosene at completely free of cost from ration shop by the government of West Bengal but it does not full-fill their demand. They demand *dal* (pulses), mustered oil also at free of cost from ration shop otherwise they will remain hungry in very near future as their income from the various occupation is now at danger position. In addition to that he also very sadly said that in their nearby villages so many non-government organization (NGO) helped the villagers by providing cooked-

foods, rice, potato, mustard oil, vegetables, soap, face-mask, etc. but in their village, no one comes so far.

5. EPILOGUE

The Bhumij tribes at Lutia village of Bankura district is a socially, economically and culturally diversified village in compare to the surrounding area. It has seen from the findings of this explorative study that the tribal dwellers of this village are deprived of basic necessities of life. India's schemes for affordable housing for the poor and access to sanitation, enjoyed by other towns and villages, still remain beyond their reach. Electricity has yet to be connected to their homes –only a bulb is lit- and they still live in mud-tiles, leaf, grass and mud made huts. Most of them are facing the problem of unemployment making their survival difficult. They could not maintain their livelihood due to their low incomes and no savings of money during this COVID-19 pandemic situation. The hostels for Tribal students of different schools nearby to this village have been stopped since 2019, as a result, tribal students not only from this village also from the adjacent area are now come back to their home by stopping their education, it is a serious tragedy in the field of school education of tribal students in this area. So they are stressed with education, economic and social backwardness and child sex ratio also.

REFERENCES

1. Riskey, H.H. (1998). *The Tribes & Castes of Bengal, Vol. II. Calcutta: Firma KLM Pvt. Ltd.*
2. Tripathy, C.B. (1971). *The Tribal Life in India. New Delhi: National Book Trust.*
3. Upadhyay, H. C. (1991). *Scheduled Caste and Scheduled Tribes in India A Socio-Economic Profile. New Delhi: Anmol Publications.*
4. Vidyarthi, L.P. & Kumar, R.B. (2000). *The Tribal Culture of India. New Delhi: Concept Publishing Company.*
5. *Reading Material for ASHA Book No.-1, issued by the Ministry of Health and Family Welfare, Govt. of India, Retrieved from <https://nhm.gov.in/images/pdf/communitisati on/asha/book-no-1.pdf> on June 30, 2020 at 11:54.*
6. <https://www.censusindia.co.in/villages/lutia-population-bankura-west-bengal-329151>
7. http://www.scstrti.in/index.php?option=com_content&view=article&id=153%3Abhumij#7s8d6f87



EVALUATION OF MNCS LEARNING THROUGH THE LENS OF ‘LEARNING ORGANIZATION’ LITERATURE

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ABSTRACT

The concept of Learning Organization is emerging since past three decades in the field of International Human Resource Management especially after the seminal work of Peter Senge in year 1990. The idea of Learning Organization is to develop the reality of capabilities-based-competition which help the managers and other practitioners of organizations operating domestically and internationally to gain organizational competencies and knowledge to analyze their strengths and weaknesses; which in result also enhances organizational self-transformational capability. Thus, this transformational capability assists organizations to survive and sustain in turbulent time to achieve competitive advantage. This paper through secondary qualitative data discusses the role of learning organization and its implications in multinational organizations.

KEYWORDS: *Learning Organization, Organizational Learning, Competitive Advantage, Multinational, Knowledge Management*

1. INTRODUCTION

Presently, the economy worldwide has moved from industrial oriented economy to *knowledge-based-economy* where actual commodity found to be information and knowledge. In this regard, major contribution in ‘art of learning’ started in 1990s by Peter Senge. Since then organizations accepted the reality of *capabilities-based-competition* and then concept of the “Learning Organization” emerged as a new channel of organizational functioning. Learning organization has tendency to collect and store knowledge in organizational memory and more importantly to transform itself to changing business needs. It also assists organizations operating domestically and internationally to obtain required skills that cannot be easily copied and replicated (Harris, 2002; Barrette et al. 2007) and thus provides organizations a competitive edge to learn rapidly at higher pace and react quickly than its counterparts. Therefore, no doubt, organizations that learns, adapt and innovate quickly are capable to modify their practices in a better way to respond to the changing environment and consumers’ demands.

According to Lertpachin et al. (2013), ‘learning organizations’ are adaptive and responsive due to their commitment, openness and ability to deal with complexity, as competition, people mobility and technological advancement are exerting pressure on MNCs to use learning as competitive edge to gain economies of scale, expand business and remain innovative. To develop such an organization it requires vision, courage, learning culture, leadership, human resource and knowledge management through continuous learning process. In relation to learning and growth, as asserted by Jimenéz et al. (2014), the number of MNCs along with number of people employed in MNCs increasing worldwide and thus with this changing pace foreign direct investment outside the country of origin is expanding. Comparatively, MNCs are considered to have more opportunities to acquire and transfer knowledge, learn, adapt and get exposure and experiences in foreign market than domestic companies. In the same manner, the Foreign Direct Investment (FDI) by MNCs play vital role in economic and social elevation (i.e. Gross Domestic product (GDP), Employment ratio, Trade



inventories, Sales and so on). Hence, multinational organizations considered as important playground for learning due to diverse institutional context, cross-border knowledge transfer and knowledge sharing (Bonache, 2001). To put forward, (McDonnell, Gunnigle and Lavelle, 2010) stated that MNCs are diversified into different regions globally which considered as a key asset in terms of exploiting opportunities to transfer knowledge throughout the whole organization in order to remain innovative. Similarly, (Minbaeva and Michailova, 2004; Palmer, 2005) also stressed on the issue of learning in MNCs due to lack of empirical and conceptual research in the expat literature. Although many approaches to international learning are emerging but there is still literature deficit domain of practical knowledge.

2. LITERATURE REVIEW

2.1 Learning in Multinational Organization

The Book by Peter Senge (1990), *“The Fifth Discipline: The Art and Practice of Learning Organization”* was remarkable effort towards the idea of Learning in organization. It provided new practical dimensions *“magical formula”* to organizations that is centered to learning and enabled organizations to maintain balance between change and stability (Rebelo and Gomes, 2008). In the past, learning organization concept taken over from knowledge management as both concepts are inter-related and assisted researchers and practitioners for development of HR practices to gain superior organizational productivity, remain innovative, adapt and manage change for business growth (Newman and Newman, 2013). Similarly, many researchers and practitioners in the field of strategic management (Barney 1989; Porter 1980, 1985) ascertained that competitive advantage of the firm is dependent on alignments between distinctive (internal organizational) capabilities and constantly changing (external environment) circumstances. According to (Diez et al. 2005; Rebelo and Gomes, 2008) external environment influences internal factors of MNCs to base competitive advantage on internal resources which can be tangible and intangible i.e. prestige, intellectual property, talent, knowledge and learning capability. In relation to concept of learning, business strategies realized organizations that learn faster and adapt quickly may indeed achieve business success and competencies better than their competitors. However, most researcher and academician argued that the idea of learning concept found to be as inspiring yet difficult to implement because it involves different mind-set of people and complex culture of organizations and the societies. According to OECD (2010), in 1990s there

was a rapid acceleration of retail FDI primarily from European and US market into the emerging markets such as Asia, Latin America and central/eastern Europe. Later it resulted in expansion of overseas multinational companies i.e. (Wal-Mart, Marks & Spencer, Carrefour, IBM etc.) that transformed these companies into major regional and global business actors. Wal-Mart identified as the largest corporation measured by sales in year 2002, that exceeded the sales of General Motors and Exons which captured the international dimension of retail organization that there is a large market other than manufacturing and service sector to increase international market shares (Girod, 2003).

Moreover, (McDonnell, Gunnigle and Lavelle, 2010) suggested that in context of MNCs operating in multiple countries gain better advantages than single country firms in terms of scale and scope, nonetheless, these advantages are restrained due to high operational cost between managing global regions and headquarters. The literature focused that country of origin is a crucial factor that affect the organization's form, process and procedures on multi-level (Asakawa, 2005). Therefore, organization with self-transforming capabilities to learn from experiences and applying corrective measures to resolve the past mistakes have potential to learn and excels in future. Furthermore, such organizations are able to generate new business opportunities for their own individual entity especially in economic crisis and through environmental turbulences (Lertpachin et al. 2013). Hence, Tuan (2001) described that despite the HR have a key role in other practices of the economy, such as recession, in situation of tight labor market, employment laws that are embedded in national business systems of different countries where the MNCs operates, still to date MNCs are failed to analyze the critical role of HRM practices that play in sharing knowledge transfer and learning.

2.2 Learning Organization

Although, the concept of 'learning organization' developed by Chris Argyris's study in 1977, since then it became a contemporary exercise which captured the attention of practitioners after Senge's work in 1990. As compare to organizational learning, the concept of learning organization represents the organizations that excels in utilizing the processes efficiently with fit-to-purpose organizational structures aligned with business strategy, learning climate where organizational members learn and adapt constantly and embed technological network into its way of operation (Harris, 2002). Therefore, literature is not devoid of theories and framework, as its core idea was developed within organizational learning (Easterby-Smith et al., 2008)



and according to Kirwan (2013), learning organizations are those which are good in organization learning however this trend is found merely selective and limited to the grounds of practice and utility despite the importance of learning in MNCs. Basically, the concept of LO was evolved by many different viewpoints. Senge (1990) for example, defined learning organization that continuously expanding its capacity to create its future and generate the results which organization truly desire beside new patterns of thinking being nurtured and developed along with collective aspiration are allowed to improve and where all members continually learning in order to learn together. However, a slightly different perspective according to Pedler et al. (1989) in comparison of Senge's definition as Senge focused on 'expanding capacity' while Pedler suggest that learning organization foster learning of all its members and has 'transformational ability'. In addition, according to (Garvin (1993), to create learning organization culture, there must be process of acquiring knowledge and its transference along with adapting behavior to imitate new ideas and knowledge. On the other hand, Schein (1996) defined learning organization that emphasized on helping managers to analyze and evaluate their own organizational culture and build their own strengths. However, Watkins and Marscik's (1993) idea of learning organization encompasses on team- learning in order to constantly innovate and maintain growth and transformation. In reality, according to Pearn (1995), there is no exact definition of "Learning Organization" to meet all requirements as it is a contested term and to conclude according to Kirwan (2013), so forth whatever is the definition, the basic idea is the creation of knowledge and information through collective competencies and experiences of members of organization which can be used to achieve better performance and to gain competitive advantage. However, a precise definition of learning organization suggested by (Sun and Scott, 2003) emphasized that learning is a transformation process which takes organization to the desired state resulting in a changed behavior and better performance. Learning must be transferred from individual(s) to group(s) then to organization and inter-organization and vice versa. This depicts that if the result is no change in behavior then real transference of learning has not yet occurred. This definition offers three broad factors 'transformation', 'change behavior' and 'learning / knowledge transfer' which is seen as essential for organizations to learn and adapt especially in Multinational context. The definition supports the idea to create a supportive environment that comprised of various learning

dimensions aligned with global multi- channel learning transfer.

2.3 Dimensions of Learning Organization (Senge 1990)

The question is '*why there is a need of learning organization?*' The answer contained corrective measures to much efficiency driven organization that focused on system re- engineering and thus the learning organization became the new idea and buzzword in management, psychological and Human Resource development literature (Thomas, 1997). Similarly, Peter Senge's seminal works such as *The Fifth Discipline: The Art and Practice of the Learning Organization*, and *The Fifth Discipline Field book: Strategies and Tools for Building a Learning Organization* suggest five disciplines which serve as practical and long-term perception of both individual and organizational learning.

- **System Thinking:** A way of thinking to see the big picture to understand and analyse the forces and patterns instead of conceptualizing change as an isolated event. The disciplines of system thinking emphasize the need of learning in organization to see the change system more effectively, and a shift from being isolated to be interconnected to the whole and instead of considering external factors to create problems a sense of realization that our actions can create obstacles (Wang, 2006; Nakhchian et al. 2013).
- **Personal Mastery:** It involves two fundamental aspects, first it focuses that individuals create their own personal capacity to achieve the desired outcomes by constantly making clear what is significant to them for pursuing particular goal and route. Second is that individual must observe and understand the reality (Wang, 2006), However, Senge (1990b) emphasized that personal mastery should not be enforced to employees instead organization should create an environment that foster and encourages all employees to develop themselves towards their own desirable purpose and aims by developing sense of personal mastery.
- **Mental Models:** Kine & Sunders (1993) described mental models that involve each individual trying to reflect upon and continually clarifying, understanding and expanding his/her own internal picture of the world in order to see how they form their own personal decisions (Wang, 2006). Senge (1990a) further elaborated that these assumptions and models affect how individual comprehend and react to the world and thus block the organizational learning, therefore,



mental models should be uncovered and should create scenarios through which different imaginations and ideas are created for future. However, predicting future may not be accurate, nevertheless, it provides awareness of present state in relation to possible future desired state with the help of scenarios and organizations can further modify its goals to learn for their potential future.

- **Shared Vision:** Individuals build a sense of obligation and commitment within a workgroup and develop shared images of common and desirable future by seeking to create principles, procedures and guiding practices hoping to support and achieve these future aims.
- **Team Learning:** It involves transformational thinking skills that enable people as a group to reliably develop intelligence and skills. Senge (1990a) puts emphasis that individuals by keeping aside their individual assumptions and ideas can enter collective (Cross-functional, self-managed) group thinking process and that is greater than the sum of the individual members' talents.

In accordance with above discussion, now the question is 'then why predictions do not see any examples of learning organizations around?' According to (Seddon and O'Donovan, 2010) that prevailing system of management has adverse effect on people such as ranking system, reward for the top and punishment for the bottom, quotas, centralization etc. causing loss of known and unknown. Moreover, they argued that Senge work did not tell managers as how to tackle with 'deeper connection of layers' that is essential to become a learning organization in addition to the issues of power and control are not often addressed in literature about the learning organization.

2.4 Learning Organization Model (Garvin's 1993)

According to Garvin's (1993) model that described five building blocks/activities on which learning organizations are skilled. 1) Systematic Problem solving 2) Experimentation with new approaches 3) Learning from past experience 4) Learning from the best practices of others and 5) Transferring knowledge. The first activity relies solely on scientific method for solving problems using data to make decisions for inference rather than guess-work for diagnosing problems. The second activity describes experimentation and testing through which new knowledge is generated. It can be on-going programs (small experiments designed to gain incremental knowledge) and demonstration (large and complex projects). The third building block is learning from past mistakes and experience and suggest that organization

must acknowledge failures in a systematic manner. The fourth activity is learning from others insights and experience rather than self-analysis. The fifth and final building block is quickly and efficiently transferring knowledge such as training, orientation programs, frequent flyer assignment (short term expatriate training) and standardization programs.

2.5 Goh's (1998) Learning Organization Model

Goh's learning organization model is based on five building blocks that consist of 1) Shared vision and mission 2) leadership 3) experimentation 4) transfer of knowledge and 5) teamwork and cooperation including two other essential building blocks such as a) skills and competencies and b) organizational design. Mission and vision should be communicated with clarity to all employees of organization. If mission and vision are well understood then employees feel more confident and empowered to take initiatives that are aligned with organization's goals. The leadership emphasize on non-hierarchical organizational structure, nonetheless this concept was built for large competitive environment where calculated risks are encouraged within organization. The managers' role is critical and important for coaching, mentoring and controlling regardless of the position in hierarchical structure. The leaders' responsibilities are to provide feedback, assist and identify problems, take steps towards corrective measures, utilize opportunities and accept productive criticism for learning purpose. Within the block of experimentation, it is essential that organization encourage and support experimentation that use existing knowledge and create new knowledge on the basis of experimentation with new ideas for improvement. Teamwork and cooperation bring collective thinking, knowledge and ideas from different functional areas. Goh (1998) further stated that environment for cross functional team work also breaks downs the '*stove-pipe syndrome*' (organizations that restricts flow of information due to extreme top-down line of control).

2.6 Characteristics of Learning Organization

In addition to the approaches described by Senge's dimension of learning organization, according to Kirwan (2013), there are some common themes that contributed in developing learning organization' characteristics on strategic level. A sense of shared vision and clear goals enable organization to use opportunities of learning to face the critical challenges which result in better performance. Whereas, according to (Djonlagic 2013; Rebelo and Gomes 2008; Kirwan 2013) creation of flexible learning structure, retention



and transference of practical knowledge facilitate to adapt the change from external environment and the knowledge further be used within and across the organizational boundaries. Personal mastery will help in self-development of individuals comprises of training, vocational education with continuous experiential learning that embedded in MNCs business system. Similarly, the multinational environment / exposure can create a climate of empowerment, experimentation, change and innovation and helps teams to work as expatriate in subsidiaries and learn. Similarly, as asserted by Casico (2000), MNCs involved in extensive training and HRD functions at an individual, group and organizational level to assist employees to gain job-related competencies and it is expected that training will result in organizational development and supportive culture that foster continuous learning, nevertheless, according to Watkins and Marsick (1993), even though training is vital in learning organization but not the only distinguishable characteristic of learning organization (Ortenblad, 2001).

Cabrera et al., (2002) study further identified factors and characteristics of MNCs on basis of psychological theories to share and transfer knowledge within learning organization. Trust, feeling of obligation, encouragement of open access to knowledge and a strong sense of group identity found to have positive impact on knowledge sharing and its transference. Incentive, career development and promotion work as a catalyst in learning process. Similarly, Hitt (1995) study revealed that traditional organization possess characteristics such as management control; traditional top-down structure, departmental boundaries and organizational performance is only measured against financial returns. On contrary, learning organization are built learning on foundations of coaching / mentoring facilitators, consultation, flat structures, dynamic networks, cross-functional teams where mistakes are encouraged and tolerated as part of learning. To support this argument (Senge 1990, Huber 1991; and Davis and Daley 2008) notified the “*Taylorism approach*” and “*traditional approach*” that emphasized on organizational bureaucracy is no more effective in current business environment in coping with the demands of globalization, change and performance that are ever more crucial for business environment and changing economic climate. In addition, Jones (1997) opposed “*Taylorism approach*” and favored the concept of “*developing capacity*” and Mishra and Bhaskar (2010) also emphasized on “*empowerment*” to create learning organization in order to produce superior quality

products, improve business efficiencies and create more value for customers and shareholders.

2.7 Benefits of Learning Organization

As asserted by Appelbaum and Gallagher (2000), knowledge is related to competitive advantage but also broadly distributed. It is a powerful asset nonetheless not fully utilized and can disjoint particular organization and thus can be emerged in competitors as strength. Therefore, as argued by (Easterby-smith and Araujo 1999), organizations may not benefit from knowledge and learning & development of employees without supportive culture. Employees’ individual skills, competencies, information system, relationships with clients and suppliers add value and wealth to the organization however, the managers under quantify the worth of knowledge and confront with persistent problems (Seddon and O’Donovan, 2010). Furthermore, due to inability to adapt and adjust to the external environment, organizations lose their competitive edge in international market. Employees’ engagement through training and development also helps in retaining employees and in acquiring talent. Self-learning provides individual a free reign to learn faster than organization and to transfer back the information to organization that may supports the business plan and thus learning can lead to successful future projects. Communication enhances dialogues and through new ideas and innovation an organization can gain competitive advantage which supports Oyeniyi (2011) argument that sustainable competitive edge is only gained when organizations strive for unique characteristics that differentiate it from its counterparts and thus making use of learning and acquisition of knowledge are intangible assets that are difficult to replicate due to time and cost required to manage them efficiently. Therefore, real market value of an organization can be calculated through the process of learning and its capacity to transfer knowledge (Cheng et al. 2010).

2.8 Barriers in Learning in Organization and Knowledge-Transfer

Eventually, keeping in view the amount of spending on training and development function, many barriers limit or impede the learning transfer at workplace mainly including people, culture and technological barriers. The significant reasons found to be 1) Power distance and difference in communication structures are not modified according to new business system to support the new ideology (Steiner 1998; Hodgkinson 2000). 2) Vision regarding organization’s future is inconsistent between management and employees. The difference means that there is lack of meaningful dialogue and sharing of knowledge and



thoughts between management and employees (McLaughlin et al. 2008). 3) Management style and structure does not fit to the new ideology of learning in organization. For example, centralization considered as less fertile approach (Minbaeva and Michailova 2004) due to which motivation among employees is declined to transfer learning (Steiner 1998). Furthermore, 4) Power of knowledge Syndrome refers to a mind-set that value of knowledge is perceived by individual ahead of its value to the organization which prevents individuals to share knowledge as knowledge and learning is seen as a part of their own personal competitive advantage. Therefore, if the culture where group and team performance is rated above individual, the expected behavior results in learning by both employees (McLaughlin et al. 2008). 5) Interpersonal relationship impact on Knowledge depicts that relationship between employees affect the contribution to knowledge transfer failures i.e. attributes and characteristics of knowledge transferred such as lack of recipients' capability to absorb and transfer knowledge (Steiner 2008; McLaughlin et al. 2008). 6) The impact of Organizational Structure in sharing knowledge identified by Gupta & Govindarajan (2000) stressed that one who has knowledge are not interested to share knowledge without reciprocity which suggest that efficiency of knowledge transfer is voluntary and relies on willingness of an individual to identify and share the knowledge they possess and use it when it is required.

Moreover, According to Berkema *et al.* (1996) as firms are being globalized and have access to foreign markets, yet foreign entry is impossible without cost. Therefore, when organizations diversify operation globally, they have to adapt and adjust according to foreign national culture to minimize the associated risk of business failure. Nevertheless, Shenkar (2008) further stated that MNCs still failed to recognize those cultural barriers to increase efficiencies obstacle of 'psychic distance'. It refers sum of all the factors that contribute in preventing of transferring knowledge and learning between organization and market, especially cross cultural communication in MNCs. Simonin, (1999) asserted that it deals with all forms of internal and external, direct and indirect communication between home country and subsidiaries such as cultural negotiation, customer and supplier management, training purposes and knowledge sharing and transfer within MNCs.

Cost Management of Knowledge Transfer deals with cost of managing collaboration via relations that are substantial due to resource required to maintain the relationship and acquiring knowledge through the employee's relations (McLaughlin et al, 2008). It is

also asserted by Bae and Koo (2008) that information loss, cost of learning transfer and relationship management ties a weak bonding and cease the economic constraints of knowledge and learning. Further argued by McLaughlin *et al.* (2008), the sharing of propriety knowledge/information with collaborative partners may risks the organization with information disclosure whilst it is notified by Tung (1981) that on average 40 percent businesses aborted due to several issues such as managers' lack of interest to emotional and personal maturity, greater amount of responsibility in overseas operations which also incur direct and indirect cost, thus leads to less experiential knowledge limiting the MNCs to enhance learning capability due to loss knowledge (Minbaeva and Michailova, 2004).

2.9 Effective Strategies to Transform Multinational Company into Learning Organization

The role of MNCs as a source of knowledge transfer between parent-country and subsidiaries play a critical role for sustainable competitive advantage globally and it helps organization to achieve long-term existence strategically in times of environmental turbulence (Dobrai et al. 2012). Furthermore, as suggested by (Minbaeva and Michailova 2004), expatriates work considered as vehicle and knowledge transfer agents for exploitation of knowledge across retail MNC's units that emerged as a new area of research in international human resource management literature. The model developed by Marquardt and Reynolds (1994), identified three levels of knowledge transfer 1) Individual 2) group level 3) Organization level and, 4) Global level. The learning from individual is transferred to group where new approach of system thinking and team learning takes place. Then these learning and knowledge is stored in organizational memory in the form of learning from experience. In addition to learning process of MNCs (McDonnell, Gunnigle and Lavelle 2009) highlighted the critical factors to transfer knowledge are location, distance between units, political issues, diversity and organizational culture along with communication process, language skills and leadership skills in relation to extreme global competition. Therefore, the following cost-effective strategies in time of recession can help retail MNCs to utilize their existing resources whilst keeping a pace towards innovation and competition.

• Global Training and Its Transfer

As suggested by (Minbaeva and Michailova, 2004) stated that retail MNCs began to understand the importance of global training in the form of international assignments. However, it should be based on employee competence and capability regardless of



any discrimination and biasness. In addition, pre-assignment training that include language ability, cultural awareness, literacy and technical capability is considered the new ways to expatriates' international learning and development. In the same regard, Harris et al. (2002) argued that international assignments are costly and critical for skill transfer and managerial control and consider short-term assignments as learning-driven assignments for MNCs. According to Dixon (1993), firstly, Management Development Programs considered as pillar for learning in organization focused on re-organization of an individual that means effective communication, adequate amount of time and learning from on the job roles can be an efficient way of learning. Secondly, sender's willingness and ability to share and transfer knowledge and experience also depends on individual characteristics; particularly, organization should focus on selection criteria through which managerial competencies, positive attitude, adaptability, maturity and loyalty of candidate can be assessed prior to final recruitment. Furthermore, human motivation to learning found to be directly associated and motivation from managers and organizational culture have contribution in transference of knowledge in addition to Pearn (1995) further emphasized on HRM function that can play a vital role in supporting, identification and achievement of learning needs. Pearn (1995) further argued relying much on training fail to achieve the desired organizational goals which can be additional cost for MNCs in terms of inefficient assessment of training needs. Therefore, different training methods such as E-learning and action-learning are considered as cost-effective training methods for mandatory training (CIPD, 2009) and shift to-in house training such as coaching, mentoring, on-the-job training, off the job training and other interorganizational training will help to build learning capability and its transference which can be utilized especially in difficult time of economic downturn (Dessler, 2010).

- **Transnational and International HR practices**

As argued by Vo and Hannif (2012) and Pablos (2006), due to comparative institutionalization theory and global pressure, it is important for MNCs to maintain balance in legacy and be responsive to environmental changes for all host environment, as subsidiaries possess their own capabilities and therefore MNCs have to adopt local practices in their host countries. According to (Morgan, 2007) standardization and ethnocentric approach is no more applicable in global business especially due to cultural, labor laws and institutional differences and extreme global

competition which is evident in failure of Wal-Mart Germany, Hence, (Tuan 2011) suggested, to sustain in global competitive market, retail *MNCs have to develop integrated global-local business system (based on geocentric approach) and HRM practices i.e. flexible HRM policies, procedures, training for global expatriates and local employees, cultural audit, HRD programs, performance management, network structures and cross-cultural adaptation* in order to coordinate and control HR capability and trigger the learning process across multinational organization. Similarly, according to Bass (2000) *transformational and participative leadership* increase concerns of group achievement over individual goal achievement, creating participative leadership environment and descends transactional leadership style. International Human Resource strategies helps MNCs to be successful due to locally responsive, flexible and adaptive organizational structure and design with minimum time to response and being capable of transference of knowledge globally. Therefore, it is highly required for MNCs to align their multiple units to balance and adapt local customs embedded in national business systems of various units.

- **Knowledge Governance Mechanism**

The role of MNCs is crucial to employ knowledge governance mechanism (knowledge integration) due to unfavorable attitude of expatriate and local managers towards transference and knowledge. This attitude account for enhancing knowledge for personal development rather than team and organizational benefits which reduce the learning process (McLaughlin *et al.* 2008). To overcome this dilemma, (Hitt et al., 2007) suggested that incentives such as promotion, financial rewards, and job enlargement opportunities should be provided. Control mechanism can include documentation and reporting requirements which trigger the process of learning and can be used for knowledge retention and exploitation on multi-domestic level to sustain global competition in time of recession. In relation to control mechanism in learning process Takeda and Helms (2010) emphasized that control system may reduce the ambiguous relationship between control and learning as MNCs promote learning throughout the organization by adapting local culture of subsidiary while standardizing the corporate culture across the whole organization which termed as Hybridization (Yahiaoui, 2014). Moreover, the organizational decision to internationalize their operations increased in last three decades and such expansion became possible due to international movement of labor. Transferability of capabilities and resources are the recognizable and



important determinants of organizations within which competitive advantage of the firm lies. However, with regard to knowledge sharing, its transferability is critical not only between the firms but also within the firm which stressed out on issues as who individuals, which units, which knowledge to be transferred with what purpose, needs and use in addition who people receiving and sending the knowledge implies that not all people in the organization are involved in knowledge and learning transfer process (Minbaeva et al., 2003; Palmer 2005). Therefore, learning transfer is a complex process to be governed till its final application.

• **Post Project Evaluation**

Managers are confronted with paradox when in one-way efforts are being put towards complex projects and on the other hand the reflections of project encounter with failures and raise risks associated with cost, time and resources utilized (Nelson 2005). Therefore, as mentioned by Gullivar (1989) describing British Petroleum implementation towards “Post-Project Evaluation” analyzed completed projects carried out in BP to learn from mistakes and explained failure as “ultimate teacher” and identified remedies to overcome those mistakes in future leading to increased organizational performance efficiently (Harris, 2002). Moreover, according to Garvin (1993) who described the Boeing strategy to implement new policies after experiencing obstacles while introduction of 737 and 747. Competent and high-level project team was responsible to develop a set of “Learnt lessons” by comparing previous projects launched with new projects to compare and analyze the mistakes. However, regardless of its benefits; most of the MNCs including retail, manufacturing and IT industry as stated by Todorović et al. 2015 (for example Wal-Mart Germany, Daimler Chrysler, and SAS) rarely conduct post-evaluation of project due to time, and organizational/individual ability to draft reports and lack of forms and procedure. In this regard, as asserted by (Kang, 2007) knowledge management and learning in project environment is crucial and without storing and summarizing the knowledge in organizational memory, an organization can backslide to achieve project succession in future.

• **Learning Audit**

The learning audit refers to the analysis of current state of learning in organization to identify the need of change and adaptability. The learning audit consists of checklist survey instrument (Learning Climate Questionnaires, LCQ) in the form of focus group discussion and individual interview for identification of inhibitors and enhancer of learning process on

individual and organizational basis. Results can be analyzed and further practical steps can be taken to improve learning and its transference (Pearn 1995). Change management is the second step to build awareness by communication and trainings. Training and development are integral part of learning which can be audited through performance management system (Dessler, 2010). In order to manage supply and demand of knowledge, a proper system should be maintained to control and disperse the flow of information within and outside the organizational boundary. It can help company to store the information even if an employee leaves the company. *3M manufacturing company* specialized in innovative products and produced quality products and management team realized that more could be achieved through *human asset* and factory could be enthused to become ‘*masters of their own jobs*’. Departmental managers, supervisors and operators were involved to take part in learning audit through questionnaires and focus group. The internal audit revealed blocked areas for learning and diagnosed as lack of support and motivation for learning, lack of time, resistance to change and adapt, lack of commitment from management, lack of resources and a poor culture are barriers in learning transfer. After the data collected the management team developed an action plan which approved by whole site and implemented (Pearn 1995).

• **Pro-active Change Management**

In order to be innovative and responsive to changing external environment and gain competitive edge organizations have to transform traditional management structure to learning organization. Therefore, (Sackmann et al. 2009; Bass, 2000) suggest that “transformational change” which means strategic change, cultural change, double loop learning and importance of feedback mechanism to learn from past mistakes and further adopting corrective approach to remove those obstacles is the core idea of learning. However, such changes can become reality if substantial alterations are made to organizations’ business strategy which is supported by internal structure and other related business processes. Nevertheless, according to (Porth et al. 1999) such effective change management require effective leadership and team work throughout the whole organization. Therefore, Senge (1990)’s concept of mental models provides fundamental ground for change process. Mental models provide cognitive approach which help in making sense to ensure they are effectively used by managers and employees to enhance communication by exchanging dialogues and further extending communication into productive



actions. Not surprisingly, that change process involves certain risks which can be accepted if employees trust' organizational decisions play central role to initiate change process.

- **Effective Knowledge Management System**

It is revealed that managers' role found to be crucial yet critical in knowledge sharing and learning transfer whilst it was also found one of the main barriers for effective knowledge management in MNCs. Therefore, managers can adopt three roles to enhance learning in organization 1) as an effective leader 2) facilitator for learning 3) an individual learner. Moreover, according to CIPD (2007), the cost pertaining to develop a managerial skill is expensive whilst time consuming. Approach to enhance *leadership* by *Unilever* seen involvement in last twenty years which integrated strategy called *LGP (Leadership Growth Profile)* with other organizational key departments such as marketing, HR, supply chain and customer development to enhance leadership competency as an essential element to gain competitive advantage. A *leader into Action in Unilever* was a successful program developed to target the behaviors of managers and leaders aligned with competency model. Managers' role was collaborative, open, trusting, courageous and excellent in coaching and mentoring that help Unilever to enhance process of learning, collaboration and to achieve maximum efficiency through business operations overseas.

3.0 TESCO LEARNING FROM EXPERIENCE

The Tesco management learnt lessons from its international retail experience due to lack of leadership and transference of knowledge mechanism. In contrary to literature (Garvin 1993, Lertpachin *et al.* 2013) that learning is not necessarily depends on problems or obstacles organization faced, the firm also can learn from its strengths and weaknesses in international retailing as it can be seen that opening hypermarket (small stores) worked well for International operations after negative experience Tesco Hungary. These mistakes helped Tesco in Ireland's international market to strike a balance of global-local business strategy (Yahiaoui 2014) between headquarters and subsidiaries to learn whether business would be successful or fail. It supports (Garvin 1993; Goh 1998) model of learning organization that focused on learning by past experiences provide guidance to avoid those errors in future. Moreover, when management was requested in Tesco to communicate the internalization experience to exploit knowledge and learning outcomes back to UK,

critically, the Tesco did not have any proper planned and structured and formal policy in place for transference of knowledge and learning on global basis. Therefore, the literature (Tolbert *et al.* 2002; Tuan 2011) supports that due to which Tesco acquiring Cateau in France did not served as a platform for learning to inspire experimentation abroad highlights that learning was generative but mechanism for knowledge flow was lacking. Therefore, the findings suggest that implementation of proper knowledge management system along with governance mechanism may help MNCs to further learn and apply corrective measures to solve problems. Nevertheless, the company's next phase has seen successful international business operation by diffusion of learning experience and it supports literature regarding self-transformable capabilities (Lertpachin *et al.* 2013, Garvin 1993) Since then, company began to employ professionals that working as knowledge agents solely for transference of hypermarket learning experiences back to UK from Europe business operations, that serves the purpose of learning dimensions (Sun and Scott 2003) that indeed, the organizations adopting self-transformational and managing change effectively (Teece 1998; Rebelo and Gomes 2008) may have better ability to absorb knowledge and learn. Findings further highlighted that competitive market with counterparts such as (Auchan, Ahold, and Carrefour) proved to provide valuable lessons which favors literature that organizations learn from their external environment in the process of internationalization as Tesco learned merchandising skills to compete in global market which favors (Davis and Daley 2008; Garvin 1993) learning approach from best practices of other organizations. The study outcomes support literature (Pearn 1995, Huber 1991) and suggests that expansion discloses competitive situations, trials and errors and generate new knowledge to existing knowledge that may lead to innovations by action learning approach (learn by doing). Garvin (1993) model for learning from best practices of others is reflected in Tesco case as due to under investment on employees' skills in domestic market was a threat in international operations as Tesco lacked international experience and local knowledge as compared to Carrefour (McLaughlin *et al.* 2008). It also suggests that collaborative approach for team learning, expanding capacity and approach considering training as an investment rather than expense may help organization to achieve competitive advantage through team learning idea proposed by Senge (1990) and Pedler *et al.* (1992).



4.0.DESIGN/METHODOLOGY/ APPROACH

The research data analyzed is secondary qualitative data assessed and analyzed through evidences which is derived from review of literature.

5.0 DISCUSSION AND ANALYSIS

After analyzing the learning organizational literature, it can be inferred that learning organization concept gaining popularity in recent years not only for researchers but also for managers and leaders in organization. Organizations are relying on human capability to achieve related business sustainability and objectives. The literature and empirical studies (Sun and Scott 2003; Jashpara 2004) support the concept of multichannel communication significantly as transfer of knowledge is multilevel i.e. parent-host-parent, subsidiary-parent-subsidiary and to sister-subsidiaries in MNCs to foster communication to be inter and intra-organizational levels. However, among the barriers of learning organization, perhaps the most noteworthy reason is people barriers, (Steiner 2008; McLaughlin *et al.* 2008) such as willingness and attitude of managers to share knowledge and motivate subordinates. Therefore, to give priority to personal advantage over organizational benefits can help to create friendly and supportive environment and climate for learning where employees' persona goals are aligned with organizational goals. Moreover, resistance to change and be responsive may also become a challenge for MNCs due to traditional hierarchical system and risks involved in experimentation of new ideas in order to be innovative as a result restrain the process of learning within organization. From study of learning organization in MNCs found to be challenging as findings revealed that sustainability and competitive advantage of an organization lie in culture and organizational structure that put emphasize on innovation, empowerment, participative leadership where employees are encouraged to experiment and learn from mistakes (Goh 1998). An important discovery can be made from analysis that the real positive change in organization may occur when employees concentrate in working as a team and focus on organizational productivity than individual achievement along with organizational cooperation to develop and enhance employees' ability, capability and competencies (McLaughlin 2008). Furthermore, positive employee-employer reciprocal and mutual relationships enhance trust and commitment within the organization to manage information flow (Michailova and Nielsen 2006). To attain learning organization objectives, a proper inter and intra-organizational

knowledge transfer mechanism and strategy to govern and control the knowledge flow from one unit to another can yield desired results. The knowledge is considered as power and sharing knowledge among individual and groups mean giving away the power to others that can utilize that knowledge and gain control (Newman and Newman 2015). The employee attitude, organizational culture and environment and management role may have positive and negative impact in learning process, depending upon management attention towards overcoming those barriers by implementing of learning strategy and knowledge management systems that knowledge is interchangeable (Takeda and Helms, 2010). It may also cater the needs of global business across borders to gain competitive advantage by utilizing human asset/capability and existing resources with technological enhancement prevailing in 21st century and upcoming years. Further evidence revealed that it is assumed in MNCs that knowledge transfer is vertical and that subsidiaries learn from parent, which is in contrary to literature as learning defined by (Sun and Scott, 2003) learning is transferred from intra to inter-organization and vice versa and learning is not one dimensional. This supports that parent country may also learn from subsidiaries through the process of adaptation and localization which underpin the vital role of subsidiary in process of knowledge transfer. The study found interesting fact that most important platform for knowledge transfer mechanism is training and development at the local subsidiaries, which supports (Weldy, 2009; Moumita and Zaman, 2012) view whilst (Ortenblad, 2001) suggests training is not the only distinct characteristic of learning organization. Therefore, it can be inferred MNCs heavily relying on training only to enhance learning in organization may not achieve the desired outcomes if associated environment, organizational structures, policies and transference of knowledge mechanism are not aligned with individual and organizational learning and development. The study also asserted the HR role to communicate experiential learning from subsidiaries is not properly communicated to other people in organization which limit the capacity of learning from expatriates. Therefore, findings also suggest that employees' negative behavior and attitude may also become barrier to knowledge transfer other than structures and strategies (Rennie and McGee 2012). In this regards, managers' role is crucial to provide, guidance, motivation and empowerment to employees to experiment new ideas to generate new knowledge that may lead to innovation. To gain competitive advantage in international organizations, HQs have



critical role to play to motivate expatriates by providing incentives, reward and career progression to transfer knowledge along with international HRM policies in place to govern and control the mechanism of knowledge transfer throughout the global organization as suggested by Hitt *et al.*, (2007) Moreover, it can also be said those necessary skills i.e. technological, customer service, language and supply chain skills may be crucial as retail MNCs rely on supply chain function which considered to be complex and distributed. The data also confirmed from literature (Minbaeva and Michailova 2004) that expatriates' role is also contributing in knowledge transfer and learning because by moving to different subsidiary they may get opportunity to deepen their knowledge, enhance job-related competencies and learn from experiential learning by involving into different complex projects. The review of literature also highlights important findings regarding positive employee-employer reciprocal and mutual relationships which may enhance trust and commitment within the organization to manage information flow as suggested by (Tolbert *et al.* 2002). In addition, an organization that is centered to learning that has transformational capability to learn continuously and change behaviors may achieve competitive edge better than counter parts. Therefore, the first step in the process of transformation into learning organization is to build awareness of change which may stimulate the readiness to change, adapt and learn.

5.0 CONCLUSION

The study suggests that LO has positive impact not only on organization but found to be more rewarding and challenging for employees as well. Engaging in knowledge sharing and its management can be challenging and involve risk if change within organization is not properly managed. It is also argued that individual and organizational learning and development is a complex process, however, in case of MNC it can further be complicated due to geographical dispersion, implementation of Global-local business strategy, movement of human capital, advanced technologies, increased number of suppliers, deep distribution network, intense competition, cultural differences and management attitude towards exploiting learning throughout all global units. Moreover, the study provides practical significance for MNCs to better manage the 'synergies' to achieve competitive advantage. The analysis also depicts that MNCs may become dispensable if learning is not coherently aligned with business strategy, organizational mission and vision and merely seen as

providing benefits to individuals. Therefore, it is more painful situation for organization to invest in learning while there is no proper and effective knowledge management system and environment that foster empowerment, productive communication, and strong employee-employer relationship to exploit learning opportunities and knowledge flow among subsidiaries. Similarly, transformational leadership has a key role in LO and in case of change management as leaders are change agents to minimize and reduce the resistance to learning transfer. Experiential learning and leadership found to be significantly positive predictors of learning in MNCs and it can be said that to accumulate knowledge within multinational organization, it is important for MNCs to take advantage of unexpected events (threats and opportunities) and learn from them. However, the analysis and discussion depict that process of learning in MNCs may not be always progressive. Therefore, the literature revealed common contribution that, to be a learning organization highly depend on 1) leadership that possess behavioral competencies to facilitate learning and 2) manage change positively especially where experiencing new learning is a part of individual and organizational development and finally, 3) best practices adopted by organization to transform into a learning organization such as re-organizing and re-engineering, empowerment and open communication that may lead to innovation.

Limitations of the study

The study analysed and discussed the key findings and results by using relevant literature and models of learning organization and its knowledge transfer within context of MNC. However, the findings may limit the scope of study as it focuses on multinational companies and result may not be generalized to all business sectors i.e. domestic small/medium businesses. Moreover, the concept of learning organization found to be complex as empirical research is underdeveloped in context of multinational industry. Since only learning organization within multinational industry was focused, other areas could not be explored such as role of acquisition, mergers, and other industry (manufacturing, service and technology sector) wide knowledge within LO concept.

Further Study

The study found that LO concept is emerging and MNCs are taking initiatives to apply new approaches to LO paradigm to gain competitive advantage, nevertheless future studies may evaluate the results of these initiatives and MNCs can compare the



results to further investigate the practices they have in place. In addition, the challenges and barriers identified in study may defer from organization to organization and further research in domain of MNC can specifically be investigated to overcome those obstacles.

REFERENCES

1. Appelbaum, S. H., & Gallagher, J. (2000). *The competitive advantage of organizational learning*. *Journal of Workplace Learning*, 12(2), 40-56. doi:10.1108/13665620010316000
2. Argyris, C. (1977). *Organizational learning and management information systems*. *Accounting, Organizations and Society*, 2(2), 113-123. doi:10.1016/0361-3682(77)90028-9
3. Asakawa, K., & Lehrer, M. (2003). *Managing local knowledge assets globally: the role of regional innovation relays*. *Journal of World Business*, 38(1), 31-42. doi:10.1016/s1090-9516(02)00107-4
4. Bae, J., & Jun Koo. (2008). *Information loss, knowledge transfer cost and the value of social relations*. *Strategic Organization*, 6(3), 227-258. doi:10.1177/1476127008093518
5. BARKEMA, H. G., BELL, J. H., & PENNING, J. M. (1996). *FOREIGN ENTRY, CULTURAL BARRIERS, AND LEARNING*. *Strategic Management Journal*, 17(2), 151-166. doi:10.1002/(sici)1097-0266(199602)17:2<151::aid-smj799>3.3.co;2-q
6. Barney, J. B. (1989). *Asset Stocks and Sustained Competitive Advantage: A Comment*. *Management Science*, 35(12), 1511-1513. doi:10.1287/mnsc.35.12.1511
7. Barrette, J., Lemyre, L., Cornei, W., & Beauregard, N. (2007). *Organizational learning among senior public-service executives: An empirical investigation of culture, decisional latitude and supportive communication*. *Canadian Public Administration/Administration publique du Canada*, 50(3), 333-354. doi:10.1111/j.1754-7121.2007.tb02131.x
8. Bass, B. M. (2000). *The Future of Leadership in Learning Organizations*. *Journal of Leadership Studies*, 7(3), 18-40. doi:10.1177/107179190000700302
9. Bonache, J., & Brewster, C. (2001). *Knowledge transfer and the management of expatriation*. *Thunderbird International Business Review*, 43(1), 145-168. doi:10.1002/1520-6874(200101/02)43:1<145::aid-tie9>3.0.co;2-7
10. Cabrera, A., & Cabrera, E. F. (2002). *Knowledge-Sharing Dilemmas*. *Organization Studies*, 23(5), 687-710. doi:10.1177/0170840602235001
11. Cascio, W. F. (1998). *The virtual workplace: A reality now*. *PsycEXTRA Dataset*. doi:10.1037/e577062011-003
12. Cheng, M., Lin, J., Hsiao, T., & Lin, T. W. (2010). *Invested resource, competitive intellectual capital, and corporate performance*. *Journal of Intellectual Capital*, 11(4), 433-450. doi:10.1108/14691931011085623
13. Connelly, B., Hitt, M. A., DeNisi, A. S., & Duane Ireland, R. (2007). *Expatriates and corporate-level international strategy: governing with the knowledge contract*. *Management Decision*, 45(3), 564-581. doi:10.1108/00251740710745016
14. Davis, D., & Daley, B. J. (2008). *The learning organization and its dimensions as key factors in firms' performance*. *Human Resource Development International*, 11(1), 51-66. doi:10.1080/13678860701782352
15. Dessler, G. (2005). *Human Resource Management*. Upper Saddle River, NJ: Prentice Hall.
16. Dixon, N. M. (1993). *Developing managers for the learning organization*. *Human Resource Management Review*, 3(3), 243-254. doi:10.1016/1053-4822(93)90016-w
17. Díez, M., Soler, C., Sureda, M., & Visauta, B. (2005). *Exploring the "learning organization model" in multinational companies*. *Journal of European Industrial Training*, 29(4), 292-311. doi:10.1108/03090590510597142
18. Djonlagic, S., Delic, A., Kovacevic-Rahmanovic, A. (2013). *Developing Learning Organizations For achievement of Competitive Advantages in Enterprises in Bosnia and Herzegovina.*, *Management, Knowledge and Learning International Conference, Zadar, Croatia, 19-21 June*. 1-8
19. Easterby-Smith, M., Lyles, M. A., & Tsang, E. W. (2008). *Inter-Organizational Knowledge Transfer: Current Themes and Future Prospects*. *Journal of Management Studies*, 45(4), 677-690. doi:10.1111/j.1467-6486.2008.00773.x
20. Garavan, T. (1997). *The learning organization: a review and evaluation*. *The Learning Organization*, 4(1), 18-29. doi:10.1108/09696479710156442
21. Goh, Swee. C. (1998). *Toward a learning organization: The strategic building blocks*. *SAM Advanced Management Journal*. 63(2), 15-22.
22. Gooderham, P. N. (2007). *Enhancing knowledge transfer in multinational corporations: a dynamic capabilities driven model*. *Knowledge Management Research & Practice*, 5(1), 34-43. doi:10.1057/palgrave.kmrp.8500119
23. Gupta, A. K., & Govindarajan, V. (2000). *Knowledge flows within multinational corporations*. *Strategic Management Journal*, 21(4), 473-496. doi:10.1002/(sici)1097-0266(200004)21:4<473::aid-smj84>3.0.co;2-i
24. Hansen, M. T., & Løvås, B. (2004). *How do multinational companies leverage technological*



- competencies? Moving from single to interdependent explanations. *Strategic Management Journal*, 25(89), 801-822. doi:10.1002/smj.413
25. Harris, L. (2002). The learning organisation – myth or reality? Examples from the UK retail banking industry. *The Learning Organization*, 9(2), 78-88. doi:10.1108/09696470210424024
26. Hitt, W. D. (1995). The learning organization: some reflections on organizational renewal. *Leadership & Organization Development Journal*, 16(8), 17-25. doi:10.1108/01437739510097996
27. Hodgkinson, M. (2000). Managerial perceptions of barriers to becoming a “learning organization”. *The Learning Organization*, 7(3), 156-167. doi:10.1108/09696470010335872
28. Huber, G. P. (1991). Organizational Learning: The Contributing Processes and the Literatures. *Organization Science*, 2(1), 88-115. doi:10.1287/orsc.2.1.88
29. Jashapara, A. (2004). *Knowledge Management: An Integrated Approach*. London, England: Pearson Education.
30. Jiménez-Jiménez, D., Martínez-Costa, M., & Sanz-Valle, R. (2014). Knowledge management practices for innovation: a multinational corporation’s perspective. *Journal of Knowledge Management*, 18(5), 905-918. doi:10.1108/jkm-06-2014-0242
31. Jones, O. (1997). Changing the Balance? Taylorism, TQM and Work Organisation. *New Technology, Work and Employment*, 12(1), 13-24. doi:10.1111/1468-005x.00019
32. Kang, J. (2007). Testing impact of knowledge characteristics and relationship ties on project performance. *Journal of Knowledge Management*, 11(3), 126-144. doi:10.1108/13673270710752153
33. Kirwan, C. (2013). Making Sense of Organizational Learning. doi:10.4324/9781315593371
34. Lertpachin, C., Wingwon, B., & Noithonglek, T. (2013). The effect of marketing focus, innovation and learning organization on the building of competitive advantages: empirical evidence from ISO 9000 certified companies. *Journal of Strategic Marketing*, 21(4), 323-331. doi:10.1080/0965254x.2013.790469
35. Marsick, V. J., & Watkins, K. E. (1996). Adult Educators and the Challenge of the Learning Organization. *Adult Learning*, 7(4), 18-20. doi:10.1177/104515959600700409
36. McDonnell, A., Gunnigle, P., & Lavelle, J. (2010). Learning transfer in multinational companies: explaining inter-organisation variation. *Human Resource Management Journal*, 20(1), 23-43. doi:10.1111/j.1748-8583.2009.00104.x
37. McLaughlin, S., Paton, R. A., & Macbeth, D. K. (2008). Barrier impact on organizational learning within complex organizations. *Journal of Knowledge Management*, 12(2), 107-123. doi:10.1108/13673270810859550
38. Michailova, S., & Bernhard Nielsen, B. (2006). MNCs and knowledge management: a typology and key features. *Journal of Knowledge Management*, 10(1), 44-54. doi:10.1108/13673270610650094
39. Minbaeva, D. B., & Michailova, S. (2004). Knowledge transfer and expatriation in multinational corporations. *Employee Relations*, 26(6), 663-679. doi:10.1108/01425450410562236
40. Morgan, G. (2007). National business systems research: Progress and prospects. *Scandinavian Journal of Management*, 23(2), 127-145. doi:10.1016/j.scaman.2007.02.008
41. Moumita, N., & Zaman, L. (2013). An Analysis of Global Training and Experience Sharing in Multinational Companies. *American Journal of Business and Management*, 2(1), 75. doi:10.11634/216796061706274
42. Nakhchian, A. Arki, A.V & Bemani, A. (2013). The Role of Learning Organizations in Improving Human Resources Management. *European Journal of Business and Management*, 5(13), 159-164
43. Newman, N., & Newman, D. (2015). Learning and knowledge: a dream or nightmare for employees. *The Learning Organization*, 22(1), 58-71. doi:10.1108/tlo-02-2013-0002
44. Oyeniyi, .O. (2011). Organizational Learning and Sustainable Competitive Advantage (SCA): The Nigerian Experience. *Journal of economics and Business Research No. 1* pp. 102-116.
45. Palmer, M. (2005). Retail multinational learning: a case study of Tesco. *International Journal of Retail & Distribution Management*, 33(1), 23-48. doi:10.1108/09590550510577110
46. Pedler, M., Boydell, T., & Burgoyne, J. (1989). *The Learning Company*. *Studies in Continuing Education*, 11(2), 91-101. doi:10.1080/0158037890110201
47. Pearn, M., Roderick, C & Mulrooney, C. (1995) *Learning Organizations in Practice*. McGraw-Hill Inc: London
48. Porth, S. J., McCall, J., & Bausch, T. A. (1999). Spiritual themes of the “learning organization”. *Journal of Organizational Change Management*, 12(3), 211-220. doi:10.1108/09534819910273883
49. Rebelo, T. M., & Duarte Gomes, A. (2008). Organizational learning and the learning organization. *The Learning Organization*, 15(4), 294-308. doi:10.1108/09696470810879556
50. Rugman, A., & Girod, S. (2003). Retail Multinationals and Globalization. *European*



- Management Journal*, 21(1), 24-37.
doi:10.1016/s0263-2373(02)00150-0
51. Sackmann, S. A., Eggenhofer-Rehart, P. M., & Friesl, M. (2009). Sustainable Change. *The Journal of Applied Behavioral Science*, 45(4), 521-549. doi:10.1177/0021886309346001
52. Seddon, J., O'Donovan, B. (2010). Why aren't we all working for Learning Organizations. *E-Organization and People*, 17(2), 1-15
53. Shenkar, O., Luo, Y., & Yehekel, O. (2008). From "Distance" to "Friction": Substituting Metaphors and Redirecting Intercultural Research. *Academy of Management Review*, 33(4), 905-923. doi:10.5465/amr.2008.34421999
54. Steiner, L. (1998). Organizational dilemmas as barriers to learning. *The Learning Organization*, 5(4), 193-201. doi:10.1108/09696479810228577
55. Sun, P. Y., & Scott, J. L. (2003). Exploring the divide – organizational learning and learning organization. *The Learning Organization*, 10(4), 202-215. doi:10.1108/09696470310476972
56. Takeda, M. B., & Helms, M. M. (2010). Globally sustainable management: a dynamic model of IHRM learning and control. *The Learning Organization*, 17(2), 133-148. doi:10.1108/09696471011019853
57. Teece, D. J. (1998). Capturing Value from Knowledge Assets: The New Economy, Markets for Know-How, and Intangible Assets. *California Management Review*, 40(3), 55-79. doi:10.2307/41165943
58. Todorović, M. L., Petrović, D. Č., Mihić, M. M., Obradović, V. L., & Bushuyev, S. D. (2015). Project success analysis framework: A knowledge-based approach in project management. *International Journal of Project Management*, 33(4), 772-783. doi:10.1016/j.ijproman.2014.10.009
59. Trade in services - EBOPS 2010. (2012). OECD Statistics on International Trade in Services. doi:10.1787/data-00583-en
60. Vo, A., & Hannif, Z. (2012). The transfer of training and development practices in Japanese subsidiaries in Vietnam. *Asia Pacific Journal of Human Resources*, 50(1), 75-91. doi:10.1111/j.1744-7941.2011.00007.x
61. Wang, P.Y (2006). Human Resource Management Plays a New Role in Learning Organizations. *The Journal of Human Resource and Adult Learning*, Harvard Business Review, November, pp. 52-56
62. Weldy, T. G. (2009). Learning organization and transfer: strategies for improving performance. *The Learning Organization*, 16(1), 58-68. doi:10.1108/09696470910927678
63. Yahiaoui, D. (2014). Hybridization: striking a balance between adoption and adaptation of human resource management practices in French multinational corporations and their Tunisian subsidiaries. *The International Journal of Human Resource Management*, 26(13), 1665-1693. doi:10.1080/09585192.2014.958513
64. Örtenblad, A. (2001). On differences between organizational learning and learning organization. *The Learning Organization*, 8(3), 125-133. doi:10.1108/09696470110391211



FAMILY - INSTITUTE FOR FORMATION OF SPIRITUAL AND MORAL VALUES

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Article DOI: <https://doi.org/10.36713/epra4900>

ANNOTATION

The article analyzes the essence of the ongoing reforms in the country to strengthen the institution of the family. It also explores the spiritual and educational mechanisms to strengthen the institution of the family, emphasizing the importance of the Eastern thinkers' views on raising children in the family.

KEY WORDS- *Family, relations with family members, upbringing of a child, cultural heritage.*

INTRODUCTION

Consolidating family values is considered to be one of the basic issues throughout the world. Chief Assembly of United Nations declared on 20-september of 1993 that every year 15-may is celebrated as “International family day” in order to strengthen mutual consent of family members. Since then, whole world, especially in Uzbekistan “International family day” is widely celebrated. It should be noted that over the past years in the country a special attention has been paid to the notion of family, its essence and role in society, and all legal frameworks have been created. Significant work has been done to protect the health and interests of women and children. Our country joined the United Nations’ Convention on the “Elimination of All Forms of Discrimination Against Women”, the International Labor Organization's Convention on “Maternity and Discrimination in Labor and Employment”. These documents are a component of a set of legal acts aimed at protecting the interests of women and strengthening their status in the family and society as a whole. Chapter 14 of the Constitution also stipulates that the family is the main unit of society and is under the protection of society and the state. The Family Code and other laws provide incentives for hiring young ladies and women with many children.

MAIN PART

Women's equality is one of the most important human rights and it is an important prerequisite for ensuring social justice in the country. Unfortunately, at the present stage of human development, there is no single country where women and men are equal in all spheres of life. Inequality is particularly common in developing and poorest families. This creates social, economic and spiritual problems not only for the family, but also for the community. Inequality between women and men is manifested in education, wages and participation in governance. For example:

1. Women make up more than 50% of the world's population, but possesses only 1% of the world's property.
2. More than 60% of the unemployed and uneducated ones are women.
3. Only 20% of all parliamentarians in the world are women.
4. Women do most of the unpaid house work.
5. Women make up the majority of employment in low-paid jobs in spheres such as education, healthcare, while men are the majority in the most important sectors with high-payment including economy, information technologies. (Abdurahmonov Q. *et al.*,2017). According to world



sociologists, one in every three women in the world has suffered from violence at least once in their lifetime, especially by their husband.

On June 27, 2018 President of the Republic of Uzbekistan Shavkat Mirziyoyev admitted the decree № PP-3808 "On Approval of the Concept of Strengthening the Family Institute in the Republic of Uzbekistan".

At the same time, it is noted that a number of systemic problems and shortcomings that restrain the successful implementation of public policy in this area impede the full implementation of the goals and objectives of strengthening the family institution. For instance, among the disadvantages the poor use of the potential of cultural and historical heritage in the family and educational institutions were also mentioned.

From this point of view, the study of the spiritual heritage of ancestors, their contribution to the historical culture, the scientific interpretation of the ideas of education, and their wide use in the field of education are important for the upbringing of the young generation as a whole.

When we look at history, we see that our ancestors paid much attention to the family. In the works of such great thinkers as Farabi, Beruni, Ibn Sina, Alisher Navoi, Abdurahman Jomiy, special attention is paid to the relationship between family members, the role of parents and family atmosphere in the upbringing of children. They wrote down their stories including their wise words, their letters to youngsters, their conclusion about life and so on. Educated intellectuals such as Mahmudkhoja Behbudi, Abdurauf Fitrat, Abdulla Avloni, Abdulla Kadiri, Cholpon, who lived in the early part of the last century, argued that the only way to raise a harmoniously developed generation is to build the foundations of the family and it is impossible to achieve developed community without strengthening the family.

Abu Nasr Farabi puts his socio-philosophical and political focus at the heart of the study of man, his purposes, and the way to attain moral maturity and happiness. In moral perfection, the philosopher understands good deeds and beautiful human qualities. Negative attitudes that impede moral maturity include laziness, ignorance and worklessness. A perfect man, in the eyes of the scholar, must be knowledgeable, intelligent, justful, honest, humble, good-natured, sociable, dignified, and so on.

Farabi says that man cannot reach maturity alone, he needs to be in contact with others, he always requires help of others and needs to have relationships with them. In particular, Farabi says, "happiness is created in community due to peaceful life, cooperation between people, ideals of a perfect person, and spiritual perfection of people because of their many positive qualities." It is not possible for a

man to be happy in himself, it depends on his actions, work, occupation, knowledge. "... (Abu Nasr Farabi *et al.*, 1993).

Just as a person strives for perfection, so does his mind. According to opinions of Farabi this task can be accomplished through the proper training of mind, because the purposeful education improves person not only intellectually but also morally, for instance, if the person is well-versed in the rules of nature and society, he can communicate with others correctly and can find his right way in life. Therefore, Farabi believes that the main task of education is to bring up a person who can meet the needs of society and serve for society. Farabi's views on teaching methods, tools are also valuable. He states that "Human qualities are formed by two ways: education and upbringing. Education can be instructed only due to words and teaching. And upbringing is a practical experience, that is, an action that is made up of people who have the practical skills of that nation. Education combines theoretical qualities, while upbringing combines the inherent qualities - theoretical knowledge, practical, occupational and behavioral qualities, while education is formed by words and learning; upbringing is structured by practical work and experience" (Abu Nasr Farabi *et al.*, 1975). Maturity is demonstrated by the combination of both, but it shows that maturity depends on how well you acquire the knowledge and practical skills. Farabi indicated that education combines the study of the theoretical foundations of all disciplines, whereas upbringing deals with the study of moral and ethical principles and ethical standards. Therefore, these ideas should be used to strengthen the educational potential of the family and to improve the spiritual and moral environment in the family.

The great poet, philosopher and statesman of the East, Alisher Navai considered that the role of family is great, especially in society and state in the achievement of physical and spiritual perfection. The most important virtue for a perfect person is donating. It puts the human heart on top of the world, and teaches people to love and value them. Navai appreciates the donation as the most beautiful tree in the "Human Garden" and the most valuable pearl of the "human treasure". Alisher Navai argues that a person's dignity is determined not by his wealth, his career, his social origin, but by his moral character and the extent to which he benefits the people. His words about this are commendable: "If people cannot benefit for others with their words, they should at least have a good heart. They should be glad of the joy of the people." In his "Khamsa" novel, Navai emphasizes the importance of the social environment in human's development. It is scientifically justified by the fact that it is through diligence, cleansing, honesty, and faith.



In his book "Family", Abdurauf Fitrat detailed the essence of marriage, rights of parents and children, family relations. While creating the book, Fitrat researched on inhabitants of Bukhara and paid great attention to the style of upbringing of child and stated following sentences: "We appreciate our domestic animals more than our children. Of course our children are the dearest to us. Unfortunately, in spite of all the love and affection, we bring up our children less than our donkeys and sheep! Don't be surprised by my words, be patient and I will prove it. We think that a sheep's perfection is in its fatness and health. The donkey's maturity is in its strength of its feet, and its good conduct. Imagine you buy a lamb or a colt and bring it home. You looking after them carefully, you feed the sheep in a little while, and then you give the donkey strength and that is perfection of them. But you don't train your dear children with such attention. Your excuse is that your child has grown up too. You can argue that we feed our cattle too much, however we need to raise our children with hundred times more strength. Evidence is that if somebody has a domestic animal at home, not any of his animals has been sick during the year, but his child has been diagnosed with illness at least three times for whole year. So it turns out that he paid more attention to his animals than his children ..."(Abdurauf Fitrat *et al.*, 2013).

Indeed, some families are so indifferent to the upbringing of children today that this neglect causes young people to go in different ways and lose their place in society. Abdurauf Fitrat writes: "We need to teach them how to cultivate a sense of self-worth and a sense of dignity and respect for the people around them in order to bring up children as confident, strong, resourceful and intelligent. If a family relationship is based on a strong discipline, the country and the nation are as strong and beautiful." Rizouddin ibn Fakhridin, in his book "Family", writes about women: "If the family is like a ship, the wife is as the tail of the ship. Just as a ship with a powerful force in the river follows the tail's movement, so in a family the family members follow the wife. In the family if women are educated children are also educated, if women are not educated others also like this, if women are hard-working the whole nation possesses great wealth, if it is on the contrary people also become lazy or extravagant. (Rizouddin Ibn Faxriddin *et al.*, 1991)

Psychologically unhealthy families cause bad effects to social and economical community. Additionally, a child who was born and raised in such psychologically unhealthy environment which is full with conflicts, cruelties and struggles, will become also ruthless and tyrant towards not only his parents, but siblings, neighbourhood and society as well. Furthermore such youngsters will damage increased economics because they turn to be cruel, brutal, selfish, and easily influenced by various negative

external forces that are contrary to the interests of the country. That's why they are considered to be dangerous people for their families, their people and their homeland.

The following factors should be considered in the family environment:

- Firstly, the importance of the role of father in the family. Male leadership in life is at the forefront of our mentality. A man must, by his behavior, create an atmosphere in the family and install moral values in his children. Unless the father becomes an exemplar in the eyes of the child, such a marriage will never be perfect. Our nation has always been told, "It is easy to be a father, but it is hard to act like a father." Our children should be proud of their father and follow his deeds;

- Secondly, national values should be on the first stage. Our great ancestors have paid attention to the upbringing, the family and the moral climate in it, and there are numerous works of instruction and ethics in this regard. Among them are "Qabusnoma", "Hikmatnoma", "Qutadgu bilig", "Hayrat ul-abror" and others. The "Hadisi Shari'" also encourages faith and being kind to each other. With the influence of national customs, traditions on the family environment, our children will develop positive qualities.

- Thirdly, mothers should spend much time with raising children. The effectiveness of family training is largely measured by the mother's involvement in this process. The child receives 60% of its features and capacities from the mother. This is because it is a proven fact that a mother's virtues, spiritual maturity, and intelligence are passed on to the child.

CONCLUSION

President Mirziyoyev said: "The family is sacred to me. The holiness is that, no matter where they work or who they are, unless people do not take care about emphasis on family education, family atmosphere, honesty in the family, attitudes and upbringing, they will never succeed.

Healthy family environment plays an important role in human development. Healthy environment allows all tasks to be solved correctly, in order to achieve goals and tasks. What youngsters learn from their childhood by watching and listening their parents at home will greatly effect their future. In this process, the use of the ancestral spiritual heritage will serve as a factor for better productivity.

USED LITERATURE

1. Mirziyoyev Sh.M. (25.07.2018). "About family and happiness".
2. Abdurahmonov Q. (2017). "Human's benefits are the most valuable in Uzbekistan". Tashkent, p.p.:292.



3. *Abu Nasr Farabi. (2001). "About qualities, happiness and perfection". Tashkent, p.p.:40.*
4. *Abu Nasr Farabi. (1993)."City of unique people". Tashkent, p.p.: 166-167.*
5. *Abu Nasr Farabi. (1975). "About achieving happiness". Tashkent, p.p.:23-24 .*
6. *Alisher Navai. (1983). "Mahbub-ul-qulub". Tashkent, p.p.:59.*
7. *Abdurauf Fitrat. (2013). "Family". Tashkent, p.p.:72.*
8. *Rizouddin ibn Faxriddin. (1991). "Family". Tashkent, p.p.: 9.*



FERGANA VALLEY CUISINE AND INNOVATIONS IN THEM

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RESUME

This article is devoted to the products and specific features of traditional dishes and transformation of theirs of populations who living in Namangan region in XX - XXI century.

KEY WORDS: "homemade bread", "obi non", "corn bread", "land bakery", "flour soup", "noodle", "chuchvara", "lagman", "manti", "Chust palov", "bean rice", "shurva".

DISCUSSION

During the years of independence, a number of researches have extensively and deeply researched the problems of our national values, traditional material and spiritual culture, and international traditions. In particular, it is important to analyze new data on traditional dwellings, clothing, their specific features of different regions and their historical roots, including food.

Well-known ethnographer I.M. Jabborov in his monograph "Uzbeks", also provides information about the traditional housing, clothing, ornaments and cosmetics of Uzbeks living in the Fergana Valley, especially their food [1]. In the work of K. Shoniyozev and H. Ismailov, in addition to the traditional dwellings of the Fergana Valley ethnic groups, as well as clothing, there is a lot of interesting information about their daily diet [2].

S. Davlatova's monograph on traditional and modern clothing is also noteworthy. In recent years, the Department of Ethnology and Anthropology of the Institute of History of the Academy of Sciences of the Republic of Uzbekistan has created a number of studies on new interpretations of current issues of ethnography of the Uzbek people [4]. They provide a range of information about the cuisine of the people of the area being studied. G. Zunnunova's monograph "Transformation of the material culture and traditions of the Uzbeks in Tashkent (early XX-XXI centuries)" is devoted to the traditional accommodation, clothing and food of Uzbeks living in Tashkent [5].

In addition, U. Abdullaev [6] and S. It is noteworthy that Gubaeva [7] provided information about the cuisine of the study area and the

composition of the products used in them, as well as their innovations. It is known that the food of the semi-nomadic population was formed under the influence of their economic activities, and this is a key factor in the traditions of the material culture of each ethnic group in this area. Farmers' diets consisted mainly of cereals, vegetables, and fruits, while farmers' diets used more meat, oil, and dairy products.

However, centuries-old ethnic ties between farmers and ranchers lead to the exchange of food, food, unification. There have always been differences in the amount of flour and meat and dairy products in the diet, methods of preparation of food and their consumption, and this is still the case today. However, it should be noted that the process of innovation in this area of material culture has also taken place in a dynamic way. Traditional cuisine is more conservative than other elements of material culture and retains a stable ethnic character. Undoubtedly, the traditional cuisine of any population develops depending on the lifestyle of the people, primarily the direction of the economy, as well as local natural conditions. In particular, this can be seen in the traditional cuisine of the people of Fergana.

While the traditional Uzbek, Tajik, and Uighur populations of the valley consisted mainly of agricultural products, such as cereals, vegetables, and fruits, Kyrgyz, Kipchak, Qurama, and Turkic livestock ethnic groups used more dairy and meat products in their cooking used. The difference is well preserved until the early twentieth century. In the first half of the twentieth century, pastries also played



a special role in the cuisine of the region's population. Dough made from wheat, barley, corn, oat flour has been a staple in many traditional dishes. In particular, we can see this in the process of baking. Since bread has long been a staple food for human beings, respect for it has risen to the level of a moral standard among the population, especially in the settled peoples of Central Asia. Baking at home has always been done by women. But breads made for sale in city markets, on the other hand, are mostly covered by male bakers. During the Second World War and the subsequent "years of famine" in various ethnic communities in the Fergana region, especially in rural areas, "cornbread" made from corn flour was widespread. It has been consumed for many years as one of the main bread products of the poor. Cornbread, also known as "bread of the poor", was in the daily consumption of farmers in ancient times. Shaniyazov also noted in his research [8].

In the early 60s of the last century, a brief return to the cornbread. But today, cornbread is not eaten. The locals bake breads of different sizes and shapes from the dough. In the past, a piece of yeast left over from the previous dough was usually used as the yeast. Today, however, modern yeasts (dragees) are used instead. Among the breads made by the population of Fergana, bread with a diameter of 20-25 cm is widespread, and such bread is called "homemade bread", "obi bread" [9]. Creamy bread (or ruganin bread), "jizzali bread", "onion bread", "pumpkin bread" are eaten as a favorite food by the population. Fergana residents also make small-sized loaves of bread. The tradition of making special patir breads for children is preserved in the villages. For holidays and family ceremonies, special "patir breads" are often closed. Among the residents of the valley, including Namangan, two types of patir bread were widely used. Layer-by-layer dough, 25-30 cm in diameter, is usually mixed with sheep or beef fat. In the city and adjacent large villages, it is sold in the markets by special bakers in the form of "shirmoy bread", "shirmoy kulcha". In general, special breads - market loaves - are also made for sale in city markets. Today, in the town of Gurum Palace (Patir Bazaar) in the Pop district of Namangan region, "patir breads" made by bakers are not only popular among the population of the region, but also throughout Uzbekistan. Bakers say that the surface of such thin patir breads is sprinkled with spicy vegetable grains (sesame, sedan), in addition, dairy products, especially sour cream, are sprinkled and decorated in a special way [10]. Many bakers from Namangan also make bread in the capital Tashkent and surrounding cities. The breads mentioned above are mostly baked in the oven. The shape of the has almost the same appearance in all ethnic

communities of the valley, but differs only in size and method of installation (construction) [11]. The people of the valley install the mainly on a special platform built at a height above the waist. In addition to bread and bakery products, a variety of liquid and dark dishes were cooked from it.

"Atala", "ugra", "uvra" (as the Chusts call it), "un oshi", "chuchvara", "lagmon", and "manti" were the most popular dishes in some places, which were popular due to their interethnic cultural influence. During the twentieth century, "atala" was prepared mainly for breakfast as a daily meal of the population, especially in rural areas. In Uzbek cuisine, there are more than 10 types of atala, but all of them have been forgotten as food for the poor, - writes K. Mahmudov [13] The people of Namangan region knew how to cook several kinds of porridge, the most common of which is called "fried porridge". To prepare it, they add a little oil to the pot, heat the wheat flour and boil the product with water and salt. or sliced onions. [14] ng found in the inhabitants of ancient settlements. They made such a paste not only from wheat flour, but also from corn flour. [15] However, in recent years, this dish has been prepared mainly to give strength to the sick. Traditional dishes of the population who moved to Fergana region at different times became popular as a result of ethno-cultural ties. In particular, those who migrated from East Turkestan to the valley learned how to prepare pastries such as manti and lagman from the Uyghurs and Dungans, and are still a favorite dish of the population today. "Manti" is a Chinese word meaning "round dough" (man - dough, tu - round). [16] The etymology of the name of the dish shows that the meat is wrapped in a round dough and baked in a special dish, steamed. Lyon'myan "is a distorted form of the word chilled or elongated dough. [17] In the preparation of this dish, elongated dough sticks are first boiled in water.

It is then eaten by adding a kale consisting of a mixture of different ingredients. In addition, during the twentieth century, there have been significant changes in the diet of semi-settled groups, who have moved to a more sedentary lifestyle and are engaged in farming. This was primarily reflected in the expansion of the composition of plant-based foods in their diet. A variety of vegetables were widely used in the preparation of traditional Uzbek, Tajik and Uyghur dishes of the valley. In particular, vegetables such as onions, carrots, turnips are important components in the preparation of traditional dishes. With the settlement of the Russian-Tatar population in Central Asia, especially in the Fergana region, the local economy began to grow several new types of melons, including tomatoes, potatoes and cabbage. Since the beginning of the XX century, these



vegetables have been used in the dishes of local Uzbek and Tajik peoples. However, elderly journalists from Namangan testified that for a long time, locals tried to use less vegetables such as tomatoes, potatoes, and cabbage in cooking. They have concepts such as "food for infidels" and "food for Russians" in relation to these vegetables, and their use in cooking is supposed to undermine the "honesty" of the food being prepared. [18]

But later, the population began to use these vegetables in cooking. Even some borscht made from them, minced from bell peppers, cabbage and dishes became the daily food of the population. In particular, tomatoes, cabbage and cucumber bell peppers are grown in special greenhouses and grown for consumption in the greenhouse, in the fields. It is known that one of the greatest qualities of the peoples of Central Asia is hospitality. Uzbek, Tajik, Kyrgyz and Uyghur peoples have long had their own traditions of hospitality and respect.

These traditions are reflected in popular proverbs such as "The guest is greater than your father", "The guest comes from the door, the food comes from the hole". The guest who visited the room was treated with great respect and the best possible meal was prepared. In this regard, both settled and semi-settled semi-nomadic peoples have their own customs, which are also associated with the ancient way of life. For example, as much as possible for the guests of the population farmers prepared pilaf or soup in the herdsman. During the twentieth century, rice cultivation increased, and a variety of rice dishes have a special place in the diet of the population. Rice is a favorite dish of Uzbek and Tajik people - pilaf. "The highest form of Uzbek cuisine is pilaf. No wedding is complete without pilaf. The pilaf is made in each region in a unique way," said the well-known ethnographer I. Jabborov [19]. At the same time, pilaf is also used in mourning ceremonies, which in turn is considered a ceremonial meal. Rice prepared by rice growers from Mingbulak and Pop districts of the region is widely used in the preparation of pilaf. In addition, rice varieties such as devzira are imported from neighboring Andijan regions. We can see this in the example of the meals of the day. There are several varieties of this delicious dish, which is popular among the people of Fergana under the term "soup", and pilaf, especially called "chust oshi", is popular today. For example, fried pilaf made from a variety of rice called local devzira or laser to lamb fat is popular among the population. Today, "chust oshi" prepared in "Yakka chinor", "Sadacha", "Makhdum ota" and other teahouses has become a favorite dish of hosts and guests. Rice has been made by more wealthy households in the past, but the poorer part of the

population certainly did not have such an opportunity. Since the 70s of the XX century, this nutritious dish has become a daily staple of the population.

In addition, among the liquid dishes made on the basis of rice, "mastava" is one of the favorite dishes of the people of Fergana. The spread of the above-mentioned pastries and rice dishes in the past in the pastoral ethnic communities in the early twentieth century is the product and innovation of their consistent economic and cultural ties with the Uzbek, Tajik and Uyghur peoples. In the past, ethnic groups engaged in animal husbandry, in particular, Namangan Kyrgyz, Kipchak, Kurama, Turkish, had a tradition of slaughtering sheep in honor of the guest, and this tradition continues today. An elderly Saxonboy father says the homeowners first fry the liver and fat of the slaughtered lamb and serve it to the guest table. Sintra is made from mutton soup. Soup is one of the most ancient dishes, which is mentioned in the work of the famous linguist Mahmud Kashgari "Devonu lug'atit turk", Sh. In Sami's Qomusi Turk (Istanbul 1917) it is stated that he called this dish a soup [23]. The custom of sharing the most "respectable" part of the meat for the guest, which exists in these cattle-breeding nations, is noteworthy. It should also be noted that until the last century, ethnic communities had different notions about which part of cooked meat was considered "honorable" or "honorable". For example, in the Uzbeks, especially in Kipchak and Qarluq, the bone marrow in the hind leg of the sheep was considered to be the most "proud" part, and the breast and meat ribs were considered to be the most "honorable" parts. In most Kyrgyz breeds, the sheep's tail is the most "honorable" part. [25] In the past, "soup", one of the main dishes of nomadic and semi-nomadic groups, has undergone a serious transformation over a long historical period.

The fact is that in the nomadic and semi-nomadic population, in the past, animal meat was cut into large pieces and, in most cases, boiled and eaten without any vegetables. As these ethnic communities settled down and began to engage in farming, their production of soup in this way decreased. However, this process was carried out in accordance with the level of meat supply, which is their livestock and the main livestock product. For example, the locals use a variety of vegetables (onions, turnips, carrots, red peppers) in the preparation of soup, cutting the meat into small pieces. Today, the preparation of "fried soup" is popular among them. The people of Fergana also like to cook dumplings in the soup and make their own "dumpling soup." [26] Fergana residents prepare not only meat, but also other edible parts of slaughtered animals. The head, legs, and abdomen



are also used to make soup. This dish is also called "kalla soup." Such dishes are also made in the Surkhandarya oasis. People call it "kalla-pocha shurva." Today, this dish has been transformed into a favorite food of the population. In southern Uzbekistan, some Uzbeks in Dashti Kipchak still have a tradition of cooking mutton heads, legs and intestines. [28] Central Asia, especially Fergana. residents in traditional dishes "hasip", "kholodets" are also loved and eaten as delicacies. In addition, fish meat is considered the most "honest" meat, and special attention is paid to its consumption as much as possible, especially before fasting. The population eats fish mainly fried. Cooking from it is popular among the population living in the villages on the banks of the Syrdarya and Naryn rivers. In particular, the population of the region fishes from the Syrdarya, Naryn and nearby lakes and prepares fried and boiled food from it [29].

Even today, fish dishes have become a favorite dish of many people living along the river. In conclusion, although during this period the various ethnic communities living in the Namangan region maintained their ancient traditions in the preparation of their own food, at the same time there was a tendency to include inter-ethnic and regional aspects in the cuisine of the population. This is reflected in the increase in the number of dishes that are common to the population of the region, as well as in the innovations in their preparation, the transformation of the order and methods of consumption.

REFERENCES

1. Jabborov I.M. *Uzbeks*. - T., 2007 y.
2. Shaniyazov K.Sh., Ismailov X.I. *Ethnographic essays on the material culture of the Uzbeks in the XIX - early XX centuries in Tashkent*, 1981
3. Davlatova S.T. *Kashkadarya national costumes: traditional and modern* -T. 2006 y.
4. *Uzbeki*. M. : Nauka, 2011.
5. Zunnunova G.Sh. *Material culture of Tashkent Tashkent: traditional transformation (XX-XXI centuries)* Tashkent. "EXTREMUM-PRESS". 2013.
6. Abdullaev U. *Interethnic processes in the Fergana Valley (late XIX - early XX centuries)*. T. : 2005 y.
7. Gubaeva S. *Fergana Valley. Ethnic processes on the border XIX-XX centuries*. Saarbrucken, 2012.
8. Shaniyazov K. *About traditional food of Uzbeks And Ethnographic study of life and culture of Uzbeks*. - Tashkent. 1972
9. *Field records. Namangan region. Chust district. Varzik Township, Kalai Poyon MFY*. 2017 y.
10. *Field records. Namangan region. Pop district. Turumsaroy town. Patir market*. 2018 y.
11. Shaniyazov K.Sh. *Uzbeki-karluki Tashkent*, 1964.
12. Abdullaev U. *Interethnic processes in the Fergana Valley (late XIX - early XX centuries)*. T. : 2005 y.
13. Maxmudov K. *Uzbek delicacies*. - Tashkent: Mehnat, 1989.
14. *Field records. Namangan region. Chust district. Govasay village. High G'ova MFY*. 2017 y.
15. Jabborov I. *Uzbeks*. -T. ., 2007 y.
16. Savurov M. *Dungan dishes*. - Tashkent, 1989.
17. *Field records. Namangan region. Chuet district. Tova village. Gova MFY*. 2017.
18. Jabborov I. *Uzbeks*. Tashkent. 2007 y.
19. Zunnunova G. *To the question of ritual rituals of Uzbeks // History of Uzbekistan*. - Tashkent, 2002. - № 1.
20. Bakhridin Chustiy. *Internet information "Bakhridin Chustiy recipes"*. [http // www.bahriddin.chustiy.retseptlari.uz](http://www.bahriddin.chustiy.retseptlari.uz).
21. *Field records, Namangan region. Chust district. Koraqurgan village*. 2018.
22. Ikromova N.M. *Uzbek culinary vocabulary*. - Tashkent, 1989.
23. Abdullaev U. *Interethnic processes in the Fergana Valley (late XIX - early XX centuries)*. T. : 2005 Y.
24. Abramzon S.M. *Kirghiz and their ethnogenetic, historical and cultural ties*. Frunze. 1990
25. *Field records. Namangan region. Namangan city. Chorsu field*, 2017,
26. Fayzullaeva M. *Traditions related to Uzbek cuisine (on the example of Surkhan oasis)* .- T. : "YANGI NASHR", 2010.
27. Jabborov I. *Uzbeks: lifestyle and culture*. Tashkent. Teacher, 2003. - P.53.
28. *Field records. Namangan region. Mingbulok district. Sherbilak village*. 2018.



INHIBITORY ACTIVITY OF MACROLIDE ANTIBIOTICS AGAINST INITIAL STAGES OF EGRESS OF PLASMODIUM

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ABSTRACT

Background: Malaria treatment requires new target therapies due to rapidly emerging drug resistance. The need of hour is to find drugs with novel mechanism of action. Our aim of the study was to study the merozoite egress inhibitory potential of macrolide antibiotics.

Methodology: To understand the mechanism, Molecular docking study was performed with fourteen drug molecules. 3-dimensional chemical structures of molecules were prepared through UCSF Chimera and Autodock Tools freeware. Molecular docking study was performed using AutoDock Vina software. Discovery studio 4.5 was used to predict the active site of target sites and PyMol was utilized to visualise the induced fit docking.

Results: In the present study, it was demonstrated that Pristinamycin and Solithromycin are potential inhibitors of initial stages, that is when merozoite egress from erythrocytes. These inhibitors, together with their novel mechanisms of action, could complement current antimalarials which generally act on intracellular parasites during their growth phase.

Conclusion - Pristinamycin, Solithromycin and Troleandomycin appeared attractive candidates as potential inhibitors of SUB1. However, *in vitro*, and *in vivo* studies are necessary to further investigate their therapeutic potential in treating malaria.

INTRODUCTION

Malaria poses a grave health burden with an estimated 219 million cases worldwide in 2017, resulting in 435,000 deaths (World Health Organization, 2018). A total of four Plasmodium spp. infect humans—*P. ovale*, *P. malariae*, *P. falciparum* and *P. vivax*. Plasmodium falciparum is one of the deadliest infecting humans. Lately there have been reports of emerging drug resistance in *P. falciparum*

towards Artemisinin combination therapies (ACTs), whereby reports of delayed parasite clearance have been reported in regions of South-eastern Asia.^{1,2} With the emergence of resistance to artemisinin and other drugs, it is imperative that an assessment of existing therapeutics be done for their antimalarial potential. To understand the mechanism of emerging anti-malarial resistance it is crucial to



understand the pathogenesis and the life cycle of malarial parasite.

Blood stage infection caused by asexual blood stage parasites begins with the intracellular ring stage, which matures to trophozoite stage and finally to DNA-replicative schizont stage. Each mature schizont ruptures to liberate approximately 20 invasive merozoites. This release of merozoites are known to egress from the nutrient-deprived infected RBC (iRBC) after a highly coordinated and sequential enzymatic process involving proteolytic breakdown of the Parasitophorous vacuole membrane (PVM) and rupture of the RBC membrane.³ Egress appears to be initiated via the activation of cGMP dependent protein kinase G (PKG), which triggers the discharge of the serine subtilisin-like protease (SUB1) from the exonemes⁴ after autoprocesing in the endoplasmic reticulum (ER),⁵ followed by a second processing event, requiring the aspartic protease, plasmepsin X (PMX)^{6,7}. Release of mature SUB1 into the parasitophorous vacuole (PV)

processes a number of proteins like serine rich antigen 5 and 6 proteins (SERA5/6)⁸, merozoite surface protein 1 (MSP1)⁹. SERA6 and MSP1 disrupt the RBC membrane via cleavage and binding of spectrin respectively.⁹ With this background about the pathogenesis of the infection by malarial parasite, we aimed to facilitate repurposing of drugs as antimalarials by using molecular docking.

METHODOLOGY

2.1. Protein preparation

The crystal structure of the molecular target SUB1 protein (PDBID :4TR2), was retrieved from RCSB protein data bank.¹⁰ The first step in molecular docking process is the preparation of the target. Target protein preparation involves removal of the complexes bound to the protein receptor molecule, removal of the water molecules and finally adding polar hydrogen atoms were added into target. All these processes were carried out in the Auto Dock window execution file.



Fig.1 :- Prepared Protein Structure (A chain; PDBID 4TR2)

2.2. Ligand preparation

Investigational ligands were built using canonical smiles obtained from PUBCHEM, saved in.pdb format using UCSF Chimera¹¹ and subsequently converted into.pdbqt format by Autodock tools.¹² In the current study, identification of binding modes of the investigational ligands with target was done using Auto Dock Vinasoftware program.¹³ In order to confirm actual binding interaction with targets, blind docking was performed and the best conformers were represented with lowest

binding energy (-kcal/mol). For SUB1 protein (PDBID: 4TR2), the docking parameters were defined as coordinates of the center of binding site with $x = 114$, $y = 106$, $z = 92$ and binding radius = 1 Å. All AutoDock output files (.pdbqt) were analyzed through Biovia Discovery Suite and PyMol.^{14, 15} Top-scoring molecules in the largest cluster were analyzed. Conformers of the ligand were automatically docked to the proteins and most stable conformer in terms of binding affinity (most negative) was used for post-docking analysis.



3. RESULT AND DISCUSSION

3.1 Binding energies

Docking scores of Macrolide Antibiotic using Autodock Vina

The binding energies of various ligands with the target proteins has been enlisted in Table 1. The binding energy of Pristinamycin 1, Pristinmaycin2, Solithromycin and Troleandomycin to the SUB1protein (A chain; PDBID: 4TR2) were -7.5

kcal/mol, -8.3 kcal/mol, -8.2 kcal/mol and -8.0 kcal/mol and that of Azithromycin was -7.0 kcal/mol. The binding energy of Pristinamycin1, Pristinmaycin2 and Solithromycin to the active site is even smaller than that of the Azithromycin, indicating that Pristinamycin 1, Pristinmaycin 2, Solithromycin and Troleandomycin have a higher binding activity. From the binding energy values, it can be seen that Pristinamycin shows strong interactions with SUB1 protein.

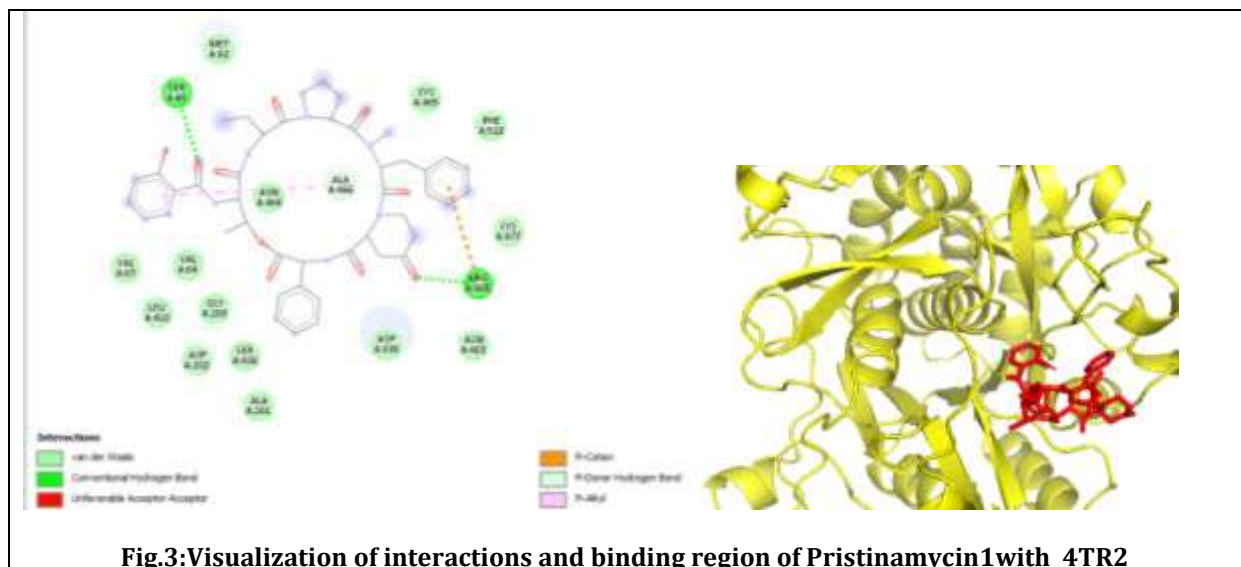
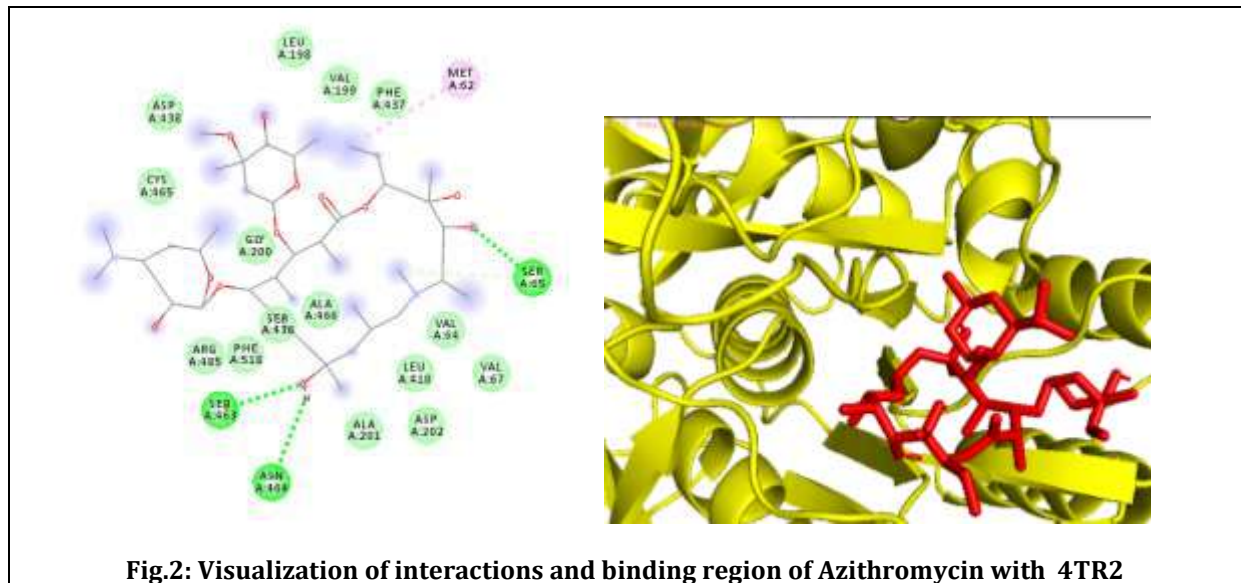
TABLE 1

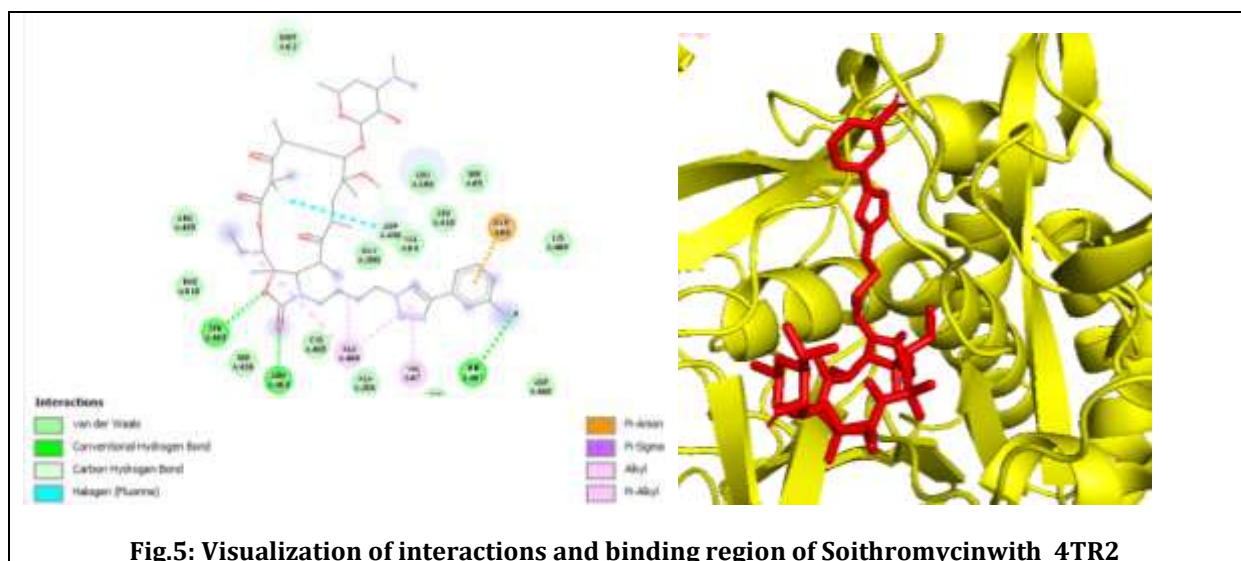
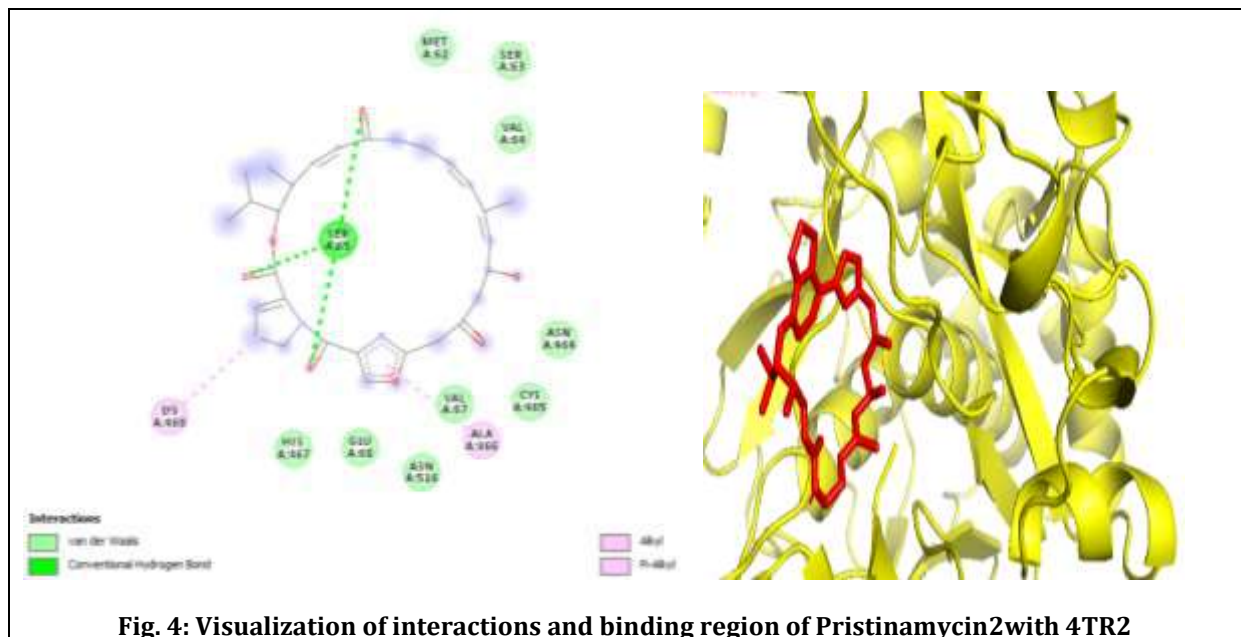
S. No.	Investigational Ligand	SUB1 (PDBID: 4TR2)
1	Azithromycin	-7.0
2	Dirithromycin	-6.2
3	Erythromycin	-7.3
4	Flurithromycin	-7.4
5	Josamycin	-6.9
6	Lincomycin	-5.7
7	Midecamycin	-6.4
8	Pristinamycin 1	-7.5
9	Pristinamycin 2	-8.3
10	Rokitamycin	-6.8
11	Solithromycin	-8.2
12	Troleandomycin	-8.0
13	Spiramycin	-6.4
14	Telithromycin	-7.7

Molecular Docking

From Fig.2, it can be observed that azithromycin forms hydrogen bonds with SER 65, SER 463 and ASN 464 and characteristic Pi-Alkyl bonds with Met 62. From Fig.3, it can be inferred that Pristinamycin1 form hydrogen bonds with Ser 65 and Arg485. Arg 485 also forms Pi-cation bonds with Pristinamycin1. Pristinamycin2

also forms hydrogen bonds with SER 65 as can be inferred from Fig. 4. Pi-alkyl and alkyl bonds are formed with ALA 466 and LYS 469. On other hand Solithromycin forms hydrogen bonds with SER 463, SER 464 and HIS 467. Pi-Anion bonds are formed with Glu 68 amino acid residue. Lastly, it can be seen from figure 6 that troleandomycin forms hydrogen bonds with SER 65 and ASP 438.





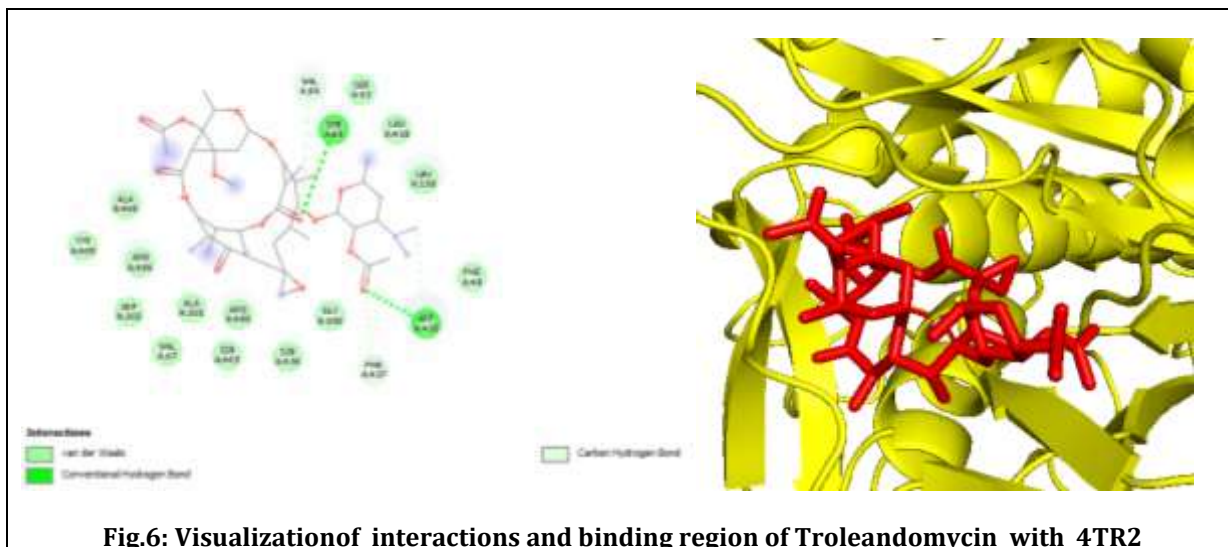


Fig.6: Visualization of interactions and binding region of Troleandomycin with 4TR2

DISCUSSION

Malaria related fatalities have caused immense human and economic losses fuelling efforts to discover effective cure and therapeutics. In search for such potential therapeutic agents, we used in silico structure-based drug design and drug repurposing strategies. Several groups have targeted SUB1 for developing effect drugs against Malaria. It is important to identify the target proteins of the egress inhibitor compounds because this will inform structure-activity relationship-based drug design to improve the potencies of compounds. Once their targets are known, these compounds could also act as useful tools to further dissect molecular details of egress and invasion processes in the parasite.

In this study, we have shown that by using the molecular docking studies it is possible to effectively screen compound libraries for inhibitors of parasite egress of RBCs. Using this technique, we screened the macrolide antibiotics that inhibit parasite egress. These inhibitors, together with their novel mechanisms of action, could complement current antimalarials which generally act on intracellular parasites during their growth phase.

CONCLUSION

To conclude, results obtained in our molecular docking studies, Pristinamycin, Solithromycin and Troleandomycin appeared attractive candidates as potential inhibitors of SUB1. However, in vitro, and in vivo studies are necessary to further investigate their therapeutic potential in treating malaria.

REFERENCES

1. Fairhurst, R. M., & Dondorp, A. M. Artemisinin-Resistant *Plasmodium falciparum* Malaria. *Microbiology spectrum* 2016; 4(3), 10.1128/microbiolspec.EI10-0013-2016.
2. Artemisinin resistance and artemisinin-based combination therapy efficacy: status report. *World Health Organization*. 2018 <https://apps.who.int/iris/handle/10665/274362>.

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3. R. Chandramohanadas, Y. Park, L. Lui, A. Li, D. Quinn, K. Liew, M. DiezSilva, Y. Sung, M. Dao, C.T. Lim, et al. *Biophysics of malarial parasite exit from infected erythrocytes* *PLoS ONE* 2011; 6:e20869.
4. C.R. Collins, F. Hackett, M. Strath, M. Penzo, C. WithersMartinez, D.A. Baker, M.J. Blackman *Malaria parasite cGMP-dependent protein kinase regulates blood stage merozoite secretory organelle discharge and egress* *PLoS Pathog* 2013;9:e1003344.
5. *Maturation and specificity of Plasmodium falciparum subtilisin-like protease-1, a malaria merozoite subtilisin-like serine protease.* Sajid M, Withers-Martinez C, Blackman MJ. *J Biol Chem*. 2000; 275(1):631-41.
6. A.S. Nasamu, S. Glushakova, I. Russo, B. Vaupel, A. Oksman, A.S. Kim, D.H. Fremont, N. Tolia, J.R. Beck, M.J. Meyers, et al. *Plasmepsins IX and X are essential and druggable mediators of malaria parasite egress and invasion* *Science* 2017;358:518-22
7. P. Pino, R. Caldelari, B. Mukherjee, J. Vahokoski, N. Klages, B. Maco, C.R. Collins, M.J. Blackman, I. Kursula, V. Heussler, et al. *A multistage antimalarial target the plasmepsins IX and X essential for invasion and egress.* *Science* 2017; 358: 522-8.
8. Das S, Hertrich N, Perrin AJ, et al. *Processing of Plasmodium falciparum Merozoite Surface Protein MSP1 Activates a Spectrin-Binding Function Enabling Parasite Egress from RBCs.* *Cell Host Microbe*. 2015;18(4):433-44.
9. www.rcsb.org. Accessed on July 31, 2020.
10. Pettersen EF, Goddard TD, Huang CC, Couch GS, Greenblatt DM, Meng EC, Ferrin TE. UCSF Chimera--a visualization system for exploratory research and analysis. *J Comput Chem*. 2004;25(13):1605-12.
11. Morris, G. M., Huey, R., Lindstrom, W., Sanner, M. F., Belew, R. K., Goodsell, D. S. and Olson,



-
- A. J. (2009) *Autodock4 and AutoDockTools4: automated docking with selective receptor flexibility*. *J. Computational Chemistry* 2009, 16: 2785-91.
12. O. Trott, A. J. Olson. *AutoDock Vina: improving the speed and accuracy of docking with a new scoring function, efficient optimization and multithreading*, *Journal of Computational Chemistry* 2010; 31: 455-61.
13. *Biovia, D.S.Discovery studio modeling environment. San Diego, Dassault Systems, Release, (2015): 4.*
14. DeLano, W. L. *Pymol: An open-source molecular graphics tool. CCP4 Newsletter On Protein Crystallography* 2002; 40:82-92.



THE IMPACT OF THE AKSU BATTLE ON FERGHANA

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Article DOI: <https://doi.org/10.36713/epra4917>

ABSTRACT

The article examines the Aksu battle, an important event in the history of Fergana, based on historical sources and literature. The political events in pre-war Fergana are reflected in the conflict between the interests of the Arab Caliphate, the Tang Empire, Tibet and the Turkish Khanate in the valley. The influence of the events that took place in Fergana in 715-716 on the Battle of Aksu is also described. The issues including Qutayba ibn Muslim's march into the valley in 715, the fled of the Ikhshid of Fergana to the province of Ansi as a result and his seeking military assistance from the Tang Empire, Abdullah Yashkuri's departure to Aksu through Fergana, his being taken captive by the Chinese, and the Turkashes taking control of northern Fergana are studied.

KEYWORDS: *Fergana, Qutayba ibn Muslim, Alutar, Ikhshid, Boshak, Sulukhan, Zhang Xiaousun, Northern Fergana, Tibet, Aksu, Yakka Ariq.*

1. INTRODUCTION

By the beginning of the VIII century, the interests of the Arab Caliphate, the Tang Empire, Tibet and the Turkish Khanate clashed in the Fergana Valley. The Arab Caliphate was trying to annex the region, and the Turkish Khanate did not want to lose this vassal of hers. During this period, Tibet, which got more powerful than she was before, invaded East Turkestan and began to conquer Central Asia. The Tang Empire of China had also set itself the goal of subjugating Fergana. The battle of Aksu took place in a situation of these conflicts of interest.

2. MATERIAL AND METHODS

The article is based on generally accepted methods - historical, comparative-critical analysis, consistency, objectivity, and based on historical sources and literature, studies the Battle of Aksu, an important event in the history of Fergana. The political events in pre-war Fergana show the conflict between the interests of the valley's Arab Caliphate, the Tang Empire, Tibet and the Turkish Khanate. The influence of the events of 715-716 in Fergana on the Battle of Aksu is also described.

The rulers of Fergana, in difficult situations, sometimes formed an alliance with the Turks, sometimes with the Chinese, and tried to protect their property from the Arab invaders. In this regard, we

would like to dwell on the issue of the Tang Empire's assistance to the people of Fergana. In his treatise, A.N. Bernstam noted that relying on China in the fight against the Arabs was costly for the Fergana people, in exchange for which Fergana lost its independence, albeit temporarily, in the eighth century (until 757) and twice became part of the Chinese prefectures. [3. p. 25].

However, L. N. Gumilev and B. G'. Gafurov deny that China was involved in the fight against the Arabs. L. N. Gumilev notes that the Tang government did not send any military units to help the Fergana and Sogdians. According to him, the emperor believed that the people of Central Asia would inevitably incline towards China, fearing the plunder of the Arabs and Tibetans. B. G'. Gafurov writes that Chinese emperors promised Central Asian rulers help in the fight against the Arabs, but in return for these unfulfilled promises, they were required to be vassals of China. [5. p. 23]. Data from historical sources have shown that A.N. Bernstam's view which acknowledges the help of Tang Empire to the Fergana people is more accurate than the other hypothesis.

Unfortunately, there is almost no information about the "Battle of Aksu" in research works published in our country. We can learn about this battle through Chinese sources and foreign



researches based on them [15; 26; 27]. Since the Arab military campaigns in Fergana had a great impact on this conflict, we would like to dwell on these marches first.

In the sources created in the Arabic-Persian language, important information about the military campaigns of the Arabs to Fergana under the leadership of Qutayba ibn Muslim in 713-715 has survived up until our time. To date, the military campaigns of the Arabs have been covered only on the basis of Arabic-Persian sources. However, Chinese sources also contain information about the Arab marches to Fergana and the historical events that took place at that time. In his work, the Chinese historian Sima Kuang wrote the stories of the Arab invasion into the valley [27. 211. p.6713].

Qutayba ibn Muslim, who had extensive military experience, replenished his army at the expense of the inhabitants of the occupied provinces, and in 713 turned his attention to Chach and Fergana. His main goal was to strike at the militarily strong members of the anti-Arab coalition - the Chachis, the Fergana people and the Turks. Qutayba gathered a large army and began to attack in two directions. The first (northern) group of Keshliks, Nasafis and Khorezmians mobilized for the war was sent to Chach under the leadership of Qutayba's brother Abdurahman. [6. p. 185; 18. IV. p. 522]. The second (southern) group, commanded by Qutayba and composed mainly of Arabs, marched on Khojand and Fergana. [5. p. 20]. In our opinion, the importance of the march to Fergana can be seen from the fact that it was personally led by Qutayba. In addition, this indicates the presence of serious forces against the Arabs in Fergana.

There is no detailed information in the sources about the actions of the military forces sent to the north. They captured the city of Chach and set fire to many of the settlements around it. The southern group, led by Qutayba, captured Khojand and approached Kasan. Here the soldiers sent to Chach returned and joined Qutayba's army [28. p. 205]. Sources say that Qutayba appointed an Arab deputy to Fergana, and Arab settlements were established in Chach and Fergana. But despite these victories of Qutayba, the Chachs and Fergana people did not surrender to the enemy and continued to resist [5. p. 20].

In 714, Qutayba once again attacked Chach. He captured Chach and marched to Isfijob (now Sayram). The main purpose of this was to capture the city and block the main way for the Turks to come to the aid of the Central Asians.

At the beginning of 715, Qutayba marched on Fergana for the second time. The ruler of Fergana

was forced to flee. Although the sources do not give details of this march, it can be assumed that the Arabs occupied a large part of Fergana (southern and eastern regions).

In his "Kitab al-Futuh" Ibn 'Asam al-Kufi narrates the marches of Qutayba ibn Muslim into Fergana. The work states that in 715 the Arabs fought against the ruler of Fergana named Boshak. The fortress of Boshak, called Kazah, was besieged by Qutayba for seven months. At the end of the siege, the Arabs made peace with Boshak. Believing them, Boshak was killed by the order of Qutayba as soon as he left the fortress [30. p. 167]. Perhaps Boshak was the Fergana Ikhshid who asked the Chinese for military assistance.

Chinese sources indicate that the Arabs invaded Fergana and that the defeated Fergana Ikhshid sought help from the Chinese. [12. p. 235]. According to him, in 715, when the Arabs occupied the valley, Alutar came to the throne, and Fergana Ikhshidi fled to Kucha (a Chinese protectorate called Ansi). The Chinese help the Ikhshid under the command of Zhang Xiaosun [14. p. 148-149]. After Zhang Xiaosun defeated the forces of Alutar and the Arabs in northern Fergana, Ikhshid rule was restored there. The Chinese, together with the Ikhshid, occupied three cities and one fortress in Fergana [26. p. 276]. Alutar flees to the mountains [15. p. 88-89]. But historical sources do not mention the names of the three cities occupied by the Chinese.

Analyzing the data al-Kufi provided and the above Chinese sources, many details about Qutayba's march to Fergana, including the coming to power of Fergana ruler Alutar with the help of the Arabs in 715, show that there was a struggle between Boshak and Alutar when Qutayba invaded into the land.

In the fall of 714, the Tibetan leader Cree Giggis and his vassal Bon Dargyal made several raids on the banks of the Yellow River. Their attacks on the other side of the Lin Tao River and the Lan Choudan Wei River - Vyenga - were repulsed by the Tang troops. But according to Chinese sources, the Tibetans began to prepare for major military campaigns from 710 onwards. In particular, they built fortresses, built a bridge over the Yellow River and stationed their armies called "Lonely Mountain" and "Nine Edges". [15. p. 80-81]. But in an unexpected situation, the Tibetans sent an offer of a peace treaty to the Tang Empire. However, Sima Kuang noted that Tibetans continued to attack borders every year [27. 211. p. 6706]. As relations with China deteriorate, Tibet's interest in Fergana begins to grow.

Tibetan relations with the Arabs became more active during the reign of the Khurasan viceroy



Jarrah ibn Abdullah al-Hakami (717-719). According to al-Ya'qubi, the envoys of al-Tubbat came to al-Jarrah ibn 'Abdullah asking him to send someone to inform them about Islam. He sent al-Sulayt ibn 'Abdullah al-Hanafi to al-Tubbat [17. II. p. 317]. In this way, the Tibetans tried to form an alliance with the Arabs against the Tang Empire. Meanwhile, the Tibetans were crossing the Yellow River and plundering the lands of the Tang Empire to capture the Torim oasis.

As a result of these events, in 717, a major conflict broke out in the Aksu region between the Arabs, their allies the Tibetans, the Turkashes and the Chinese. The defeat of the Arabs by the Chinese in Fergana in 715 also played an important role in this conflict. Although Muslim sources do not directly state that the Arabs were led by Abdullah ibn Muammar al-Yashkuri in the Battle of Aksu, there is information that Abdullah al-Yashkuri fought against the Turks in eastern Turkestan and was taken prisoner. Balazuri describes this incident as follows: [Later] al-Jarrah sent 'Abdullah ibn Mu'ammara al-Yashkuri to Mawarounnahr. He tried to cross the [interior] of the enemy country and enter as-Sin [country]. [But] the Turks took him prisoner. ['Abdullah] managed to get rid of them [by giving money] and was released and came to al-Shash [2. p. 49]. 'Abdullah ibn Muammar al-Yashkuri wanted to cross Fergana through the Tien Shan Mountains and to reach Kashgar. There the Eastern Turks and the Qarluqs may have been taken prisoner in a clash with a force composed of the Chinese. He was released from captivity for a large sum, as mentioned in the source.

3. RESULTS

In 717, the Arabs occupied two cities in Aksu, a Chinese protectorate, with their allies, the Turks and the Tibetans. Chinese commander in Central Asia Tang Jiahui sent two troops against the Arabs. The first was a Chinese infantry led by Tang Jiahui himself, and the second was a force made up of cavalry led by Ashina Hsien.

After the assassination of the Eastern Turkic khagan Qapagan Qaghan (692-716) in 716, the Turkashes were led by Sulukhan (Qopishchur). According to Chinese sources, 200,000 were initially under his command [31: 486-p]. It was Sulukhan who led the Turkashes in the Battle of Aksu. The Chinese were led by Ashina Hsien, who was given the status of "General Protector for the Reconciliation of the West" by the Jiangxi and Tang empires. [27: 211:672-p]. Ashina Hsien led the "Three Qarluqs" in conquests against the Arabs and the Turks. The Tang army, consisting only of Turks, drove the allies out of

eastern Turkestan. Most of the Arab soldiers were taken prisoner. The captives were released after the Khilafah paid tribute to them in gold. As a result of this battle, the Turkashes came under Chinese protection and later took part in the battles against the Arabs in Fergana.

Meanwhile, Lung Yu's military governor, Kuo Chihyun, defeated the Tibetans at the banks of Yellow River. The Tarim oasis was liberated from the Tibetans by Tang troops.

As a result of the Aksu battle, Fergana was divided into two parts. The north fell into the reign of Turkashes and the south to the Arabs. This is also confirmed by Chinese sources. Hoi Chao, who came to Fergana in 727, also states that only the southern part of the Fergana Valley was under Arab rule: "We marched east from Samarkand and reached to the state of Fergana. [In this country] there were two rulers [wang] in this land, they were separated by a large river called Fu-yu [Syrdarya] which flows through it. The ruler on the south of the river obeys the Arabs [daishi, dashi], and the ruler on the north obeys the Turks [tujyue]." [20. p. 54].

4. CONCLUSIONS

The result of the battle of Aksu was that neither side was able to achieve an absolute victory. Although the Arabs were driven out of northern Mawarounnahr, they retained the southern districts of Fergana under their rule.

Although the Chinese failed to take control of Fergana, they drove Tibetans out of East Turkestan and secured their borders to some extent.

The Chinese took control over Turkashes from Arab influence and later they defeated their former allies, the Arabs in Fergana. The Turkash Khagan was awarded by the Chinese emperor and the city of Suyob was gifted to him. The Turkashes, with the help of the Chinese, carried out looting raids on the Arab territories in Mawarannahr. In Fergana, the Turkashes took control of the northern districts.

Although the Fergana people lost part of the valley in their struggle against the Arabs, the struggle against the Arabs continued until the beginning of the IX century.

REFERENCES

1. Abu Bakr, Narshahi. (1991). "History of Bukhara". Translated from Persian by A.Rasulev. Responsible editor A.Urinbaev // Heritage. Tashkent. Kamalak. p.p: 98 – 152.
2. Al-Balozuri, Abu-l-'Abbas Ahmad Ibn Yahya. (2017). "Futuh al-buldon". (Conquest of Khorasan). Foreword, Arabic translation, author of comments, annotations and indicators Sh.S. Kamoliddin. Tashkent. p. 235.



3. Bernshtam, A.N. (1951). "Ancient Fergana (Popular science essay)". Tashkent. Publishing house of the Academy of Sciences of the USSR. p. 49.
4. Bolshakov, O.G. (2010). "The history of the Caliphate". Vol. 4. Apogee and fall. Moscow. Eastern Literature RAS. p. 369.
5. Gafurov, B.G. (1989). "Tajiks: The Most Ancient, Ancient and Medieval History". Book II. Dushanbe. Irfon. p. 386.
6. History of at-Tabari. (1987). Trans. with arab. V. I. Belyaeva with add. O.G. Bolshakova, A.B. Khalidov. – Tashkent. Fan. p. 440.
7. Ja'kubi. (2011). "Book of Countries (Kitab al-Buldan)". Introductory page, trans., Comments and indexes by L.A. Semenov. Moscow. Eastern Literature. p. 372.
8. Махмудов, О.В. (2017). "Феномен Толедской школы и три этапа переводов". Евразийский Союз Ученых. (12-1 (45)). 5–9 [Makhmudov, O.V. (2017). "The phenomenon of the Toledo school and the three stages of translation". Eurasian Union of Scientists. (12-1 (45)). p.p: 5–9 (in Russ)].
9. Махмудов, О.В. (2017). "Феномен Толедской школы и четыре этапа переводов". Всеобщая история. (3). 14–21 [Makhmudov, O.V. (2017). "The phenomenon of the Toledo school and the four stages of translation". General History. (3). p.p: 14–21. (in Russ)].
10. Al-Balazuri. (1866). "Liber expugnationis regionum". Auctore Imamo Ahmed ibn Jahja ibn Djabir al-Belol, quem a codice Leidensi et codice Musei Britannici ed. M.J.de Goeje. Lungduni Batavorum. p. 1376.
11. Abu Djafar, Mohammed ibn Djarir at-Tabari. (1964). "Annales". Ed. M.J. de Goeje, I-III. Lugduni Batavorum. E.J.Brill.
12. Bai, Shouyi. (2002). "A history of Chinese Muslim". Vol. 2. Beijing. Zhongua Book Company. p. 327.
13. Chavannes, E. (2007). "Western Turks according to Chinese sources". Translated by M. Koç. Istanbul. Selenge. p. 495.
14. Chavannes, E. (1903). "Documents on the Western Tou-kiue (Turks)" // Proceedings of the Orkhon Expedition, vol. 6. SPb., p. 500.
15. Christopher, I. Beckwith. (1993). "The Tibetan empire in Central Asia: a history of the struggle for great power among Tibetans, Turks, Arabs and Chinese during the early middle ages". New Jersey. Princeton university press. p. 281.
16. El-Belâzurî, Ahmed b. Yahya. (2013). Futuh-ul-Buldan. Translation Prof. Dr. Mustafa Benefit. Istanbul. Siyeryayinlari. p. 657.
17. Ibn Wadhîh, qui dicitur al-Ja'qubi. (1883). "Historiae". Ed. M.Th.Haustma, pars 1, historiam ante-islamicam continens; pars 2, historiam islamicam continens. Lungduni Batavorum.
18. Ibn al-Athir. (1986). "History of Islam. El Kamil Fi't Tarikh". Translation. Yunus Apaydin. 12 Volumes. Istanbul. Turkiye printing and publication.
19. Ibn el-Athiri. Chronicon quod perfectissimum inscribitur, ed.C.J.Tornberg vol.I-XIV, Upsaliae et Lugduni Batavorum, 1851-1876. [I – L.B., 1867; II – L.B., 1868; III – L.B., 1869; IV – L.B., 1870; V – L.B., 1871; VI – L.B., 1871; VII – L.B., 1865; VIII – L.B., 1862; IX – L.B., 1863; X – L.B., 1864; XI – Ups., 1851; Suppl. 1871; XII – Ups., 1853; Suppl. 1871; XIII – L.B., 1874; XIV – L.B., 1876].
20. Hye Ch'o. (1984). "Memoir of the pilgrimage to the Five Regions of India". Translation, text and editing by: Yang Han-Sung, Jan Yün-Hua and Iida Shotaro, Laurence W. Preston. Seul. Dangsan-Dong Yeongdeungpo-Ku. p. p: 134.
21. Makhmudov, O.V. (2017). "The Toledo School – early center of investigation of the works Central Asian scholars in the Europe". Saarbrucken (Germany): Lambert Academic Publishing. p. 193. ISBN: 978-3-330-33405-2.
22. Makhmudov, O.V. (2017). "Some reasons about employees of the translator Domingo Gundisalvo in Toledo School". Austrian Journal of Humanities and Social Sciences. (1-2). p.p: 3–7. DOI: <http://dx.doi.org/10.20534/AJH-17-1.2-3-7>
23. Makhmudov, O.V. (2017). "Translations carried out in the Spanish translation centers (On basis of the works of scientists of antiquity and Muslim East)". Asian Journal of Multidimensional Research (AJMR). (6-2). p. p: 5–20.
24. Makhmudov, O. (2017). "Latin translations of the works Abū Bakr ar-Rāzī and their values in development of the modern sciences". History, Problems and Prospects of Development of Modern Civilization. (18). p. p: 534–538.
25. Makhmudov, O.V. (2017). "Toledo School in the period of King Alfonso X". Proceedings of the 1st International Conference on History, Sociology and Philosophy. (1). p. p: 3–7.
26. Makhmudov, O. (2020). "The role of the Toledo as a center for the transfer of scientific knowledge of medieval Eastern scientists to Europe". Евразийский Союз Ученых. [Evraziiskii Soyuz Uchenykh]. №. 6-8 (75). Pp. 13-16. DOI: 10.31618/ESU.2413-9335.2020.8.75.890
27. Mahmudov, O. (2020). "The beginning of the European renaissance". ERPA International Journal of Research and Development. Vol. 5 (7). Pp. 104-108. DOI: <https://doi.org/10.36713/epra4787>
28. Marvin, C Whiting. (2002). "Imperial Chinese military history: 8000 BC – 1912 AD". New York. Writes club press. p. 605.
29. Ssu-ma, Kuang. (1976). "Tzu chih t'ung chien". 10 vols. Peking. repr. Taipei.
30. The History of al-Tabari. (1990). Translated by Martin Hinds. – Vol. 23. New York. State University of New York Press. p. 271.
31. Yuldashev, S.B. (2019). "Ferghana in the VII century: It's development as a powerful state and



- its collapse*". *History Reseach Journal*. 2019. vol. 5. Issue 6. p. p: 2952 – 2964.
32. Ahmad bin A'sam, Al-Kufi. (1991). "Kitab al-futuh". Beirut. Dar Al-Adwaa. 8 jild.
33. Yengi Tangnoma. (2013). "«24 tarix» teki G'arbiy yurt tarixig'a ayit materiallar". *Urumchi. Shinjon xalq nashriyati*. p. 798.
34. Усмонов, Б. (2019). "Административное устройство Ферганы накануне и в начале прихода амира Темура к власти". *Евразийских Союз Ученых*. (3-1(3)). 40-43. [Usmonov, B. (2019). "Administrative arrangement of Fergana on the eve and at the beginning of the coming of Amir Temur to power." *Eurasian Union of Scientists*. (3-1(3)). 40-43. (in Russ)]
35. Usmonov, B. (2019). "Ferghana in the Period of Amir Temur's Struggle for power (1360-1370)". *International Journal of Innovative Technology and exploring Engineering*. Volume-9, Issue-2. p. p: 3180-3187.
36. Usmonov, B. (2019). "Inclusion of the Fergana valley into the state of Amir Timur". *History Reseach Journal*. Vol. 5. Issue 5. p.p: 1154-1158.
37. Usmonov, B. (2020). "On the dates of the military clashed between Sultan Ahmad Mirza and Umarshaikh Mirza". *Asian Journal of Multidimensional Research*. Vol. 9. Issue 5. p.p: 397-404.



THE ROLE OF ENVIRONMENTAL ETHICS IN THE MANAGEMENT OF THE “NATURE-SOCIETY-HUMAN” SYSTEM

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ANNOTATION

In this article contains a scientific analysis of the moral and ethical aspects of the globalization of environmental relations.

KEY WORDS AND WORD EXPRESSIONS: *Ethical norm /global environmental stability/ national and universal norm of ethics; value; ecological culture; ecological education.*

DISCUSSION

Environmental morality in society serves to harmonize the interests of “Nature-Society-Human” and in their management is an important factor in the development of spiritual-moral and cultural-educational levels of citizens. After all, the functional effectiveness of morality in the management of relations” Nature-Society-Human”:

firstly, to the extent of the use of ecological national traditions, experiences in everyday life;

secondly, to the creative application of universal environmental values in selection and practice;

thirdly, to ensure the sexuality of methods and means in the process of management;

fourthly, the spiritual and moral structure of management will depend on the development of the environmental consciousness and culture of the people with the help of civil society institutions. In other words, the same opportunities lead to the prioritization of morality in the system of forms of social consciousness.

In general, the character of a person's attitude to nature and the nature of his determination by moral norms can be viewed as a criterion for the spiritual development of society.

Therefore, in the context of the globalisation of environmental problems, the issue of managing “nature-society-human” relations according to moral

norms remains an important scientific and practical issue. After all, the role of moral norms in the life of society is increasing in the battalion, and various scientific views are formed in this direction, which should be considered their history as the result of alternative concessions to certain problems. In other words, alternative historical teachings have been created about the function of environmental ethics to manage “Nature-Society-man” relations, while their current direction is considered a logical continuation and is inextricably linked with the basic functions of general social morality. The most important functions of morality are as follows: “1) coordination of various relations between people; 2) determination of human values and purposes of the activities of people; 3) socialization of the individual. By performing these functions, morality demonstrates examples of necessity, mindfulness and universality”¹.

In the history of mankind, maintaining the priority of morality in the management of socio-political relations in general, in particular “nature-society” relations has always been an important theoretical and practical task. Raising the spirituality of man and society in the present time is also, in many ways, related to the same issue. I.Karimov said: “No matter how many claims, important theoretical points are made about spirituality, if we do not work hard to integrate them into the



consciousness of society, if we do not systematically organize our activities in every way, naturally, we cannot achieve the intended goal, that is, we cannot find a way to the human soul" [2].

In fact, until now, a rational criterion for the management of all socio-spiritual relations, including human and natural relations, has not been established in a society that does not strive for high spirituality, is not based on moral environmental values. Of course, the environmental interests of society, their general goals, on the one hand, create the need for a discipline that regulates environmental relations on the basis of moral norms. On the second hand, environmental moral norms provide for the discipline of managing "nature-society-human" relations within the requirements of the biosphere balance. Apart from these, the development of environmental ethics is influenced by the level of socio-economic development of the society.

By the present time, relatively alternative scientific views have been formed on the theoretical and methodological issues of management of relations of the system "nature-society-human". But in this regard, there is an interest in thoughts on the creation of their holistic concretionary basis, salsal methodology. In the process of the development of society, with the changing of man in terms of the scale and quality of the means and possibilities of his attitude to nature, the integrated function of environmental ethics, which connects various forms of social consciousness, also abides. As Tilab Makhmud wrote "the fact that man is a human being, that he lives as a conscious being and that he takes first place in a diverse relationship between life style, nature, society and people, and that he is treated at the border of such human morality shows that historically he has enriched his moral understanding and imagination"[3].

In particular, the need to improve the regulative function of environmental norms is also being prioritized, with the aggravation and globalization of environmental problems in the current period. After all, in the current period, social, economic, political crises directly and indirectly go to the aggravation of moral contradictions.

In the states that have gained independence, abandoning the stereotypes of the system of despotic, the complexities in the process of forming the moral and moral foundations of the relations of the market economy also influence ecological morality. In such a situation, it is necessary to consolidate the status of the criterion of environmental moral and moral values:

firstly, to rationally organize the management of "nature-society-human" relations, to create thresholds that adapt the elements of their structure to market relations and to look for opportunities;

secondly, the attention should be paid to

ensuring the harmony of social, economic, political, legal, spiritual and cultural factors of increasing environmental activity and responsibility of the subjects and citizens of nature protection; for this purpose, access to information on the local, national, regional and global status of the environmental situation, their generalization, analysis and organization of international exchange;

fourthly, the study of the experience of environmental activities of the developed countries of the world, the improvement of their international institutional system and legal framework for their creative development;

fifthly, the current globalisation of environmental problems dictates the transformation of spiritual and educational education in this sphere into a priority task of state policy;

sixthly, the management of "nature-society-human" relations according to moral norms dictates the harmony of the object, the harmony of conditions and factors of the subject, its systematization, as well as its identity.

REFERENCES

1. *Philosophy: encyclopedic dictionary*. - Tashkent: "East", 2004. - P. 41.
2. *Karimov I. High spirituality is an invincible force*. - T., 129.
3. *Makhmud Tilab. Centuries of perfection: life proverbs*. -Tashkent: "Justice", 2006. - P.26.
4. *Ergashev I., Farxodjonova N. Integration of national culture in the process of globalization //Journal of Critical Reviews*. - 2020. - T. 7. - №. 2. - C. 477-479.



OVERVIEW OF APARICIO-MEMBRANE DEVICES AND CONTROL SCHEMES

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ABSTRACT

The full and static pressure System is designed to supply full and static pressure to instruments and systems that measure altitude and flight speed.

KEYWORDS: *degrees, height, speed, lift coefficient, aerodynamic forces, deformation.*

DISCUSSION

Theoretical information about indicators of speed and altitude. The system of full and static pressures is designed to supply full and static pressures to instruments and systems that measure altitude and flight speed. Airspeed instruments are called airspeed indicators. They are divided into the following types:

- 1) Indicators of the indicated speed;
- 2) Indicators of true airspeed.

Along with the indicator of the true airspeed, the indicator of the number M is used. This device shows the value of the true airspeed in relative units (in relation to the speed of sound).

Speed and swing indicators. The indicator of the indicated speed (US) is used as a flight instrument. Its

principle of operation is based on measuring the dynamic pressure of the oncoming air flow using a manometric box, the deformation of which is transmitted to the arrow by a special mechanism. Thus, the indicator of the indicated speed measures the speed head $\Delta p = \gamma V^2 / 2g$, which depends not only on the flight speed, but also on the air density.

This device will show the true airspeed only at the altitude at which it was calibrated. Typically, the indicated airspeed indicator is calibrated at normal air density $\gamma = 1.225 \text{ kg / m}^3$, so the readings of the device will correspond to the true airspeed when flying near the ground. It is known that the aerodynamic forces acting on years in flight are also proportional to the



velocity head. For example, the magnitude of the lift is expressed by the formula

$$Y = c_l S \frac{\rho V^2}{2g} \tag{1.1}$$

where c_l is the coefficient of lift; S is the area of the bearing surfaces. Therefore, to maintain the required flight mode, it is important to know not the true airspeed, but the indicated flight speed. Therefore, according to the indicator of the indicated speed, it is easy to withstand the required flight modes. This device essentially gives information about the lift of the aircraft at any flight altitude, which is especially important to know when the lift is approaching a critical value.

The airspeed indicator can also be used as a navigation device to determine the true airspeed. In this case, corrections must be made to his readings. True Airspeed Indicator (TRI). Designed to measure true airspeed. Its principle of operation, like the indicator of the indicated speed, is based on the measurement of the dynamic pressure of the oncoming air flow. The difference is that static pressure is also measured in the IVS indicator. In addition, a standard atmosphere temperature correction is automatically introduced. In this formula, the correction for compressibility is approximately considered constant, since its change is insignificant in comparison with the change in air density.

$$A = \sqrt{\frac{2kgR}{k-1}} f\left(\frac{\Delta p}{p}\right) = \sqrt{\left(\frac{\Delta p}{p} + 1\right)^{\frac{k-1}{k}} - 1} \tag{1.2}$$

then expression (1.2) takes the form

$$V = A \sqrt{T} f\left(\frac{\Delta p}{p}\right) \tag{1.3}$$

We transform the function $f = \left(\frac{\Delta p}{p}\right)$ taking into account that $p_n = p + \Delta p$
Then

$$f\left(\frac{\Delta p}{p}\right) = \sqrt{\left(\frac{p_n}{p}\right)^{\frac{k-1}{k}} - 1} \tag{1.4}$$

Equality (1.4) can be approximately replaced by the power expression

$$f\left(\frac{\Delta p}{p}\right) = \left(\frac{\Delta p}{p}\right)^\alpha \tag{1.5}$$

where α is the exponent chosen from the condition of the best approximation of expression (1.5) to equality (1.4). Thus, the calibration formula (1.2) taking into account (1.3) and (1.5) takes the form. As can be seen from equation (1.6), the measurement of the true airspeed is possible if the device contains sensitive elements that determine the dynamic pressure p , static pressure p and temperature T at the flight altitude. The functional diagram of such a device is shown in Fig. eleven. It is difficult to constructively implement such a scheme. The device turns out to be very complex. The design of the device is greatly simplified if we apply a

circuit with incomplete temperature compensation (Fig. 1.2).

The introduction of temperature compensation in this scheme is based on the assumption that temperature, like pressure, changes with increasing altitude according to the standard law. Hence, temperature and pressure are functionally related. Therefore, the change in temperature with change in altitude is taken into account by measuring the static pressure.

Many characteristics of an airplane depend on the number M . Thus, for example, when the number M changes from 0.6 to 1.0, the drag coefficient c_x increases, while the lift coefficient c_c decreases. At $M >$



1.0, both coefficients slowly decrease and the resistance of the jet engine air intake changes. All this leads to a change in the characteristics of the aircraft's controllability. Therefore, the pilot needs to know the values of the M number at which such a change occurs.

The device with which the number M of flight is measured is called the indicator of the number M. The existing indicators of the M number are based on measuring the ratio of the dynamic pressure p of air to the static pressure p. The M number is a function of the dynamic to static pressure ratio, regardless of the air temperature.

A simplified calculation formula for determining the number M can be obtained if the value of the velocity V from the approximate formula (1.6) is substituted into the expression $M = V / \alpha$:

$$V = A \left(\frac{\Delta p}{p} \right)^{\alpha} \sqrt{T}, \quad (1.7)$$

$$M = \frac{A \left(\frac{\Delta p}{p} \right)^{\alpha} \sqrt{T}}{\sqrt{kgRT}} = A_1 \left(\frac{\Delta p}{p} \right)^{\alpha}, \quad (1.8)$$

where A_1 is a constant coefficient.

REFERENCES

1. Berliner M.A. *Electrical changes, automatic control and regulation of humidity*. - M.: Energiya, 1965. - P.345;
2. Yusupbekov N.R., Mukhamedov Sh.M., Gulomov Sh.M. *Technological process control and automation*. -T.: teacher, 2011.
3. Berliner M.A. *Humidity measurements*. Ed. 2nd. -M. "Energy", 1973. 400 p.
4. Kulakov M.V. *Technological measurements and instruments for chemical productions*. Ed. 3rd, rev. And add. - M., "Mechanical Engineering", 1983. -P.424.
5. Akhmedov B.M., Akhmedov B.B. *Questions of moisture measurement in food industry*. Ed. prof. Ismatullaev P.R., MCHJ "NASHRHA", 2006.
6. Ismatullaev P.R. *Moisture measurement of cotton and cotton materials* // Ed. Fan, Tashkent, 1985.-p. 47.



SHELL POWER CONTROL METHODS

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ABSTRACT

Structural diagrams and the operating principle of visual-optical and radiation methods and devices for controlling the spotting of the cocoon shell are given. It has been established that optoelectronic methods and devices for monitoring technological parameters of cocoons are more promising.

KEYWORDS: *Cocoon, technological parameter, raw silk yield, degree of unwinding, silkiness, stiffness, thickness, shell, linear density.*

МЕТОДЫ КОНТРОЛЯ МОЩНОСТИ ОБОЛОЧКИ

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Аннотация: Приведены структурные схемы и принцип действия визуально-оптических и радиационных методов и устройств для контроля внутрипятнистости оболочки коконов. Установлено что оптоэлектронные методы и устройств контроля технологических параметров коконов является более перспективным.

Ключевые слова: Кокон, технологический параметр, выход шелка-сырца, степень разматываемость, шелконодность, жесткость, толщина, оболочка, линейная плотность.



Освещается актуальная на сегодняшний день проблема контроля технологических параметров коконов при их первичной обработке. Проведен анализ оптических и радиационные методы контроля технологических параметров коконов. Изложен принцип действие фотоэлектрического устройства контроля плотности оболочки коконов.

Разработка технических средств и автоматизация, определения технологических параметров, а также их сортировка является актуальной научно-технической проблемой, решение которой позволить обеспечить шелкомотальные фабрики качественным сырьем. Контроль качества шелкового сырья, на всех этапах его производства, является необходимым и обязательным, особенно на стадии первичной обработки коконов.

Более точными параметрами шелконости, выхода шелка-сырца и длины непрерывно разматываемости кокона, является мощность оболочки, которая определяется выражением [16,17].

$$M = \frac{m_0}{S_l} \quad (1)$$

где: m_0 - масса оболочки; S_l - площадь оболочки.

Из выражения (8) видно, что мощность - это есть масса оболочки приходящаяся на единицу площади поверхности и по физическому смыслу отражает поверхностную плотность. Мощность оболочки на практике определяется только в лабораторных условиях взвешиванием диска диаметром 5-7 мм, отрезанного от оболочки кокона. Мощность оболочки коконов может быть определена с высокой точностью оптоэлектронным методом контроля [12].

В основе оптоэлектронного метода контроля мощности лежит принцип измерения доли поглощаемой энергии излучений в оболочке содержащей определенную массу [11,12].

На основе [11], прошедший поток излучения через кокон, может быть описан выражением:

$$\hat{O}_\tau = \hat{O}_0 a^{-m k_\lambda} \quad (2)$$

где: \hat{O}_0 - поток излучения, падающие на поверхность оболочки кокона; m - масса оболочки; k_λ - коэффициент поглощения оболочки.

Решив уравнение относительно массы оболочки, получим выражение:

$$m = - \frac{\ln \frac{\hat{O}_\tau}{\hat{O}_0}}{\hat{E}_\lambda} \quad (3)$$

Выражение (10) через мощность оболочки на основе (8) описывается как:

$$M_l S_l = - \frac{\ln \frac{\hat{O}_\tau}{\hat{O}_0}}{\hat{E}_\lambda} \quad (4)$$

отсюда следует, что:

$$M_l = - \frac{\ln \frac{\hat{O}_\tau}{\hat{O}_0}}{S_l \hat{E}_\lambda} \quad (5)$$

где: S_l - площадь облучаемого участка оболочки.

Если площадь облучаемого участка оболочки постоянна, то справедливо следующее выражение для мощности;

$$M_l = - \frac{1}{\hat{E}} \ln \frac{\hat{O}_\tau}{\hat{O}_0} \quad (6)$$

где: $\hat{E} = S_l \hat{E}_\lambda$ - постоянная величина.

Из выражения (13) видно, что при постоянстве площади облучаемого участка прошедший поток излучения через оболочку характеризует его мощность.

На выход шелка-сырца кроме шелконости также влияет внутрипятнистость оболочки [18,19,20]. Внутрипятнистые коконы, это испачканные жидкостью тела шелкопряда, разложившегося внутри кокона. Причиной образования внутрипятнистости кокона является гибель шелкопряда внутри оболочки кокона в стадии гусеницы или в стадии куколки [21].

Для определения внутрипятнистости оболочки применяются разнообразные методы контроля, которые основаны на облучении кокона и обнаружении тела, создаваемого внутренне пятна.

Один из методов является оптико-визуальный метод. На основе этого метода разработано авторами работ [17] устройство для определения внутрипятнистости оболочки, принцип действия которого основан на облучении световым потоком оболочки кокона и обнаружения внутренних пятен визуальным методом. Главным недостатком данного устройства является неприемлемость для



автоматизации сортировки коконов по внутривязности оболочки.

Анализ оптических и радиационных методов и устройств контроля технологических параметров коконов позволили установить:

- люминесцентный метод определения плотности оболочки кокона обладает высокая погрешность из-за влияние значительно загрязненности оболочки на интенсивность люминесценции.

- на основе проведенного анализа можно сделать вывод, что мощность оболочки по сравнению с плотностью является более точным технологическим параметром определяющим шелконость.

Список литературы

1. Ахмедов Н.А. и др. Основы шелководство. Ташкент: Фан, 2008.
2. Мирсаатов Р.М., Бурханов Ш.Д., Кадилов Б.Х. Способ определения шелконости живых коконов без их вырезки. //Достижения науки и образования, Москва, 2017, № 5, с. 6-9. Режим доступа: <https://scientifictext.ru/images/PDF/2017/DNO-5-18/DNO-5-18.pdf>
3. Мирсаатов Р.М., Бурханов Ш.Д. Определение шелконости через жесткость оболочки коконов.//Научная дискуссия: вопросы технических наук. сб. ст. по материалам XLVI междунар. науч.-практ. конф. – № 5 (35). –М., Изд. «Интернаука», 2016. – 136 с. 77-83. Режим доступа: [http://internauka.org/archive2/tech/5\(35\).pdf](http://internauka.org/archive2/tech/5(35).pdf)
4. Разработать конструкторскую документацию и изготовить опытный образец автомата для сортировки коконов по жесткости оболочек. //НИР №11860201, ЦНИИППНШ, 1986.
5. Рубинов Э.Б. Технология шелка. -М.: Легкая и пищевая промышленность, 1981 - 392 с.
6. Справочник. Шелкосырье и кокономотание./Рубинов Э.Б., Мухамедов М.М., Осипова Л.Х., Бурнашев И.З. - 2-е изд. перераб. и доп. -М.: Легкопромбытиздат, 1986, -312 с.
7. Фазиллов Н.Ф. Автоматизация технологических процессов. Ташкент, 1985 - 208 с.
8. Ю.В. Федотов, О.А. Матросова, М.Л. Белов, В.А. Городничев, В.И. Козинцев. Лазерный дистанционный метод классификации нефтяных загрязнений. Вестник МГТУ им. Н.Э. Баумана. Сер. "Приборостроение". 2011. № 3 с. 17-25.
9. Н.В. Барышников, В.В. Карачунский, О.А. Свигач. Современные методы проектирования систем автоюстировки высокоточных опико-электронных приборов. Вестник МГТУ им. Н.Э. Баумана. Сер. "Приборостроение". 2011. №2. С. 128-142.
10. Пат. 2168151 РФ, G01B 11/06. Дистанционный способ измерения толщины пленок/М.Л. Белов, С.В. Березин, В.А. Городничев, В.И. Козинцев// Изобретения. – 2001.
11. Гулямова Ф.С., Акбарова Д.М., Косимова К.М. Изучение плотности коконной оболочки методом люминесценции. //Шелк, 1984 №3, с.28—29.
12. Болдинский Г.И., Юнусов Ю.Ю. и др. О светоиспускании коконной оболочки. //Шелк. Ташкент, 1986, №2 - с.18-19.
13. Мамасадыков Ю. Оптоэлектронное устройство для автоматического контроля и сортировки коконов по плотности оболочки, //Тез.докл. XII Всесоюзной научной конференции по текстильному материаловедению. "Надежность, экономичность и качество текстильных материалов" / Киевский технологический инст-т легкой промышленности. 1988 - Т.3. с.110—111.
14. Мухитдинов М.М. Оптоэлектронные измерительные преобразователи. Ташкент, «ФАН» 1983, с. 128
15. Мухитдинов М.М. Оптоэлектронные устройства контроля и измерения в текстильной промышленности. -М.: Легкая и пищевая промышленность, 1982 - 200 с.
16. Рубинов Э.Б. Технология шелка. -М.: Легкая и пищевая промышленность, 1981 - 392 с.
17. Справочник. Шелкосырье и кокономотание./Рубинов Э.Б., Мухамедов М.М., Осипова Л.Х., Бурнашев И.З. - 2-е изд. перераб. и доп. -М.: Легкопромбытиздат, 1986, -312 с.
18. Салимов Х.Х., Гулямов Ф.М., Холматов С.М. Метод определения внутрикоконных дефектов. //Шелк, 1983, №3 - с.24.
19. Цой К., Леженко О.Б. Сортировка коконного брака./Экспресс- информация УзНИИТИ, Ташкент, 1985 - 7-е.
20. Юлдашев Ш., Иргашев У., Мавлянов Ш.Ш. Устройство для оценки зрелости и внутривязности живых коконов. //Шелк, 1984, №4 с.12—13.
21. Рубинов Э.Б., Усенко В.А., Ибрагимов С.С. Учение о шелке и кокономотании. -М.: Легкая индустрия. 1966 - 366 с.
22. Заявка 59-14563 (Япония) ИРЗ №12, 1984. Способ обнаружения загрязнения коконов. Норин Суйсансе Сансе Сикэнте. Заявка 59-14561 (Япония) ИЗР №12, 1984.



INNOVATIVE METHODS OF PREPARATION OF COMPETITIVE STAFF IN THE MODERN HIGHER EDUCATION SYSTEM

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ABSTRACT

The article examines the issues of training competitive personnel in a new stage of development. The author considers the issues of reforming the system of training competitive personnel in the context of expanding international cooperation and deepening democratic reforms in the development of civil society. The paper investigates topical issues of improving the activities of higher education institutions, taking into account international educational programs. An attempt is made to study the current state of higher education and the most important strategic tasks facing it, which directly affect the methods and content of the educational process. The conclusion is made about the need for an innovative approach and further improvement of the work of higher education institutions in a new stage of development.

KEY WORDS: *Higher education, reform, quality, innovation, program, University, pedagogical technology, new stage of development.*

INTRODUCTION

Modern society of Uzbekistan lives and develops in a rapidly changing world, the reality is that the constant improvement of economic sectors and the social sector has become a necessary condition for the progress of the country. The Republic of Uzbekistan is confidently and dynamically moving towards achieving its main goal - to become one of the developed democratic States. The main mechanism of this aspiration is the system of higher education, built on the processes of systematization, creative processing and use of the experience of previous generations. In a new stage of development of the quality of training should meet the current needs of civil society. In the new conditions, higher education is one of the priorities of the state. In the conditions of improvement of all spheres of social and economic life, the formation of civil society institutions in the country, an important factor is the further development of higher education institutions, which provide an innovative breakthrough in all spheres of activity, through the training of qualified personnel. A necessary condition was the introduction of the main provisions of the strategy of innovative development of the country for 2019-2021 in the activities of higher educational institutions, which determined that "an important condition for the dynamic development of the Republic of Uzbekistan is the accelerated introduction of modern innovative

technologies in the economy, social and other spheres with the wide application of science and technology". (Decree of the President of the Republic of Uzbekistan. About the approval of strategy of innovative development of the Republic of Uzbekistan for 2019-2021. <https://mfa.uz/ru/press/library/2018/09/16135,2018>)

LITERATURE REVIEW

Modern problems of the development of higher education in the Republic of Uzbekistan are considered in the works of social scientists of Moscow State University named after M.V.Lomonosov, G.V. Russian University of Economics Plekhanov (Russian Federation), Harvard University (USA), Oxford University (Great Britain), University of Paris (France), Nagoya University (Japan), M.Ulugbek National University of Uzbekistan (Uzbekistan), Center for the Study of Contemporary History of Uzbekistan, Academy of Sciences of Uzbekistan (Uzbekistan).

A large amount of information is provided by studies conducted by international organizations - "Uzbekistan Higher Education report / Report No. 88606-UZ. Modernization of the higher education system. World Bank. (2014), "Uzbekistan. Overview of the higher education system. European Commission. ERASMUS report." (2016), "Overview of the Higher Education System Uzbekistan. European Commission.



(2017).

World Bank specialists have made an analysis of the state and modernization of the higher education system.

The writings of scientists included in the international Erasmus program provide an analysis of the state of higher education in Uzbekistan. (World Education Report. Comparison of World Education Statistics. Montreal: UNESCO Institute for Statistics: www.unesco.org/education).

The theoretical understanding of the issues of improving the work of higher education as an important factor in the sustainable development of the country is devoted to the works of the following authors: Brunner, Jose Joaquin, and Anthony Tillet (2007), Weber, Luc, and J. Duderstadt (eds.) (2010), Sondergaard and Murthi (2012), Krajnik W.L. (2015), Nikolaev D. (2010), Rozhdestvensky A.V. (2009), Sattarov S.A. (2018).

It should be noted the significant contribution of authors who have made a worthy contribution to the study of this problem and published scientific articles in foreign publications over the past three years (Theoretical & Applied Science, European Science Review, Europäische Fachhochschule, Eastern European Scientific Journal, "Sciences of Europe").

RESEARCH METHODOLOGY

During the formation of civil society in Uzbekistan there have been significant socio-economic and cultural transformations that require highly qualified personnel. In the new stage of development "the main objectives of the Strategy to achieve the main objective is the accession of the Republic of Uzbekistan by 2030, the 50 leading countries on the Global innovation index, improved quality and coverage of education at all levels, development of system of continuous formation, flexibility of system of training based on the needs of the economy, strengthening the scientific potential and efficiency of scientific research and development, creation of effective mechanisms of integration of education, science and entrepreneurship for the wide implementation of the results of research, development and technological works". (Decree of the President of the Republic of Uzbekistan. About the approval of strategy of innovative development of the Republic of Uzbekistan for 2019-2021. <https://mfa.uz/ru/press/library/2018/09/16135>, 2018). The analysis shows that the current state of higher education in Uzbekistan does not meet the requirements for the training of competitive personnel. First of all, this was due to the fact that the training system did not take into account the changes related to the process of deepening the market economy. Given the ongoing profound changes in society, the state has set the higher education system a difficult task – to reach the international level and meet the challenges of globalization. In the period of development of civil

society, it becomes important to provide decent higher education to graduates of secondary schools, academic lyceums and professional colleges.

Higher education of the country is designed to train highly qualified personnel with subsequent employment in various spheres of social and economic activity, as well as administrative service areas, scientific, economic, technical and so on. The system of modern higher education is responsible for the skills and special knowledge provided for future specialists, orients students to reveal theoretical or practical aspects in the vectors of the chosen profession, taking into account the creative use of the latest achievements of science and technology.

In modern conditions, the role and importance of highly qualified personnel in ensuring sustainable development of the country, security, production of competitive goods, equal admission to universities of young people from different strata of society is becoming increasingly important. This task strongly dictates the need to "increase the prestige of our universities, increase the number of non-state educational institutions, attract qualified personnel and strengthen competition." (Decree of the President of the Republic of Uzbekistan. About the approval of strategy of innovative development of the Republic of Uzbekistan for 2019-2021. <https://mfa.uz/ru/press/library/2018/09/16135>, 2018).

One of the innovations in the organization of preparation and implementation of the process of admission to higher education of graduates of secondary schools, academic lyceums and vocational colleges is the provision of the opportunity to enter several higher education institutions simultaneously. The next important event in the country was the introduction of a system that allows universities to independently determine the admission of students to the first year, taking into account their real capabilities, the opening of evening and correspondence faculties.

In the conditions of deepening of market economy and development of civil society, the system of higher educational institutions in the Republic of Uzbekistan includes the following educational institutions:

- Universities specializing in academic and professional programs, in accordance with state standards. At the same time all of them have no direct dependence on departmental subordination or form of ownership;
- Institutions engaged in scientific and educational activities, as well as research activities necessary for the functioning of universities;
- Structures exercising public administration of higher education.

During the years of democratic reforms the system of personnel training has been improved in Uzbekistan. There is a two-stage system of higher



education: bachelor's and master's degrees, the number of higher education institutions is growing. The country successfully operates branches of a number of leading universities in Europe and Asia, the United States. It should be noted that " in particular, over the past two years, 35 new higher education institutions have been opened in the country, including 13 foreign ones. Training of personnel in more than 100 new areas of bachelor's degree, 94 specialties of master's degree has been established. As a result of such measures, the enrolment rate of young people in higher education has increased from 9 per cent in 2016 to 20 per cent today. We have set ourselves the goal of bringing this figure to 25 per cent in the near future. [https://pv.uz/ru/news/prazdnichnoe-pozdravlenie-uchitel]jam-i-nastavnikam- uzbekistana - Festive congratulation of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to teachers and mentors of Uzbekistan].

In 2018, Tashkent state University of Economics and Ural state University of Economics signed an agreement on the establishment of a joint faculty. In addition, to make up for the shortage of teachers in pre-school institutions, a branch of the University of Puchon and a branch of the University of Sojong (South Korea) began their activities from the 2018-2019 academic year. Yeju technical Institute (South Korea) became the first private University in Uzbekistan, and Webster University-the first American University to open a representative office in Uzbekistan (https://www.gazeta.uz/ru/2018/07/30/tesl, 2018).

In the 2017-2018 academic year, 297,689 students were enrolled in the country's universities. In the number of students was made only 80 822 people. In institutions of higher education 107 employs 25 teachers, of whom with a scientific degree doctor of Sciences - 1 470, candidate of Sciences - 6 011, 1 078 people work as a Professor and 4 091 - associate Professor. (https://stat.uz/uploads/docs/oliy-talim-yan-dek-2017- ruu.pdf).

The action Strategy for the further development of the Republic for 2017-2021 outlines specific measures for the development of higher education. In modern conditions, the issues of stimulation of research and innovation, the creation of mechanisms for the implementation of its achievements in practice are of particular need. To achieve these goals introduced a two-tier system of postgraduate education, including the basic doctorate (with a thesis and awarding a scientific degree of the doctor of philosophy - PhD in the relevant branch of science) and doctoral studies (with thesis and awarding the degree of doctor of science - DSc). In order to improve the organization of research activities to a qualitatively new level, measures were taken to further improve the activities of the Academy of Sciences of the Republic of Uzbekistan, the main tasks and priorities of the Academy of Sciences on the basis of modern requirements, special attention is paid to the

stimulation of effective scientific activity.

One of the main goals of higher education reform is to ensure the real independence of universities in training and research activities. An important criterion for preventing the decline in the quality of higher education will be the availability of teaching staff with academic degrees.

The country has begun work on the creation of private universities and the opening of branches of leading universities in the development of the world, which will increase the opportunity for young people to get higher education in selected areas. As a result, conditions will be created for the transformation of the country within 10 years into an educational center of Central Asia for the training of highly qualified specialists.

This process puts forward the task of increasing the number of foreign students, which is of great importance in the formation of the competitiveness of the higher education system and is important for the promotion of the modern intellectual image of the country in the world community.

The country has changed the system of admission of students to universities, which allowed to ensure maximum transparency of examinations during the tests. In order to improve the mechanisms for innovation in universities created innovation funds and units for the commercialization of scientific research.

To raise the status and encourage teachers, measures are being taken to increase salaries and introduce a flexible system of remuneration.

A comprehensive analysis of the work of higher education institutions in modern conditions revealed a number of existing problems that adversely affect the level and quality of training of highly qualified bachelors and masters:

* The national educational system has not adapted to the profound changes in society, which has led to limited access to higher education for certain citizens, poor families, socially vulnerable part of the population. Insufficient coverage of the student-age population by the higher education system in Uzbekistan (about 20%) is low by regional and international standards. The global trend is to increase the number of students enrolled in universities.

* In the Republic there is a shortage of qualified personnel for new sectors of the economy, business, entrepreneurship and joint ventures. This is especially true for such areas as space research, nuclear industry, information economy, heavy engineering, pharmaceutical industry.

* There is a lack of communication between universities and private business. According to a world Bank study, 35.0% of companies in Uzbekistan face difficulties in finding qualified professionals with higher education.



* Modern requirements do not meet the level of material and technical base of individual universities. There is a low level of use of information technologies in the educational process both in terms of expanding access and in terms of the use of new teaching methods.

* Insufficient level of scientific potential of teachers working in higher education. In Uzbekistan, the share of doctors of science (PhD, SSD) in the structure of the teaching staff is only 37.9%, the remaining 62.1% are teachers who do not have academic degrees. The trend of recent years is the aging of scientific and pedagogical personnel with academic degrees and titles, while reducing the influx of young people. Teachers of pre-retirement and retirement age make up 31.3% of the total number of highly qualified specialists.

* There is an acute shortage of teachers with knowledge of foreign languages.

* Further improvement of the system of training of doctors of Sciences and the work of specialized councils for the defense of doctoral dissertations is required.

* Higher education institutions need systematic professional development of the teaching staff, including in foreign universities.

* The system of distance learning of highly qualified personnel and postgraduate education remains underdeveloped in the Republic.

• The quality assurance system of higher education is not in line with international best practices.

ANALYSIS AND RESULTS

In conditions of deepening market relations, the task arose of further improving the system of higher education:

- Raising the status of the teaching staff, introducing a flexible system of remuneration depending on the results of research, academic work, freeing up time for main work by reducing the bureaucratic load.

- A dramatic improvement in the quality of education in higher education through the introduction of new modern educational programs, improving the content of textbooks and teaching aids, pedagogical and smart technologies in the educational process.

- Implementation of a national system for assessing the quality of higher education and its impact on the level of innovative development of the country.

- Increasing the coverage of higher education of the young generation of all segments of the population, by increasing the number of universities, including foreign branches and non-state higher education institutions.

- The adoption of specific measures to provide universities with the opportunity to independently determine quotas for admission of students and providing opportunities for applicants to enter several universities at the same time.

- Enhancing youth access to higher education through the development of distance learning.

- Strengthening the relationship between universities and research institutes with foreign partners, participation in international internship programs for students and scientists, expanding the program of funds and scholarships for teaching students in foreign universities.

- Staffing of university departments with young talented personnel.

In the new period of development in Uzbekistan, considerable efforts are being made in the higher education sector to meet the requirements of socio-economic development, which requires more competitive bachelors and masters who have been trained in those areas that correspond to the main priorities of the market economy. The higher education system of Uzbekistan to a certain extent does not meet the requirements in fulfilling its role as an engine of innovative approaches and a generator of new ideas, which is necessary to stimulate the growth of a modern, knowledge-based economy.

In the context of deepening market reforms by state bodies, together with universities, measures are being taken to ensure equal access to higher education for young people. This indicates that in the system of higher education there are drawbacks to its availability, some universities use outdated mechanisms for training specialists and ensuring the quality of the educational process. Not focused on the issues of strategic vision, access, management, quality assurance, financing the higher education system and its relevance to the new period of the country's development.

Despite the measures taken to improve the activities of higher education institutions, in individual universities there is no comprehensive plan that defines the medium and long-term vision of each department, specialty and overall development of the university. The development and adoption of a comprehensive modernization strategy for each university is the most important factor to ensure the contribution of the faculty and staff of universities, as well as to ensure a general understanding of the large-scale results of the reform of the higher education system as a whole.

The analysis shows that the rate of enrollment of talented youth in universities of Uzbekistan is low. Enrollment models do not meet the needs of a growing economy and the needs of students. The modern development of a higher education system that meets the needs of a growing economy and social sector requires universities to be able to provide more places for admission depending on demand. This will allow



market structures to supplement the existing system and reduce the demand for qualified graduates, which is provided by the higher education system. And finally, expanding access to higher education can be achieved by low-cost means using modern innovative technologies in distance learning.

In the system of universities, the structure that regulates the participation of the non-state sector in the higher education system is restrictive (as evidenced by the insufficient number of private universities). The Board of Trustees should be transformed from an advisory body into a body with real powers. The Board of Trustees together with the Academic Council should be empowered with broad powers to draw up most of the university or university curriculum, possibly up to 20.0% of the curriculum content (and the remaining 80.0% are determined by state educational standards and leading universities in each discipline). This will allow universities to differ from each other and meet growing local needs and demand. Councils of universities and universities should be empowered to change student quotas within 20.0% of the level determined by the government. To stimulate an effective decision-making process at the university level, it is important to create a modern information system for managing higher education. A fundamental reform of the rules and regulations governing private sector participation in the provision of higher education services is needed.

The current standards for ensuring the quality of higher education do not comply with international practice. The quality assurance system is in transition and is trying to move away from a centralized management and control system towards a system that includes international best practices. It is important for Uzbekistan to develop a comprehensive system for ensuring the quality of higher education that is consistent with the procedures of the international educational process. Such a system will have to ensure that higher education in Uzbekistan meets international requirements for entering the global educational space.

Uzbekistan is entering a stage of development, which could be an important stage in the implementation of its socio-economic potential. In the country, the demand for qualified personnel is growing at a faster pace than supply, and there is a mismatch between the professional knowledge and skills of university graduates and the needs of the market.

In the context of deepening market reforms, it is necessary to increase the relevance of knowledge and skills of university graduates to market needs, as well as to create and strengthen innovative infrastructure that will enhance the quality of universities in general, stimulate the use of creative and innovative approaches to learning.

CONCLUSION/RECOMMENDATIONS

Thus, as a conclusion, it should be noted that in Uzbekistan over the years of a new stage of development, targeted, large-scale work has been carried out to reform the entire system of higher education, which is extremely important from the point of view of developing innovative ideas, developing and introducing new technologies, as well as preparing graduates who answer goals of socio-economic development of the country.

Firstly, higher education is a fundamental component of human capital, competitive education has a direct connection with the reform processes in Uzbekistan. In this regard, the main direction is to stimulate research and innovation in the field of higher education, which create the conditions for the dynamic development of society and improve the quality of the competitive staff training process, the wide involvement of gifted youth in universities, and strengthen the scientific potential of higher educational and scientific institutions, which is the main factor in the innovative development of the country.

Secondly, high-quality higher education is directly related to productivity growth and economic development in general. Higher education, in particular, is extremely important in terms of developing innovative ideas, developing and introducing new technologies, as well as training graduates who meet the goals of the country's socio-economic development.

Thirdly, in the context of training new personnel for the new economy, it is necessary to introduce innovative ideas into the educational, educational, research activities of universities, which will serve to further deepen the focused large-scale work on reforming the entire system of higher education.

Fourth, the expansion of the country's international cooperation, the increase in export potential, and the production of competitive products for the domestic and foreign markets strongly dictate the further improvement of the training of qualified bachelors and masters. This process is directly related to the need to increase the international rating of universities and scientific organizations in Uzbekistan.

Fifthly, the involvement of gifted university graduates in science requires a review. To create favorable conditions for attracting talented masters in scientific and pedagogical work, it is necessary to attract the possibilities of financial support of the private sector, state and international organizations.

APPROBATION

The results of this study were tested at a meeting of the scientific Roundtable on the theme: "Uzbekistan on the path to innovative development" in the Tashkent branch of the Russian Economic University named after G.V. Plekhanov December 1, 2018. The discussion of the reports was attended by leading scientists from universities of the Republic of Uzbekistan. Also on the



topic of the study, the authors of the article spoke at the republican scientific and practical conference "Innovative development of the economy of the Republic of Uzbekistan: foreign experience, trends and prospects", which was held in Tashkent on October 12, 2018.

REFERENCES

1. Abirov V.E. (2017). *Integration of the Republic of Uzbekistan into the world educational space (on the example of the Bologna process). in the collection: modern education: current issues, achievements and innovations. Collection of articles by winners of the VIII international scientific-practical conference. S. 162-164.*
2. Ashurova H.Kh. (2018). *Directions of organization of distance education in higher educational institutions of Uzbekistan. Theoretical & Applied Science. No. 9 (65). S. 365- 369.*
3. Baysariyev N.Kh. (2016). *Improving the quality of education in Uzbekistan. 21st Century Scientist. No. 5-2 (18). S. 30-33.*
4. Babayeva N.M. (2015). *Economic education as a necessary factor to ensure comprehensive youth development in Uzbekistan. in the collection: modern approaches to the transformation of the concepts of state regulation and management in socio-economic systems, 4th International Scientific and Practical Conference. S. 13-16.*
5. Baratov R.U., Ramatov Zh.S. (2018). *A new approach to training personnel with higher education in Uzbekistan: perspective and innovation. Theoretical & Applied Science. No. 4 (60). S. 89-91.*
6. Brunner, Jose Joaquin, and Anthony Tillett (2007). *"Higher Education in Central Asia: The Challenges of Modernization: Case*
14. *competences of administrative staff resources at pedagogical universities. Eastern European Scientific Journal. No. 2. S. 139-141.*
15. Iskhakova S.A. (2018). *Analysis of the effectiveness of the income generating mechanism for educational services workers. Theoretical & Applied Science. No. 2 (58). S. 199-204.*
16. Kraynik V.L. (2015). *Higher education in Russia: trends and development prospects. Biological Bulletin of the Melitopol State Pedagogical University named after Bogdan Khmel'nitsky, 5 (1a), 81-85.*
- Studies from Kazakhstan, Tajikistan, The Kyrgyz Republic and Uzbekistan." World Bank: Washington DC.*
7. *In 2019, 45 billion soums will be allocated for training personnel abroad. (2018). www.kun.uz / Uzbekistan. https://kun.uz/ru/news/2018/12/18/v-2019-godu-dlya- podgotovki-kadrov-za-rubejom-budet-vydeleno-45-milliardov-sumov.18.12.2018.*
8. Vohidova N.Kh., Halikova Z.M. (2016). *The development of the education system in the Republic of Uzbekistan. Europaische Fachhochschule. No. 4. S. 23-24.*
9. Gaibnazarova Z.T. (2017). *Improving the system of higher education is the main factor in the formation of human capital. The scientific and analytical journal "Science and Practice" of the Russian University of Economics G.V. Plekhanov. No. 3 (27). S. 72-78.*
10. Grishak S.N. (2018). *Trends in the development of gender education in higher education in post-Soviet countries: regulatory context. Sciences of Europe. No. 26-4 (26). S. 38-42.*
11. Zakhidova Sh. Sh., Rezhapov Kh. Kh. (2016). *Modernization of higher education. In the collection: Actual issues of modern science and education. Materials of the international scientific-practical conference. Moscow Finance and Law University MFLA, Kirov branch. S. 32-35.*
12. Inomova A.B., Inomov J.B. (2018). *The role of the Russian cultural center in the development of Russian-Uzbek relations in the field of education. In the collection: Actual issues of the formation of intercultural competencies in modern education. Collection of articles and methodological developments. S. 73-77.*
13. Isakova Z.M. (2017). *Improving managerial*



IMPACT OF THE PANDEMIC ON THE INSURANCE MARKET OF UZBEKISTAN: MANAGEMENT AND SALES

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ВЛИЯНИЕ ПАНДЕМИИ НА СТРАХОВОЙ РЫНОК УЗБЕКИСТАНА: УПРАВЛЕНИЕ И ПРОДАЖА

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Аннотация: В статье рассмотрено практическое управление страховыми компаниями в Республике Узбекистан в период пандемии коронавируса COVID-19. О влиянии на страховой рынок убытках и выплатах.

Ключевые слова: страхование, пандемия коронавируса COVID-19, управление, страховой рынок, страховые компании.

Начавшаяся в 2019 году пандемия в Китае в скором времени распространилась на весь мир и Республику Узбекистан не обошла стороной данная эпидемия. Всемирная организация здравоохранения объявила пандемию коронавируса COVID-19 11 марта 2020 года, по состоянию на 10 августа 2020 года поразил более 20,2 млн человек по всему миру.

Это привело к чрезвычайным мерам, таким как: отмена авиасообщений, закрытии границ между государствами, остановке рабочего процесса, переход вузов и школ на дистанционное обучение стали новой реальностью. Данная ситуация влияет на всю мировую экономику в целом. Также не обошло стороной и страховой рынок. Возросшее число претензий, страховых выплат в связи с болезнью, а также возврат страховой суммы из-за сорвавшихся путешествий и контрактов по поставкам товаров, а также другие физические и юридические лица, которые потерпели убытки в связи с пандемией.

Колоссальные убытки потерпели те компании, у которых не были застрахованы

поездки, товары, и бизнес в целом от форс-мажорных ситуаций. В связи с чем большое количество физических и юридических лиц стали приобретать страховые полисы с медицинским покрытием. Многие страховые компании в марте месяце начали уведомлять своих клиентов о том, что политика компании изменилась из-за пандемии, а также не будитя проводится покрытие по заболеванию COVID-19. На сегодняшний день многие компании стали намного гибкими и разработали стратегии по выплатам и приобретению онлайн страховых полисов. Это поспособствовало развитию онлайн продаж по всему миру, а также в нашем государстве. Так сейчас мы за несколько минут можем приобрести любой страховой продукт, который нас интересует. Радует то, что многие страховые компании не стали пугаться пандемии и предлагают своим клиентам страховые продукты покрывающие расходы по болезни коронавируса.

Несмотря на все положительные стороны данных страховых продуктов, нужно отметить и недостатки, такие как активация полиса после



приобретения в течении от двух недель до двадцати дней у разных компаний. Если же застрахованный почувствует симптомы болезни в течение данного периода и будет медлить с обращением к врачу, ожидая, чтобы договор вступил в силу, он рискует снизить шансы на выздоровление, так как быстрое реагирование при заболевании коронавирусом залог скорейшего выздоровления. Также полисы не предусматривают лечение в стационаре, а всего лишь предоставляют денежную компенсацию.

В целом изменилось отношение к управлению и риск менеджменту в страховых компаниях. Практика показала, что многие сотрудники могут работать, удаленно не отрываясь от производства, что положительно повлияло на рабочий процесс всей компании. В связи с пандемией многие компании были готовы к убыткам, но в целом страховой рынок в Узбекистане пострадал не сильно.

Так по данным Министерства Финансов Республики Узбекистан в течение I квартала 2020 года осуществлены страховые выплаты в общей сложности в размере 176,9 млрд. сумов, из них 141,2 млрд. сум. по видам добровольного страхования и 35,8 млрд. сумов выплачено по видам обязательного страхования. Вместе с тем, в нашей стране можно увидеть несоответствие компонентов страхового рынка, то есть добровольные виды страхования составляют 82%, а обязательные виды-18 %. В развитых странах доля обязательного страхования составляет 50 %. Когда согласно данным Министерства финансов Республики Узбекистан за соответствующий период 2019 года компании выплатили страховые возмещения на сумму 180,2 млрд. сумов, что на 3,3 млрд. сумов больше по сравнению с I кварталом 2020 года.

На сегодняшний день в республике насчитывается 36 страховых компаний, на долю которых приходится 45 % от общего объема услуг на страховом рынке, а 69 %-на долю 10 компаний. Это приводит к тому, что потенциал страхового рынка не полностью задействован.

Кроме того, если вклад в страхование жизни в других странах составляет 50 %, то у нас он составляет всего 16 %.

На мировом страховом рынке страховщиками оказывается более 1000 видов страховых услуг, 300 из которых направлены на страхование жизни, с учетом потребностей и пожеланий страхователей. А в нашей стране многие виды, например, обязательства финансовых учреждений, обязательства директоров и менеджеров перед акционерами, не застрахованы.

Согласно анализу, в этой области существует ряд проблем, характерных не только для нашей республики, но и для других стран. В основном это объясняется отсутствием эффективной связи между страховыми компаниями и населением, низкой эффективностью обслуживания из-за задержек с ответами на запросы клиентов.

Высокая географическая концентрация страхового рынка также является проблемой. Основная доля страховых премий - около 66% - приходится на город Ташкент и Ташкентскую область.[1]

Также нужно отметить, то как обстоят дела со страховыми поступлениями у страховых компаний по сравнению с соответствующим периодом прошлого года. Согласно данным Министерства финансов Республики Узбекистан в первом квартале 2020 года были собраны страховые премии в размере 503,1 млрд. сумов, а в аналогичном периоде 2019 года совокупный объем страховых премий по рынку составил 522,8 млрд. сумов. Из этих цифр можно сделать вывод, что поступления уменьшились на %.

Так из интервью многих представителей страховых компаний, которые были даны сайту [probanki](#)[2] можно сделать следующие выводы:

1. Страховщикам предстоит работать над повышением эффективности обслуживания, развивать культуру страхового сообщества и понимание людей о том, что страхование – это защита собственных средств. Но все большее начинается с малого. И если даже при оформлении обязательной страховки, мы будем более осознанно подходить к выбору страховой компании и интересоваться выгодными страховыми полисами, это повлечет за собой повышение качества услуг, и увеличение спроса. Спрос порождает конкуренцию, а конкуренция порождает качество.

2. Из-за вынужденных мер многие люди потеряли свою работу, в связи с чем заключения договоров по добровольному страхованию жизни сократились. Так же компании, которые покупали для своих сотрудников медицинский полис уменьшили лимит по использованию.

3. Может измениться восприятие страхования медицинских заболеваний. Отрасль страхования представлена социальными продуктами, позволяющими защитить не только себя, но и своих близких.

Многие компании ждут внедрения обязательного медицинского страхования в Узбекистане. Страховым компаниям необходимо тщательно подготовиться к новой системе и сформировать минимальный социальный пакет медицинских услуг.



В настоящее время добровольное медицинское страхование уже стало важной частью корпоративной культуры и социальных пакетов успешных компаний. Что не мало важно для работников с высокой квалификацией. Люди хотят стабильности и комфорта.

4. Налогового кодекс в новой редакции от 1 января 2020, стал толчком для начала расторжений договоров со страхователями юридическими лицами. Так как в новой редакции данного Кодекса были убраны все льготы для юридических лиц, которые были привлекательны всё это время. Компании продолжают выполнять взятые ранее обязательства, но страховые премии уже не поступают в прежнем объеме.

Из-за вышеупомянутых изменений за период с 1 августа по 26 марта страхователями приостановлено и расторгнуто более 15,6 тысяч договоров долгосрочного страхования жизни, причем основная доля таких договоров пришлась на август – декабрь 2019 года, а оставшая часть на 2020 год.

5. Изменения в законодательстве и пандемия негативно отразились на отрасли страхования жизни и общего страхования в целом. Страховые поступления уменьшились в разы, но при этом компании продолжает нести свои обязательства по выплатам. Для исполнения своих обязательств страховщики вынуждены отозвать банковские депозиты, теряя колоссальные проценты по ним из-за досрочного отзыва.

В особенности рынок страхования жизни, который и так наблюдал существенный спад роста, столкнулся с последствиями пандемии, еще более негативно отражающимися не только на его развитии, но и на его дальнейшем существовании.

6. Многие компании пересмотрели свою стратегию по продаже страховых полисов для клиентов, которая будет удобна в данной ситуации. У многих страховых компаний, онлайн продажи были недоступны. Сегодня же можно наблюдать как кони становятся намного гибче и идут с ногу со временем, развивая онлайн сеть по продаже своих страховых продуктов. Функционирование компаний подстраиваются под новые реалии и потребности большинства людей.

Помимо онлайн продажи через веб-сайт компаний, также ведется продажа через горячие линии, где клиент может выбрать нужный ему пакет страховых продуктов, а также ознакомиться с новыми. Здесь страховой полис отправляется через разные службы доставки.

Хочется отметить то, что общение с высококвалифицированными специалистами в

этой области не заменит онлайн покупка страхового полиса, а также тысяч страховых агентов, которые предоставляли качественные услуги для физических и юридических лиц, у которых не было возможности искать и изучать каждый продукт по отдельности. Нужно отметить, что большее количество населения в нашей стране плохо осведомлено обо всех преимуществах страхования. Многие считают, что данная отрасль экономики не особо важна для страны. Но если изучить данный вопрос повнимательнее можно увидеть, как многие несчастные случаи, а также фарс-мажорные обстоятельства выплачиваются страховыми компаниями.

7. Во время карантина был принят новый обязательный вид — страхование гражданской ответственности нотариусов, занимающихся частной практикой.[3] Это помогло многим компаниям в поступлении страховых премий. Что является не маловажным шагом.

Нелегкие обстоятельства, вызванные распространением COVID-19 среди населения всего мира, и оказавшие разрушительное влияние на благосостояние людей, жизнеспособность предприятий и устойчивость экономики, еще раз подчеркнула важность стабильного и развитого страхового сектора. Как отметила Гульжан Джаксымбетова, председатель правления страховой компании «Сентрас Коммекс Life» Республики Казахстан: «Когда страховщики повышают устойчивость и производительность бизнеса, другие сектора экономики могут минимизировать потери и расти. Плюс страховая медицина может стать выходом в этой сложной ситуации, когда больные не всегда могут рассчитывать на полноценное бесплатное медицинское обслуживание и бесплатные медикаменты». [4] Если рассматривать ситуацию с точки зрения потребителей, то на рынке должны присутствовать актуальные страховые продукты, которые смогут финансово обезопасить клиента при страховом случае, а также сохранить и увеличить вложенные в страховую программу инвестиции. Мировые вызовы и появление новых рисков побудили страховщиков к созданию новых продуктов, предусматривающих страховую защиту при пандемии.

Если же рассматривать управление в страховых компаниях, то многие компании приступили к реализации комплекса мер в целях борьбы с распространением коронавирусной инфекции. Обеспечили безопасность и сохранить здоровья сотрудников и клиентов страховой компании. С середины марта на дистанционную работу были переведены все сотрудники, находящиеся в группе повышенного риска, а



также сотрудники, которые сами по собственному желанию решили уйти в оплачиваемый отпуск. Далее в режим удаленной работы были переведены все функциональные подразделения компании, для которых такой формат был возможен. При первой волне на удаленной работе оказались все, так как государство решило установить жесткие карантинные меры. Так к второй волне многие компании уже знали ход действий и минимизировали присутствие сотрудников в офисе, следовали лучшим примерам из международной практики, использовали все имеющиеся наработки.

Быстрый и качественный переход сотрудников на удаленный режим работы был бы возможен если бы многие компании в течение долгого времени развивали цифровые проекты — большинство мировых бизнес-процессов адаптировано под цифровой формат.

Приняв все реалии происходящего на сегодняшний день, управление страховых компаний должно быть еще более гибким и лояльным для сотрудников и клиентов компаний. При этом все клиентские службы компаний должны функционировать в штатном режиме, конечно, с учетом сложившихся непростых обстоятельств. Клиенты должны приобретать страховые полисы в офисах продаж. Сотрудники, работающие непосредственно с клиентами, должны обеспечиваться необходимыми средствами защиты от распространения инфекции, в местах общего пользования и точках большого скопления людей, в частности в клиентских зонах, проводятся дополнительные санитарные и дезинфицирующие мероприятия.

В целом страховые компании со грамотной инвестиционной стратегией смогут пережить кризис, так как в долгосрочной перспективе страховая отрасль становилась всегда сильнее с каждым разом, в этом и есть вся суть страхования.

Список использованной литературы

1. <https://www.mf.uz/ru/news-mf-jx/item/609-609.html>
2. <https://probanki.uz/article/kak-pandemiya-otrazilas-na-strahovyh-kompaniyah-uzbekistana>
3. *Постановление Кабинета Министров Республики Узбекистан «Об Утверждении Правил Обязательного Страхования Гражданской Ответственности Занимающихся Частной Практикой Нотариусов» от 4 апреля 2020 г., № 199*
4. <https://lifeinsurance.kz/rynok-strahovaniya-zhizni/pandemiya-povod-zadumatsya-o-blizkih>



PEDAGOGICAL INNOVATIVE TECHNOLOGIES IN HIGHER EDUCATION

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ANNOTATION

With the introduction of modern technologies in the educational process of the higher education, teachers are increasingly mastering the functions of a consultant, tutor, adviser, organizer. This requires special psychological and pedagogical training, since the professional activity of a technical higher education teacher is implemented not only special, disciplinary knowledge, but also modern knowledge in the field of pedagogy and psychology, technology of training and education. On this basis, the readiness to perceive, evaluate and implement pedagogical innovations is formed.

KEY WORDS: *innovation, pedagogical technology, higher education, innovative activity, modern education.*

DISCUSSION

In accordance with the concept of modernization of education, the main goals of vocational education are: training of a qualified employee of the appropriate level and profile, competitive in the labor market, competent, responsible, fluent in their profession and oriented in related areas of activity, capable of effective work in the specialty at the level of world standards, ready for continuous professional growth, social and professional mobility. The goal of modernizing education is to create a mechanism for sustainable development of the education system.

At various stages of its development, the society has set new standards and requirements for the workforce. This necessitated the development of the education system. Education as a process and result can be effective and high-quality, if there are clearly formulated concrete educational ideas, and they are accepted personally significant by all participants in the educational process. To do this, education should go into a special innovative development mode, in which it is possible to preserve the best traditions of our national education and at the same time take into account the world trends in the development of educational systems, and correlate our education with world norms and standards. The priority step on this path is the priority project "Education", which sets strategic goals for innovative development of education. One of the means of such

development is innovative technologies, that is, they are fundamentally new ways and methods of interaction between teachers and students that ensure effective achievement of the results of pedagogical activity.

A large number of talented scientists and teachers have been and continue to be engaged in the problem of innovative technologies. Scientific innovations that advance progress cover all areas of human knowledge. One of the types of social innovation is pedagogical innovation.

Pedagogical innovation is an innovation in the field of pedagogy, a purposeful progressive change that introduces stable elements (innovations) into the educational environment that improve the characteristics of both its individual components and the educational system as a whole.

Pedagogical innovations can exist both at the expense of the educational system's own resources (intensive development path) and at the expense of attracting additional capacities (investments) – new funds, equipment, technologies, capital investments, etc. (extensive development path). The main directions and objects of innovative transformations in pedagogy are:

- Design of new models of the educational process;
- Development of concepts of strategies for the development of education and educational institutions;



- Updating the content of education, changing and developing new technologies for training and education;

- Improving the training of teachers;
- Providing psychological and environmental safety of students, development of health-saving technologies of education;

- Ensuring the success of training and education, monitoring the educational process and development of students;

- Development of new-generation textbooks and manuals.

Progressive innovations arise on a scientific basis and contribute to the advancement of practice. In pedagogical science, a fundamentally new and important direction has emerged-the theory of innovations and innovative processes. Education reforms are a system of innovations aimed at radically transforming and improving the functioning, development and self-development of educational institutions and their management system.

Innovative learning technologies include: interactive learning technologies and computer technologies. The main goal of lectures on interactive learning technologies is the acquisition of knowledge by students with their direct effective participation. Among the simulated problems can be scientific, social, or professional, related to the specific content of the educational material. Setting the problem encourages students to actively think, to try to answer the question independently, causes interest in the material being presented, activates the attention of students. T

he seminar-debate involves a collective discussion of a problem in order to establish ways to solve it reliably. The seminar-debate is held in the form of dialogical communication of its participants. It involves high mental activity, instills the ability to conduct polemics, discuss a problem, defend your own views and beliefs, and express your thoughts concisely and clearly. The functions of the actors in the seminar-debate may be different.

Educational discussion is one of the methods of problem-based learning. It is used in the analysis of problem situations when it is necessary to give a simple and unambiguous answer to a question, and alternative answers are assumed. In order to include all participants in the discussion, it is advisable to use the method of cooperative learning (educational cooperation). This method is based on mutual learning when students work together in small groups. The basic idea of educational collaboration is simple: students combine their intellectual efforts and energy in order to complete a common task or achieve a common goal (for example, to find solutions to a problem).

The technology of project-based learning contributes to the creation of pedagogical conditions for the creative abilities and personality qualities of the student, which he needs for creative activity, regardless of the future specific profession.

Computer learning technologies are the processes of collecting, processing, storing and transmitting information to the learner via a computer. The use of computer technologies in the system of professional education contributes to the implementation of many pedagogical tasks.

Innovations, or innovations, are characteristic of any professional activity of a person and therefore naturally become the subject of study, analysis and implementation. Thus, innovations involve the introduction of innovations in medical education. Innovations do not arise by themselves, they are the result of scientific research, pedagogical experience of individuals and entire teams. This process cannot be spontaneous, it needs to be managed. On this basis, the readiness to perceive, evaluate and implement pedagogical innovations is formed.

The concept of "innovation" means innovation, novelty, change; innovation as a means and process involves the introduction of something new. In relation to the pedagogical process of a University, innovation means introducing new things into the goals, content, methods and forms of teaching and upbringing, organizing joint activities of a teacher and a student.

Individual, frontal forms of education are traditional, while collective forms are fundamentally new in modern education. In recent years, students' interest in teaching has fallen sharply, which to a certain extent was facilitated by outdated forms of classes. The search for innovations in forms of education led to the emergence of the so-called system of managed self-learning of students. In understanding the essence of innovative processes in education, there are two major problems of pedagogy-the problem of studying, generalizing and distributing advanced pedagogical experience and the problem of implementing the achievements of psychological and pedagogical science in practice.

The need for innovative orientation of pedagogical activity in modern conditions of development of society, the health care system and education is determined by a number of circumstances.

First, the ongoing socio-economic transformations have led to the need for a radical update of the education system, methodology and technology for organizing the educational process in medical institutions. The innovative orientation of these institutions, which includes the creation, development and use of pedagogical innovations, is a means of updating the system of training mobile personnel for health care.



Secondly, the strengthening of the humanization of the content of medical education, the continuous change in the volume and composition of academic disciplines, the introduction of new approaches to training require a constant search for new organizational forms of educational activities. In this situation, the role of active independent work of students increases significantly.

Third, the change in the nature of the attitude of teachers to the very fact of mastering and applying pedagogical innovations. In the conditions of strict regulation of the content of education, the teacher was limited not only in the independent choice of new programs, textbooks, but also in the use of new methods and methods of educational activities with students. If earlier the innovative activity of medical universities was mainly limited to the use of top-recommended innovations, now it is becoming more selective and research-oriented. That is why an important direction in the work of each teacher is the analysis and evaluation of innovations introduced, creating conditions for their successful development and application.

Interesting is the so-called "learning pyramid", compiled according to the results of American studies:

Lecture-monologue 5 %
Reading (independent) 10 %
Audio-video learning 20 %
Display (demonstration) of actions, manipulation 30 %

Discussion group (discussion of educational material in a small group) 50 %

Practice in the process of activities 75 %

Teaching others (student teaches student) 90 %

The latter form is collective, and is implemented at a high level of intensity. With such training, there are some elements of cooperation, collectivism, increased interest in learning, independence, initiative of students is formed - the main disadvantages of traditional forms of organization of the learning process are eliminated. Typically when considering of those or other methods or forms of education carried out their assessment from the point of view of cognitive activity of students. Techniques for activating cognitive activity within the framework of traditional learning have been developed and are being developed, which has been fundamentally changed for centuries, and, consequently, its effectiveness, if increased, is due to the use of these techniques.

Teachers believe that when considering the active learning process and the forms of its organization, it is necessary to disclose first of all the social activity and interaction of students in the learning process, the student in the process of learning affects the surrounding classmates and transforms their consciousness and behavior, raises

them to a higher level. Teachers have long been concerned about the social passivity of many modern students. The analysis of the forms of organization of the learning process shows what causes this mass social passivity of students.

Innovative training technologies that reflect the essence of the future profession, form the professional qualities of a specialist, are a kind of testing ground where students can work out professional skills in conditions close to real.

REFERENCES

1. Numonjonov S. D. *Innovative methods of professional training // ISJ Theoretical & Applied Science, 01 (81). – 2020. – C. 747-750.*
2. Naymanbaev R., Tokhirov M., Sabirov S.S. and Nurdinov, R.A. *On nature of anomalous photovoltaic effect in semiconductor films of telluride copper and indium. Uzbekistan. P.p. 311315, 2012. [Электронный ресурс]. Режим доступа: Web. <https://www.osti.gov/etdeweb/biblio/22249627/> (дата обращения: 14.11.2019).*
3. Ergashev I., Farxodjonova N. *Integration of national culture in the process of globalization // Journal of Critical Reviews. – 2020. – T. 7. – №. 2. – C. 477-479.*
4. Farxodjonqizi F. N., Dilshodjonugli N. S. *Innovative processes and trends in the educational process in Uzbekistan // ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – T. 10. – №. 4. – C. 621-626.*
5. Farhodzhonova N.F. *Problemy primeneniya innovacionnyh tehnologij v obrazovatel'nom processe na mezhdunarodnom urovne. Innovacionnye tendencii, social'no-jekonomicheskie i pravovye problemy vzaimodejstvija v mezhdunarodnom prostranstve. – 2016.*



INFLUENCE OF PRODUCTION MICROCLIMATE ON THE BODY OF MAN

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ABSTRACT

The parameters of atmospheric air, which determine the climatic conditions in manufacturing plants, are the main properties. One of the main goals of this article is to ensure the uninterrupted operation of the human body in summer and winter without any stress at industrial enterprises operating in the republic. At present, there is clear evidence that a sharp change in the parameters of atmospheric air leads to a decrease in human labor activity and a decrease in labor efficiency.

KEYWORDS: *temperate climate, temperature, air pressure, air velocity, metabolism, relative humidity, heating, cooling*

INTRODUCTION

Climatic conditions are the climate of the air layer near the surface, that is, a natural process that occurs due to small differences in surface area within the local climate. Microclimate conditions are determined by the state of the environment. Therefore, when determining climatic conditions, the local climate of the forest differs from the intra-forest plains, the microclimate of the forest edge, the local climate of the city differs from the climatic conditions of some areas, streets, alleys, yards, etc. As the rise above sea level, the differences between climatic conditions begin to sharply narrow. The climate is largely dependent on atmospheric conditions. The differences between climatic conditions are very noticeable when the atmospheric air is clean and calm, and when the sky is cloudy, climatic conditions differ less from each other. Microclimate is the climate of these small areas.

Observations are carried out on the basis of atmospheric air parameters to determine the microclimatic characteristics of each production site [1-4].

Indicators of climatic conditions in a work environment are air temperature, relative humidity, air pressure and air velocity, which collectively have a significant impact on human productivity, labor productivity and biological changes in the human body.

The constant moderate temperature in the human body is controlled by the activity of the central nervous system due to the metabolic process.

It is necessary to create calm, moderate climatic conditions so that the human body does not get tired, maintain a normal level of labor productivity, and preserve the characteristics of the biological state of the body. To achieve this balance, it is necessary to ensure that the four air parameters



are in a state of mutual proportion. This balance ensures that the temperature in the human body goes through the temperature response in the human body without any stress, and that the person feels at ease and at the same time has a high ability to work [5].

MATERIALS AND METHODS

For the normal functioning of the human body, the air temperature in the workplace should be 18-25°C, relative humidity 40-70% and pressure 740-760 mm. cm should be in the column. The process of temperature exchange between the human body and the surrounding air cannot be strongly influenced, since in such conditions the heat exchange between the media moves in details and without residue, that is, the heat leaving the body is equal to the rate of its absorption by the air. The heat transfer is complete. When such a balance in the air is disturbed, the health of a person working in this environment also changes [6-8].

When the ambient temperature is 18-25°C, the heat radiated by the human body is slowly dissipated in the air as dry dust in accordance with the law of heat transfer. When the temperature rises, the heat generated by the human body is released into the air as steam. That is, excess heat in the body manifests itself as sweat on the surface of the skin, flushing out saline solutions in tissues along the way under the influence of energy leakage from the muscles.

As the ambient temperature rises, the body's ability to transfer heat decreases and the evaporation process increases steadily, causing the body to quickly become weak. If the relative humidity of the air exceeds 80 percent, evaporation of sweat from the body becomes difficult and as a result, the exchange of temperatures between the body and the environment is disrupted. Such a violation negatively affects the productivity of human labor. When the speed of air movement increases, the temperature difference between the body and the air increases sharply, so the body begins to cool down quickly, and as a result, the human body causes diseases associated with colds.

The microclimatic conditions of the working environment have a huge impact on a person's performance and health. Knowledge of the influence of microclimate factors in human life practically in negative or positive conditions and the application of measures to mitigate it has a positive effect on increasing labor efficiency in the labor process. The use of microclimate parameters can be beneficial or harmful in some conditions. This is due to the fact that at high air temperatures it is positive, and at low temperatures it is negative.

Taking into account the maintenance of body temperature with a constant change in microclimate conditions, a good opportunity is

created for the activity of biochemical processes in the body [9]. An increase in body temperature under the influence of the working environment negatively affects labor productivity, and this condition is called overheating of the body. Conversely, an abnormal drop in air temperature in a production environment can lead to various industrial accidents. Such a sharp drop in temperature is called body cooling. Sudden changes in the industrial microclimate create a catastrophic situation that disrupts life. Therefore, the human body has a physiological mechanism that adapts to the external environment, which is under the control of the central nervous system. The main function of this physiological mechanism is to maintain the thermal ratio by releasing excess heat released as a result of metabolism in the body into the external environment.

RESULTS

There are also factors that influence the microclimate of production, such as heat from the surfaces of machine materials, which leads to an increase in air temperature. Microclimate factors have a huge impact on the ability to work and human health. In a work environment, almost all environmental factors are affected simultaneously. In some cases, this effect can be beneficial. For example, in cold conditions, dehydration is more common as a result of dehydration, and in some cases, exposure levels may increase as a result of the combination. Thus, the rise in relative humidity and temperature creates difficult conditions for humans. In addition, increased air movement in the workplace is beneficial at high temperatures and negative at low temperatures. It can be seen that weather factors can have a positive and sometimes negative effect on a person in some cases, disrupting the adaptation of the human body to the external environment. The adaptability of the human body to the environment is the ability of the human body to maintain body temperature in the same range (36-37°C) based on physiological and chemical processes [10-12].

The adaptation of the human body to the external environment can be divided into physical and chemical processes. Physical adaptation of the human body to the external environment is determined by the adaptation of the body to body temperature, pressure, air velocity. Chemical adaptation of the human body to the external environment is characterized by a decrease in metabolism during the period of warming the body and an increase in metabolism as a result of cooling. Physical adaptation of the human body to the external environment is more important than chemical adaptation. Because all biochemical, chemical and physiological changes in the body are closely related to physical processes. The human body generates heat into the external environment in three ways.



Table 1 below shows human heat emissions into the environment.

Distribution of heat by a person into the external environment during various activities
Table 1

No	Job categories	Infrared radiation	Convective heat transfer	Evaporation of fluid through the respiratory tract
1.	Light - I	45	30	25
2.	Average weight-I a	40	25	35
3.	Average weight -I b	35	25	40
4.	Heavy - III	30	30	40

As can be seen from Table 1, heat transfer from the human body, depending on the job category, is fast and complete, along with the evaporation of fluids through the respiratory tract relative to infrared radiation. In the process of convective heat transfer, this condition is much slower. This is because the metabolic process is very slow when heat is transferred from one medium to another. It should be noted that 80% of the heat released by the human body is released through the skin, 13% through the respiratory system. Also, 5-7 percent of the heat is spent on heating consuming products (food, water and air).

Industrial microclimate standards are a system of occupational safety standards specified in the standards. They are based on hygienic, technical and economic principles. Depending on the premises, the time of year and the category of work in enterprises, the permissible standards for temperature, relative

The main parameters that determine the change in temperature during the season and normal conditions, calculated from the indicators that determine the microclimate conditions, are shown in Figure 1 below.

humidity and air movement in the workplace are established [13].

All categories of work performed in the Republic of Uzbekistan are defined as follows:

1. Category I - light physical work: work performed while sitting, standing or walking, but does not require regular physical exertion or lifting a load, energy consumption is 150 kcal (172 Jw.) Per hour.

2. Category II - moderate physical activity: includes activities that consume 150-250 kcal (172-293 JS) per hour. This includes work related to constant walking and transportation of light (up to 10 kg) loads.

3. Category III - hard physical work: includes work associated with regular physical activity, in particular with the continuous movement and lifting of heavy loads (more than 10 kg) from one place to another. In this case, energy consumption exceeds 250 kcal (293 J / s) per hour.

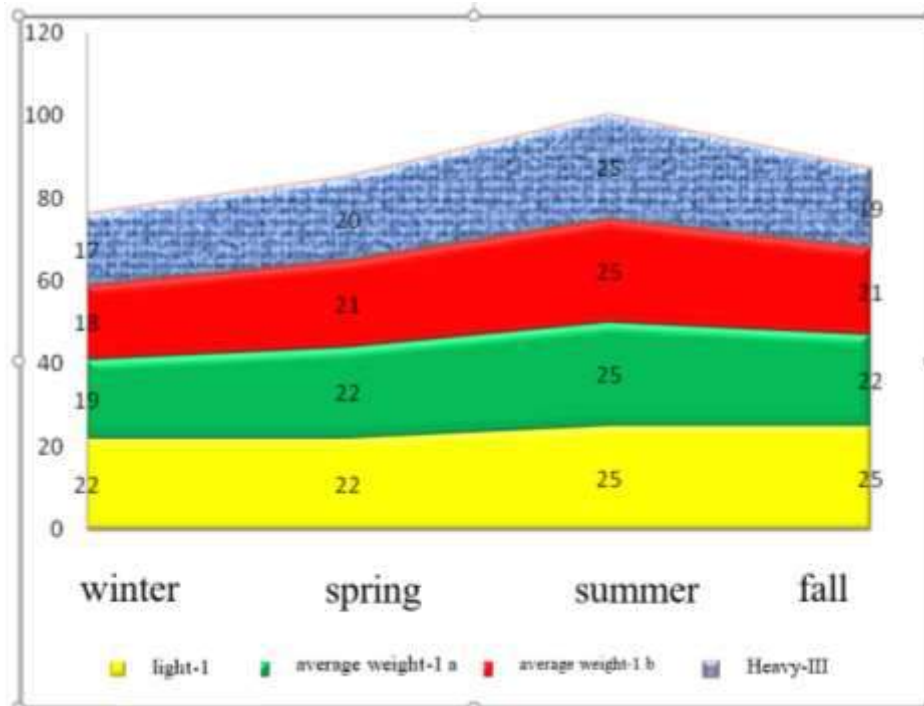


Figure 1. Dependence of temperature on activity

As can be seen from Figure 1, the change in the efficiency of human labor at the intersection of seasons is associated with temperature. Temperature, which is a parameter that determines the basic conditions of the microclimate, can have both positive and negative effects on the efficiency of human labor. Temperatures up to 25° C do not affect the efficiency of human labor. On the contrary, an increase in temperature at the workplace leads to labor productivity, negative consequences for the organism of workers, i.e. to the occurrence of various diseases. Changing seasons leads to a sharp drop or rise in temperature. This requires a change in temperature at this time.

Temperatures can drop or rise depending on the season. At the same time, the relative humidity of the air also changes with temperature. The higher the relative humidity, the more difficult it is to absorb the moisture released from the body, and the exchange of moisture between the air and the body is disturbed. As a result, the human body can suffer from various diseases. The exposure of the body to relative humidity, depending on the work activity of workers, can be very dangerous or lead to occupational diseases. Figure 2 shows the basis for determining the change in the parameters of normal air humidity during the seasons, depending on the efficiency of human labor.

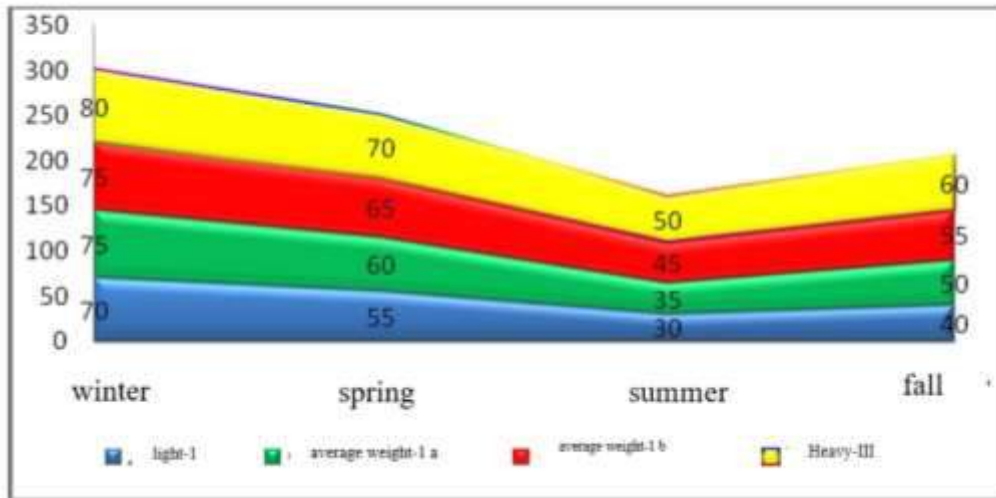


Figure 2. Relative humidity versus activity.

As can be seen from Figure 2, the continental climate of the republic is characterized by a very large difference in humidity between mountainous and lowland areas. Variability in relative humidity It is important to do this separately for each activity. High relative humidity reduces the release of body heat into the environment. As a result, the efficiency of human labor decreases. The relative humidity is such that the heat or sweat generated from the body can be exchanged in ideal proportions. It should be noted that the relative speed of air with relative humidity can interact with the body. The faster the air moves, the more fully you can exchange the energy released from the body. As a result of this exchange, the human body is exposed to perspiration and rapid cooling, which can lead to colds. Pressure standards are shown in Figure 3 [14-17].

DISCUSSION

Temperature, relative humidity and air velocity are defined as normal and acceptable values. Normal amounts are a set of microclimate indicators

that ensure the normal functioning of the body and maintain a warm state without increasing adaptive responses to the external environment during prolonged and regular exposure to a person, which creates sensitivity to heat and is a condition for increasing productivity.

Permissible microclimate conditions are a set of microclimate indicators that counteract and quickly normalize the body's activity and changes in thermal conditions, an increase in adaptive reactions to the external environment, which do not deviate from the possibilities of physiological adaptation. There are no health risks, but abnormal sensations of warmth, mood swings, and decreased performance may occur. An air conditioner is also required during normal operation. In some cases, for example, it is necessary to comply with hygienic requirements for work and rest, when the volume of rooms with high heat transfer or heating is large, but use all means to prevent overheating and freezing of the body.

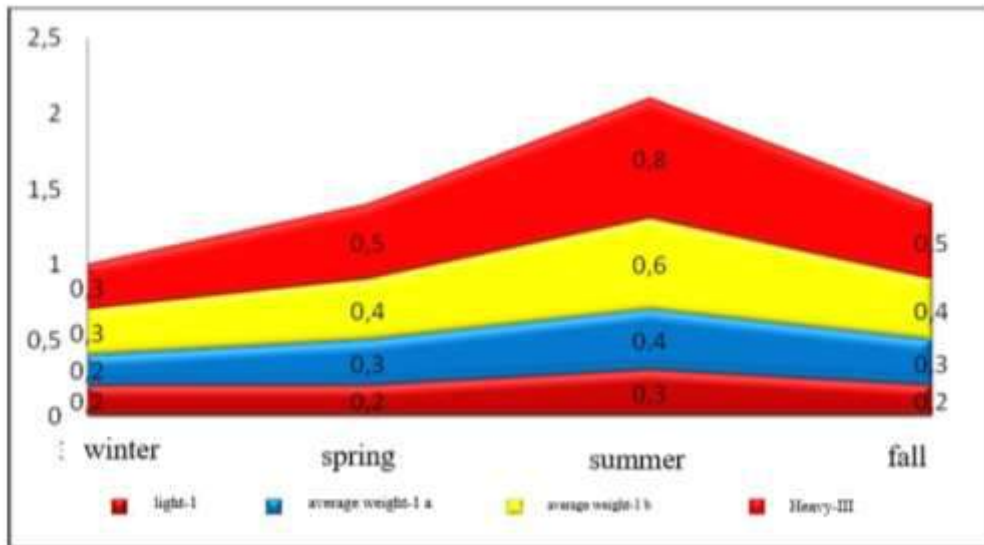


Figure 3. The dependence of the speed of air movement on the activity.

Acceptable norms are that during the cold and transitional periods of the year, the average daily outdoor temperature fluctuates somewhat wider beyond + 10 ° C or, accordingly, below permanent workplaces, and that the air temperature at the workplace increases during the hot season (especially in Central Asia and workplaces where heat dissipation is possible). This is because the outside environment is hot and it is difficult to lose a lot of heat.

CONCLUSIONS

However, even in this case, the norms limit the maximum. In workplaces with high heat transfer, the air velocity is also determined by a slight excess. It is necessary to develop coefficients that take into account the size of the premises, the simultaneous release of both heat and moisture, the conditions for the artificial preservation of constant temperature and humidity. The harder the job, the lower the temperature and the higher the air movement.

REFERENCES

1. V. S. Alekseev, E. O. Murodova, I. S. Davydova. *Life safety*. Moscow. Avenue. 2006. Page 356.
2. S.V. Belova. *Life safety*. Moscow. High school. 2003. p. 864.
3. K.S.Rakhmonov. *Influence of leavens of spontaneous fermentation and phytoadditives on the provision of microbiological safety of bread* // T. I. Atamuratova, N. R. Djuraeva, I. B. Isabaev, L. N. Haydar-Zade//*Journal of Critical Reviews* //2020, Vol.7, Issue 5, pp. 850-860.
4. S.K. Jabborova. *Application of products of processing mulberries and roots of sugar beet in the production of cupcakes* // I.B.Isabaev., N.R. Djuraeva., M.T. Kurbanov.,I.N. Khaydar-Zade., K.S. Rakhmonov //*Journal of Critical Reviews* //2020, Vol.5, Issue 5, pp. 277-286.
5. K.S.Rakhmonov. *Application of phito supplements from medicinal vegetable raw materials in the production of drugs* // T. I. Atamuratova., M.E. Mukhamedova., N.K.Madjidova., I.Sh. Sadikov //*Journal of Critical Reviews* //2020, Vol.7, Issue 12, pp. 934-941.
6. N.R.Barakayev. *Improvement of the design of mobile equipment for post-harvest processing of agricultural crops* // A. N. Rajabov., M.T. Kurbanov., S.K.Kuzibayev //*Journal of Critical Reviews* //2020, Vol.7, Issue 14, pp. 306-309.
7. Anvar Juraev and Ozod Rajabov, "Analysis of the interaction of Fibrous Material with a Multifaceted Grid of the cleaner", *International Journal of Recent Technology and Engineering*, vol. 8, No 1, (2019), pp. 2661-2666.
8. Rajabov O, Fazliddin K, and Salimov Sh., "Substantiation of Parameters of the Fibrous Material Cleaning Zone", *International Journal of Engineering and Advanced Technology*, vol. 9, No 3, (2020), pp. 1052-1057.
9. Akbar Abrorov, Matluba Kuvoncheva, Ozod Rajabov, Mukhsin Mukhammadov and Shakhriilo Jumaev, "Method of thermal treatment of saw disk teeth of fiber- processing machines by laser quenching", *IOP Conference Series: Materials Science and Engineering*, (2020), 862 032034.
10. O. I. Rajabov, A. S. Abrorov, N. I. Mirzaqulova, G. B. Zaripov, Kh. S. Ziyodullaeva, "An experimental study of the location of the grid bars cells installed under spiked cylinders in a cotton cleaner from small waste", *IOP Conference Series: Materials Science and Engineering*, (2020), 862 0320049.
11. O.I. Rajabov, F.A.Fazliddin, M. H. Gapparova and J. Shakhriilo, "The influence of the location of the cells on the allocation of weed impurities



- for cleaning raw cotton from fine waste”, *IOP Conference Series: Materials Science and Engineering*, (2020), 862 032027.
12. Jurayev A., and Rajabov O., “Experimental study of the interactional of multifaceted and cylindrical spiky cylinder in cotton cleaner from small waste”, *International Journal of Advanced Research in Science, Engineering and Technology*. Vol. 6, Issue 3, (2019). pp. 8376-8381.
 13. Rajabov Ozod Isroilovich, “The influence of the mode of movement of the pieces cotton when interacting with a cotton grid”, *International Journal of Advanced Research in Science, Engineering and Technology (India)*. Vol. 6, Issue 3, (2019). pp. 8455-8381.
 14. Ozod Rajabov and Ziyodullo Shodiyev, “Analysis of Small Fluctuations of a Multifaceted Mesh under the Influence of Technological Load from the Cleaned Cotton - Raw”, *International Journal of Advanced Research in Science, Engineering and Technology*, Vol. 6, Issue 10, (2019), pp. 11396-11399.
 15. Bekhruz Gaybulloev, Nigina Ergasheva, Ozod Rajabov, “The Structure of the Embroidery Machine and Dynamic Analysis of the Needle Mechanism”, *International Journal of Advanced Research in Science, Engineering and Technology*, Vol. 7, Issue 1, (2020). pp. 8376-8381.
 16. Anvar Djuraev and Ozod Isroilovich Rajabov, “Substantiation of the main parameters of the cylinder with multifaceted spiked of the cotton cleaner from small waste”, *International scientific and practical conference Innovative ideas of modern youth in science*, (2019), USA. P. 149-151
 17. Mavlyanov Aybek Palvanbaevich, Rajabov Ozod Isroilovich and Yakubova Aziza Vakil qizi, “Study of the influence of the parameters of the plastic grate on elastic supports with nonlinear stiffness on the oscillation frequency”, *International scientific and practical conference "Innovative ideas of modern youth in science"*, (2019), USA. P. 152-154



STOCK MARKET REACTIONS TO MERGERS ANNOUNCEMENT: AN EMPIRICAL STUDY ON RECENT 2020'S INDIAN MEGA BANK MERGER

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Article DOI: <https://doi.org/10.36713/epra4948>

ABSTRACT

Mergers and acquisitions are being used as strategic tools by Indian Corporate houses especially by Indian banking sector during last three decades of post liberalization era. Banking Sector in India has witnessed a mega merger of 10 Indian public banks into four big banks with effect from 1st April 2020 which definitely attract attention of different stakeholder who are interested to know whether these tie up events are really helpful for improving present scenario of banking industry as well as economic condition of the country in long run. But our concern in this study is to figure out the changes that occurred in shareholders wealth of the acquiring firm in short run around the announcement of merger event by detecting the responses of the share prices of acquiring bank through the procedure of event study methodology. For this study, company specific and market specific secondary data have been collected from the official website of National Stock Exchange as these companies are actively traded on said exchange. To accomplish the objective of this study we relied on figure of Average Abnormal Returns (AAR) and Cumulative Average Abnormal Returns (CAAR) for an event window of 41 days from day -20 to day +20. Return values have been statistically tested through cross sectional t-test. The notable finding of the research is that an under-reaction of market is observed before the announcement but the moment the announcement information becomes effective, investors start reacting from day +2 and the stock price jumps up, providing positive AARs to the investors. But after the positive respond to the merger information, finally investors have under-reacted to the event. CAARs figures also indicate the positive pattern of returns in the beginning of the event window but rapidly it becomes negative from day -16 to the last day of window that might be due to pandemic situation running throughout the world.

KEYWORDS: Merger & Acquisition, Event Study, Stock Return, Abnormal Return, Banking Sector

1. INTRODUCTION

Since from very early period the activities of merger events are begun and these tie up deals are done sometimes by will of the respective organizations or sometimes by force of law. Merger is nothing but fusion of two or more corporations. In simple terms 'Merger' means the act of joining two or more separate

corporate bodies in a single one. The main purposes for these kinds of consolidation events are to solve the contemporary status quo of the business concern with strengthening its market position. By adopting such kind of unification decisions, organizations want to enjoy the '1+1=3' type of synergy benefits. In Indian context almost from 1903 the historical perspective



revealed that merger decisions which were taken in first phase, later on proven unsuccessful. But thereafter continuous rapid changing economic environment are pointed out the necessities of merger activities as a tool of survival. This tie up events not only affects the respective corporate sectors but also to the economy of the country.

Banking sector which is the most remarkable pillar for any country's economic structure, has also experienced many tie up events in both domestic & foreign banks with cross border merger deals. Banking sector is the backbone of overall monetized economic system and any minor to major changes happened on it have direct impact on country's economic system. Mainly for globalization, Indian banking industry faces keen competition from various foreign banks. On the other hand, incline trends of Non-Performing Assets (NPA) in Indian banking sectors have opened up the path of consolidation events. So, sometimes for long term survival with strengthening market position and sometimes for market expansion with enjoying synergy benefits by covering the loopholes of the weaker banks, Indian banks have preferred the path of merger deal.

With the object to augment the present economic condition, a mega alliance of 10 Indian public banks to 4 large entities, had been publicized on August 30, 2019 by Niramala Sitharaman, Finance Minister of India. Almost from December 2019 very promptly day by day a pandemic situation creates in the world and India also face the adverse state of this pandemic start from March 2020. To put control over these dangerous covid-19 phase several lock down decision have been taken by the government at various levels in all over the country and within this lock down period, from April 1, 2020 the declaration of mega tie up event of ten Indian public bank into four big banks have been came into effect. In this mega bank merger, Oriental Bank of Commerce and United Bank of India have been merged with Punjab National Bank, Canara Bank acquired Syndicate Bank, Andhra Bank and Corporation Bank have been subsumed with Union Bank of India and Allahabad Bank have been merged with Indian Bank. Where the whole India not only discomfort for pandemic situation but also suffering for several lock down stages which arisen huge financial problems, in this vital deteriorated Indian economic condition it definitely attract attention of many peoples that these banks tie up events are really helpful for improving economic condition in long run or not. But our concern in this study is to measure the changes that occurred in shareholders wealth of the acquiring firm in short run around the

announcement of merger event by identifying the responses of the share prices of acquiring bank.

However, the structure of this paper is as follows: Part 2 takes up the summary of prior studies in form of literature review accessible in this pitch, Part 3 highlights the objectives of the study, Part 4 makes available a look over the hypothesis, Part 5 depicts the methodology followed, Part 6 puts focus on the findings and its interpretation and finally, last part is concerned with the conclusion of the research.

2. REVIEW OF EXISTING LITERATURE

A survey of the available literature in this area reports us that a good number of empirical studies have been conducted so far to assess the bearing of tie up announcement on the short term performance of acquiring banks but the results are quite mix. A number of studies have advocated that the shareholders' value of the acquiring firms have been amplified due to tie up event in short run whereas few other studies have reported that the short term performance have adversely affected just before and after the merger announcement in short run. However, a quick and significant scan of the accessible studies on this vital issue looks appropriate before stepping towards this empirical study.

Kalaichelvan (2011) presented his views on the behavior of security prices in Indian banking sector for the announcement of tie up decision through his research study titled "Efficacy of merger and acquisition in Indian banking industry". Researcher mainly considered 8 acquisition event in this study viz., tie up between Bank of Baroda with Bareilly Corporation Bank Ltd, BOB with Banaras State Bank Ltd, Oriental Bank of Commerce with Punjab Co – op & Bari Doab Bank Ltd, OBC with Global Trust Bank Ltd, Punjab National Bank with Nedungadi Bank, State Bank of India with Kashinath Seth Bank, HDFC Bank Ltd with Times Bank Ltd and ICICI Bank with Bank of Madura Ltd. The relevant information associated with market index & security index are mainly gathered from CMIE secondary database. Basically this study has investigated the changes that occurred in shareholders wealth due to unification decision with the help of abnormal return & cumulative abnormal returns by adopting Market model & Market adjusted model. After the analysis of the taken data, it is found that in BOB with Bareilly Corporation Bank Ltd merger deal, an increased shareholders wealth noticed which means this tie up decision reflected positive impact of



consolidation on security prices of unified bank as per event study approach. But BOB with Banaras State Bank Ltd tie up case, it represented adverse response on security prices of the merged bank which resulted declined shareholders wealth. On the other hand, OBC with Punjab Co-op & Bari Doab Bank Ltd unification deal, it showed unchanged behavior of stock prices which signifies that this tie up event failed to create any notable movement in security prices and for that reason mentionable changes in shareholders wealth is not observed. While in the case of OBC with Global Trust Bank Ltd take over deal declined shareholders wealth with negative reaction of market on security prices observed. Whereas reduction of wealth in terms of market risk & improved wealth as per market return is depicted in Punjab National Bank with Nedungadi Bank Ltd tie up case. An inclined with positive wealth of shareholders is found in State Bank of India merger deal. Unification between HDFC Bank with Times Bank Ltd expressed favorable changes in shareholders wealth, while ICICI tie up decision showed on an average changes in shareholders wealth.

Narwal et al. (2013) try to find out the impact of tie up announcement of both forced & voluntary merger on the stock return of merging banks through their article “Stock Market Reactions to Mergers Announcement : A Study of Voluntary and Compulsory Mergers in Indian Banking Sector”. This study was based on seven compulsory & six voluntary consolidation deal for the period from 2000 to 2012. The relevant data are extracted from NSE’s official website and Event study methodology is used for analysis of data. Here 21 days event window is used for interpretation and the ultimate conclusion has been drawn by applying t-test statistical tool. The examined result exposed that both the forced & voluntary tie up cases showed negative returns and forced merger event depicted more adverse return than voluntary event in after announcement. So, there is no significant enhancement noticed from pre consolidation phase to post consolidation phase. According to this study, at initial level, the market accept this tie up announcement in a favorable way but later on returns turn out negative. As a whole it can be concluded that the selected merger event failed to achieve improved stock returns as the reactions of the market are unfavorable.

Samontaray et al. (2013) conducted a study titled “Merger and Acquisition in Indian Banking Industry: An Event Study Approach” to get a critical understanding over the fact whether bank mergers really create value for their shareholders or not. To

achieve their goal, researchers have used three portfolios of banking company’s securities viz., Nationalized banks, Private banks & Combination of all securities, for the period of 1993-2010 as a sample data and applied Event study methodology to arrive their conclusion. They have also tried their level best to explore the effects of consolidation on shareholders return of the acquiring banks. For supporting their hypothesis, researchers have used some suitable statistical test such as Simple T -test, Paired Sample T -test & Wilcoxon sign rank test. Their result concluded that for both the private & public banks, the selected tie up events is succeeding to generate Average Abnormal returns for the acquirers. CAAR’s are created 3.56% & 10.45% respectively for both public & private banks individually. The result of simple T -test signified that there are some abnormal returns to all investors but private sector bank investors are enjoying more than that of public sector banks’ investors. The result of paired sample T -test & Wilcoxon sign rank test also suggested that some abnormal returns are created for all bank shareholders. From overall result, it can be concluded that the acquirer company’s shareholders are gaining abnormal returns on an average of 0.62% at least in short run but in the long run there is no significant changes in shareholders’ value is observed due to merger event.

Shah et al. (2013) conducted a study titled “Bank Mergers and Shareholders Value Creation in India” to understand the impact of Indian banks tie up decision on the stock price behaviour for both acquirer as well as the target shareholders wealth. The study was based on a sample of 17 ties up announcements both by public & private sector banks and researchers have drawn the required data from the official website of BSE & the Centre for Monitoring Indian Economy (CMIE) Prowess. They have analyzed the data by using Event study methodology to ascertain the changes occurred in the stock price. For this study, the researchers mainly used OLS Market Model and Constant Market Model for testing of abnormal returns on stock price in prior & after the announcement of consolidation event for both the acquired & acquiring banking companies. The study indicates that the shareholders of target firms enjoyed the unification related wealth generation in most of the times; on the other hand, public & private bidder banks failed to generate any positive or negative abnormal returns when they are analyzed independently. The researchers found that no relationship is observed between the bidder of public & private sector bank’s shareholders



wealth with consolidation announcement. This study also shows that the bidding banks do not suffer any loss which implied that investment in M&A are not risky for shareholders of those banks whereas a significant abnormal return is enjoyed by the shareholders of the target banks.

Patel et al. (2016) attempted to investigate stock risk return performance of merged banks during pre tie up & post tie up period in their research article “Mergers and Acquisitions : A Pre-Post Risk Return Analysis for the Indian Banking Sector”. Researchers mainly considered six unified banks as a sample of this investigation which are merged between the period from 2004 to 2010. These selected banks are Oriental Bank of Commerce, Federal Bank, IDBI bank, Indian Overseas Bank, HDFC bank and ICICI bank. All the necessitate data are collected from secondary sources like Yahoo finance, money control and through reports of various banks. Data are analysed with the help of Event study methodology. After detailed assessment, researchers have found that HDFC bank have highest improved unsystematic risk and IDBI bank have maximum declined unsystematic risk . IDBI also have lowest systematic risk where as Federal Bank had maximum systematic risk. Overall mixed stock risk return is observed, as two banks revealed positive stock return, three banks have negative stock return and one sample bank has average return. This study has concluded that the selected merged banks had not given much satisfactory report. Researchers further suggested that before taking any merger decision it is important to analyse the financial performance of both the target & bidder banks for enjoying the synergy benefits of tie up event.

Kumar et al. (2016) attempted a study titled “Wealth creation in the largest banking mergers: An empirical analysis” to measure the changes that occurred in stock wealth behavior due to tie up announcement of the merging banks. The researchers have considered a sample of 32 acquirer and 9 target banks in this study for which merging events are done from the period of 1997 to 2013. They have applied Event study methodology and investigated the data with the help of cumulative abnormal return analysis. The resulted outcome shows that the target banks are performed well for enhancing their abnormal returns & cumulative abnormal returns. The announcement become beneficial for the target banks as these announcements creates significant value for them. However, acquirer banks failed to generate wealth as it depicted adverse cumulative abnormal returns due to tie up

announcement which indicated negative impact of merger announcement on the stock wealth. So, as per this study, it can be concluded that only target banks have enjoyed the synergy benefits of merger in terms of wealth creation on account of merger.

Yadav (2017) attempted to examine the relationship between the merger announcement and the existence of favorable abnormal returns for shares of banking firms in his research study, “Impact of Mergers and Acquisitions on the Performance of the Indian Bank’s Share Price : An Event Study Approach ”. The study covered mainly four major ties up events in banking sector i.e. Kotak Mahindra Bank with ING Vyasa Bank, ICICI Bank with Bank of Rajasthan Ltd, HDFC Bank with Centurion Bank of Punjab and HDFC Bank with Times Bank Ltd; and data has been drawn from the website of National Stock Exchange & are analyzed through Event Study Approach. In this research, abnormal return was the main function and these abnormal returns were different for each window & each acquisition deal. The result of this study showed that in case of consolidation between Kotak Bank & ING Vyasa Bank; Kotak Bank’s shareholder’s abnormal return is 14.30% & 13.58% during event window based on estimation window and after the effective day of the acquisition Kotak Bank’s Abnormal Return went down to 3.10% & 2.94% respectively. It can be concluded that, this acquisition create profit for shareholders during event window period and for that reason if someone wants to get abnormal returns on the shares, the investor must purchase Kotak shares before the announcement date. In case of ICICI Bank with Bank of Rajasthan, unification deal revealed that after effective day of acquisition ICICI’s abnormal return raised up to 1.75% & 1.24% from abnormal return -5.22% & -5.15% during event window based on estimation window. So, it can be resulted that the banks share price hiked after effective day of acquisition & shareholders got benefit but it is very less in comparison to Kotak bank’s shareholders. The analyzed report of tie up between HDFC Bank with Centurion Bank of Punjab indicated that HDFC’s shareholders received abnormal return during post event window, but it was hypothetical return because actual return is in negative form, so shareholders enjoyed the benefit for little time. The investigated findings for consolidation of HDFC Bank with Times Bank Ltd expressed that after effective day of acquisition HDFC’S abnormal return increased after up-to 49.82% & 50.25% as comparison with event window period’s abnormal return which is 13.75% &



16.24%. So, it can be concluded depending on the research study that HDFC'S shareholders received adequate expected returns in terms of share price. The overall result showed that the bank merger create value for shareholders to some extent.

Anand et al. (2018) gave the views on changes in shareholders wealth due to unification event in their research investigation titled "Impact of Merger Announcements on Shareholders Wealth: Evidence from Indian Private Sector Banks". The researchers mainly considered five merger deals, namely; merger between HDFC Bank with Times Bank, ICICI Bank with Bank of Madhya Pradesh, ICICI Bank with ICICI Ltd, Oriental Bank of Commerce with Global Trust Bank and Centurion Bank with Bank of Punjab by covering from 1999 to 2005. The relevant data are collected from various secondary sources and data have been analyzed by means of Event Study methodology. The interpreted result showed that the bidder banks average cumulative abnormal return reflected positive significant abnormal returns. Same as in case of target banks, favorable significant abnormal returns have also been noticed. Except Oriental Bank of Commerce & Global Trust Bank all other banks' analyzed report has expressed positive & significant increased shareholder value. The overall results concluded that there is significant positive & enhanced shareholder wealth observed in case of both bidder banks & target banks after tie up.

Kalsie et al. (2018) reviewed the impact of tie up announcement on stock prices for both the acquiring bank & target bank through their research article "Analysis of Merger and Acquisition Deals of Major Indian Banks: An Event Based Study". The major six consolidation deal, namely; merger between OBC with Global Trust Bank, IDBI with IDBI bank, IDBI with United Western Bank, HDFC Bank with Centurion Bank of Punjab, ICICI Bank with Bank of Rajasthan & Kotak Mahindra Bank with ING Vysya Bank considered in this study that happened during the period from 2004 to 2014. This research study analyzed stock movement of 10 days pre acquisition announcement date & 10 days after acquisition announcement date to measure the effect of merger decision on stock price movement by adopting Market model & Market Adjusted model and also used regression analysis to identify the relation between market returns & the stocks actual returns. The findings of this study revealed that in 10 days prior unification announcement, some abnormal returns observed but

later on after the announcement of consolidation events these abnormal returns especially after the 4 days of announcement gradually vanished. Average abnormal returns found exceptional during 10 days pre take over & 6 days post take over period. While only 10 days prior the announcement of tie up, significant cumulative average abnormal returns is noticed. This study indicates that in case of forced merger, around the day of declaration of tie up decision both the acquiring & target bank lost value of its entities. So overall, this study depicted that all the merging entities failed to enjoyed synergy benefit of the consolidation announcement but though this interpretation is based on short term analysis of stock price movement hence this article may not gave us accurate result for long term period.

Kumara et al (2019) in their research work "A Study on the Impact of Pre and Post Bank Merger Announcement on Stock Price Movement" focused to determine the stock price movement for the declaration of bank merger affair and its impact. Both Public sector & Private sector merger deal from 2010 to 2018 are considered here and within this period major four merger cases (i.e. tie up between ICICI Bank with Bank of Rajasthan, Kotak Mahindra Bank with ING Vysya Bank, SBI with its five associate banks and Bank of Baroda with Dena Bank & Vijaya Bank) are taken for this investigation. All necessary data are collected from RBI press release, NSE SENSEX etc. for 7 days prior event & 7 days after event period and declaration date of merger is pointed as event date. In this article, drawn data are analyzed by adopting Event Study methodology to find out significant investigated result. The interpreted report in ICICI Bank consolidation case, revealed that on the day of announcement positive co-efficient observed and 7 days prior & 7 days after i.e. on pre & post tie up event period, on an average enhanced stock price noticed but at the time of hypothesis testing, results showed no significant changes on stock price during prior & after merger event. In case of Kotak Mahindra Bank, the outcome of investigation reflected that in the pre & post consolidation event, on an average 2 % increased trend on stock price observed. But later on hypothesis examined report showed that no significant changes observed on stock price as a result of merger announcement event. SBI & its 5 associate banks also failed to reflect any significant differences on stock price of such acquiring bank in both the pre tie up event & post tie up event period. Same as, there is no remarkable changes marked on stock price movement



of Bank of Baroda merger deal in pre-merger event period and post-merger event period of that acquiring bank. As a whole, this research study concluded that there is not so much effect of consolidation decision on stock price of acquiring banks.

Chaitra et al. (2019) reviewed the impact of consolidation on stock price movement of Indian banking sector for a period 1/1/2004 to 7/3/2019 through their research investigation titled “An Analysis of pre and post-merger of Indian Banks : An Event Analysis approach”. The researchers included both public banks & private banks merger deal, such as; merger between State Bank of India with State Bank of Indore, ICICI Bank Ltd with Bank of Rajasthan Ltd, IDBI bank Ltd with IDBI Home Finance Ltd, Indian Bank with and Fund Management Ltd, HDFC Bank Ltd with JM Financial Stock Soars, IDFC Bank Ltd with Capital First Securities Ltd, Capital First Home Finance Pvt Ltd & Capital First Ltd and Kotak Mahindra Bank with ING Vysya Bank Ltd. The relevant data are taken from many secondary sources, like banks annual reports, BSE website, other web based data source etc. Researchers have analyzed the collected data by applying Event Study approach. The analyzed result of State Bank of India & ICICI bank depicted significant differences on stock price movement due to tie up event, while IDBI revealed insignificant difference with null impact of consolidation on stock price. Indian Bank & HDFC Bank expressed that there are significant changes observed on stock price movement for tie up event. Same as Kotak Mahindra Bank had measurable impact of tie up on stock price of these merged banks with changed abnormal & cumulative return. Overall this investigation demonstrated essentially an improved performance on stock price behavior of merged banks in after consolidated period.

In-depth review of the existing literatures clearly shows that literature base relating to the assessment of short term performance of acquiring firm around the tie up event is very strong in India. But, there is hardly any study which has attempted to examine the issue of short term performance of acquiring firm around the tie up event of mega merger of Indian ten public banks into four big public banks effective on 1st April 2020. Thus, a modest attempt has been made to bridge the gap of the existing literature in context of merger of Indian banking sector.

3. OBJECTIVES OF THE STUDY

Following are the specific objectives of this study:

- (a) To empirically investigate the extent of abnormal returns that might be earned by shareholders owing to the merger announcement.
- (b) To examine empirically whether abnormal returns earned before announcement is significantly differ from abnormal returns earned after the merger announcement.

4. HYPOTHESES OF THE STUDY

To attain the above itemized objectives, the subsequent null hypotheses are formulated:

Hypothesis I: There is no significant impact of merger announcement on average abnormal return (AAR) and on cumulative average abnormal return (CAAR).

Rejection of the null hypothesis indicates a statistically significant impact of merger announcement on average abnormal return (AAR) and on cumulative average abnormal return (CAAR).

Hypothesis II: There is no significant difference between the abnormal returns earned before and after the merger announcement.

Rejection of the null hypothesis indicates a statistically significant difference between the abnormal returns earned before and after the merger announcement.

5. DATABASE AND METHODOLOGY OF THE STUDY

This research has been performed pertaining to mega merger of ten Indian public banks into four banks effective from 1st April 2020. All the acquiring banks i.e., Punjab National Bank, Canara Bank, Union Bank of India and Indian Bank are traded on National Stock Exchange. The data analyzed in this research is basically secondary data that has been obtained from official website of acquiring bank and also from the website of National Stock Exchange (NSE).

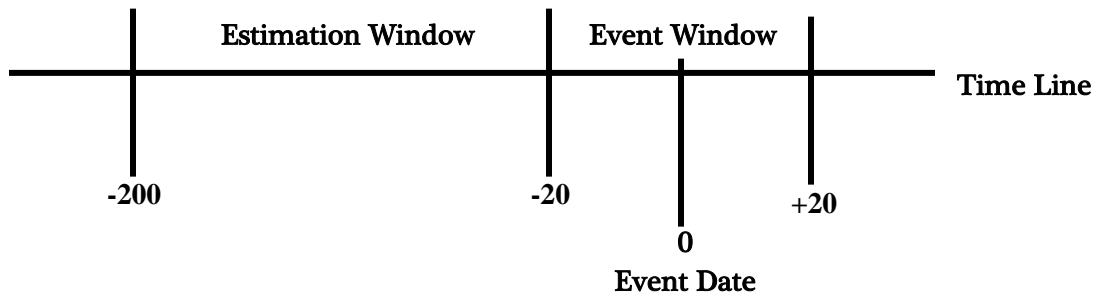
To achieve first specific objective of the study and to test the research hypothesis I, event study approach has been applied in this study. Event study approach is normally castoff to scan the immediate valuation impacts of an unexpected announcement of corporate events such as declaration of dividend, buy back of share etc., by inspecting the early reactions of the share price that might appear just before and after the effective date of event. The corporate event defined



for our study is the event of mega merger in Indian banking sector.

Time line of event study is very crucial to account for the early responses of share prices

accurately. Time line of an event study normally consists of three components- estimation window, event window and event date.



For the present study, the estimation window is considered from the day -200 to the day -21 (180 trading days) in order to warrant that estimates of the normal return model are not affected by the returns expected around the event. The event window for this study is taken as -20 to +20 days which also include 0 day. Here, 0 day represents the date of event and -20 is the 20 days' period prior to the date of event, and +20 is the 20 days' period subsequent to the date of event.

The basic concern associated with the event study is to quantify the extent to which stock return behave abnormally within the event window of a specific event. These abnormal responses of share price due to an unexpected event can be interpreted feasibly through the concept of Abnormal Returns (ARs). Abnormal return is actually the difference between the actual return and the expected return. ARs are actually that unexplained part of actual return which arises due to some abnormal or unexpected event and that is not normally captured by the expected return model.

Actual returns of individual bank's stock have been computed by using following formula-

$$R_{jt} = \ln \left(\frac{P_{jt}}{P_{jt-1}} \right)$$

Where,

R_{jt} = Return of jth stock at the time ' t '

P_{jt} = closing price of the jth stock at the time ' t '

P_{jt-1} = closing price of the jth stock at the time ' t - 1 '

ln = natural log transformation

Market returns have been computed by using following formula-

$$R_{mt} = \ln \left(\frac{P_{mt}}{P_{mt-1}} \right)$$

Where,

R_{mt} = Market Return at the time ' t ' P_{mt} = closing price of the market index at the time ' t ' ;

P_{mt-1} = closing price of the market index at the time ' t - 1 '

ln = natural log transformation

Various statistical models are available to measure the expected return such as constant mean return model, market model, Capital Assets Pricing Model etc. The market model has been considered here to estimate the expected returns. It involves the regression of a stock's returns against a market index return. The market index—NSE NIFTY has been used here for regression. Market model as stated below has been used to estimates the expected return-

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

Where,

R_{jt} = Expected Return on Security j at the time ' t '

α_j = alpha coefficient or constant term

β_j = Beta Coefficient

R_{mt} = Rate of Return on Market Index at the time ' t '

ϵ_{jt} = error term, has an expected value of zero [$E(\delta_{jt}) = 0$] and a finite variance [$Var(\delta_{jt}) = \sigma_{\epsilon_j}^2$]

The parameters of the market model are estimated by using the time-series data from the estimation period that precedes each individual announcement. The parameters estimated are then used in the calculation of Abnormal Returns (ARs) for each day in the event window. The estimated parameters are then subtracted from actual returns in the event period to get any excess



return, termed as Abnormal Return. The AR of firm j for the day t (AR_{jt}) during the event window and estimation window period have been calculated as per the following equation:

$$AR_{jt} = R_{jt} - (\hat{\alpha} + \hat{\beta} R_{mt})$$

In order to eliminate the idiosyncrasies in measurement of ARs due to particular stocks, Average Abnormal Returns (ARRs) have been considered here. ARRs actually aggregate the abnormal returns for all N firms to find the average abnormal return at each day t . The average abnormal return (AAR_t) for each day in the event window is calculated as per the following equation:

$$AAR_t = \frac{1}{N} \sum_{j=1}^N AR_{jt}$$

where N is the number of firms.

The cumulative abnormal return (CAR) for a given security is the sum of daily ARs over the event window. Over an interval of two or more trading days beginning with day T_1 and ending with day T_2 , the CAR is calculated as per the following equation:

$$CAR_{T_1 T_2} = \sum_{t=T_1}^{T_2} AR_{jt}$$

The cumulative average abnormal return (CAAR) for an interval of two or more trading days beginning with day T_1 and ending with day T_2 in the event window is calculated as per the following equation:

$$CAAR_{T_1 T_2} = \frac{1}{N} \sum_{j=1}^N \sum_{t=T_1}^{T_2} AR_{jt}$$

where N is the number of firms.

In order to assess the statistical significance of AARs, cross sectional t test has been applied here. To get the cross sectional t statistics of AAR at time t , following equation have tested here.

$$t_{AAR_t} = AAR_t / (\sigma(AR_{jt})/\sqrt{n})$$

So as to indicate the significance of impact of a merger event, CAAR need to be statistically tested. Event study is used to specify the performance of stock price

over the time period by the analyzing CAAR for the sample of events and that should be significantly not equal to zero. If the CAAR is statistically significant and are greater than zero, it indicates the positive respond on the stock price after announcement of merger. On the contrary, if the CAAR is statistically significant and less than zero, it indicates the negative respond on the stock price due to the merger announcement. Thus, in order to test the statistical significance of CAAR, cross sectional t test have been applied here. To get the cross sectional t statistics of CAAR across the sample, following equation have tested here.

$$t_{CAAR} = CAAR / (\sigma(CAR_j)/\sqrt{n})$$

In this study, CAARs over varying windows, namely, (-20, +20), (-10, +10), (-5,+5), (-2, +2), (-1, +1), (-20, -2), (+2, +20), (-5, 0), (0, +5), (-1, 0), (0, +1), etc. have been computed to catch the leakage effect.

To achieve second specific objective of the study and to test the research hypothesis II, paired t test have been used. Here data have been divided into two categories i.e., before merger and after merger. In before merger, average abnormal return data from day -20 to day -1 has been used and in after merger, average abnormal return data from day +1 to day +20 have been used.

6. MAJOR FINDINGS OF THE STUDY

6.1 Analysis of the magnitude of abnormal returns earned by shareholders owing to the merger announcement

Table 1 depicts the statistical results of the event study conducted to measure the changes that occurred in shareholders wealth of the acquiring firm in short run around the announcement of merger event by identifying the responses of the share prices of acquiring bank. It portrays the AAR, corresponding t -statistic values, level of significance and also CAARs for each day in the event window along with corresponding t -statistic values and level of significance. Moreover, Figures 1 and 2 graphically represent the value of AARs and CAARs corresponding to each day of the event window.

**Table 1: Cross-Sectional AARs and CAARs with test statistics on and around merger announcements**

Day	AAR (%)	t-statistic	p-value	CAAR (%)	t-statistic	p-value
-20	1.53	1.342	0.272	1.53	1.342	0.272
-19	0.39	0.464	0.674	1.93	2.413*	0.095
-18	3.27	1.786	0.172	5.19	3.127*	0.052
-17	-4.71	-5.279**	0.013	0.48	0.331	0.762
-16	-5.45	-10.409***	0.002	-4.97	-3.423**	0.042
-15	-2.41	-5.436**	0.012	-7.38	-4.172**	0.025
-14	-12.95	-11.870***	0.001	-20.33	-7.147***	0.006
-13	7.60	5.464**	0.012	-12.73	-3.878**	0.030
-12	-5.10	-7.008***	0.006	-17.83	-4.538**	0.020
-11	-0.44	-0.824	0.470	-18.27	-4.513**	0.020
-10	-1.09	-0.582	0.601	-19.36	-3.326**	0.045
-9	1.88	1.587	0.211	-17.48	-3.194**	0.050
-8	1.92	1.022	0.382	-15.56	-2.728*	0.072
-7	-13.37	-3.862**	0.031	-28.93	-3.195**	0.050
-6	2.67	1.098	0.353	-26.26	-2.832*	0.066
-5	-0.25	-0.118	0.914	-26.51	-3.674**	0.035
-4	3.06	1.676	0.192	-23.45	-3.912**	0.030
-3	1.81	2.209	0.114	-21.64	-3.665**	0.035
-2	-2.48	-2.285	0.106	-24.12	-3.535**	0.038
-1	1.71	1.435	0.247	-22.41	-3.730**	0.034
0	-0.41	-0.238	0.828	-22.82	-4.435**	0.021
+1	-1.63	-0.833	0.466	-24.45	-4.318**	0.023
+2	2.43	5.760**	0.010	-22.02	-4.166**	0.025
+3	1.47	3.550**	0.038	-20.56	-3.908**	0.030
+4	2.89	2.288	0.106	-17.66	-4.366**	0.022
+5	-1.97	-2.536*	0.085	-19.63	-4.179**	0.025
+6	-0.11	-0.119	0.913	-19.75	-3.681**	0.035
+7	0.05	0.102	0.925	-19.69	-3.487**	0.040
+8	0.75	1.199	0.317	-18.95	-3.564**	0.038
+9	6.77	2.171	0.118	-12.17	-2.4628*	0.091
+10	-6.17	-6.596***	0.007	-18.35	-3.126*	0.052
+11	-0.56	-0.608	0.586	-18.90	-3.104*	0.053
+12	1.57	2.888*	0.063	-17.33	-2.854*	0.065
+13	-2.72	-16.141***	0.001	-20.05	-3.301**	0.046
+14	1.20	2.135	0.122	-18.85	-3.094**	0.054
+15	2.20	1.289	0.288	-16.65	-2.787*	0.069
+16	2.59	3.184**	0.050	-14.06	-2.642*	0.078
+17	0.81	3.160*	0.051	-13.25	-2.465*	0.090
+18	-6.86	-6.602***	0.007	-20.12	-3.744**	0.033
+19	-1.85	-3.158*	0.051	-21.96	-3.992**	0.028
+20	-0.02	-0.016	0.988	-21.98	-4.359**	0.022

Source: Own Computation

*significance at 10% level, **significance at 5% level, ***significance at 1% level

Table 1 shows that during pre-tie up period, the ARR are positive for 10 days, while they are also negative for 10 days. Out of total 10 positive ARR

values, ARR of day 13 before announcement is significant at 0.05 level. Negative ARRs of 10 days shows six significant values. The AAR on the

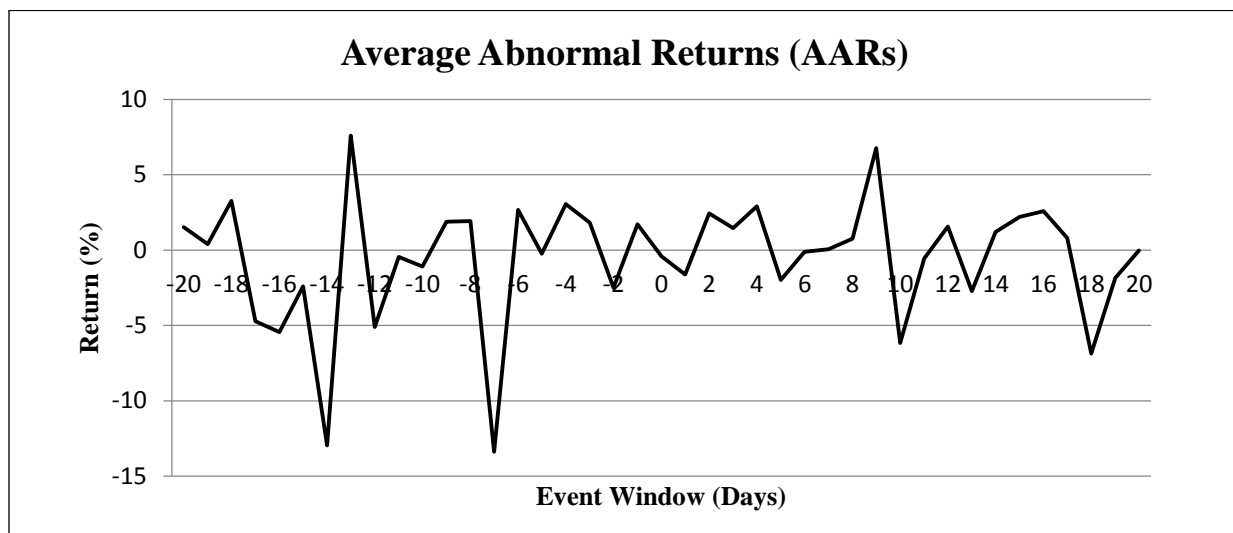


announcement day (0) is -0.41 per cent which is not significant. The negative and insignificant AARs on the announcement (day 0) indicate that the investors remark the announcement of merger to be unfavorable for them. However, the change of negative reaction to positive from day 2 after the tie up is noticed which indicates that although investors have shown negative reaction on and before the event but later a correction takes place quickly.

During post-tie up period, the ARR are positive for 11 days, while they are also negative for 9 days.

Out of total 11 positive ARR values, ARR of 5 days are significant at various levels of significance. Negative ARR of 9 days shows five significant values. Such findings lead to a conclusion that the null hypothesis of zero AARs, means no impact of merger on ARR, is rejected for 17 days out of total 41 days event window. Table 1 has observed the highest positive ARR of 7.60 per cent on day 13 before announcement and the highest negative ARR of 13.37 per cent on day 7 before announcement of merger.

Figure 1: Average Abnormal Return during Event Window



As seen in figure 1, after a negative move of stock price from day 17 to day 14 during pre-tie up, a positive move can be observed on day 13 before announcement. This positive move in the event window show a sign of insider trading which gives some participants the opportunity to make excess returns. Again after a negative AAR on the day of announcement, from day +2 (2.43%), the returns jumped up suddenly to day +4 (2.89%), then dropped down to day +5 and again start rising. The sharp move in the returns shows that the market responds to the information of merger. Ups and down in ARR throughout the event window indicates that some market specific and industry specific factors are also there to affect the stock price movement besides the merger information.

The AARs are also cumulated over the event window to assess the net magnitude of the overall returns. Table 1 illustrates that during the pre-

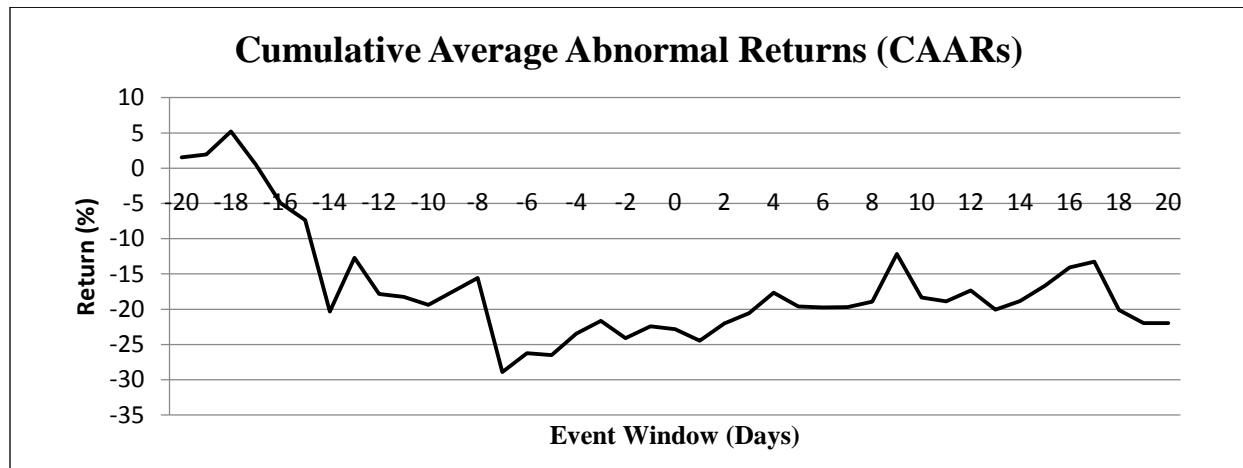
announcement window, the pattern of positive CAARs starts from day 20 before the announcement day and it last till day 17 before the announcement but after that CAAR starts becoming negative from 16th day in the pre-event window and observe a negative pattern till the last day of the event widow. The CAAR value of 16th day in the pre-event window starts from -4.97 per cent and reaches to a peak of almost -28.93 per cent on day seven before the announcement and settles at -21.98 per cent on the last day of the event window. Except day -20 and day -17, all other values of CAARs throughout the event window are noteworthy at various levels of significance. On the day of announcement the CAAR is -22.82 which is significant at 0.05. Continuous negative CAARs from day -16 to last day of event window, as depicted in figure 2, are noticeable. After the initial respond to the merger information, finally investors have under-reacted to the event might be due to pandemic situation running throughout the



world. However, CAARs and their corresponding t-statistic with level of significance lead to a conclusion that the null hypothesis of zero CAARs, means no

impact of merger on CARRs, is rejected for 39 days out of total 41 days event window.

Figure 2: Cumulative Average Abnormal Return during Event Window



Likewise, CAARs over various size event windows are considered to place an opinion upon the important period from investment viewpoint. CAARs over different window size are tabulated in Table 2. The CAAR computed for the event window (-20 to +20) discloses the fact that for some of events, there is a negative AAR. On an average, the CAAR is -21.98 % and quite distant from zero which might be due to the reason of the event window being too long but the CAARs for this window is statistically significant at 0.05 levels. This is why the examination of CAAR is

done by reducing the event window around the event day zero to (-15 to +15). It is observed that, although some of the events still register negative CAR and CAAR decreased to -11.08 % which is statistically significant at 0.10 levels but still this figures register the same fact as described above. In order to get consistency with positive results further reductions of the event window to (-10, +10), (-5 to 5), (-3 to 3), (-2 to 2) and (-1 to 1) have been done. We observed improvements in the level of CAAR obtained, -0.33 % for the (-1 to 1) but not statistically significant.

Table 2: CAARs with test statistics for merger announcements across various event window

Event Window	No. of Days	CAAR (%)	t-statistic	p-value
(-20 to +20)	41	-21.98	-4.359**	0.022
(-19 to +19)	39	-23.50	-3.757**	0.033
(-18 to +18)	37	-22.04	-4.193**	0.025
(-17 to +17)	35	-18.45	-3.804**	0.032
(-16 to +16)	33	-14.54	-3.529**	0.039
(-15 to +15)	31	-11.68	-2.429*	0.093
(-14 to +14)	29	-11.47	-2.459*	0.091
(-13 to +13)	27	0.28	0.067	0.951
(-12 to +12)	25	-4.60	-0.876	0.446
(-11 to +11)	23	-1.07	-0.228	0.834
(-10 to +10)	21	-0.08	-0.014	0.989
(-9 to +9)	19	7.19	1.192	0.319
(-8 to +8)	17	-1.47	-0.316	0.773
(-7 to +7)	15	-4.14	-0.922	0.425



(-6 to +6)	13	9.18	1.517	0.226
(-5 to +5)	11	6.63	1.160	0.330
(-4 to +4)	9	8.84	1.950	0.146
(-3 to +3)	7	2.89	1.084	0.358
(-2 to +2)	5	-0.38	-0.140	0.897
(-1 to +1)	3	-0.33	-0.095	0.930
(-20 to -2)	19	-24.12	-3.535**	0.038
(-5 to 0)	6	3.44	0.551	0.620
(-1 to 0)	2	1.30	0.478	0.665
(0 to +1)	2	-2.04	-0.665	0.554
(0 to +5)	6	2.77	1.028	0.380
(+2 to +20)	19	2.46	0.418	0.704

Source: Own Computation

*significance at 10% level, **significance at 5% level, ***significance at 1% level

For the pre-announcement event windows (-20, -2), (-5, 0), and (-1, 0), the CAAR values are -24.12 per cent, 3.44 per cent and 1.30 per cent, respectively but on the CAAR of event windows (-20,-2) is statistically significant at 0.05 levels. Moreover, the CAAR values of 2.67 per cent on day 6 before the announcement, -0.41 per cent on the announcement day, and -0.11 per cent on day 6 after the announcement indicate that an investor can gain a substantial CAAR of 9.18 per cent if the shares of the issuing company are purchased six day prior to the announcement day and sold six day after the announcement day. CAARs for event window (-5, +5) and (-4, +4) is 6.63 per cent and 8.84 per cent respectively which is quite impressive. For the post-announcement event windows (+2, +20), (0, +5), and (0, +1), the CAAR values are 2.46 per cent,

2.47 per cent and -2.04 per cent, respectively but none of the CAARs are statistically significant.

6.2 Comparative analysis of abnormal returns earned before and after the merger announcement

To achieve second specific objective of the study and to test the research hypothesis II, paired t test have been opted. Here entire event window have categorised into pre- merger and post-merger and AARs data have been divided accordingly into two categories i.e., ARR before merger and ARR after merger. In before merger, average abnormal return data from day -20 to day -1 has been considered and in after merger, average abnormal return data from day +1 to day +20 have been used.

Table 3: Paired Samples Statistics for Average Abnormal Return around merger

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ARR before Merger	-1.1203	20	5.1990	1.1625
	AAR after Merger	0.0417	20	3.0936	0.6917

Source: Own Computation

Table 3 clearly indicates that mean of average abnormal return before merger is -1.1203 whereas mean of average abnormal return after merger is 0.0417 which certifies that greater return is available during post-merger. As greater return is associated with post-merger period, investors can obtain more returns if they

invest in the stock during post-merger. Further, the standard deviation from the mean is lower in post-merger event which speaks us that there is low risk associated with average abnormal return in case of post-merger in comparison with pre- merger event.

Table 4: Paired Samples Correlations for Average Abnormal Return around merger

		N	Correlation	Sig.
Pair 1	ARR before Merger & AAR after Merger	20	-.141	.553

Source: Own Computation



Table 4 demonstrates that there is negative weak correlation between the average abnormal return before and after the Merger.

Table 5 : Paired Samples Test for Average Abnormal Return around merger

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	ARR before Merger & AAR after Merger	-1.1619	6.4137	1.4341	-4.1637	1.8398	-.810	19	.428

Source: Own Computation

Table 5 portrays the paired sample test for Average Abnormal Return. While testing the paired t test, significance level of 0.05 is opted and the two tailed test is chosen in this case. The significance value which is more than the 0.05 indicates non rejection of the hypothesis that states that there is no significant difference in average abnormal returns before and after merger. Thus, it can be opined that merger makes no significant difference in average abnormal return.

7. CONCLUSION

Pattern and magnitude of stock return normally provide an idea regarding the attitude of investors on their perception of an unexpected event going to be happened in the market. A positive pattern of return indicates that investors have positively reacted to the information of the merger event while negative pattern indicate the negative-reaction of investors regarding the announcement of the event. The announcement of Merger is usually professed as optimistic favorable information for the investors. We have empirically scanned the attitude of investors and their perception towards the announcement of merger. The study confirms that the shareholders of acquirer banks have negatively reacted about the merger information before the event but after the announcement a positive sentiment of investors towards the information have been observed from day 2. Study reveals that investors are not able to earn the significant excess return on the day of announcement because of their soothed nature towards the information of merger. But from day +2 (2.43%), the AARs jumped up suddenly to day +4 (2.89%), then dropped down to day + 5 and again start rising. Again from day +10 it starts falling. This prompt swing in the returns shows that the market responding significantly not only to the information of merger

rather there are some other market specific and industry specific factors which are playing a direct or indirect role in affecting the stock price movement throughout the event window. CAARs figures also point toward the positive pattern of returns in the beginning of the event window but rapidly it becomes negative from day -16 to the last day of window that might be due to pandemic situation running throughout the world. However, the study of combined event window shows that an investor can earn significant returns if he purchases the shares within six days before the effective date of merger and sells the shares six days after the announcement. An investor can also earn substantial return if the shares of the acquiring company are purchased four days prior to the announcement day and sold four days after the announcement day.

REFERENCES

1. Anand, M., and Singh, J. (2018), "Impact of Merger Announcements on Shareholders Wealth: Evidence from Indian Private Sector Banks", *VIKALPA*, Vol. 33, pp. 35-54.
2. Chaitra, R., Manjunath, B., and Rehaman, M. (2019), "An Analysis of pre and post-Merger of Indian Banks: An Event Analysis approach", *International Journal for Research in Engineering Application & Management*, pp. 172-178.
3. Kalaichelvan, K. (2011), "Efficacy of merger and acquisition in Indian Banking Industry", *Ph.D Thesis submitted in Pondicherry University, August 2011*.
4. Kalsie, A., and Arora, A. (2018), "Analysis of Merger and Acquisition Deals of Major Indian Banks: An Event Based Study", *Effulgence*, Vol. 16, pp. 82 – 120.
5. Kumara, R.N., and Reddy, B. N. (2019), "A study on the impact of Pre and Post Bank Merger Announcement on Stock Price Movement",



International Journal of Research and Analytical Reviews, Vol. 6, pp. 955-1001.

6. Kumar, R. B., Gera, S., and Saha, S. (2016), "Wealth Creation in the Largest Banking Mergers – An Empirical Analysis", *Asian Economic and Financial Review, Vol. 6(4), pp. 206 – 217.*
7. Narwal, P.K., and Pathneja, S. (2013), "Stock Market Reactions to Mergers Announcement: A Study of Voluntary and Compulsory Mergers in Indian Banking Sector", *International Journal of Money, Banking and Finance, Vol. 2, pp. 24-29.*
8. Patel, R., and Shah, D. (2016), "Mergers and Acquisitions : A Pre-Post Risk Return Analysis for the Indian Banking Sector", *Journal of Applied Finance & Banking, Vol. 6 , pp. 99-113*
9. Samontaray, P.D., and Choudhary, K. (2013), "Merger and Acquisition in Indian Banking Industry: An Event Study Approach", *Australian Journal of Basic and Applied Sciences, Vol. 7(11), pp. 252-262.*
10. Shah, A., and Deo, M. (2013), "Bank Mergers and Shareholder Value Creation in India", *International Journal of Business and Society, Vol. 14, pp. 245-264.*
11. Yadav, Y. (2017), "Impact of Mergers and Acquisitions on the Performance of the Indian Bank's Share Price: An Event Study Approach", *Australian Journal of Management, pp. 1-12*
12. https://www1.nseindia.com/products/content/equities/equities/eq_security.htm



PINE NEEDLES BIOMASS- A POTENTIAL FUEL

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ABSTRACT

India is a country having ample forest wealth contains diverse forest species. The existing plantation dominates pine trees cover in middle and lower Himalayan regions. Throughout total forest cover 7.62-million-hectare region is under pine forest. The state has identified rise in forest area by .71 % as 15100 in 2017 from 14696 in 2015. With increase in pine forest density the forest fire accidents also increases. There are different reasons count for this as the dry pine needle on the floor of the forest catches fire easily in summers and some time the local villagers set forest under fire to clean the forest floor so that grass for their cattle's can easily grow. It is found that the dry pine needles contains high volatile matter and catches fire easily. This property can make it a better fuel by suitable technological interventions. This paper establishes an approach to produce fuel from dry pine needles and use it as potential fuel.

KEYWORDS: Pine needles; Drying; Carbonisation; Binding materials;

1. INTRODUCTION

An alternative energy resource establishment is the usage of biomass pine needle as an alternative energy resource in which the pine needles subjected to pressure and produced fuel will be in the form of briquettes and pallets. The process of palletising involves densification of biomass to achieve high energy density and low moisture contents. As per study the allowed value for the moisture content is 8-12%. The other mechanical properties includes compressive strength, tensile strength, bending and many more.

Due to the carbon content present in the pine needles they can be used as a biomass by increasing the density. The biomass can either be directly utilised for making briquettes or processed to increase the carbon content of dried biomass. The general process identified is carbonisation. In this process, the material is burnt in absence of oxygen in the carbonizer. The resulted mixture is mixed with binder to make it adhesive hole and turned it into cakes. The properties of developed briquettes then be analysed with standard procedures [1]. The produced charcoal briquettes can also used as a replacement of wood and kerosene as



cooking fuel in households and can benefit economics of rural areas.

2. BRIQUETTING PROCESS

The Process involves various stages includes char formation and briquette formation. Char formation is a series of processes starting from collection of biomass from forest floor to carbonisation and crushing. Crushing process helps to shorten the burned needles of pine residue. The char size is also important factor which effects the compaction properties of biomass material. Binder's material help bio char for compaction but their proportion selection is critical [2]. More binders can affect the physical property e.g less binder material can affect the physical strength of briquette and more material can affect the burning rate and increase ash content[1]. Type of binder can also affect the briquetting process and a suitable binder or different binders in suitable proportion will result a good product.

2.1 BIOMASS COLLECTION

Pine needles can be collected from pine forest floor and sorted. The twigs and tree branches must be eliminated during sorting process. The main thing to noticed that the needles should not be green or fresh. The pine needles Should be dried for 1-2 days in sunshine open space so that all the moisture content available in the pine needle will be removed.

2.2 PYROLYSIS

The process of converting or treating low carbon biomass into high carbon fuel by burning it in absence of oxygen is called as pyrolysis. The process is also known as carbonisation and the drum like structure used for this is called carbonizer. In carbonizer the pine needles allow to burn in open air for 1-2 minutes so the catches fire and after that the container must be sealed. After some time the needle get partially burned and the pine biomass is converted in to pine char. The drum structure, quantity of biomass affects the time of conversion from biomass to pine char as shown in Figure 1. The produced material after carbonisation is known as Biochar or pine char in case of pine needles.



Figure 1 Carbonizer



2.3 BINDERS

Binders as the name implies the material which help pine char particle to hold themselves. Binders may be different materials but should be suitably selected so that these could not affects the burning property of fuel. Clay, Cow dung re generally used binders but their proportion is a matter of research. Now a days resin of

different plant can be used as binder. In present case investigator utilize resin of Grewia Optevia plant resin (lignin) as binder material and investigate its characteristics. Total three binders in different proportion has been utilised in briquetting process as shown in Table 1.

TABLE1. SAMPLE FORMATION OF BRIQUITES

No. of Sample	Quantity of Char (% age By Volume)	Type of Binder	Quantity of Binder (% age By Volume)	Weight of Briquettes (in grams)
3	80	Clay	20	90
3	80	Cow dung	20	110
3	80	Grewia optiva (Plant Resin)	20	80
3	60	Clay	40	85
3	60	Cow dung	40	100

2.4 COMPACTION PROCESS

A Briquettes is a block of coal dust or binder that are compressed with other biomass combustible (such as charcoal, sawdust, wood chips, pine needles etc). All combustible material utilised contains low energy density for making it as fuel therefore, compaction of fuel is required. The process enhance the density of biomass to be used as high density fuel. The powdered biomass is now converted into briquettes or pallets by compaction process [3]. The arrangement of

screw press mechanism is shown in Figure 2 with produced product. The size and shape of briquette affects its burning rate and physical strength. The cylindrical shape provides good mechanical strength and vents in briquette structure allow air to flow for good combustion [4]. Good physical strength help to transport the produced fuel from one place to another and increases its economic viability.



Figure 2 Compaction Machine and Briquette



3. TESTING OF BRIQUETTES

Testing involves presence of moisture and volatile matter present in the briquette produced. Different test are required to perform to predict the characteristics of the produced fuel. The proximate analysis is performed on pine char, mixtures of pine char-cow dung and pine char-clay and moisture content, volatile matter, fixed carbon and ash content of various samples has calculated [5].

3.1 MOISTURE CONTENT

Owing to its nature and origin, coal is always associated with moisture. Air dried moisture is determined by heating a known amount of coal (air dried) at 105-110 degree Celsius in an electric hot oven for about one hour. The %age moisture content is determined by using formula:

$$\text{Percentage of Moisture} = \frac{\text{Loss in weight}}{\text{Weight of coal taken}} \times 100$$

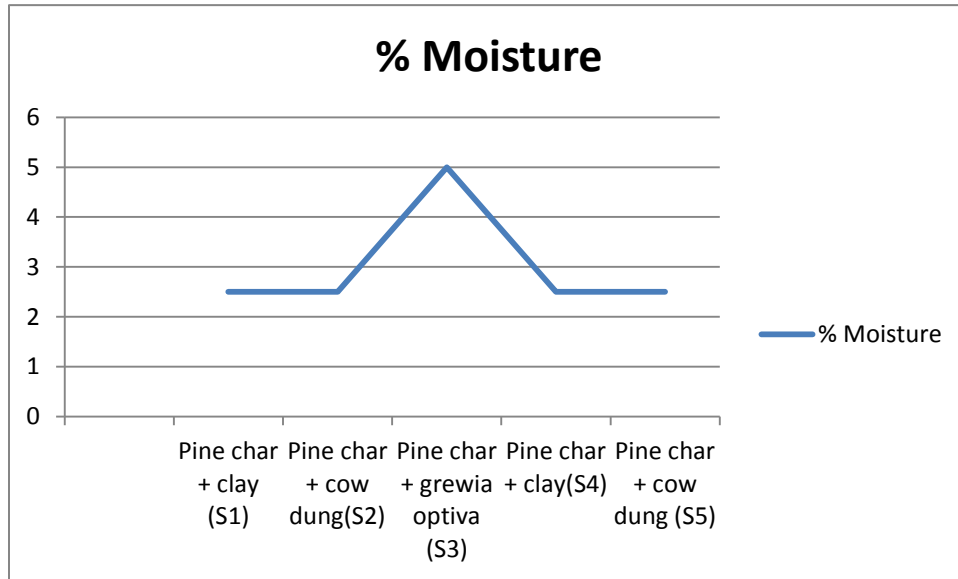


Figure 3 Determined Moisture Content in Briquette

Thus, by considering these values of the moisture content, it is clear that the combination of the pine char and clay is having the least percentage of the moisture content. It means that the briquette formed with this mixture burns more efficiently. The **Pine char and Grewia Optiva(Resin)** combination is having the highest amount of the moisture content as shown in Figure 3. More is the moisture content; more difficulties come across for burning the briquette. Thus, the pine char and clay combination and char with cow dung have similar results.

3.2 VOLATILE MATTER

The volatile matter in each of the sample is calculated by firstly heating the sample in a furnace and then calculating the loss in weight in each of the samples and after that subtracting the moisture content of the sample taken in the consideration. It is determine by heating a known amount of moisture free coal in a covered platinum crucible at 950 ± 20 degree celcius. The volatile matter can be determined with formula:

$$\% \text{age of Volatile Matter} = \frac{\text{Loss in weight due to removal of volatile matter}}{\text{weight of coal sample}} \times 100$$

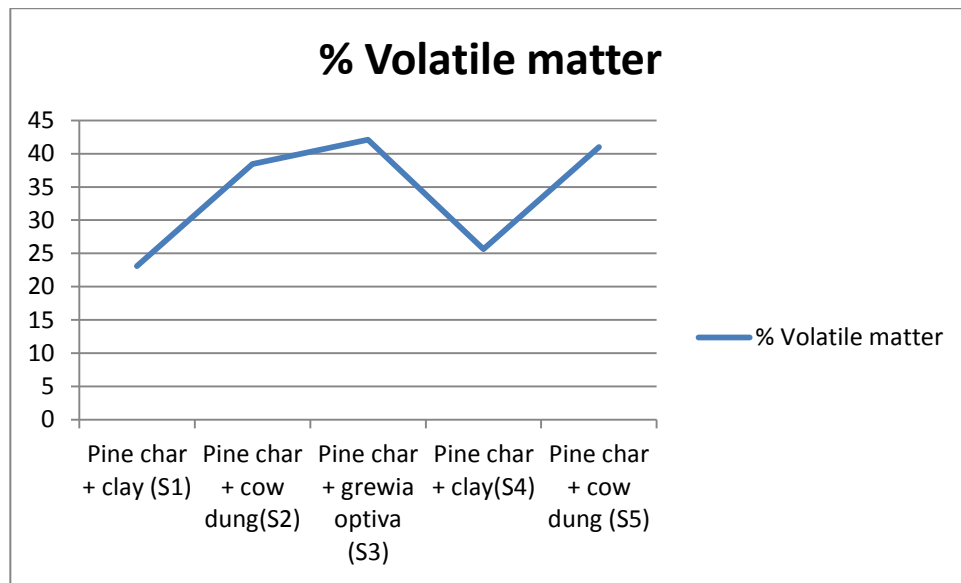


FIGURE 4 Determined Volatile Matter In Briquette

The volatile matter should be more for efficient burning of the briquette or the fuel. It is clear from the values given in the above Figure 4. That the mixture of the pine char and grewia optiva is the best among the all samples for the briquette production because it is having the most volatile matter among the three samples considered. The pine char sample comes out to be having the least volatile matter, thus having least efficient burning. The biomass and their generations according to the technology and efficiency has been discussed in various researches [6].

3.3 CARBON AND ASH CONTENT

For calculating the carbon and the ash content in each of the sample, the previously furnace heated sample is heated on the burner and the residue weight is calculated. It gives the ash content. The loss in the weight will give the value of the fixed carbon in the sample. The fixed carbon in the sample is given by formula as below. The ash content and moisture content of the substance should be low and volatile matter and carbon content should be appreciably high. The determined values for various sample is as shown in Figure 5.

Percentage of fixed carbon = 100 - [% of moisture + % of volatile + % of ash]

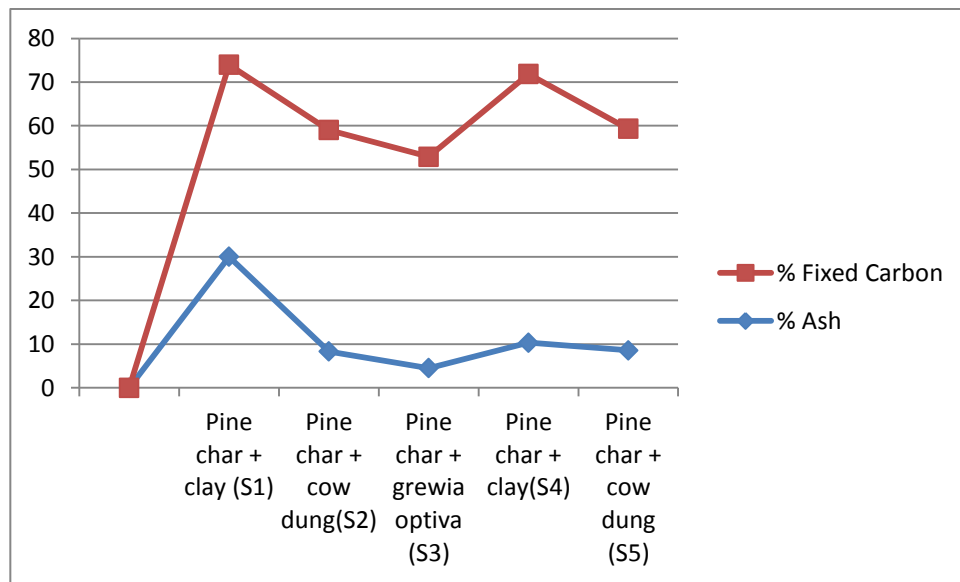


Figure 5 Determined Fixed Carbon in Briquette



4. RESULTS AND DISCUSSIONS

The ash content should be minimum for a fuel because higher ash content means higher non-combustible content which does not let the fuel burn efficiently. It is clear from the above study that the ash content is least for the pine char and Grewia Optiva combination. The ash content is the most for the pine char and clay sample as well as the fixed carbon content. The ash content of the sample having clay combination with pine char and other is more than every other sample. The fixed carbon content comes out to be approximately equal to that of the pine char and clay sample in higher concentration as sample S4 also. The present study shows the pine char and the clay mixture and pine char with Grewia Optevia resin samples contains good results among all the samples according to the ash content and fix carbon contents. For selecting the product as a fuel other physical and chemical test can be done because physical characteristics are also important for selecting a substance to use as fuel.

REFERENCES

1. Krizan Peter, Soos Lubomir, Matus Milos, Svatek Michal, Vukelic, Djordje (2010), "Evaluation of measured data from research of parameter impact on final briquettes density" *International journal of Engineering Science and Technology* Vol.7
2. Jaan Kersa, Priit Kulua, arunitia, Viktor Laurmaaa, Peter Krizanb, Lubomir Soosb And Ulo Kaskc (2010), "Determination of Physical, Mechanical And Burning Characteristics of Polymeric Waste Material Briquettes" *Estonian Journals of Engineering* Vol.3.
3. Peter Krizan, Lubomir Soos, Dorde Vukelic (2009), "A study of impact technological parameters on briquetting process" *International journal of Engineering Science and Technology* Vol.6.
4. Kabok, P.A., et al. (2018) "Effects of shapes, Binders and Densities of Faecal Matter – sawdust Briquettes on Ignition And Burning times ." *J pet Environ biotechnol* 9.370 (2018): 2
5. Emerhi, E.A.(2011), "Physical And Combustion Properties of Briquettes Produced From Sawdust Of Three Hardwood Species And Different organic Binders" *Advances In Science Research* Vol.2.
6. Er. Kushal Sharma, Er.Pankaj Verma, Er.Abhay Mahajan(2020). "BIOMASS: A RECYCLED ENERGY SOURCE", *International Journal of Scientific Research and Engineering Development*— Volume 3 Issue 3.



USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN SPIRITUAL AND MORAL EDUCATION OF MILITARY SERVANTS

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ANNOTATION

Advantages of the method of extensive use of information and communication technologies in the education of the moral and ethical qualities of servicemen. The purpose of raising the spiritual and moral education of servicemen using ICT is to bring up servicemen who think independently, have a broad outlook, faith, strong will, devotion to the people, live on the invaluable heritage of our ancestors, their worldview, creativity, and the expansion of the scope of analytical thinking, the formation of such important qualities as high responsibility and accountability for the fate of the motherland.

KEYWORDS: *spiritual education, patriotism, military oath, information and communication technologies, military service, results, culture.*

INTRODUCTION

First of all, a serviceman must be spiritually formed, broad-minded, far-sighted, aesthetically educated, have a great life experience, be superior in all respects, be patriotic, selfless, courageous and loyal to his duty.

The serviceman should be constantly informed about the events and happenings in the world and in our country. In this regard, the role and place of ICT in the moral education of servicemen is enormous. Because they need to know what information to get from where, how, and whether the information they receive is right or wrong, and most importantly, they need to be taught to analyze that information correctly.

Spiritual and moral education of servicemen is the development of planned, purposeful and systematic work by commanders of all levels to ensure the independence and security of our state, the inviolability of our borders, the peace and tranquility of our people, their combat readiness and combat readiness. and is said to improve.

When technology is translated from Greek, it means things like art, the doctrine of mastery. Scientific sources describe it as "Technology - the art

of processing, changing the state, a set of skills, abilities and methods" [1].

The Action Strategy for the further development of the Republic of Uzbekistan for 2017-2021 identifies "further improvement of the system of continuing education, the continuation of the policy of training highly qualified personnel in line with modern needs of the labor market" [2]. In this regard, raising the level of knowledge of servicemen, becoming a mature specialist of their profession, will contribute to the further development of the defense potential of our country.

Scientists of our country A.Abdukodirov, R. Bakiev, U. Begimkulov, S.S.Gulamov, S.K.Tursunov, on theoretical and methodical bases of use of ICT and electronic information-educational resources, electronic literature, possibilities of application in educational process Research work was carried out by Taylakov, A. Hayitov, N.A. Kayumova, F.M Zakirova, D. Toshtemirov, T. Shoymardonov, U. Yuldashev, M.H. Lutfillaev, M.E. Mamarajabov and others.

In this regard, foreign researchers have also studied the formation and development of ICT in the human mind. Brayant, P. Leynbardjer, E. Berneys, R. Harrislar R. Broudi, R. Islami wrote their works. In



his research, I.P. Finsky expressed his opinion that "the use of ICT in the process of patriotic education of servicemen is one of the most important pedagogical conditions for increasing its effectiveness" [3]. Analyzing the following using ICT in some issues of formation of moral and ethical qualities in servicemen, I.A. Alexin, V.N. Buslovskiyx [4], V.P. Juravel, S.X. Kanapyanov [5], A.E. Mixaylov, I.N. Panarin, E.V. Troitskaya. Many modern local scholars and educators have worked on different aspects of the use of ICT in the teaching process in their research. For example, S.V. Fedorova "substantiates the possibility of inculcating aesthetic values in students through ICT" [6]. L.V. Fatkhullina on "The role of information and educational technologies in educating young people in the spirit of military patriotism" [7]. At the same time, a retrospective analysis of the scientific work on the subject under discussion touched upon the topic of this article, given that the use of ICT in the process of educating the spiritual and moral qualities of cadets studying in military schools is insufficient.

RESEARCH AND METHODOLOGY

Today, information technology is changing rapidly. They can see events and happenings directly anywhere in the world and get as much information as they want, and there are no limitations in this regard. In the current context of globalization, various forms and methods of training using ICT are being created, which in turn requires the training of military personnel using ICT. In this regard, the role of ICT in further improving the moral and ethical qualities of servicemen is invaluable, because time itself demands it.

The main role of ICT in the spiritual and moral education of servicemen is to prepare the younger generation in the spirit of love and devotion to the Fatherland, the formation of a sense of defense, social, political, moral, psychological qualities, fulfillment of civic and constitutional obligations, protection of state and public interests. State and non-governmental organizations, families, communities, educational institutions will have to work purposefully, systematically and successfully.

In the spiritual upbringing of servicemen, they must form and develop patriotism, nationalism, devotion, devotion to duty, honesty, purity, discipline, a mature specialist in their field, high moral and legal rules. Achieving this goal involves a number of complex measures. One of them is the need to cultivate in servicemen a well-rounded person and a perfect person who will be faithful to the oath of allegiance to the Fatherland and perform his duties, and if necessary, will be willing to give his life for it.

Now we move on to the use of direct information and communication technologies in improving the moral and ethical education of servicemen.

Information and communication technologies are a wide range of tools for processing information transmitted in words, numbers, images, sounds and other forms. Their main feature as a tool is the ability to configure (program) to perform various operations related to obtaining and processing information.

ICT should be widely used in the moral education of servicemen. The reason is that it not only expands the knowledge and outlook of the serviceman, but he listens to the training with pleasure and enthusiasm, encourages creativity, sharpens the mind, forms the spiritual intelligence, serves to realize the as yet undiscovered aspects and opportunities.

ICT includes the following objectives, including the moral and ethical education of military personnel:

Creates knowledge of one's place in life, spiritual and cultural aspects in the performance of civil and military duty;

Effective education, influencing the minds of military personnel, is an important system in enlightenment.

The modern military training environment imposes a number of important tasks in the process of spiritual and moral education of ICT servicemen. Here are some of them:

Purposeful, continuous and widespread use of visible forms and methods of information in the process of moral education of servicemen;

To dramatically increase the effectiveness and efficiency and quality of spiritual education through the widespread use of visible parts of ICT;

ensuring the organization of a multi-component system of accumulation of existing cultural potential in musical compositions that reflect works of art, words of wisdom, morals of the people, military traditions;

Provision of mobile data;

To teach cadets to understand the essence of the flow of information, to strengthen the basic moral values, to think and analyze independently the end result, the importance of moral actions by directing it in the "good" direction;

Creating a single resource base of intangible heritage that provides access to the visual presentation of a significant amount of data and materials using ICT;

When used more widely than modern ICT materials, it feels deeper when used more efficiently and systematically, is more assimilated and memorized through the eyes, increases the



percentage of task performance, and gives greater efficiency.

The following results can be achieved when using ICT to cultivate the moral and ethical qualities of servicemen:

A serviceman's field of thinking expands and his interest in learning increases;

The role of independent work increases and efficiency improves;

Helps to develop mentally, expand aesthetic views, develop positive abilities;

the impact of spiritual education is enhanced by the use of computers, video projectors, electronic whiteboards and other similar ICT facilities;

The ability to use ICT increases and learns perfectly;

The ability to study and use the information obtained and to process it is formed;

in the process of spiritual and moral education there is an opportunity to harmonize with life;

there will be an opportunity to link education more closely with future professional activities.

If ICT service is widely used in the moral education of servicemen, we will achieve more than we thought.

The use of ICT performs the following functions:

Strengthens communication;

Educates man;

Concentrates;

Assimilates more, more accurately and perfectly;

Studies the topic in detail.

The advantages, conveniences and benefits of using ICT are:

Learn new methods and tools of information collection and use them correctly;

The possibilities for data collection are unlimited;

When using ICT, there are many opportunities for experience exchange;

When using different shapes, diagrams, pictures, video materials, there will be many places that will be clearly remembered;

It is possible to distribute the prepared information to several servicemen at the same time;

There are advantages and opportunities to use ICT in a wide range of programs;

The use of ICT compels the military to learn;

Encourages the service man to read books, to acquire knowledge.

Studies by psychologists have repeatedly shown that the human eye remembers much more than it hears with the ear. Visual information is more effective in remembering, memorizing, assimilating diagrams, shapes, pictures, videos and other similar things in different forms. For example, it is possible to remember tens of thousands of things per second

when heard with the ears and millions of things seen with the eyes. It is not for nothing that our people say, "It is better to see once than to hear a thousand times."

The practice of using ICT in improving the quality and effectiveness of moral education of servicemen is a complex measure. Today, all dormitories of servicemen are equipped with computers, video projectors, electronic whiteboards, televisions, radios and many other ICT devices.

The following measures will be very effective in the spiritual and moral education of servicemen with the continuous and regular use of ICT on a large scale: spiritual and educational training; spirituality hour; moral and spiritual training; information hour; intellectual games; in seminars; at conferences; in roundtables; general meetings; training in courage and bravery; intelligence games; creative meetings with well-known writers and scientists, scientists and artists; including the process of watching patriotic documentaries and feature films.

If the above-mentioned activities are carried out with regular and continuous use of ICT, the following will be achieved in servicemen: respect for the motherland, the formation of universal qualities, pride, interest in the title of serviceman, and knowledge of the Motherland, the most important thing in life. It serves as a foundation for the creative path, creating a great foundation for finding the right place.

There are many scholars in the practice of world pedagogy, including M. V. Bulanova-Toporkova and others assess the teacher's knowledge of information technology on the basis of the following qualities:

- Ability to evaluate and integrate experience in a modern information environment;
- Striving to develop personal creative qualities;
- High level of general communicative culture;
- have experience in organizing theoretical concepts in the field of interaction with the media;
- The need for self-reflection (analysis of one's mental state);
- mastering the culture of receiving, selecting, storing, retrieving, modifying, transmitting and integrating information.

The set of programming methods used in a particular learning process in the educational process is determined by the content of the subject, learning goals and objectives. The following main types can be distinguished: lecture course support; process or event modeling; modeling the operation of a technical system (training, training and management of its use); testing and control; electronic textbook; kits and task generators; information systems; game training programs; integrated educational systems;



specialist in this field [8] Pedagogical scientist V. K. Selevko considers the computer literacy of the teacher as an important part of the content of computer technology and includes the following:

Knowledge of basic concepts of computer science and computer engineering;
Knowledge of the general structure and functional capabilities of computer technology;
Knowledge of modern operating systems;
Knowledge of the capabilities and operational tools of a modern program that performs a common task, as well as mastering their functions;
Has mastered at least one text editor;
Know the basics of programming algorithms, packages;
Initial experience in the use of applications that perform utilitarian (useful) functions [9].

ICT hardware and software are developing very rapidly, for example, the new generation of computers and smartphones, the release of new programs, opening up convenient technical capabilities in solving various tasks.

However, the use of ICT for educational purposes in the moral education of military personnel shows that its didactic qualities are still not in demand.

This is due to the fact that the methodological (pedagogical) means of teaching information technology in the spiritual education of servicemen lag far behind the development of the use of information technology. The potential of the computer is huge, but it is not used enough for pedagogical purposes.

In particular, new information technologies are of great importance for the educational process and research. Unlike conventional educational technologies, in information technology, the subject of labor and, as a result, informatization, is a tool of labor, and technical means of informatization serve.

Computer tools at different stages of the educational process:

In providing training materials to military personnel;

Interacting with the computer in the process of learning the material in the process of movement;

In repeating and consolidating the acquired knowledge, skills and abilities;

in the final controls and self-control phase through the results achieved in training;

can be used at the stage of making adjustments to the learning process and its outcomes by dividing the learning material into parts, improving its classification and systematization.

Rationally designed computer training programs allow individualization and differentiation, stimulation of the interests and independent activities

of servicemen in learning, if the information is taught by the student, taking into account the psychological and pedagogical rules.

According to V. K. Selevko, the use of ICT in the process of moral education of servicemen consists of the following:

Organization of the learning process at the level of the whole class subject (learning process schedule, final control, etc.);

activating students in the classroom and coordinating their work, deploying military personnel, providing guidance, managing the network within the classroom, etc. ;

individual observation of servicemen, individual assistance, individual "humane" treatment of them;

the perfect option of computer-assisted individual learning using visual and auditory abilities is achieved;

emphasized that the preparation of the components of the information environment consists in that they are related to the content of a particular subject of study [10].

In particular, conducting interactive lessons using multimedia technologies gives good results. In a typical lesson, the teacher explains the content of the topic, and the students listen, see, remember, and write the necessary notes in their notebooks. They are willing to accept any information. On the contrary, interactivity allows students to actively engage in the learning process. The military simply doesn't listen. They ask questions, express their opinions, try to understand the incomprehensible parts of the study material in more detail, argue, come to a single conclusion and solution. In interaction, both parties: both the teacher and the students are active, working together to achieve the goals set in the lesson. No student will be left out of the main reading in class. Everyone reads, everyone teaches each other, which in turn gives great results and results and leads to success.

The interactive lesson combines the advantages of traditional teaching methods under the guidance of a teacher and individualized computer-based learning. The computer becomes an active assistant to the training leader. Presented from computer slides (pictures, graphs, tables, diagrams, formulas, video sheets), the teacher explains them. When such interactive sessions are conducted, the topic becomes more interesting and memorable, and at the same time more effective. This in turn gives great results.

CONCLUSION

Multimedia technology-based interactives help military personnel with different levels of



training to remember training topics, master them, expand their knowledge, develop interest and desire to learn, and increase their interest in using ICT.

Our research allows us to draw the following conclusions:

The analysis of scientific sources showed that Eastern thinkers, foreign and Uzbek psychologists tried to analyze the learning motives in terms of needs.

Research shows that learning motivations are among the factors that increase the effectiveness of the educational process.

Educational motives cannot have a separate form and appearance separated from society and social life.

Extensive work is being done in Uzbekistan on the use of ICT in education, and its legal and regulatory framework has been created.

The convenience of lessons based on information technology is that it is important to constantly monitor and control the student's mastery of learning materials, to create interest in the learning process, to form learning motives, to make adjustments if necessary.

The use of ICT in education is the most important tool in the formation of learning motives, and the use of ICT in the formation of learning motives (computer-based learning; the use of multimedia systems in education; the use of interactive computer tools in education) is highly effective.

The use of ICT in the learning process opens up new ways to develop users' thinking skills and skills to solve complex tasks, offers fundamentally new opportunities to activate learning. ICT allows the audience and independent learning to be more interesting and reliable, making most of the information learned easier to assimilate.

In the use of ICT, the concentration of information, visualization, ie the availability of different presentation options, the use of animation, the provision of information appropriate to the age and physiological characteristics of students create internal motivations for learning.

Based on the above considerations, it can be concluded that the appropriate use of ICT in education allows officers to study and teach the topic in depth, have fun and use interactive methods wisely during the training. they do not get distracted by other things, remember the topic more, increase their interest in the lesson, and use ICT extensively in homework.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 No. PF-4947 "On the Strategy of Actions for the further development of the Republic of Uzbekistan". - "Collection of Legislation of the Republic of Uzbekistan", 2017, No. 6, Article 70.
2. Enlarged meeting of the Security Council under the President of the Republic of Uzbekistan on January 10, 2018.
3. R.A. Movlonova, M. Arabova, G.Salohitdinova. *Pedagogical technology*. - T: "Science" Publishing House. 2008, p.16.
4. O. Hasanboeva, J. Hasanboev, H. Hamidov. *History of pedagogy*. - T.: "Teacher" publishing house, 1997, page 43.
5. K. Hoimov, S. Ochilov. *Anatomy of Uzbek pedagogy*. - T.: "Teacher" publishing house, 2010. Page 130.
6. Kanap'yanov S.Kh. *Education of servicemen of the Republic of Kazakhstan through the implementation of the pedagogical potential of the media // Education in the modern cultural and educational space: Sat. conference articles 27.10.2016*. - 2016. - pp. 104-109.
7. Fedorova S.V. *Formation of ethical values of schoolchildren by means of information and communication technologies in an institution of additional education: on the material of the English language: dis. ... Cand. ped. Sciences: 13.00.01 / - Yakutsk, 2008*. --- 203 p. - Bibliography: p. 160-180.
8. Fatkhullina L.V. *Information and educational technologies as a means of patriotic education of youth in public associations: dis. ... Cand. ped. Sciences: 13.00.05 / - Kazan, 2008*. --- 149 p. - Bibliography: p. 118-142.
9. Finnish I.P. *Pedagogical conditions for the effectiveness of patriotic education in the system of higher military education: - Tomsk, 2009*. - 236 p. - Bibliography: p. 179-195.
10. Trenin I.V. *Integration of information and didactic resources in the educational process of a military university: dis. ... Cand. ped. Sciences: 13.00.08 / - M., 2017*. - 293 p. - Bibliography: p. 253-278.
11. Buslovsky V.N. *Information and communication support for the transition of the Armed Forces of the Russian Federation to the contract method of manning: dis. ... Cand. polit. Sciences: 23.00.02 / - M., 2006*. --- 220 p. - Bibliography: p. 155-166.
12. Alekseeva T.E. *Pedagogical aspects of the use of information and communication technologies in a military-technical university: dis. ... Cand. ped. Sciences 13.00.01 / - Ryazan, 2006*. --- 203 p. - Bibliography: p. 167-182.



AN ASSESSMENT OF MANAGEMENT CHALLENGES WITHIN MULTIPLE PROJECTS ENVIRONMENT: A STUDY OF SALINI NIGERIA LTD WUSE ABUJA, NIGERIA

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ABSTRACT

In the construction industry, Multiple Project Environments (MPEs) exists where more than one project is managed simultaneously. The driving force behind MPEs is the pragmatic allocation of resources encumbered by uncertain economic times. However, MPEs create management challenges that need to be addressed. For that reason, the study examines the management challenges facing multiple project environments (MPE) in Nigeria using Salini Nigeria LTD Wuse Abuja as a reference point. It also assessed the skills and management strategies needed for managing the challenges facing construction managers in delivering construction projects. Theoretically the study was anchored on the Contingency theory of management as the theoretical orientation. The study adopted a survey research method, where questionnaire was distributed to the construction practitioners (contractors and professionals) in Salini Nigeria Ltd. A total of 100 questionnaires were distributed to the respondents, while 87 were duly completed, returned and found suitable for analysis. The result revealed that changes in management, time (scheduling) management, cost management and safety management were the major management challenges facing construction practice in Nigeria. The study also identified technical skills and other management skills and strategies required for tackling the challenges. It however, recommended that construction practitioners should acquire the right skills and apply appropriate management strategies in managing construction projects.

KEY WORDS: *Project Management, Construction Industry, Resources Allocation, Challenges & Multiple Project Environments*



INTRODUCTION

Projects are ideas with a potential for changing and moving the world, projects are thoughts with great potentials of transforming concepts into tangible realities. Put differently projects are vehicles that changes the world ideation to reality. Project Management on the other hand is the platform vehicle of this transformation. The rapid transformation of our environment is no doubt the products or function of multi-project activities. Furthermore, Project Management (PM) is a discipline that develops a platform to bring these ideas to fruition. However, today we live in an environment characterized by multiple projects, where the interdependencies between projects provide the guidelines for defining a project management framework. These are known as project management, multi-project management, program management, and portfolio management. The multi-project management, also designated as management by projects, consists of planning, coordinating and controlling a program that comprises several parallel projects. Therefore to be efficient, multi-project managers have to optimize time management and resource allocation. Time management is the most significant stake in project management. Accelerating the realization of projects saves money, respects time schedule in case of activities that incur delay, and wins contracts by proposing the best time of delivery in a business competition. Speeding up the realization of projects is therefore a key challenge.

It is in this light that an increasing number of organizations (especially construction companies) are deciding to arrange their work (or parts of their work) in projects, it appears that projects have become the strategy of choice for executing work-orders and assignments in an effective and systematic way, subsequently project orientation has grown increasingly popular (Karlesen, 2013). In addition, organizations are taking management initiatives by moving the paradigm of project management to the management of multiple projects (Blomquist & Müller, 2006) as a proficient vehicle to effectively convey enhancements and changes because of the erratic economic climate (Shehu & Akintoye, 2010). For the construction industry, it needs to acclimatize new strides to intercede with such vulnerabilities to endure. Thus, managers are altering their strategic direction to expand opportunities and expand capacity for marketing, sourcing, introducing new infrastructure and taking advantage of distributed location (Dooley, Lupton & Sullivan, 2005). It is therefore pertinent that research be undertaken to investigate more closely the challenges

mitigating project managers in multi-project environment.

STATEMENT OF THE RESEARCH PROBLEM

The construction industry is a very significant part of Nigeria economy. The construction sector grew by 4.14 percent in the fourth quarter of 2017 which is 10.17 percent higher than the same period in 2016. Its contribution to total real GDP is 3.50% in fourth quarter, 2017. In 2017 the sector contributed 3.72 percent to GDP compared to 3.71 percent it contributed in 2016 (The Nerve Africa, 2018). It remains a key player in the national economy. However, the construction industry inevitably faces many challenges which today's construction manager needs to provide solutions to. Some are new to the industry, and some are centuries old. The nature of the industry further complicates these challenges (Ahn, Pearce, Kwon & Shin, 2010). The industry is fragmented and often inefficient and is also slow to adopt, implement and integrate new information technologies and products, devoting few resources to research and development compared to other (Russell and Hana, 2007). Further still, the industry is inundated with complexity of interdependencies and uncertainties thereby making any prospect towards achieving the project objectives very blur.

Thus organizations are taking management initiatives by shifting the paradigm of project management to the management of multiple projects (Blomquist and Müller, 2006,) as an efficient vehicle to successfully deliver improvements and changes due to the unpredictable economic climate (Shehu and Akintoye, 2010). For the construction industry, it needs to assimilate new steps to intervene with such uncertainties to survive.

On the other hand, the research evidence to date has relied heavily on complexity in managing multiple projects that cause challenges in management (Caniëls & Bakens, 2011, Aritua, Smith, & Bower, 2009). Complexity is not necessarily a new challenge, but an old challenge that is being increasingly recognized and accepted as a key to improving performance and understanding of management (Aritua et al., 2009). Multiple projects management is faced with more challenges than single project management due to the complexity of the environment and organizations related to processes and project lifecycle. The complexity arises from interdependence and uncertainty in management which is the most critical



features of context in developing effectiveness in organizational management (Griffin et al., 2007).

It is thus because of these problems that we are motivated to search in more directions for empirical evidence that could help to expose the management challenges in multi-project environment and their solutions using Salini Nigeria Ltd as a case study.

RESEARCH QUESTIONS

The following questions guided the study

1. What are the challenges facing the management of construction projects in Salini Nigeria Ltd?
2. What are the skills or management strategies for mitigating those challenges facing construction managers in delivering efficient construction projects in Salini Nigeria Ltd?

AIMS AND OBJECTIVES OF THE STUDY

The aim of this study is to assess management challenges within multiple projects environment in Salini Nigeria Ltd. Pursuant to this aim; the study addressed the following objectives:

1. To identify the challenges facing the management of construction projects in Salini Nigeria Ltd.
2. To identify the skills or management strategies for mitigating those challenges facing construction managers in delivering efficient construction projects in Salini Nigeria Ltd

REVIEW OF RELEVANT LITERATURE AND CONCEPTUAL FRAMEWORK

Project management

Projects are thoughts with a potential for changing and moving the world, projects are ideas with extraordinary possibilities of changing concepts into tangible realities. According to Amol, (2013) project is a temporary process, which has a characterized start and end time, a set of activities and a budget that is created to complete a well-defined target or objective while project management is the use of knowledge, skills, tools and techniques to project or site activities in order to meet or exceed stakeholder needs and expectations. Project management is the practice of initiating, planning, executing, controlling and closing the work of a team to accomplish explicit objectives and meet explicit achievement criteria at the predefined time.

Similarly, Ahn, et al, (2010) opined that a project is a temporary endeavor designed to deliver an exceptional product, service or result with a characterized start and end(as a rule time-compelled, and frequently obliged by financing or staffing) undertaken to meet novel goals and objectives, normally to bring about beneficial change or added value. The transitory idea of projects stands in contrast with business as usual (or operations) which are repetitive, permanent, or semi-permanent functional activities to produce products or services. In practice, the management of such distinct production approaches requires the development of distinct technical skills and management strategies.

The primary challenge of project management is to achieve all of the project goals within the given constraints. This data is typically depicted in project documentation, made toward the start of the development procedures. The essential limitations are scope, time, quality and spending plan.

The secondary and more ambitious challenge is to optimize the allocation of necessary inputs and apply them to meet pre-defined objectives. The objective of project management is to produce a complete project which complies with the client's objectives. In many cases, the object of project management is also to shape or reform the client's brief in order to feasibly be able to address the client's objectives. Once the client's objectives are clearly established they should influence all decisions made by other people involved in the project for example project managers, designers, contractors and sub-contractors (Shehu & Akintoye,2010).

Construction Industry

Construction is the process of constructing a building or infrastructure. Construction differs from manufacturing in that manufacturing typically involves mass production of similar items without a designated purchaser, while construction typically takes place on location for a known client. Construction starts with planning, design, and financing; it continues until the project is built and ready for use (Wikipedia, 2019).

According to Pearce (2003), the definition changes as per the focus, but generally speaking there is a 'narrow' and a 'broad' definition as outlined below. The narrow sector consists solely of on-site assembly including repair work, which encompasses the site preparation, constructions of buildings and infrastructure, building installation and building completion (decoration). The broader definition consists of much more, including the supply chain for



construction related products, including the mining of construction materials and the manufacture of construction products. The wide definition additionally incorporates proficient administrations, for example, the board, engineering, structure design and facilities management (Pearce, 2003:43).

When all is said and done, there are three parts of construction: buildings, infrastructure and industrial. Building construction is generally additionally partitioned into residential and non-residential (commercial/institutional). Infrastructure is frequently considered overwhelming common or substantial building that incorporates huge open works, dams, spans, thruways, railroads, water or wastewater and utility conveyance. Industrial construction incorporates treatment facilities, process compound, power age, factories and assembling plants. In any case, large-scale construction otherwise referred to as mega-projects require collaboration across multiple disciplines. A project manager typically deals with the job and a construction manager, plan engineer, construction engineer or architect oversees it. Those associated with the structure and execution must think about zoning necessities, natural effect of the activity, booking, planning, building site wellbeing, accessibility and transportation of building materials, logistics, inconvenience to the general population brought about by construction delays and bidding.

The construction industry has a major task to perform within the general economy of a random country. How that job presents itself is going to fluctuate tremendously from one world to the next, all things considered in developing nations, the mining of crude materials and the on-site construction process is of the utmost importance, as the country seeks to put up a major infrastructure in the form of roads, railroads and houses. Professional services and the marketing of end products will be the responsibility of the more developed countries. According to Wikipedia (2019), construction as an industry contributes six and nine percent of the total national development output.

Multiple Project Environments

Extensively, multi-project environment (MPEs) can be alluded to as a hierarchical level environment wherein multiple projects are overseen simultaneously, at the same time and at different areas, with the chance of including a few different organizations (Dubois & Gadde, 2002). Again these projects are differing in size and significance might be anytime in their life cycle and may not really be reliant or straightforwardly related.

To describe the management of MPEs, researchers have contended with terms, for example, multi-project, portfolio, program, full scale project, megaproject, giving the impression of comparable implications (Turner, 2009, Project Management Institute, 2008). The irregularity in definition has prompted constrained bits of knowledge because of disarray and different comprehension (Shehu & Akintoye, 2010) into the relationship of MPEs and their difficulties. At first, MPEs was alluded to, "a hierarchical level environment wherein multiple projects are overseen simultaneously" (Patanakul and Milosevic, 2009).

These two features of multiple projects at various locations that involve multiple organizations are important in defining MPEs. The first feature stressed on various locations because within the construction industry, projects are influenced by geographical location which includes international and domestic distribution whether in a local region or elsewhere. This distribution is due to the potential benefits of the physical location and where professionals are involved in the project operation location (Zavadskas, Ustinovichius & Stasiulionis, 2004). One project can be performed in several sites concurrently as long as the correspondent actions share the same objectives (Evaristo and van Fenema, 1999). The management of these projects is assumed to be either centralized or distributed located in any of the sites or nodes. The challenge of project's location of multiple projects is related to the focus on the co-ordination mechanisms, with the option of either focusing on inter-site or boundary spanning across sites or concentrate on intra-site or boundary spanning across projects (Hashim & Chileshe, 2012).

The second feature originated from the construction management which is complicated by several organizations involved in the supply chain. The organizations are also engaged in other projects in which they have to coordinate their activities and resources with different sets of organizations. This affiliation shows that an organization is capable in managing more than one project simultaneously in the construction industry (Dubois and Gadde, 2002) and supports project-based structures (Söderlund, 2004). The increased use of project-based structures defines the nature of multiple project environments with the involvement of multi-project organizations.

From these features, the representation of challenges instigated from the complexity in managing multiple projects could be illustrated. For example, the projects located in multiple locations will focus on the co-



ordination mechanisms, on single unit without segregating the projects into multiple units in sharing the projects goal and objectives even though they are widely distributed from each other (Desouza and Evaristo, 2004). On the other hand, projects which involve multiple organisations will easily create conflict between the team mates, and impede the establishment of “organisation culture” of multiple projects environment particularly between different levels of management or between other projects, especially when competing after the same resources (Fricke and Shenbar, 2000, Olford, 2002). Therefore, these features illustrate the challenges in managing the MPE that will minimise the effectiveness in managing the projects.

Multi-Project Environment Challenges especially in Construction Industry

The management of multi-projects especially in construction industry is highly complex simply because the management has to face too many challenges and so many factors are affected to scheduling of multiple projects. Therefore, it is necessary to identify some of these challenges.

Complexity

Complexity is not really another test however an old test that is by and large progressively perceived and acknowledged as a vital aspect for improving performance and understanding of management (Aritua et al., 2009). Multiple project management is confronted with a larger number of difficulties than single project management due to the unpredictability of the environment and organizations related to processes and project lifecycle. The intricacy emerges from reliance and vulnerability in management which is the most basic highlights of context in developing effectiveness in organizational management (Griffin, Neal & Parker, 2007).

Interdependence means that a choice or action by any individual or system might be influenced by having various effects identified with others or systems (Mitleton-Kelly, 2003). It is by having numerous viewpoints or stages that this choice or activity is interrelated. Example of the types of interdependence are task interdependence in which one job serves as input or output to another job and also interdependence between jobs or roles, team or organizations (Morgeson and Humphrey, 2008).

Uncertainty

Another difficulty effortlessly experienced in multi-project environments is uncertainty in management mirrors the flightiness in the sources of information processes and outputs of work systems

(Wall et al., 2002). By undertaking activities with lack of specification on comprehensive activity in projects, unfamiliarity of local resources and environment and lack of uniformity will therefore invite an unpredictable environment (De Orue, Taylor, Chanmeka & Weerasooriya, (2009). The organization will be constrained by these variables in complying with project deadlines to achieve higher organizational performance (Laslo and Goldberg, 2008) therefore creating challenges for project managers responsible for the overall success of conveying projects (Martyn James, Paul William, Martin, Carol & Patrick Sik-Wah, 2008).

The Economic Challenges

The economic imperatives mostly occurred with budget limit and allocation of the money. Due to the budget limit, the embraced construction system may not be the best choice for accomplishing the undertaking objective and quality. It will affect the proceeding of the project. Concerning the designation of cash to be utilized in the project, if the money is not effectively allocated, it will affect the progress of the project. The effect on the project is the product quality and performance of the project. In summary, if economic constraints for the project could not be managed well, the product/performance/function/quality of the project will be affected.

Legal Challenges

The legitimate limitations exist on the grounds that there are numerous guidelines that are ruling the construction project. The legitimate imperatives are for the most part identified with work law, wellbeing guidelines and supervision plan. With respect to the effect of the legitimate requirements, from one side, it might influence the calendar and lead to extend delay. For example, when traffic diversion demands immediate decision, the team has to wait to get procedure approval before proceeding on site. From the other side, it may affect the planning and progress of the project, such as traffic ordinance and excavation permit, where approval is required before the work starts.

Closely followed in this regard is environmental constraints, the public concern and regulations require the environment to be protected such as air protection, tree preservation, traffic limit, noise control and so on. In the planning and design phase of the project, the responsible individuals need to go to the “Environmental Department” to apply for the approval/justification for the project. This takes time and will affect the project progress. If the approval is



not obtained on time, the whole project will be delayed or could not be carried out. There are also other technical constraints arising from air protection, tree preservation, traffic limit, limit due to excavation permit for works, etc.

THEORETICAL FRAMEWORK

The Contingency Management Theory

The study is anchored on the Contingency theory of management. The main concept behind the contingency management theory is that no one management approach suits every organization. There are several external and internal factors that will ultimately affect the chosen management approach. The contingency theory identifies three variables that are likely to influence an organization's structure: the size of an organization, technology being employed, and style of leadership.

Fred Fiedler (1922-2017) is the theorist behind the contingency management theory. Fiedler, (1967) proposed that the traits of a leader were directly related to how effectively he led. According to Fiedler's theory, there is a set of leadership traits handy for every kind of situation. It means that a leader must be flexible enough to adapt to the changing environment. The contingency management theory can be summed up as follows:

1. There is no one specific technique of managing an organization.
2. A leader should be quick to identify the particular management style suitable for a particular situation.
3. The primary component of Fiedler's contingency theory is LPC – the least preferred co-worker scale. LPC is used to assess how well oriented a manager is.

Therefore applying this theory in explaining management challenges in multiple project environment particularly in Nigeria we can deduce that no one method of management skill is best and suitable but rather it has to do with situations and circumstances.

RESEARCH METHODOLOGY

The descriptive survey research design was adopted for this study. As the name suggests, the research describes and interprets the actual phenomena under study. The approach involves both literature search and the use of structured questionnaire which was considered to be the most appropriate tool to reach the population of the study especially when data required for the study can be obtained by the instrument. The variables of investigation were extracted from the literature. Thus, result of the literature review formed the basis of investigation in this current study.

Population/Sampling Techniques

The respondents for the study were construction practitioners (contractors and professionals) in the construction industry selected from Salini Nigeria Ltd. 100 respondents were purposively selected and were issued with questionnaire. A total of 87 were duly completed, returned and found suitable for analysis, representing a response rate of 87%. The questionnaire is made up of three parts which contain questions relating to management challenges for multi-project management. In addition, each of the research questions has items statements with 4 point rating scale; Strongly Agreed (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

Four (4) point scale to analyze:

Strongly agreed (SA)	4 Points
Agreed (A)	3 Points
Disagreed (D)	2 Points
Strongly Disagreed	1 Point

Criterion for obtaining the mean is calculated as follows:

$$X = \frac{4+3+2+1}{4} = 2.504$$

The following decisions could be taken

1. Accepted as agreed if the mean score associated with it is greater or equal to 2.50
2. Considered as disagreed if the mean score associated with it, is less 2.50

The mean score used for calculation is shown as follows:

$$X = \frac{\sum fx}{n}$$

**Data Analysis and Presentation of findings****Table 1: Challenges facing the management construction of projects in Salini Nigeria Ltd**

Items	SA (4)	A (3)	SD (2)	DA (1)	FX Sum	Mean Score X	Decision
1 Resource Allocation Challenges (material, men and machine etc.)	37	20	16	14	254	2.91	Agreed
2 Time (scheduling) Challenges	21	36	14	16	236	2.71	Agreed
3 Cost Challenges	27	30	20	10	248	2.85	Agreed
4 Complexity and Multiple Project Management Challenges	20	30	30	07	237	2.72	Agreed
5 Safety Management Challenges	21	26	29	19	239	2.74	Agreed
6 Change Management Challenges	39	21	11	15	256	2.94	Agreed
7 Communication Challenges	15	11	21	39	174	2	Disagreed
8 Risk and Uncertainties Management Challenges	37	16	20	14	250	2.87	Agreed
9 Mean Average Score					2.74	2.71	Agreed

Source: Author's Field Survey, 2019

The aggregate mean for the responses on all items in the Table above is 2.71 it means the respondents view on the challenges facing management construction of projects in Salini Nigeria Ltd, Wuse, Abuja is positive. The highest mean (2.94) response is item 6 which talks about changes in management. According to them 39 strongly agreed 21 agreed, 11

disagreed and finally 15 strongly disagreed. On the other hand and surprising communication was not really seen as major challenge in Salini Nigeria Ltd Wuse Abuja. This is because the mean response is not up to 2.50 probably attributed to efficient and effective channel of communication in the company.

Table 2 Skills needed to mitigating challenges facing construction managers in Salini Nigeria Ltd

Skills	SA (4)	A (3)	SD (2)	DA (1)	FX Sum	Mean Score X	Decision
1 Technical (Technological)	39	21	11	15	256	2.94	Agreed
2 Communication	27	30	20	10	248	2.85	Agreed
3 Organizational Effectiveness	21	36	14	16	236	2.71	Agreed
4 Team Building	37	16	20	14	250	2.87	Agreed
5 Leadership	37	30	20	00	258	2.96	Agreed
6 Coping	21	26	29	19	239	2.74	Agreed
7 Problem Solving	37	20	16	14	254	2.91	Agreed
8 Flexibility	31	30	16	10	256	2.94	Agreed
9 Average Mean Total						2.86	Agreed

Source: Field Survey, 2019

The finding from Table 2 indicates that on average the mean score of the respondents was 2.86 this shows that the respondents agree that the above items i.e. technical (technological), communication, organizational effectiveness, team building, leadership, coping, problem solving and flexibility are commons skills required by the construction managers. The mean score of item 1 and 8 (technical and flexibility) were

jointly highest, this result indicated that technical skill (hard skill) vis-a vis other skills were still very necessary and indispensable in managing construction projects.

**Table 3: Management Strategies for mitigating Challenges facing Construction Managers in Salini Nigeria Ltd**

	Strategies	SA (4)	A (3)	SD (2)	DA (1)	FX Sum	Mean Score	Decision
1	Assign the project team early	37	20	16	14	254	2.91	Agreed
2	Choose the right project delivery strategy	20	30	30	07	237	2.72	Agreed
3	Develop realistic estimates and forecasting	39	21	11	15	256	2.94	Agreed
4	Actively manage project risks	37	16	20	14	250	2.87	Agreed
6	Develop project specific policies and procedures	31	30	16	10	256	2.94	Agreed
7	Assign project specific roles and responsibilities	40	21	17	09	296	3.40	Agreed
9	Commitment by team members to pre-established project objectives	35	26	15	11	259	2.97	Agreed
10	Continuous and effective communication of project Objectives	20	30	30	07	237	2.72	Agreed

Source: Author's Field Survey, 2019

The findings from Table 3 indicate an average mean score of 2.72 which shows that the respondents have positive views or agree on the strategies to mitigate challenges facing construction managers especially in multi-project environment. Although, developing project specific policies and procedures and assigning projects early according to the respondents are to top strategies for managing construction project based on the mean score.

DISCUSSION OF MAJOR FINDINGS

The major task of this study was to investigate management challenges within Multiple Projects Environment: A Study of Salini Nigeria Limited. After the analysis of data collected from the field, the result revealed that changes, time, cost, quality, and safety remain the major management challenges facing construction managers in Nigeria. It also revealed that aside the technical skills, there are other management skills required by the construction manager in managing construction projects. At the same time, the study identified the management strategies necessary for mitigating the challenges of managing construction projects in Nigeria. The finding corroborates the submission of Shehu, & Akintoye, (2010) and the challenges facing construction managers in Nigeria.

CONCLUSION AND RECOMMENDATIONS

Based on the results from the data collected and analyzed, the study concludes that there exists challenges facing construction practice in Nigeria and they are increasingly growing at an alarming rate. It has grown from mere technical and environmental issues to highly dynamic management challenges. This has

contributed to a number of construction failures in Nigeria, thereby requiring high sense of management acumen, capabilities, skills and strategies.

The study then recommended that when the right skills are possessed and appropriate management strategies applied, the challenges facing construction practice in Nigeria could be efficiently handled.

REFERENCES

1. Ahn Y. H, Pearce, A. RH. Kwon & H. Shin, (2010) "Key Competencies for U.S. Construction Graduates: An Exploratory Factor Analysis."
2. Aritua, B., Smith, N. J. & Bower, D. (2009). Construction client multi-projects – A complex adaptive systems perspective, *International Journal of Project Management*, 27 (1), 72-79.
3. Blomquist, T. & Müller, R. (2006). Practices, roles, and responsibilities of middle managers in program and portfolio management *Project Management Journal*, 37(1), 52-66.
4. Caniels, M. C. J. & Bakens, R. J. J. M. (2011). The effects of project management information systems on decision making in a multi project environment, *International Journal of Project Management*, 30(2), 162-175.
5. Chinowsky, P., Taylor, J. E. & Di Marco, M. (2011). Project network interdependency alignment: new approach to assessing project effectiveness, *Journal of Management Engineering*, 27(3), 170- 178.
6. Dooley, L., Lupton, G. & Sullivan, D. O. (2005) Multiple project management: A modern competitive necessity, *Journal of Manufacturing Technology Management*, 16 (5), 466.
7. DeOrue, D. A. O., Taylor, J. E., Chanmeka, A. & Weerasooriya, R. (2009). Robust project network design, *Project Management Journal*, 40 (2), 81-93.



8. Dubois, A. &Gadde, L.-E. (2002). *The construction industry as a loosely coupled system: Implications for productivity and innovation*, *Construction Management and Economics*, 20 (7), 621-631.
9. Evaristo, R. & van Fenema, P. C. (1999). *A typology of project management: Emergence and evolution of new forms*, *International Journal of Project Management*, 17(5), 275-281.
10. Fricke, S. E. &Shenbar, A. J. (2000). *Managing multiple engineering projects in amanufacturing support environment*, *IEEE Transactions on Engineering Management*, 47(2), 258-268.
11. Griffin, M. A., Neal, A. & Parker, S. K. (2007). *A new model of work role performance: Positive behavior in uncertain and interdependent contexts*, *Academy of Management Journal*,. 50 (2), 327-347
12. Hashim, N. I. &Chileshe, N. (2012). *Major challenges in managing multiple project environments (MPE) in Australia's construction industry*, *Journal of Engineering, Design and Technology*, 10(1), 72-92.
13. Martyn James, H., Paul William, F., Martin, S., Carol, K. H. H. & Patrick Sik-Wah, F.(2008). *'The Role of Project Managers in Construction Industry Development'*, *AACE International Transactions*, DE141-DE149.
14. Mitleton-Kelly, E. (2003). *Complex systems and evolutionary perspectives on organizations: The application of complexity theory to organizations*. Amsteradm: Pergamon.
15. Morgeson, F. & Humphrey, S. (2008). *Job and team design: Toward a more integrative conceptualization of work design*, *Research in Personnel and Human Resources Management*, vol. 27(5), 39-91.
16. National Bureau of Statistics (NBS), "Nigerian Gross Domestic Product Report," *Quarter One, 2014*. Available: www.nigeranstat.gov.ng. [Accessed: August 10, 2014].
17. Patanakul, P., Iewwongcharoen, B. & Milosevic, D. (2010). *An empirical study onthe use of project management tools and techniques across project life-cycle and their impact on project success*, *Journal of General Management*, 35(3), 41.
18. Russell, J. S.Hanna, A. L. C,(2007) *Education in Construction Engineering and ManagementBuilt on Tradition: Blueprint or Tomorrow," Journal of Construction Engineering and Management*, 133(9), 661-668,.
19. Shehu, Z. &Akintoye, A. (2010). *Major challenges to the successful implementation and practice of programme management in the construction environment: A critical analysis*, *International Journal of Project Management*, 28(1), 26-39.
20. Söderlund, J. (2004). *On the broadening scope of the research on projects: A review and a model for analysis*, *International Journal of Project Management*, 22(8), 655-667.
21. Wall, T. D., Cordery, J. L. & Clegg, C. W. (2002). *Empowerment, performance, and operational uncertainty: A theoretical integration*, *Applied Psychology An International Review*, 51(1), 146-146.
22. Wikipedia, retrieved 24th January 2019
23. Zavadskas, E. K., Ustinovichius, L. &Stasiulionis, A. (2004). *Multi criteria valuation of commercial construction projects for investment purposes*, *Journal of Civil Engineering and Management*, 10(2), 151-166.



FRAMEWORK FOR ASSESSING TRIPLE BOTTOM LINES ATTRIBUTE OF SUSTAINABILITY IN CASE OF IMPLEMENTATION OF ROOFTOP RAINWATER HARVESTING, KOLKATA, INDIA

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ABSTRACT

The study is done for assessment of Rooftop Rain Water Harvesting (RRWH) for non potable uses in a humid urban catchment. In this study, an user response survey was conducted, with 390 sample size, in five types of building uses; Residential, Educational, Medical, Institutional and mixed use Commercial, with variable roof sizes and situated in four different zones of KMA, having wide variation in piped water supply. A database of 32 years of daily rainfall data has been analyzed, in order to find out demand for different end uses for various building, supply from roof runoff, demand supply ratio, priority of different socio-economic factors for each type of building using AHP analysis, user's opinion on choice of end-use using regression analysis and finally developed a DSS model. Analysis also revealed that the highest acceptance of RRWH are in favor of the Medical uses building, the lowest being mix-Commercial building. Further factors like toilet flushing is found to be most potential end use options, followed by landscaping and cleaning. The regression model clearly show that the variables like ground condition, scale of development, degree of contact, storey's of building and water scarcity are key to decision making.

KEY WORDS: *Roof top Rain Water Harvesting (RRWH), non potable use, Decision support system (DSS), Analytical Hierarchy Process (AHP), End-use potential, Urban Local Bodies (ULB)*

1.0. INTRODUCTION

In India, different approaches towards alternative water supply system had been adopted in different region state to another, which aims at the varied benchmark for the service delivery in water sector (Ashton, 2005). Ground water abstraction is a common practice in urban area which usually meets up large share of the demand. In small and medium towns in India, 33.3% of the population still depends on groundwater. While in cities with population more than

10 lakhs the same figure turns to 14.9%. Present trends of receding groundwater table will require policy attention and an improved and efficient management of the urban water resources (Shaban, 2007). Despite that large amount of financial investment, and improvements in water supply, majority of the population still lack access to minimum amount of water supplied per day (Butterworth et. al, 2001, ELRS, 2012). The causes of persisting water supply system failures (from an urban planner's eye) has been explored and noted during development planning



process in the ULB of KMA for three years (2005-2008). Those socio physical constraints are not properly addressed during planning, like technical knowledge gap, poor management of assets, political non-coherence, increasing demand supply gap and various other social factors. These are very important input during comprehensive planning and implementation of the subsequent water management of facilities in city's utility network (ELRS, 2012).

This study elaborates and emphasizes the importance of *rain water utilization*, as a metric through which working mechanism of ULB can be realized and further planning can be done to create sustainable and longer-term benefits/changes. Traditional system of Rain Water Harvesting (RWH) would become more efficient if scientific knowledge is included to revive this vernacular technology (Sharma, et.al. 2010).

1.1. Barriers to implementation of Roof top Rain Water Harvesting (RRWH)

From previous literature and research outcomes by different scholar around the world it was found that Roof top Rain Water Harvesting (RRWH) is quite common in arid regions. However the humid region faces an adverse situation. There is scarcity of water during summer meanwhile there are issues of flooding during monsoon. Presently conventional water supply and waste water disposal systems are regulated by guidelines and standard. As a result those are not appropriate for design and implementation of integrated approach for water conservation (Jain, 2003; Jasrotia, 2009). Guidelines, standards and regulations, by their nature, tend to lag behind leading edge practice, but more flexibility is required to foster innovation whilst protecting public health and the environment (Mitchell, 2004).

Due to the relatively short history of RRWH in West Bengal, most people involved in such projects were inexperienced and confronting it for the first time. As for the obvious reason the users neither always had the required skills themselves nor have the appropriate analysis tools and techniques to implement the same (Glendenning et al, 2012; Goswami, 2002). Thus none of the projects implemented in this region at premises level of urban catchment had supported integrated urban water management and subsequently led to failure. (Chakraborty et al 2009). Government of West Bengal had devised certain guidelines rules and regulation on RRWH in 2010. The guideline had only suggested for the building to adopt RRWH that is having roof area more than 10,000 sqft and was not supported with any tax or other incentives. However this barrier of urban rain water management has been

resolved in many parts of the world in the last few years through introduction of rebates and other incentives (Mitchell, 2004). Still, the issue of unclear guidelines and regulations, and the often-lengthy development approvals process (at the government end) act as counteracting forces for the water conservation measures in some cases (Mitchell, 2004). The users implementing RRWH project for the first time could not find sufficient help or any other means of support. Some pilot projects had been launched but could not be sustained for a longer period in KMA. As a matter of fact residents living in this region are not conversant with the fact of water scarcity. Water conservation or using alternative technology for water supply is still not acceptable to the stakeholders in this region (Ghosh, 2010; Shaban, 2008). Thus to adopts a holistic approach to sustainable water usage, IWRM has to take into account the following four dimensions: water resources, water users, spatial and temporal scales. It critically assesses supply options, including developing alternative water resources.

2.0. SYSTEMATIC APPROACH

Historical evidence suggests that community attitudes to the alternative sources were critical to its success. A major barrier to some of these management approaches had been a lack of community acceptance. As such, an in-depth understanding of the mechanisms that lead people to be supportive of alternative water sources was critically important. The study of water-related consumer behavior was essential to provide insight into community attitudes to alternative water sources and related user behaviors. Despite the importance of such research, very little work had been undertaken in that area. As will be demonstrated in this thesis, the work that had been undertaken concentrates on a very limited section of behavioral theory. Then to provide a comprehensive review of the current state of knowledge related to reuse of harvested rain water based on which the final conceptual model had been developed. The review of water-related literature aimed at capturing every single social aspects dealing with issues of acceptance of water from augmented sources. To achieve that, all journals the titles of which include either "rooftop rainwater harvesting" or "reuse of water" had been searched. The identified articles were used to find additional work through reference lists. As such the paper provides a research agenda for social scientists in the field of community attitudes to alternative water sources and water-related behaviour. This research work will help public policy formulation in countries facing water shortage.



3.0. INFERENCES DRAWN FROM LITERATURE REVIEW

The literature review on Harvesting Rain Water (RWH) in Indian context had been characterized by an overall sense of policy failure and barriers to access, punctuated with numerous examples of successful short term 'cases'. Cases tend to be written up as examples of what their particular authors were interested in – of private sector participation, of fiscal reform, of willingness to pay, of civil society participation. It remained a challenge to answer the key question for designing an affordable and sustainable urban drinking water program. In this section, we return to the prominent themes in the literature and draw attention to some unexplored but policy-relevant questions. Because both the constraints on and the pressures for water sector reform in urban India mirror those of many rapidly-growing cities elsewhere, our suggested directions for more effective research, data collection, and policy reform were relevant beyond the Indian context.

A major gap in the vast literature on cost recovery was the question of how the poorest urban citizens could be subsidized. Too often cost recovery was treated as a goal in itself rather than as a means to extending universal access. Targeting methods had both direct and hidden costs for the administration and for the poor (van de Waal 1998). Few empirical studies on cost recovery contain thoughtful discussions on cross-subsidization, though they may admit that it was necessary (e.g. WSP 1999). While increases in price were required, the evidence suggests that subsidies will still be needed to provide for the poor. Rather targeting of subsidies along with an emphasis on connection subsidies should probably be used to provide for conservation of natural resources through wise use of water. With respect to private sector participation, relative to the burgeoning literature on efficiency or prices, analyses of the kinds of contracts, regulatory regimes and citizen oversight that could ensure accountability and the inclusion of this alternative water supply in integrated planning and development process, had been rare. Cairncross (2003) further points out that it was precisely those countries with severely malfunctioning water systems that most lack experience in negotiating contracts and establishing regulations with the large water issues. Some Indian states were more capable than others in that regard, and had more effective citizen oversight. Without case-specific analyses of the environment, the debate around utilization of Rainwater runoff had been likely to remain in the grey areas of decision making.

There was remarkable consensus in the literature that governments should not be in the water provision business, but should ensure that private providers were regulated with respect to price structures and water quality, and should provide incentives for these providers to implement alternative sources of water. That new role for government translates to developing partnerships with the private sector and with civil society for water delivery. Finally, a major barrier to research and the design of appropriate policies was the lack of reliable, up-to-date and publicly accessible information, database of the Indian water system (Ghosh 2005). Baseline information was necessary in order to evaluate various reforms in progress, and in order to allow for benchmarking against Government targets, other states and nearby countries. A lack of transparency over the national level policies and inefficient municipal systems calls for public participation for major reforms that may be needed. Incomplete and difficult-to-find information on groundwater withdrawals makes urban and peri-urban drinking water interventions unsustainable (Jaglin 2002). While efforts were underway to carry out some benchmarking of financial and institutional performance of several water utilities, regular and comparable data need to be made available on, inter alia, water quality, subsidization, metering, groundwater levels, and infrastructure maintenance. The power of benchmarking would be further enhanced if other countries were also to follow such procedures.

With respect to the physical alternatives to fulfill sustainable management of freshwater, there are two solutions:

1. Finding alternate or additional water resources using conventional centralized approaches;
2. Utilizing the limited amount of water resources available in a more efficient way.

To date, much attention has been given to the first option and only limited attention has been given to optimising water management systems. Among the various technologies to augment freshwater resources, rainwater harvesting and utilisation is a decentralised, environmentally sound solution, which can avoid many environmental problems often caused by conventional large-scale projects using centralised approaches

In urban areas, scarcity and accelerating demand of water is a major problem and it can be reduced by rainwater harvesting, using various existing structures like rooftops, parking lots, playgrounds, parks, ponds, flood plains, etc.

As cities continue to grow in the future such problems are likely to become increasingly common.



Since cities comprise numerous impervious surfaces designed to encourage rainwater runoff the scope for rainwater collection is substantial. Atmospheric pollution remains a major constraint as it contaminates both the rainwater and catchment surfaces making rainwater unsuitable for drinking in many cities around the world. Nevertheless, rainwater can still be used for non-potable uses such as toilet flushing, clothes washing and gardening. Furthermore, greater use of rainwater in urban areas could in future significantly strengthen the idea to clean up the urban atmosphere entirely.

4.0 A DSS FOR ROOFTOP RAINWATER HARVESTING IN TROPICAL CLIMATE

Sustainable water management involves analyzing the interaction between society and the water system. A sustainable water management strategy is robust and flexible. Robust means being able to cope with different future events and developments in the social and water system (like changing social perspectives, floods, droughts, and increased discharges). Flexible means that a strategy can be adapted to changing social and physical circumstances if it is not able to cope with them. In other words; a sustainable strategy has to be acceptable under different futures or it should be easy to adapt it in order to become acceptable again (Po, et al 2005; Gibson et al, 2001).

This thesis is aiming at a method to explore social response for sustainable rain water management capacity to adapt to changing conditions. First results of this type of analysis show that surprises are important ingredients for perspective change and social support. A sustainable strategy could then be a strategy which is robust for climate variability (fluctuations within the climate) and social change in the near future, and flexible enough to adapt to climate change (fluctuations between different climates) and social change on the long term (Baumann, 1983; Poyhonen, 2000). The pilot project for validation of the DSS Model was not been in the scope of work of this thesis due to cost and other legal constraints, some assumptions had to be made.

4.1 Reflection in urban setting

To analyze perspectives and explore future perspective changes, a valid framework is required to start from. A valid framework is incorporating all existing perspectives and recognizable in both reality as well as comparable existing typologies. Moreover, different reasons have been discussed in literature to explain why implementation

has been problematic. There are three sets of explanation. First ones argue that the RWH and management concept is flawed and such features of it as negligence to the local conditions and interests and the approach of "one size fits all" (Moss 2003, 2004), tendencies towards centralized and inflexible management that in practice contrary to rhetoric only discourages public participation in decision-making and planning (Ramaswamy 2005, Kaika et al 2003).

The second set of explanations rests on the belief that the capacity of national planners and implementers is the main reason for unsuccessful attempts for IWRM, and requires efforts and time for capacity-building. This discourse is prevalent among the International Organizations and the International NGO-s (GWP 2003, 2005; UNEP 2006).

Depending on the scale, construction of RWH systems can be very simple and local people can easily be trained to build these themselves. This reduces costs and encourages more participation, ownership and sustainability at community level (Hatun 2006). In order to identify the need of this specific water supply facilities for a particular community and proceed for installation of a suitable RWH option (different types of RWHSs), the following activities have to be undertaken.

- Community Situation Analysis (CSA): CSA must be conducted at cluster/ community with facilitation
- Site verification for proposed RWHS

5.0 DEVELOPMENT OF INDICATORS

The indicators represent an attitude which makes it possible to hope to do away with the concept ambiguity. That attitude could be related to a "technocratic" request. Faced with the concept impression the decision makers and the technicians would wish to acquire a series of characteristics measurable, which could be reproduced in time, comparable between geographical areas, enabling an outlook that could be a reference or a consensus, on situations and their evolutions (Zaccaï, 2002). According to J. Theys (2002) building indicators aiming at achieving all these roles at the same time, was doomed to failure. The water reuse project draws up the sustainable indicators profiles:

- Levels of decision making (strategic, programme or project levels).
- Different tools: benchmarking, appraisal/assessment, comparison, or monitoring.



- Typology of indicators suggested by DPSIR model: driving force, presses, state, impact, response, and others.

The purpose of indicators was often built starting from various raw data and was supposed to have certain characteristics (Pastille, 2002). Considering the multidimensional character of the sustainable development the indicators were numerous. To handle and use them requires obviously a multi criteria analysis. Aggregating these indicators or "indicator set" in only one index was not always well appreciated since it erases, by compensation or by weighting, information which the indicators carry. Other approaches (non compensatory method) were thus privileged, like graphic methods or the methods which rank solutions (Bertand-Krajewski et al., 2002, Ashley et al., 2002).

Let us note that indicators but also multi-criteria methods were supposed to take into account data uncertainties. Those were not negligible in urban hydrology and were propagated in the computation models. Bertand-Krajewski et al. (2002) illustrate the incidences of uncertainties in the performance evaluation of a detention basin. The scientific and technical literature was rich in articles and publication

on the sustainable rainwater management. The majorities of these materials formulates the question or support an approach like storage and infiltration of rainwater or their reuse (Lawrence et al., 1999, Larsson Kärppä, 1997, Burkhard et al., 2000, Urbanos, 1997, Chocat, 2002, Bertrand-Krajewski et al, 2000, Rijsberman & van of Ven, 1999). Many of them give examples of projects or achievements (Sibeud, 2001, McKwassock et al., 2001, Andersen & Schilling, 2001) or compare options by using criteria specific to the studied project (Aalderink & Icke, 1998).

Whatever the space scale considered, publications relative to the sustainable rain water management indicators (table 2.6.) use often a downward analysis which starts from criteria, develops them in sub-criteria and indicators and ends in the data required to the evaluation. We describe three approaches which were different by their objectives. The first one was interested in an infiltration tank and aims at comparing alternatives of design or of management. The second one aims analyzing and comparing rainwater systems. The third approach builds and uses indicators to compare technological options.

Table 1 Framework for assessing triple bottom lines attribute of sustainability

Goal	Criteria	Evaluation question / statement
Technical feasibility	Increase in total supply	Percentage increase in total supply due to non-potable water use
	Potential supply to current demand	Ratio of potential non-potable supply to current demand for non-potable water supply
	Distance	Average distance between potential supply and demand
	Non-potable water use	Potential for human contact with the non-potable water
	Treatment technology	Treatment technology readily available?
	Retro-fit system	Ease to retro-fit a dual system?
	Supply reliability	Reliability of non-potable water supply (51 weeks a year / 98% of the time)?
	Treatment quality reliability	Treatment technology meets effluent quality requirements under expected operating conditions?
	Operation & Maintenance	Level of skill required to operate and maintain the dual system
	Utilize existing infrastructure	Potential to utilize existing infrastructure (e.g. a STW)?
Upgradeability	Extent dual system could be readily expanded	



Goal	Criteria	Evaluation question / statement
		to supply future flows?
	Long-term applicability	Period of impact of the system? (short to long term)
	Flexibility	Technology could be adapted to meet more stringent effluent standards in the future?
	Future supply to current demand	Ratio of future non-potable supply to future demand for non-potable water supply
Economical feasibility	Cost difference	Difference in the overall cost of supplying potable and non-potable water
	Savings	Extent of cost savings for non-potable use
	Financial help	Extent of cost savings for non-potable use
	Job creation	Potential for job creation
Social feasibility	Disgust	Extent of 'disgust' to non-potable water use
	Acceptance**	Acceptance of the dual system by the Community
	Aesthetics	Unpleasant sight, noise and/or odor emissions from the system
	Trust/confidence in service provider	Consumers' level of trust and confidence in the potable water service provider
Institutional feasibility	Acceptance**	Availability of Institutional capacity to operate the system
	Local capacity	Acceptance of the dual system by decision makers
Legislative availability	Legislation / Regulation	Municipal Regulations/by-laws available to guide system planning and operation

Source: Ilemobade et al., 2008

This literature review has shown that a considerable amount of knowledge exists for planning, designing, and implementing *Rain water harvesting management* (RWHM) schemes in developing countries around the world. Generic decision support systems and techniques are used to tackle the daunting task of calculation of storage capacity and cost involvement. Currently missing from the literature are site-specific decision support systems that utilise local hydrological and socio-economic data for assessing implementation of rain water harvesting issues at plot level.

However, the tools used to make informed decisions are not effective, leading to failure of Rooftop Rain water harvesting and management systems, in particular Tropical metropolitan urban catchment schemes. The development of a DSS to help stakeholders make better decisions regarding the selection of end use of the harvested rain water is the focus of this research. The conceptual model for the prototype DSS is described in Chapter 4. Currently there is no structured method for assessing potential

End use in the West Bengal, India (Goswami, 2002). Many criteria are typically used to evaluate potential water end uses and have been incorporated into the prototype DSS in the form of modules. These criteria are described along with the possible end use with the harvested rain water in five different uses of building. Only relevant socio economic criteria are incorporated into the prototype DSS since one of the goals of the decision support system development is to base the framework on local conditions.

6.0 OUTCOME

This excellent time-saving contrivance has been used to find out an uncomplicated implementation mechanism of rain water harvesting at the plot/premises level. This decision support system model would simulate acceptance of Rain water harvesting at the plot level, assess the reliability of rainwater runoff from the rooftop against the choice of potential end-use. An extensive literature review was done to find the gap which acts as barrier to implement RRWH in the study area. The factors responsible for



acceptance of rooftop rainwater harvesting were derived from literature survey. Thereafter the criteria responsible for potential choice of end use with reference to the acceptance level were extracted to define indicators.

Research finding demonstrates that urban RRWH management with its sector specific approach works out to be effective in the long run and hence rain water collection and utilization should be viewed as an effective supplementary source. Complete city level survey is neither possible nor required to justify the purpose of RRWH in this urban metropolitan development. In order to understand the responses of citizens, five different building uses types, in four different ULBs, had been selected to conduct a door-to-door survey, with a suitably structured questionnaire. Survey was conducted to find out the acceptability of RWH and its suitable end-uses by the users, along with various area details of those premises.

The expected outcome would be a methodology that would go a long way in bringing forward several policies for adoption in real world situation under vernacular condition. The DSS model would certainly enable the urban local bodies to prescribe various alternative methods to policy makers and professionals at large for adopting sustainable RRWH.

REFERENCES

- 1 Agarwal, A. (1998). 'Rainwater harvesting in a new age: when modern groundwater and river exploitation has reached its limits.' In: Paper 2 of Stockholm Water Symposium 1998, Stockholm International Water Institute.
- 2 Asish Ghosh (2010), Kolkata and Climate Change, Climate change Policy Paper IV
- 3 Baggett S, Jeffrey P and Jefferson B (2004). "Participatory water reuse planning: a conceptual model based on social learning and personal constructs." Presented at IWA World Water Congress, Marrakech 19-24 September, CDROM.
- 4 Baggett S, Jeffrey P and Jefferson B (2006). "Risk Perception in Participatory Planning for Water Reuse." *Desalination*, 187, 149-158.
- 5 Batchelor, C.H., Rama Mohan Rao, M.S., & James, A.J. 2000. Karnataka Watershed
- 6 Brown R.R, Ryan R and McManus R (2001) An Australian Case Study: Why A Transdisciplinary Framework Is Essential For Integrated Urban Water Planning. In Maksimovic, C., and J.A. Tejada-Guilbert. (eds). *Frontiers in Urban Water Management: Deadlock or Hope*. UNESCO International Hydrological Program – V, Technical Documents in Hydrology, No.45 p251-259, IWA Publishing, London.
- 7 Burkhard, R., Deletic, A., and Craig, A. 2000. *Techniques for water and wastewater management: a review of techniques and their integration in planning*. *Urban Water*, 2: 197–221.
- 8 "Brundtland Report." 1987. *World Commission on Environment and Development: Our Common Future*. New York: United
- 9 Chakraborty Indrani & Sen Somnath, 2009, "Effective rain water harvesting – an Indian experience", international conference on Water Resource Development, EWRI, ASCE, IIT, MADRAS
- 10 Chakraborty Indrani & Sen Somnath, 2009, "Rain water harvesting in kokata a big challenge for sustenance", 3rd international conference on Decisions in Management and Social Sciences for Sustainable Development, IISWBM, Kolkata
- 11 Chakraborty Indrani & Sen Somnath, 2010, "Methodology for a supplementary source of water supply in slums of Kolkata Metropolitan Area", 56th international conference on poverty alleviation and urban development, ITPI, DELHI
- 12 Development Project: Water Resources Audit. KAWAD report 17, KAWAD society, Bangalore, India.
- 13 Diaper, C. Jefferson, B., & Jeffrey, P. (2001). *Water Recycling Technologies in the UK*. *Internationale Regenerwassertage 2001*. Mannheim 10-14 September 2001.
- 14 DITAC (1992) *Managing rain water: The untapped resource*. Workshop Proceedings, Environmental Technology Committee, Department of Technology Industry & Commerce, Canberra.
- 15 Dr. Priyadarshini Sen(2012), *Implementing Rainwater Harvesting Methods- A study in Baishnabghata-Patuli, Kolkata, India* IOSR Journal Of Humanities And Social Science (JHSS) ISSN: 2279-0837, ISBN: 2279-0845. Volume 5, Issue 1 (Nov. - Dec. 2012), PP 01-05
- 16 Falkenmark, M. & J. Rockström, (2004), *Balancing water for humans and nature: The new approach in ecohydrology*, Earthscan.
- 17 Gleick, P.H. (1993). *Water in Crisis*. OUP, New York pp.3-10
- 18 Goswami, A.B. (2002) *Hydrological Status of West Bengal*. In *Changing Environmental Scenario of the Indian Subcontinent*. Ed. By S.R. Basu. ACB Publication, Kolkata. pp.299-314).
- 19 Goswami, A.B (1995): *A Critical Study of Water Resources of West Bengal*. Unpublished Ph.D.. thesis, Jadavpur University, pp.57-65
- 20 Dr.ir. J.A.M.H. Hofman (1), Dr.ir. M. Paalman (1), 2014, Rainwater harvesting, a sustainable solution for urban climate adaptation?; KfC 142/2014



- 21 *John Butterworth and John Soussan, Water Supply and Sanitation & Integrated Water Resources Management: why seek better integration? WHIRL Project Working Paper 2, Prepared for WHIRL project workshop on 'Water Supply & Sanitation and Watershed Development: positive and negative interactions', Andhra Pradesh, India, 5-14 May 2001*
- 22 *Justyna Czemieli Berndtsson (2004), Beneficial use of stormwater: a review of possibilities, Urban Water; Chalmers University Of Technology Gothenburg, Sweden, Report 2004:6.*
- 23 *Lanka Rainwater Harvesting Forum(2000), ERB IC18 CT98 0276 ,Milestone4:Report D4*
- 24 *Smerdon.T, Wagget.R, and Grey.R. (1997). Sustainable housing options for independent energy, water supply and sewage. Bracknell:BSRIA.*
- 25 *Ward, S., Barr, S., Butler, D. en Memon, F.A. (2012a) Rainwater harvesting in the UK: Socio-technical theory and practice. Technological Forecasting & Social Change 79, 1354-1361.*
- 26 *Terpstra P.M.J., (1998), Sustainable water usage systems; Models for the sustainable utilisation of domestic water in urban areas. In International WIMEK Congress on Options for Closed Water Systems, Sustainable Water Management, march 11-13, Wageningen, The Netherlands.*
- 27 *UN-Water Thematic Initiatives (2006), Coping with Water Scarcity*



DOMPERIDONE FLOATING BEADS: FORMULATION, IN-VITRO EVALUATION AND METHOD DEVELOPMENT BY UV-VIS SPECTROSCOPY

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ABSTRACT

The objective of present study was, to formulate and evaluate floating beads of domperidone. Floating beads were fabricated using Effervescent method, using HPMC E50 as a sustained release polymer. The parameters optimized for this preparation were polymer concentration, sodium bicarbonate and calcium chloride concentration. The floating system has density less than that of gastric content, which tends them to float on the surface of gastric fluid. Gastro-retentive floating drug delivery systems have emerged as an efficient means of enhancing the bioavailability, as domperidone has absorption window at upper part of GIT, so it is beneficial to localize the drug at its maximum absorption site. Domperidone is having less oral bioavailability (13-17%), so in order to increase the bioavailability of the drug gastric retention is the most efficient tool, as the sustained release of domperidone gives maximum therapeutic concentration of the drug for prolonged duration of time. The results obtained for drug entrapment efficiency, % yield, In-vitro drug release, and % In-vitro buoyancy are 68.80%, 67.21%, 79.87%, 87.30%, respectively.

KEYWORDS: *Domperidone, floating beads, sustained release, in-vitro release study*

INTRODUCTION

For the drugs having absorption at upper part of GIT, oral route of drug administration is the efficient mean of drug delivery as to maximize the effect of drug. The floating drug delivery system has tendency to remain buoyant in the gastric entity, as it having the density less than gastric fluid. The effervescent method utilizes polymers as hydroxypropylcellulose, hydroxypropyl methylcellulose the coating of polymer, is insoluble but permeable, and allows permeation of water. When beads comes in contact with gastric acid then carbon dioxide is released, causing beads to float on

the surface gastric fluid gastro retentive drug delivery system has an efficiency to sustain the drug release for prolonged period of time. It is beneficial to improve plasma concentration of drug and giving maximum effect. It also helps to improve variation in bioavailability. Domperidone is a synthetic benzimidazole compound that acts as dopamine D2 receptor antagonist. Domperidone is also used as a prokinetic agent for treatment of upper gastrointestinal motility disorders. It can be a good alternative to metoclopramide because it has fewer side effects. After oral administration, domperidone is rapidly absorbed from the stomach and the upper



part of the GIT with fewer side effects. It is a weak base with good solubility in acidic pH but significantly reduced solubility in alkaline medium.

Effervescent systems

Effervescent system involves resin beads loaded with bicarbonate and coated with ethyl cellulose. The coating of polymer which is insoluble but permeable, it allows permeation of water. Thus, carbon dioxide is released, causing beads to float in the stomach. Excipients used most commonly in these some of the polymers used are hydroxypropylcellulose, hydroxypropyl methylcellulose, cross povidone, sodium carboxy methyl cellulose, and ethyl cellulose. In this system floatability can be achieved by the generation of gas bubbles. They are formulated in such a way that when in contact with the acidic gastric contents, CO₂

Therefore domperidone has been selected as a model drug so as to retain it in the stomach as well as to improve its bioavailability, and dissolution rate is liberated and gets entrapped in swollen hydrocolloids, which provides buoyancy to system.

Materials and methods: Domperidone, Propyl methyl cellulose E-50(HPMC) was provided by Sandip institute of pharmaceutical sciences, Nashik. All other chemicals/reagents used were of analytical grade.

Table No.1: Formulation of domperidone floating beads

Formulation Code	Drug (mg)	Pectin (mg)	Calcium carbonate (mg)	Calcium chloride (%)	HPMC (mg)	Sodium bicarbonate (mg)
F1	150	300	150	4	100	150
F2	150	300	150	3	120	125
F3	150	300	150	2	140	100
F4	150	300	150	1	160	90
F5	150	300	150	1	180	50

Preparation and optimization of Floating beads

- Dissolved accurately weighed quantity of pectin (3 gm) in 100 ml of deionized water, with continuous stirring.
- Add (1.5gm) of drug (Domperidone) in above pectin solution, this was followed by addition of sodium bicarbonate, calcium carbonate, and HPMC.
- Sonicate the resulting mixture for 30 min, in order to remove entrapped air bubbles.
- Prepare 2% w/v solution of calcium chloride in 10 % glacial acetic acid .
- Fill the syringe gauze with prepared solution and this homogenized mixture was extruded into 2% w/v calcium chloride solution with gentle agitation at room temperature.
- The formed beads were allowed to stand for 30 min in the solution for curing.(2% w/v calcium chloride solution)
- Filter solution and collect beads.
- Dry the beads in hot air oven below 40^oc for 24 h.

EVALUATION OF PECTIN BEADS

Appearance:

The prepared beads were inspected visually for clarity, color, shape.

Percentage yield and drug entrapment efficiency (DEE):

The percent yield of the prepared beads were studied by the formula

Percentage yield =

weight of beads recovered

(weight of drug + polymer) X 100

To determine the incorporation efficiency, beads were taken, thoroughly triturated and suspended in a minimal amount of methanol. The suspension was suitably diluted with water and filtered to separate shell fragments. Drug content was analyzed spectrophotometrically at 285 nm. The amount of drug entrapped in the microspheres was calculated by the following formula

Entrapment efficiency= (Amount of drug actually present/theoretical drug load expected)× 100

**In- vitro release**

Release studies were performed by using USP Apparatus type –II,(basket type) taking 10 mg of Drug loaded beads, introduced into the 900 ml of 0.1N hcl, The medium was maintained at 37±0.5°C at 100 rpm. Aliquots (5ml) were withdrawn at regular intervals for 8 h and analyzed spectrophotometrically at 285 nm. The solution was filtered, appropriately diluted analysed spectrophotometrically at 285 nm. The same amount of fresh medium was replaced after every sample collection, to maintain the sink condition

Floating lag time

In a beaker 10 ml of 0.01 M HCl was taken and 1 mg of domperidone pectin beads were taken in the beaker and with the help of stopwatch the time taken by beads to reach at the top of the surface of fluid medium was noted as a floating lag time .

Percent (%) In vitro buoyancy study

Floating microspheres (equivalent to 100 mg) were dispersed in 900ml of 0.1 N Hydrochloric acid solution (pH1.2) containing tween 80 (0.02%W/ V) to simulate gastric fluid at 37°. The mixture was stirred with a paddle at 50 rpm and after 8 h, the layer of buoyant beads (Wf) was pipetted and separated by filtration simultaneously sinking beads (Ws) was also separated. Both beads type were dried at 40°C .Each weight was measured and % buoyancy was

determined by the weight ratio of the floating beads to the sum of floating and sinking beads.

$$\% \text{ buoyancy} = \frac{Q_f}{Q_f + Q_s} \times 100$$

$$(Q_f + Q_s)$$

Q f =weight of floating beads

Q s =weight of settled beads

Swelling Index

The basket containing beads was put in a beaker containing 100 ml of 0.1 N HCl , maintained at 37° c. The beads were periodically removed at predetermined intervals and weighed. Then the swelling ratio was calculated as per the following formula.

$$\% \text{ Swelling index} = \frac{\text{weight of wet beads}}{\text{weight of dried beads}} \times 100$$

Floating time of beads

The bead samples (10 mg) were placed in a beaker filled with 50 ml of 0.1 N HCl solution. Temperature was maintained at 37° C. The floating time of beads was observed for 24 hr. The preparation was considered to have buoyancy in the test solution only when all the beads floated in 0.1 N HCl solution.

RESULTS**Table no.1: Physical appearance of domperidone floating beads**

Formulation code	Colour	Appearance
F1	White	Oval
F2	Creamy	Round
F3	White	Round
F4	White	Round
F5	Creamy	Round

**Table no.2:% yield ,floating time ,% in-vitro buoyancy and % swelling index**

Formulation Code	Floating Lag Time	% <i>In-Vitro</i> Drug Release
F1	> 5 sec	79.87 %
F2	8 sec	74.20 %
F3	12 sec	66.40 %
F4	8 sec	59.05 %
F5	16 sec	56.01 %

Table no.3 : floating lag time , % In-vitro drug release

Formulation code	% yield	Floating time	% in-vitro buoyancy	% swelling index
F1	67.21 %	>24 h	87.30 %	85.90
F2	64.75%	< 18 h	81.57 %	77.4
F3	64.08%	12 h	80.76 %	79.3
F4	60.54 %	<9 h	78.16 %	74.1
F5	59.56 %	7h	73 %	72.9

Table no.4 : *In-Vitro* Drug Release For F1 BATCH

Time (min)	Absorbance	Conc ug/ml	Conc mg/ml	Con mg /10 ml	Correction factor	Conc Mg/900ml	Cumilitiv e Conc	% Release
30	0.595	85.42	0.085	0.85	0	76.88	76.88	51.25
60	0.656	94.14	0.094	0.94	0.854	84.72	85.58	57.05
120	0.692	99.28	0.099	0.99	1.795	89.35	91.15	60.76
180	0.747	107.1	0.107	1.07	2.788	96.42	99.21	66.14
240	0.782	112.1	0.112	1.12	3.86	100.92	104.7	69.85
300	0.824	118.1	0.118	1.18	4.981	106.32	111.3	74.20
360	0.845	121.1	0.121	1.21	6.162	109.02	115.1	76.79
420	0.858	123	0.123	1.23	7.374	110.7	118.0	78.71
480	0.862	123.5	0.123	1.23	8.604	111.21	119.8	79.87

DISCUSSION

Five formulations were prepared with the optimization of polymer (HPMC), calcium chloride and sodium bicarbonate. The variations of calcium chloride and HPMC were 1%,2% 3%, 4% with varying combinations. The drug loading was constant in each formulation.The buoyancy of each of the five formulations were find out and the maximum floating time was observed for formulation F-1. Formulations The percent yield was found to be maximum for f-1 as 67.21 % .All the formulations show presence of good drug content and low standard deviations of results. It indicates that the drug is uniformly dispersed in the formulations. Therefore, the method used in this study appears to be reproducible for the preparation of beads. Formulation F-1 prepared with 4% calcium chloride, which gives maximum drug

release as 71.13 %which is may be due to less polymer concentration as less polymer concentration will help drug to diffuse well and was selected to observe further effect of calcium chloride concentrations on drug release.F1 having 4% calcium concentration gives spherical beads as having better cross linking. Formulation F-1 prepared with 100 mg of HPMC , 150 mg of sodium bicarbonate and syringing in 4% calcium chloride solution was selected. In vitro drug release profile of domperidone beads formulation F-1, is given in (Table 11).The physical appearance of domperidone floating beads was observed for colour and appearance for five formulations (F1 - F5). The results obtained were as follow,

**% yield**

Formulation F1 shows higher yield, i.e. 67.21%. Overall the drug loading was decreased with increase in the polymer concentration due to its higher viscosity which affects the diffusion coefficient of drug. The reduction in yield was attributed to loss of material during preparation of beads and due to process parameters as well as during filtration of beads.

METHOD DEVELOPMENT OF DOMPERIDONE FLOATING BEADS BY UV-SPECTROSCOPY

Preparation of standard (Bulk) solution of domperidone:

- ❖ Weigh 10 mg of domperidone powder. Dissolve it in sufficient amount of 0.1 N HCl. Make up the volume upto 100 ml with 0.1 N HCl.

Preparation of test solution:

- ❖ The beads were crushed with the help of mortar and pestle and weigh the powder equivalent to

10 mg of drug and transferred to 100 ml of volumetric flask.

- ❖ To this add diluent (0.1 N HCl) to adjust the volume and sonicate the solution for 30 minutes.
- ❖ After sonication final volume was made with 0.1 N HCl.

1. Linearity- Acceptance criteria for linearity is Correlation coefficient (r^2) = 0.99.

Procedure:

Linearity solutions 2, 6, 8, 10, 12 ppm were prepared by diluting 0.2, 0.4, 0.6, 0.8, 1.0 and 1.2 ml of standard (bulk) solution with 0.1 N HCl upto 10 ml.

Six points calibration curve were obtained in a concentration range from 2-12 ppm for domperidone. The response of the drug was found to be linear in the investigated concentration range and the linear regression equation was $y = 0.0942x + 0.1764$ with correlation coefficient $R^2 = 0.9915$ (Table 2, Figure)

Regression Characteristics of Domperidone.

Parameters	Observation
Slope (b)	0.094
Intercept (a)	0.176
Correlation Coefficient (r^2)	0.991

Discussion:

The absorbance of these resultant solutions were measured at 285 nm against 0.1 N HCl as blank and a graph was plotted between absorbance obtained and the concentrations of the solutions. The Lambert-Beer's law was obeyed in the concentration range of 2 to 12 $\mu\text{g/ml}$ at 285 nm

Limit of Quantitation and limit of detection.

- ❖ The Quantitation limit is the characteristic of Quantitative assay, for low levels of the compounds in sample matrices, such as impurities in bulk drug substances.
- ❖ It decides about the sensitivity of the method.
- ❖ LOD is the lowest detectable concentration of the analyte by the method, while the LOQ is the minimum quantifiable concentration.
- ❖ Linearity solutions were prepared of 2, 4, 6, 8, 10 and 12 ppm from standard stock solution for determination of LOD and LOQ

Observation table for LOD and LOQ

Validation Parameter	Observation	Test passes/ failed
LOD	0.596 ppm	Test Passed
LOQ	1.79 ppm	Test Passed

- ❖ **Discussion:** The results shows LOD and LOQ values within specified limits. It proves sensitivity of the method

❖ Precision:

Acceptance criteria:

1. Percent assay = It should be between 98-102 %
2. % RSD - < 2 %

Procedure for precision (10 ppm):

- ❖ Pipette out 1 ml from test solution and dilute it up to 10 ml with 0.1N HCl
- ❖ Repeat the same procedure for six times
- ❖ Take the UV absorbance of these six test sample and one standard sample of 10 ppm at 285 nm
- ❖ Calculate % assay, standard deviation, % relative standard deviation.

**Formula for calculation of % assay**

$$\frac{\text{Absorbance of Test X} \times \text{Weight of Std} \times \text{Further dilution}}{\text{Absorbance of Std} \times \text{ml of solvent} \times \text{MI of solvent} \times \text{Further dilution} \times \text{average weight of beads powder}}$$

Further dilution X average Weight /Label claim X 100

Precision

Concentration	Absorbance	% assay	(X - x')	(X - x') ²
10	0.6395	98.50 %	0.	0
10	0.6497	100.77 %	2.27	5.15
10	0.6583	101.00%	2.5	6.25
10	0.6539	100.72 %	2.22	4.92
10	0.6549	100.87 %	2.37	5.6169
10	0.6672	102.00 %	3.5	12.25

Observation table for Precision

Validation parameter	Acceptance criteria	Observation	Test passed / Test failed
Precision	% Assay=98-102 %	98.50 %	Test Passed
	% RSD =< 2	1.076 %	Test Passed

3. Accuracy

1. The accuracy of an analytical procedure is the closeness of test results obtained by that procedure to that true value.

2. Accuracy is calculated as percentage of recovery by assay of known added amount of analyte in the sample.

Acceptance criteria:

1. Percent recovery = 98 -102 %
2. % RSD - < 2 %
3. Accuracy of the method is ascertained by standard addition method at 3 levels. Standard quantity equivalent to 80%, 100% and 120% is to be added in sample. The result shown that best recoveries (95 -100%) of the spiked drug

were obtained at each added concentration, indicating that the method was accurate (Table 7 .8).

PROCEDURE

- ❖ For Accuracy, Prepare the solution of mixture of standard and test solution, i.e. 18, 20 and 22 ppm.
- ❖ Pipette out 0.8, 1, 1.2 ml from Stock standard solution with 1 ml of test solution of 100 ppm.
- ❖ The above mixture solution diluted upto 10 ml with 0.N 1 HCl.



Accuracy

	Absorbance	Ppm	ml of test	ml of standard	Theoretical yield	Practical yield	% Recovery
80%	1.2011					18.50	102 %
	1.1890	18	1	0.8	18	18.31	101.74 %
	1.1855					18.26	101.44 %
100%	1.3195					20.32	101.62 %
	1.3090	20	1	1	20	20.16	100.61 %
	1.3085					20.15	100.77 %
120%	1.4020					21.59	98.16%
	1.4135	22	1.2	1	22	21.77	98.96 %
	1.4394					22.17	100.78 %

Absorbance of standard= 0.649

Observation table for Accuracy

Validation Parameter	Acceptance criteria	Observation	Test failed /passed
Accuracy	% Recovery=98-102 %	100.78 %	Test Passed

Robustness:

1. Robustness of an analytical procedure is a measure of its capacity to remain unaffected by small but deliberate variations in procedural parameters tested in the procedure documentation and provides an indication of its suitability during normal uses.

Acceptance criteria:

% Relative standard Deviation = < 2

Procedure for Robustness (10 ppm):

- ❖ Pipette out 1 ml from test solution and dilute it upto 10 ml with 0.1N HCl
- ❖ Repeat the same procedure for six times
- ❖ Take the UV absorbance of these six test sample and one standard sample of 10 ppm at 285 nm
- ❖ Standard deviation , % relative standard deviation.

Table no. 7.10: Robustness

Concentration Ppm	Absorbance		
	284	285	286
10	0.968	0.966	0.963
10	0.9714	0.9711	0.9718
10	0.9894	0.9896	0.9893
10	0.9904	0.9907	0.9914
10	1.005	1.007	1.008
10	1.002	1.002	1.002
MEAN	0.9852	0.9841	0.9877
RSD	0.01535	0.01638	0.01741
% RSD	1.55	1.664	1.76

Observation Table for Robustness.

Sr.No	Parameter	Acceptance criteria	Observation	Test passed/failed
1	Robustness	% RSD = < 2	284 =1.55 285=1.66 286 =1.76	Test passed



CONCLUSION

The results obtained after evaluation of domperidone floating beads shows that the prepared beads has good floating ability, buoyancy, and it gives better drug release. The polymer concentration was the determinant of release of the drug as concentration of the drug decreases it also decreases with the percentage yield of beads and shows better drug release with optimum polymer concentration, as drug can diffuse well. The polymer concentration as increases it gives enhancement in buoyancy of the beads, as decrease in porosity.

Acknowledgment-

Authors are thankful to Sandip University's School of Pharmaceutical Sciences, Nasik (Maharashtra) for providing all necessary facilities and all the staff for their time to time guidance and help.

REFERENCES

1. P.S.Dongare, A.B.Darekar, Gondkar S.B: Floating Drug Delivery System: A Better Approach, *International Journal Of Pharmacy And Biological Science* 2013;3:72-85
2. Durga Jaiswal, Arundhati Bhattacharya, Indranil Kumar Yadav: Formulation And Evaluation Of Oil Entrapped Floating Alginate Beads Of Ranitidine Hydrochloride, *International Journal Of Pharmacy and Pharmaceutical Sciences* 2009;1
3. Chaturvedi Shashank , Kumari Prabha, Singh Sunil , Approaches To Increase The Gastric Residence Time: Floating Drug Delivery Systems- A Review, *Asian Journal Of Pharmaceutical And Clinical Research* 2013;6
4. Smriti Malviya ,Jitendra Pandey And Sumeet Dwivedi, Formulation And Evaluation Of Floating Microbeads Of Ciprofloxacin HCl By Emulsion Gelation Method, *International Journal Of Pharmacy And Life Science* 2013;4
5. Ganesh N. S, G. Bharathi, Jayanthi C. And Hanumanthachar Joshi ,Comparative Evaluation Of Wax Incorporated Alginate and Pectinate Gel Beads Of Metformin, *Scholars Research Library* 2014;6:10-16
6. R.Manivannan, Mahaboob Ali Baig, M.Purushothaman And N.Senthil Kumar,Formulation And Evaluation Of Eletriptan Hydrobromide Microspheres By Using Natural Polymers, *International Journal Of Pharmaceutics And Drug Analysis* 2014;2
7. P.M.Dandag,dhoplenagratna,A.P.Gadad,C.K.Pandey, formulation And Evaluation Of Itopride Hydrochloride Floating Beads for Gastroretentive Delivery ,*International Journal Of Pharmaceutical Science And Nanaotechnology* 2013;6
8. P.N.Murthy,Anjan.K.Mahapatra,Tapan Kumar Nayak ,Formulation ,Characterization And Drug Release Kinetis Of Floating Drug Delivery Systems ,*Journal*

- Of Chemical And Pharmaceutical Research* ,2015;7:781-792
9. Hemant .B.Pagar,Utkarsh.P.Shinde,Formulation and In Vitro Evaluation Of Floating Alginate Gel Beads of Ofloxacin, *Journal Of Pharmacy Research*,2012;5:195-198
10. Indira Muzib Y. and Chaitanya K , Preparation And In Vitro Evaluation Of Floating Alginate Beads of Lamivudine, *Research Journal Of Pharmacy And Technology*, 2011;4
11. Pradeep K. Nimase And G. Vidyasagar, Preparation And Evaluation Of Floating Calcium Alginate Beads of Clarithromycin, *Pelagia Research Library*,2010;1:29-35
12. Swapnila.V.Shinde(Vanshiv) , rohit pawar, Hemant P Joshi , Domperidone Floating Microspheres: Formulation And In Vitro Evaluation ,*Journal Of Pharmacy Research*,2012; 5:2235-2238
13. Yadav V. D, Babar S. A, Dr.S.Satheshkumar, Formulation And Evaluation Of Floating Beads of Norfloxacin, *IOSR Journal Of Pharmacy*,2016;6



THE APPLICATION OF A FOREIGN POLICY APPROACH TO NATIONAL INTEGRATION IN NIGERIA

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ABSTRACT

Domestic policies in Nigeria incorporated national integration as a core objective, yet there pervades a palpable air of attenuating sense of nationhood in Nigeria. Apparently, ethnic national consciousness trail and frustrate all legitimate efforts at achieving national unity and development. The letdown is a problem of deliberate or oblivious neglect of the significance of international norms and obligations and the non-conformity of domestic policy planning and implementation with best practices. This study sets out to examine the relevance of international milieu obtained through foreign policy or diplomacy in Nigeria's quest for cohesion. Instrumentalist Nationalist theory was adopted to explicate the causative factors for the failure of integration. Findings are that due regard is not accorded to the flux in the international atmosphere, in other words emphasis is not duly placed on the foreign scene for acquaintance and conformity of domestic policies with the international milieu, conditioned by growing institutions, laws and conventions which themselves have continued to transform along the nuances in global challenges. Data, mostly collected from secondary sources through validated instruments were analysed using the qualitative technique. It is strongly recommended that recourse must be made to the foreign policy sphere for purposeful integration and national development.

KEY WORDS: *National Integration, Foreign Policy, Diplomacy, Human Rights, Democracy.*

INTRODUCTION

Nigeria since independence is challenged with the problems of poverty, technological backwardness, divisive ethnic and religious strife, criminality and terrorism, mis-governance and deepening rot in national infrastructure and violent conflicts (Iheanacho, 2014; NBS, 2018) often ascribed to artificially drawn colonial boundaries which sometimes traverse 'national' lines. It is however contestable whether artificial boundaries attributable to colonisation is eccentric in view of the existence of fewer states with natural boundaries; and the existence of multi-national societies in the advanced world. Akinyemi (2001)

Nigeria's multi-nationality had been acknowledged far back as the colonial period, leading to the 1954 Lyttleton Colonial Constitution which introduced Federalism as an integrative mechanism. Bakari, (2017) The colonialists must have been swayed by the opinion that such a system of government was necessary to preserve both integration and stability in a deeply divided society like Nigeria. This argument does not undermine the fact that in Nigeria prior to the European conquest and colonisation, the various nationalities have related in the form of trade and cultural exchange to the point that Nigeria is assumed not to be by 'accident'.



After independence, Nigeria under Gowon embarked upon the creation of twelve states and the dismantling of regional structures in May, 1967. The Land Use Decree was further enacted. Onifade & Imhonopi (2013) further highlighted the creation of the National Youth Service Corps scheme through Decree No.24 of May 22, 1973 and the Principle of Federal Character which was later enshrined in the 1979 Constitution of the Federal Republic of Nigeria towards improving inter-cultural appreciation, exchange and distribution. (Ugoh & Ukpere, 2012 in Onifade, 2013:78) The National Policy on Education is another unifying factor (see Akpan, 1990 in Onifade, 2013:78; FRN 1981 & 1998) Reform of revenue sharing formula, the establishment of Unity Schools run by the Federal Government and the introduction of unified Local Government system in Nigeria were all geared towards integration. In spite of these laudable initiatives and those of the succeeding governments in Nigeria, there is apparent lack of cohesion among the people and commonness.

The division among nationalities in Nigeria became visible when the three geopolitical and major ethnic regions (prior to independence) began to create dominant political parties without any common heritage of ideology to which national policies must conform. (Philips, 1964) Successive republics in Nigeria have not differed from the 1959 political trend where the Northern People's Congress (NPC) dominated the north, the Action Group (AG) dominated the south west, the National Council of Nigerian Citizens (NCNC) controlled the south east. During the Second Republic, the National Party of Nigeria was a northern party, the Unity Party of Nigeria controlled the western region while the National People's Party was predominantly an eastern party. Despite the military incursion on the formation of political parties during the botched Third Republic, the National Republican Convention was a northern dominated party, while the Social Democratic Party featured mainly in the south. At the inception of the current dispensation, the All Nigeria People's Party and People's Democratic Party similarly showed regional dominance in the north and south respectively, thereby deepening the endless yearning for unity and legitimacy. (Bakari, 2017)

The bigoted political configuration and ideological persuasions promote the absence of national cohesion, poor governance and "bad" politics in Nigeria, known as the 'personalized' nature of rule. The failure of the state to promote and protect human rights, the penchant for resort to ethnic cleavages as a form of

withdrawal from centre and nationalist protest intensified the struggle for the control of state power and resources by the privileged few. In order to sustain itself in power, the state has interfered excessively in both domestic and international trade and economic activities to the extent there is lack of assured stability in policies, which discourages foreign investment. The tendencies arising from state involvement is ineptitude, corruption and sit-tight syndrome that has affected democratic progress in Africa; this is attended by rising conflicts especially in Nigeria. (NBS, 2018)

A prognosis into whether the domestic policies are inadequate, whether it is the implementation process that is faulty or whether it is the State that is conceited and insincere about carrying out policies capable of enhancing cohesion educates a quest into the relevance of foreign policies in national integration. Nigeria enunciated the defense and promotion of national sovereignty; promotion of the rights of the black people; promotion of African unity and equality among others as the principles guiding her foreign policy (Femi Otubanjo, 1989:4). African countries have considered the alternative of economic cooperation, integration or the pooling of economic sovereignty as a strategy towards transforming their economies or improving their standards of living. (Asante S.K.B., 1985) The question is why has Nigeria failed to seize opportunities abiding in foreign bilateral and multilateral cooperation to enhance unity and development? A clarification of few concepts before attempting a theoretical explanation of the plausible factors, character and effects of the absence of national consciousness in Nigeria is informative. Efforts are made to establish possible linkages between the concepts, leading to conclusion and recommendations.

CONCEPTUAL CLARIFICATIONS

National Integration

National Integration can be viewed as the harmonious co-existence of diverse social groups (Bello, 1987). It can also be viewed from the perspective of the unison of all the component parts of a state irrespective of the natural or contrived differences or other forms of identity. From the perspective of what constitutes a nation, national integration refers to the affective feeling of identity with a background delimited by common culture. For want of space, we may not consider the philosophical basis of nationhood, but it is necessary to highlight the facts that integration does not preclude the existence of other primordial identities, however such identities are subsumed in national ethos. National integration drives



genuine national development by thawing the ice of self interest and personal aggrandizement which has eaten deeply into the national fabric and accentuated narrow cleavages and its sustenance.

Foreign Policy

Foreign Policy has been defined as "the content or substance of a nation's efforts to promote its interest vis-a-vis other nations" (Chandra, 1983). It is also aptly defined by George Modelski as "the systematic activities evolved by (states) for changing the behaviour of other states and for adjusting their own activities to the environment" (Chandra, 1983:1). The import of this definition inheres in its acknowledgement of the task of adjusting the home state's own activities to the international environment or milieu where its own policies are targeted. In order to put it more comprehensively, it is the total perception or feeling of a state about itself relative to others, and how the state wishes that other states relate with it. Apart from the domestic factors which condition a State's behaviour, international law, institutions, codes and conventions help to shape a State's domestic policies and behaviour. It can be seen as an interaction between forces originating outside the country's borders and those working within them.

Diplomacy

Diplomacy has been defined variously as the art of representation, effectuation of the purpose and tasks of the sending entity or State (Gasiokwu, 2004). Diplomacy is a living concept, an art acknowledged to be 'as old as mankind' and 'as the earth' itself, which will exist till 'the world comes to an end' (Gasiokwu, 2004:5). Within this context therefore, can diplomacy arguably be said to predate modern state formation or in the other way round can it plausibly outlive the organic state? From the modern state context, diplomacy refers to a vehicle designated for the conveyance of a state's interests or national interest encapsulated in foreign policy to the sphere of effectuation; and as the means of acquainting the home state with valuable data on developments at the foreign landscape towards aligning domestic policies with the international milieu as may be required from time to time.

Democracy and Human Rights

Democracy has been described in the following words of J.J. Rousseau:

'it is not expedient that he who makes the laws should execute them, nor that the body of the people should divert its attention from general considerations in order to bestow it on particular objects.

Nothing is more dangerous than the influence of his private interests on public affairs; and the abuse of the laws by the government is a less evil than the corruption of the legislator... A people which would never abuse the government would likewise never abuse its independence; a people which governed well would not need to be governed'. (Wordsworth 1998 ed)

The Nigerian example of democracy is as may be inherited, the domineering attitude of the State, unlike democratic societies whose features rest with the spirit and intendment of laws and policies rather than the rules themselves. (Montesquieu, cited in Springer, 2011)

Human Rights has been defined variously as those demands which individuals make on society as a form of statutory obligation accruable to man by virtue of his nature and existence in society, some of which are realistic while others are aspirations to be fulfilled in the future. Express provisions pertaining to the entitlement of man to these rights are enshrined in the Constitution of the Federal Republic of Nigeria 1979 and 1999, the Organisation of African Unity's Charter on Human and People's Rights, and the United Nations Universal Declaration on Human Rights. It is notable that most infringements on human rights are committed by the State, therefore, for the identity and moral habits of citizens to conform with the norms prescribed by the State, the State itself must be seen to be of a sound political culture in Machiavelli's, (1984) position. (cited in Springer, 2011)

THEORETICAL CONCEPTIONS

Whether the narrow pursuit of ethnic national identities in Nigeria which has negatively conditioned central national integration qualify to be referred to as Nationalism remains cardinal in this study. If the response is in the affirmative, then we briefly probe into the labyrinth of a few nationalist paradigms. Some of the existing Nationalist appeals are either Primordialist or Instrumentalist paradigms, but how adequately they mainstream the causes and nature of the centrifugal forces in Nigeria's integration is our quest. National integration can arguably be impelled by nationalism, but depicting the point of intersection between nationalism at the ethnic level and nationalism at the broader level of state remains a pristine endeavour.

Primordialism consists of subjective assumptions that group identity is fixed and that in all human societies, primordial and rabid solidarity



emanates from sanguine, cultural and geopolitical tendencies. (Llobera, 1999). Geertz, 1973 (cited in Llobera, 1999) believes that bonds arising from these primordial elements are deep, coercive and a result of a long process of unification. Llobera (1999) further states that primordial realities emerging from ethnic identity is deeply rooted in the common historical experiences of human beings to the extent of being practically a given. Primordialist approaches contend that ethnic bonds are 'natural', fixed by the basic experiences that human beings undergo within their families and other primary groups. Edward Shils, (cited in Llobera, 1999:142) earlier expressed similar idea that in family attachments there is a significant relational quality that can only be called primordial. He explains that this is because there is an ineffable significance attributed to the ties of blood (Shils 1957:142).

According to Llobera, (1999) Sociobiologists take this perspective a step further by asserting that the biological character of ethnicity provides a bare account of why humans might have evolved group-interested identifications and behaviours. O'Leary (2001) has posited that nationalism is a form of ethnic identification, a group-interest motivated belief, similar to xenophobia. Nations therefore, are extended families, really so, or imagined as such naturally disposed towards ethnic nepotism, and preference in favour of their own kin. These paradigms adequately explain that holding other factors constant, the likelihood of conflict or cooperation can be predicted by reference to how closely related people are. The greatest exception to the Socio-biologist Nationalism arises from its failure to adequately explain how and why these identities have taken a nationalist form in modern state narratives or can be extrapolated to 'the nation.' (O'Leary, 2001) It remains nebulous therefore under which environmental, economic, political or ideological conditions the centrifugal elements emerge.

The Instrumentalist Theory drives this study mainly because it explains both the genesis and maintenance of nationalism by the interests it is alleged to serve. This group also referred to as the School of Elite Theorists suggests that elites use and abuse the identities and ideas of the masses on behalf of, and because of, the interests of elites, especially through the 'invention of traditions' (Hobsbawm and Ranger, 1983). Some Instrumentalists insist that ethnic affiliation is simply a ploy to promote economic interests, and that individuals are ready to change group membership if that suits their sense of security or their economic interests. Nationalism's social power derives

from the ability of motivated elites to use cultural appeals to cloak their ambitions to capture state power or a share of state resources. Instrumentalist conceptions suitably explains the divisive role of ethnicity as the major factor for the disunity that pervades the Nigerian polity, though not without its own exception because 'Ethnicity scholars' believe is also dynamic in view of the possibility of an individual belonging to more than one ethnic group at a time and the tendency of ethnic groups as collective entities to adjust according to changing conditions. (Hobsbawm and Ranger, 1983)

Instrumentalist Marxists portray the bourgeoisie and the petty bourgeoisie, in particular, as likely carriers of nationalist ideologies because nationalism profitably cloak their class interests as general welfare, and because they have much to lose from the erosion of local cultures – allegedly unlike the proletariat. These views are not without exceptions; both the elites and the masses despite class limits have interests (genuine or otherwise) which may not entirely be insensitive to the interests of lower social hierarchies. The impact of ideas and doctrines in persuading people about their interests and what is right is not given adequate attention, and identities are generally taken for interests. (Ringmar, 1996).

THE NATIONAL INTEGRATION AND FOREIGN POLICY NEXUS

No nation is an island of its own, they relate and interdepend on each other because of the dynamic nature of humanity and the uneven endowment in terms of natural and human resources and wealth. Nations are bound to learn or become sources of information for others as human society continues to grow and come in contact with challenges individually and collectively. In a globalised world where the boundaries of states are traversed by the free movement of persons, capital, information and services, the degree of interdependence of nations has increased, for which the UN Secretary General has urged nations to address the common challenges of development, security and human rights. (Adebusoye, 2009) Yet, the world's greatest challenges reside in the underdeveloped axis, evidently aggravated by the negative impacts of the integration of the weak and poor economies into the rich and strong Northern economies on unequal terms of exchange. The assimilation of the global economy has therefore thrown up an inextricable link between the challenges of cohesion, political development, security and human rights in both the developed and the underdeveloped worlds.



The major channel for cooperation and exchange of information between sending and receiving states and the international community generally is the diplomatic channels. On the other way round, ingenious attraction of remittances from the rich to the poor states can be achieved through the instrumentality of the diplomatic channels. Along with the wave of globalisation and modernity has come the wave of democratic change and the mantra of good governance which has assumed the universal norm and best practices that are inevitable to nations that wish to remain relevant in world polity. To this extent the UN at its millennium summit in the year 2000 launched the Millennium Development Goals Programme (MDGs)

which necessitates the developing countries implementing national development action with development assistance from the developed countries by 2015. Due to the unending crises in Africa and Asia especially and the failure of developing countries to meet the target year, a new initiative known as Sustainable Development Programme was launched with a target of year 2030.

Prior to the investiture of the millennium development programmes, the United Nations apart from the United Nations Declaration on Human Rights (1948) had initiated seven conventions towards the establishment and promotion of global standards and norms:

Treaty	Date
International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)	1965
International Covenant on Civil and Political Rights (ICCPR)	1966
International Covenant on Economic, Social and Cultural Rights (ICESCR)	1966
Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)	1979
Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT)	1984
Convention on the Rights of the Child (CRC)	1989
International Convention on Protection of the Rights of All Migrant Workers and Members of their Families (ICMRW)	1990

Source: UNFPA, 2004.

Beside these, various Conferences and Committees have held towards the effectuation and monitoring of the provisions of these treaties, most of which are binding on United Nations members. In the year 1999, the United Nations formally recognised the universal right of every individual to democracy, a composite instrument that recognises the rights of individuals to choice of governmental system through democratic means; political participation; universal suffrage; transparent and accountable government institutions; freedoms of opinion, expression, thought, religion and conscience and to seek, receive and impart information; rights to the rule of law and legal protection of citizens' rights; and to equal access to public service.

The Organisation of African Unity (OAU) succeeded by the African Union had also established conventions and protocols, most notably the African Charter on Human and People's Rights (1981) and its protocols (2016); Protocols against Terrorism and Corruption; and the African Charter on Democracy, Elections and Governance (2007); the African Peer Review Mechanism (APRM) 2003 and the New Partnership for Africa's Development (NEPAD) 2001 initiatives. Nigeria as a State has on its part had

domesticated or ratified most of the UN and AU treaties and similarly enshrined some of the provisions of these international conventions in its constitution (1979 & 1999). Chapters Two and Four of the 1999 Constitution of the Federal Republic especially contains the distinct forms of rights. However, Nigerian leaders have neglected or refused to align their domestic or national policies and practice with the wave of international suasions.

Much as our quest for grants in aid are duly associated with collateral adjustment in domestic policy, it infers that the international milieu influences national policies, integration not an exception. Democracy, good governance and the deepening of its practice enhances a sense of belonging irrespective of ethnic descent. The free will of people to determine their own political, economic, social and cultural systems and participation in democratic processes may be guaranteed, especially since these standard norms traverse ethnic and State boundaries. The free access of individual to their rights and aspirations attenuate primordial attachments and foster a greater sense of belonging.



FACTORS AFFECTING NATIONAL INTEGRATION

The most notable factor that affects national integration in Nigeria is the adulteration of democracy by the elites, to suit their narrow interests. Democracy does rest on the pillars and principles of human rights and freedoms; the rule of law and constitutionalism anymore. The failure of the elites to entrench democracy has robbed Nigerians of the sense of belonging. The Nigerian citizen has lost the true sense of respect for genuine ethical norms and standards. Loyalty is rather bigoted in favour of ethnic nationalism, leading to corrupt tendencies. Priorities are misplaced in governance, leading to weak institutions and domineering attitude. Resources are frittered away without due commitment to development aimed at giving the people custody of sovereignty through elections where votes must count. The absolute nature of Nigerian leaders divides Nigerians further.

CONCLUDING REMARKS

It is common knowledge that in spite of the adoption of national integration as core objective in national codes, there is a palpable degenerating sense of nationhood in Nigeria. The failure of national policies to enhance desired nationhood provokes the intense desire to explore, adopt and conform with international treaties, norms and obligations. The statutory task of the foreign policy entities is to take foreign policy decisions, carryout the policies and align or adjust domestic policies in conformity with the international milieu including the policies of other states and actors. There is palpable failure to utilise the international milieu as a prism to appraise or peer review the relevance and success of integration efforts, especially on the sides of the commitment of governments to democratic principles, the rule of law and respect for the rights of all citizens enshrined in international conventions.

Gasiokwu (2004) held that diplomacy is an indispensable tool for directing both the domestic and foreign affairs of the state. This study observed that adequate attention is not paid towards the import of reviewing domestic integration and other policies against the background of the nuances in the international environment and norms. Nigeria's avowed commitment to the leadership of Africa especially towards the policy of bringing all territories to a state of 'responsible independence' and its non alignment for example has been overtaken by the complete independence of African territories and the demise of the 'Cold War'. In the same context, world

over, the question of identity and sovereignty have been traversed by emerging global challenges and the development of international humanitarian law, institutions and conventions. The sovereignty of States and the question of domestic jurisdiction is traversed by the very principles upon which the United Nations Organisation is anchored; secondly by the nature of the powers and responsibility vested in the United Nations Security Council; and thirdly by the obligation and responsibility laid upon states to undertake to comply with any measure deemed necessary by the UN Security Council in order to maintain international peace and security. (O'Brien)

RECOMMENDATIONS

Taking inspiration from the universalisation of the human person as provided in the United Nations Declaration of Human Rights (UNDHR, 1948), human rights must be made accruable to all humans irrespective of colour, sex, race, religion. The question of citizenship should be reviewed to make every Nigerian a Nigerian entitled to all due rights and freedoms irrespective of the state of origin. The exigencies and the nuances of modernity requires the transformation of national policies along the dictates of the evolving global demands and best practices to curb the ever changing pattern of unforeseen security and development challenges mostly hinged on the absence of democracy, skills and development.

Democracy must be deepened as to make the will of the people the fountain of power, with the rule of law as the guiding principle and institutions strong enough to entrench the common will. The institutions of State must be responsible to the sovereign will of the people rather than becoming the instruments for protection and enforcement of the will of the leadership. Ballots and votes must be protected and respected as the symbol of sovereignty, whose breach must be deemed to be a treasonous felony. The huge resources of the Federation must be concentrated on providing adequate skills through education and infrastructure. Critical infrastructure like rail lines must be built to link all commercial nerve centres in order to reduce the cost of transport, cost of production and the prices of goods and services. Government interference in economic activities must be reduced to encourage investment.

**REFERENCES**

1. Adebuseye, Makinwa P. K. (2009) *United Nations and Development Issues in Nigeria*, Lagos: Nigeria Institute of International Affairs.
2. Aforka Nweke G.(1985) *African Security in the Nuclear Age*, Enugu: Fourth Dimension,
3. Akpan, P. A. (1990) *The Role of Higher Education in National Integration in Nigeria*, <http://link.springer.com>article>
4. Asante S.K.B., (1985) *The Political Economy of Regionalism in Africa: The Case of Economic Community of West Africa*, ABC-CLIO, LLC, 129
5. Bello, A. (2003) *Stakeholders Renew Concern Over Rising Unemployment*. *The Guardians* June 24 pg. 33.
6. Bolaji Akinyemi, (1989) *The Colonial Legacy and Major Themes in Nigeria's Foreign Policy*, In A.B. Akinyemi, S. O. Agbi and A. O. Otubanjo eds. *Nigeria Since Independence, The First 25 Years Volume X, International Relations*, Ibadan: Heinemann Educational Books (Nig.) Ltd
7. Claude, S. Phillips FR. (1964), *The Development of Nigerian Foreign Policy*, U.S.A: Northwestern University Press,
8. Clifford, Geertz (1973) *The Interpretation of Cultures:Selected Essays*, staff.uny.ac.id>files>pendidikan
9. Femi Otubanjo, (1989) *Introduction: Phases and Changes in Nigeria's Foreign Policy*, In A.B Akinyemi, S. O. Agbi and A. O. Otubanjo eds. *Nigeria Since Independence, The First 25 Years Volume X, International Relations*,
10. Gasiokwu, M. O. U. (2004), *International Law and Diplomacy (Selected Essays)*, Enugu: Chenglo Limited
11. *Constitution of the Federal Republic of Nigeria*, (2000) Federal Government Press,
12. Geertz, C.(1973) *The Interpretation of Cultures*, New York: Free Press,
13. Hobsbawm and Ranger, (1983) *The Invention of Tradition*, Cambridge, New York: Cambridge University Press,
14. Llobera, Josep R. (1999) *Recent Theories of Nationalism*, Research carried out at the University College London. Diputacio du Barcelona.
15. Prakash Chandra, (2006) *International Relations*. New Delhi: Vikas Publishing House PVT LTD
16. Jean-Jacque Rousseau, (1998) *The Social Contract, or Principles of Political Right*, London: Wordsworth Edition Limited, Translation by H. J. Tozer.
17. Sandra Ocheng Springer, (2011) *Inter-Relationship Between the African Union and Nigeria*, retrieved from www.academia.edu, December, 6
18. Iheanacho, E. N. (2014), *National Development Planning in Nigeria: An Endless Search for Appropriate Development Strategy*, *International Journal of Economic Development Research and Investment*, Vol. 5, No. 2, 2 August. Retrieved from www.academia.edu/36260016
19. *National Policy on Education (Federal Republic of Nigeria, 1981 & 1998)*
20. O'Leary, Brendan (2001) *Instrumentalist Theories of Nationalism*, CHAP retrieved on <https://www.researchgate.net/publication/258838457-2020/02/01.10.09>
21. Onifade, Comfort Adenike and Imhonopi, David (2013) *Towards National Integration in Nigeria: Jumping the Hurdles*, *Research on Humanities and Social Sciences* Vol.3, No.9, www.iiste.org pp75-82
22. Salihu Bakari, (2017) *National Integration in Humanities and Development: The Way Forward UJAH Special Edition*, <http://dx.doi.org/10.4314/ujah.v18i2.21>
23. Ugoh & Ukpere, (2012) *Policy of the Federal Character Principle and Conflict Management in Nigerian Federalism*, *African Journal of Business Management*, June, <https://www.researchgate.net>publication>
24. Zainab Gimba1 and Sheriff Ghali Ibrahim2 (2018) *A Review of External Factors That Determine Foreign Policy Formulation*. *Indo-Iranian Journal of Scientific Research (IJSR) Volume 2, Issue 1, Pages 119-130, January-March*
25. UNFPA Annual Report 2004 www.unfpa.org>publications>u..
26. UN Human Rights Commission Resolution 2003/6, UN Doc E/CN. 4/2003/59. See: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G03/105/74/PDF/G0310574.pdf?OpenElement>.
27. See: <http://www.2.ohchr.org/english/law/ccpr.htm>
28. <http://www.undemocracy.com/A-RES-59-201.pdf>.



FACILITATING PEDESTRIANIZATION FOR REDEVELOPMENT OF COMMERCIAL PRECINCTS, CASE STUDY AMINABAD, LUCKNOW

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Article DOI: <https://doi.org/10.36713/epra4157>

ABSTRACT

The early stages of urban development people tended to focus on solving the problem of vehicular traffic, so now a large number of existing roadways are occupied by vehicles, triggering disputes and problems about pedestrian safety and comfort. Despite its modernistic and functionalistic origins, the pedestrian street became an important theme for many writers interested in the social life, history, scale and aesthetics of the traditional European towns. The territorial strategy of the pedestrian precinct is primarily about demarcating a certain territory for pedestrian use, prohibiting car traffic, and limiting cycle traffic within the area. Urban growth with sprawl is completely unpleasant and unwanted and the correct solution is “intermediate cities” to integrate all of the suitable aspects in a city. As you considered, this article discusses about pedestrianization and its benefits. In a city with large growth especially in developing countries, one of the cases that usually are neglected is pedestrianisation and attendance of citizens in urban spaces.

1.0 INTRODUCTION

The most memorable public places in our cities and towns are generally those places where people congregate on foot - the streets, parks, and squares. These are democratic places that make our towns and cities liveable and vital. Our streets especially have a significant responsibility to be accessible to all, and to be functional, safe, and attractive places to walk. However, despite its ubiquitous nature, walking itself is not something people think or talk about very often.

However in the present day, the public space is dominated by vehicles; this ceates conflicts with pedestrians' movement, increases noise and air pollution, and increases the lack of safety for pedestrians and non-motorized transit users. Additionally, parking, shop extensions and unorganized

vending add to the existing chaos. Like so many other public spaces in historic core areas of Indian Cities, Aminabad area too is experiencing a loss of human character in the area, and an overall deterioration of public life.

Safety of pedestrian is a basic step toward a safer city. Pedestrian transportation network are the nerves of a city and every persons of city is a pedestrian at some point. There is need to measure and improved pedestrian infrastructure in city for safe, convenience and comfortable walking trips of pedestrians. I think it is clear that we can begin to tackle the problems of the changing needs of our society, and to seek a way of life that can sustain future demands through the creation of facilitating pedestrianization in urban precincts.



1.1. Aminabad As A Public Space

The study focused at various factors of pedestrians' crashes. The research also examined pedestrians perception of their environment and the preference they have of pedestrian facilities, and identify that can result from new or improved pedestrian facilities. Pedestrian have direct interaction with vehicular traffic that results in more number of pedestrian accident. Pedestrians are also have problem to crossing road due to increased travel time or increased in crossing distance. Walking is a basic and oldest mode of transportation. Every trip begins and ends as a pedestrian trip. A pedestrian is someone traveling by foot. People walk many reasons, to go to a market, college and school. People also walk for recreation, health purpose or for enjoy outside environment. Every people do it every day as some part of every trip but in planning, design of our communities has generally received no attention. Increasing the use of walking as a transportation choice can help reduce some of congestion on roadways.

According to the most credible version of the history the land on which Aminabad stands belonged to Rani Jai Kunwar Pandey. The Rani, besides being a vassal of the Mughals, was also a very good friend of Khadija Khanam, the Begum (wife) of the first Nawab of Oudh, Saadat Khan Burhan-ul-Mulk, who was also the Grand-Wazir of the Mughal Empire.^[1]

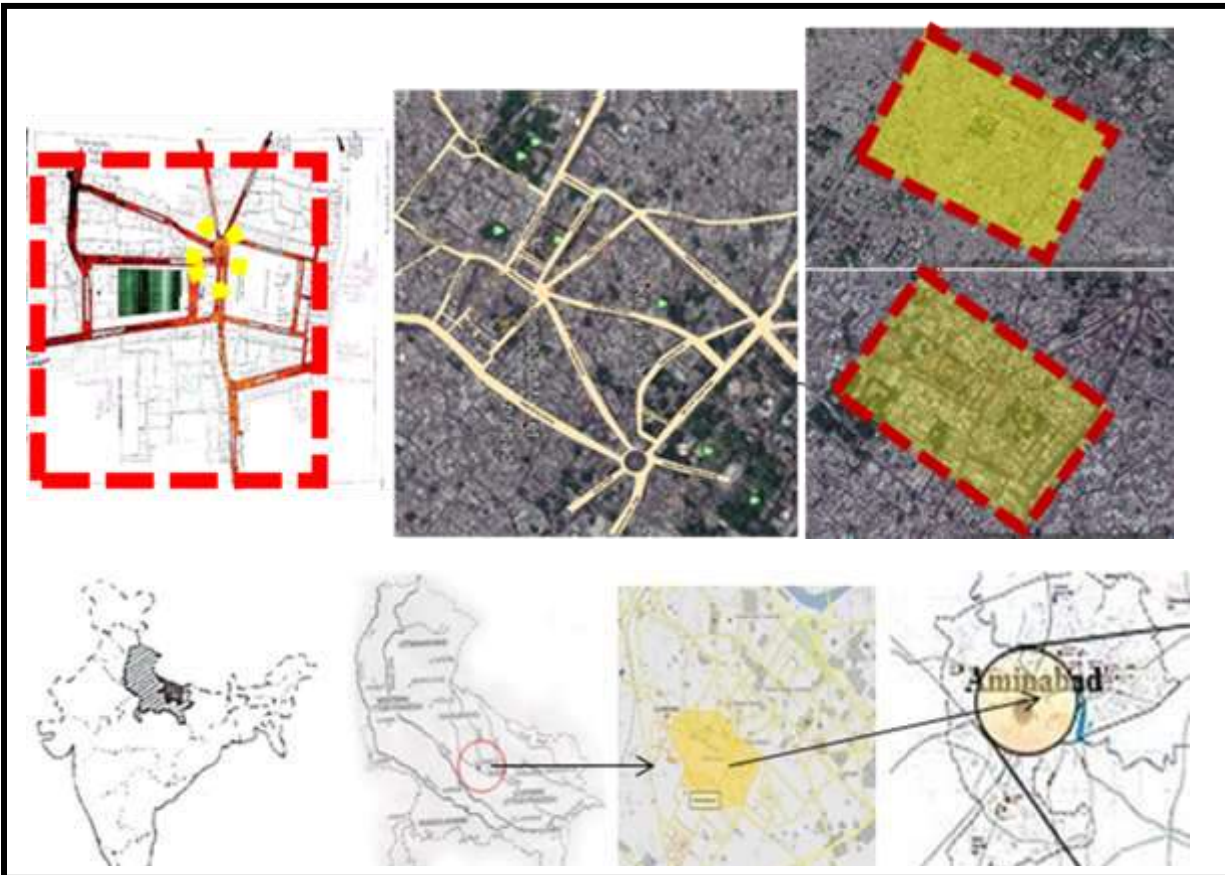
The Rani constructed a Mosque on this land and gifted it to her good friend, the wife of the Nawab. This 18th century Mosque, known as Padain Ki Masjid (The Brahmin Woman's Mosque), still stands in Aminabad. The maqbara of Begum Khadija Khanam was also constructed in front of the masjid, but it has been lost to the vagaries of time, though the grave is still to be seen.^[1]

By the time the Nawabs moved their court from Faizabad to Lucknow, the site had become a center of activity and irregular commerce like weekly market

etc.. It was a part of the city known as Masarratganj. The actual land on which Aminabad later was built had passed under the possession of Sikandar Shikoh, a son of the Mughal emperor Shah Alam II. After the death of Sikandar Shikoh his wife became custodian of the property in Masarratganj and she sold it for Rs.2800/- to Nawab Imdad Husain Khan Aminuddaulah, who was the Prime Minister of Nawab Amjad Ali Shah, the fourth Nawab of Lucknow. This was around 1840s.

Aminuddaulah was a visionary and he took upon the task of metamorphosing this area into a developed zone. Over the following years concrete houses, shops and parks replaced the thatched huts and ramshackle shelters in the open fields. Traders, craftsmen and entertainers were encouraged to set up their establishments. Four gates had been erected on all the four sides and each gate had an adjoining mosque. The biggest gate known as Kalaan Phatak was at the main crossing and the mosque near it was also called Kalaan Phatak Masjid. Towards the west was the smaller Khurd Gate near Mehra Cinema on Gwynne Road. The gates no longer exist but the mosques are still there and are known by their original names. Aminuddaulah also initiated the construction of a big park in the open space within the rows of the newly opened shops during this time.

After the revolt of 1857 the rule of the Nawabs came to an end and the Aminabad came under British rule. After the mutiny of 1857, the entire area came under the rule of the British. Later in 1905 Lt. Governor Sir J.D. Latouche, visited Aminabad and ordered its renovation. It was then that Loutouche Road leading to this market came into existence and till date is called so. The renovated Aminabad was inaugurated by Sir Loutouche himself in 1911.^[2]

**Fig 1 Site area**

Meanwhile, Babu Ganga Prasad Varma came to live in Aminabad in 1910 and designed the market with big corridors so that roads could be used for walking. Ganga Prasad memorial hall was built by him for public functions. He was the one who came up with Goonge Nawab Park.^[2]

In 1912 the British government made a master plan for this area and, as per the plan, roads on all the four side of this park were laid out and the park came to be known as Aminuddaulah Park. In the following years the importance and stature of Chowk and Nakhas bazaar started receding and Aminabad gained ascendancy, and Aminuddaulah Park became not only the talk of the town but the nation itself. In 1928 it was at this park where during the struggle for independence the freedom fighters first hoisted the tri-colour. That eventful day was followed by the address to the nation by Mahatma Gandhi for the civil disobedience movement. Many more leaders including Jawahar Lal Nehru, Atal Bihari Bajpayee and Subhash Chandra Bose gave fiery speeches for independence at this

platform. The huge congregation that had gathered at Aminuddaulah Park to listen to Jawahar Lal Nehru was brutally lathi-charged by the British force and several people, including Nehru, got hurt. Gulab Singh Lodhi had climbed up a tree in the park and hoisted the tri-colour flag. The British police shot him down and later on his statue was installed in the centre of the park and still stands there. The park by now had acquired the name of Jhandewala Park because flags of various Indian political parties fluttered here. Prior to independence the literati of the city had made Aminabad their place of dwelling and they eagerly awaited the leading Indian newspapers like Humdum, Haqeeqat and Pioneer each morning. Newspaper vendors would come to the main crossing early morning and their wares were sold till late evening. The writers, poets and educationists even then frequented Danish Mahal in the ground floor of Central Hotel, and the nearby Siddiq Book Depot and Anwar Book Depot. There was a time when at these erudite centres one could have come across the likes of Syed Masood



Hasan Rizvi, Dr. Shujaat Ali Sandilavi, Josh Malihabadi, Prof. Ehtesham Husain, Nawab Mir Jafar Ali Khan 'Asar', Majaz and many more. The owner of Danish Mahal, Nasim Ahmad, who passed away recently, was not only well-conversant with all kinds of books, but was also familiar with the persona and wherewithal of the stalwarts of the town.^[4]

Since the time of Nawabs, the market boasts of its unmatched fashion, and being one of the oldest markets, it is still surrounded by buildings and architectures of *nawabi* era.

2.0 THE HISTORIC AREA: AMINABAD

Aminabad is a major commercial area of Lucknow, built under the reign of Amjad Ali Shah between 1842 and 1847. It is located on the southern side of the River Gomti, to the west of the new market area of Hazratganj and south of the conservation zone. His minister Aminuddaulah conceived it as a grain and vegetable market. Long rows of shops and warehouses were built with a rose garden in the rear. In later years, however the grain market moved out to other locations and it is now the largest clothes and general merchandise shopping area for the city. It is linked to other smaller markets around it - the hardware market on Sri Ram Road, guns and bullets on Latouche Road, small knick-knacks in GarbarJhala and vegetable markets in Nazirabad and Qaiserbagh. All these together form a major destination for the people of the city. The market area is concentrated around two main parks. These parks form large open spaces around which commerce can flourish. Half the area of the main Aminabad Park was converted into small temporary shops for the refugees who moved to the city after the Partition in 1947. This has now assumed a more permanent nature. The park behind has a main temple and a clock tower, which were both major landmarks in the area once. Now the park is neglected and the shops have almost enveloped the temple having extended even into the basement area of the temple. The second and larger park is called the Aminuddaulah Park that once had the tomb of Aminuddaulah in the center. In 1997, this park was transformed into a multilevel underground parking and shopping complex commissioned as a public-private project by the city. It

shall house about 500 new shop and provide parking for 100 cars. This concrete structure projects above the ground for about 5 feet and has a central glass atrium and four traditional looking staircase structures on sides to allow access. The structure is nearly complete, but construction has been stopped ah Pak' and occupation denied by a stay order from intersection the Supreme Court of India in response to a it shops public-interest litigation. The appellant has questioned the incorrect interpretation and application of landuse zoning by the city. Buildings of uniform color and style surround th this park on three sides: predominantly institutional buildings on the north side, large residences on the west side and storefronts on the south side. The area surrounding these parks and edging the streets traditionally has been commercial. Beyond this layer, however, there co-exists a traditional residential community. Its streets are irregular, curving and private serving courtyard houses. Two other smaller parks existed here, one for children or private use and the other only for women. This area though is seeing a huge expansion in commercial activities and the two activities are in conflict, Benefits of heritage tourism The promotion of heritage tourism is a win- win situation for both the inhabitants of the core city as well as the tourists who come to visit the place. The benefits of heritage tourism can be summarized as below:

- Tourists have fulfilling experiences
- Resources get needed maintenance attention by the city administration
- Hosts receive meaningful economic return
- Historic past is preserved
- Underutilized historic resources are developed
- Ways are found to make attractions out of archaeological traditional values
- Historic and cultural sites attract visitors and rehabilitation of existing buildings is often cheaper than building a new structure
- Out migration of the original residents of the core city areas is stopped
- Promotion of heritage tourism can help in conserving the tangible and intangible heritage of the core city areas

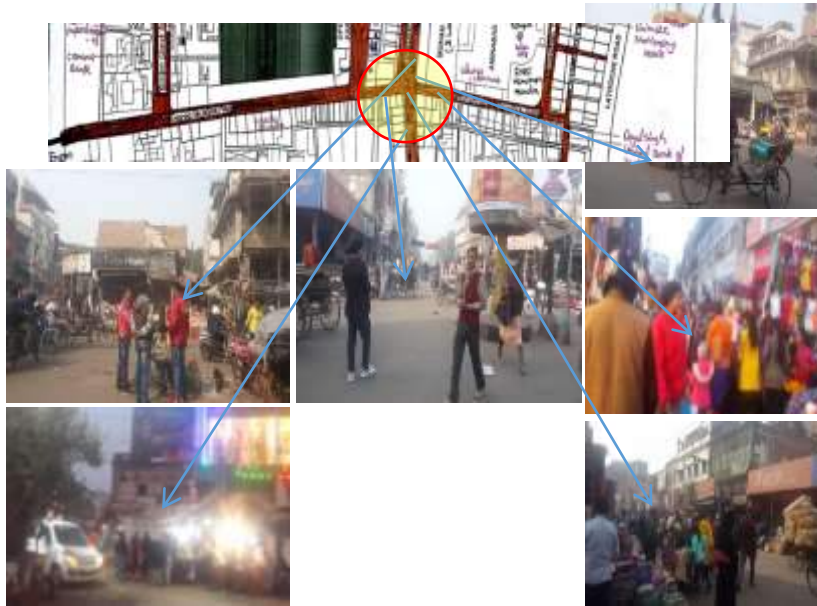


Fig 2 Aminabad Junction

Aminabad is an example of a traditional public space that is dynamic, and constantly adapts to changes for its effective use as an urban public place. The activities in the public place change several times in a day to serve specific needs and gives way for effective usage of place. However, in the present context it is apparent that the attractiveness of Aminabad as a public space has eroded.

Vehicles dominate the public space, pedestrians are given the least importance, noise and air pollution levels are at their highest, parking occupies the space meant for people, unorganized gatherings add to levels of chaos in the area. Moreover, heritage resources are in a state of neglect, infrastructural deficits are leading to unhygienic conditions of living, cultural aspects are

given less importance and the space is less accessible for vulnerable populations.

Considering these conditions, the main aspects of Aminabad that need to be improved in order to reimagine Aminabad are as follows:

- Mobility aspects;
- Public place and quality of life; and
- Conservation of heritage.

Analysis of the existing situation and the discussion of future strategies to be adopted to address each of these aspects, were deliberated upon during the workshop. The following chapters explain these aspects in detail.

Despite all the challenges discussed here, Aminabad has not lost its importance as a center of the city and is large numbers of locals and tourists continue to visit it.



Fig 3 Existing situation of Aminabad junction

Challenges in the public realm

- To ensure safety against traffic and accidents, crime and violence, unpleasant sensory experiences in Aminabad;
- To ensure comfort through opportunities to walk, sit, stay, see, talk and listen, play and perform other activities in Aminabad;
- To enable an enjoyable experience while accessing the many opportunities possible due to the temporal nature of activities at Aminabad.



Fig 4 STREET FURNITURE AND AMENITIES

Quality of life indicators

Quality Criteria is based on human senses of ability to see, hear, smell, feel, move and related psychological conditions. The framework could be considered as a comprehensive method to analyze present condition of public spaces and to determine the aspects that need to be improved. Based on the framework, quality of public life in Aminabad was surveyed and presented in the workshop.

- Reduce the impact of vehicular traffic in the Chowk and promote road safety in Aminabad and surroundings by supporting pedestrian movement and public life.
- Parking is a private activity that occupies precious public space. Parking supply should support local businesses hence long term

parking should be reduced and/or shifted to an alternate location.

- Integrate Aminabad improvement along with Bhadra Chowk pedestrianization project in order to synchronize movement and sharing of parking and other facilities.

Traditional public space that is dynamic, and constantly adapts to changes for its effective use as an urban public place. The activities in the public place change several times in a day to serve specific needs and gives way for effective usage of place. However, in the present context it is apparent that the attractiveness of Aminabad as a public space has eroded. Walkability is an important concept in sustainable urban design approach. It is a measure of how friendly an area is for pedestrians. Walkability has many health,



environmental, and economic benefits. Better walkability has shown many individual and community benefits, such as opportunities for increased social interaction, reduced crime, increased civic sense and responsibility. One of the most important benefits of walkability is the decrease of the automobile footprint from the community. Thus 'carbon emissions' can be reduced if more people choose to walk. Increased walkability has also been found to have many economic benefits both to individuals and to the public with increased efficiency of land use including accessibility, increased liveability, transportation cost savings, economic benefits from improved public health and catalyzes economic growth. In developing countries, like India, majority of the people have to walk or use public transportation. Many cities are indirectly encouraging use of public transport through introducing BRTS and/or MRTS projects thus increasing pedestrian movement. On the contrary, we observe rapid growth of vehicles on road, new proposals for flyovers or widening of roads and encourage more vehicles and the process continues, sometimes even at the cost of footpaths and pedestrian convenience and safety; thus, discouraging pedestrian movement.

3.0 CONCLUSION

As we know, urban growth with sprawl is completely unpleasant and unwanted and the correct solution is "intermediate cities" to integrate all of the suitable aspects in a city. As you considered, this article discusses about pedestrianisation and its benefits. In a city with large growth especially in developing countries, one of the cases that usually are neglected is pedestrianisation and attendance of citizens in urban spaces. I hope that with promoting the human's life we could be able in respecting humans' needs in cities as much as possible especially in developing countries.

REFERENCES

1. Kwan Lee Hau (2004). *Pedestrianisation Schemes in Hong Kong*. university of Hong Kong
2. Salingaros Nikos (2000). *Theory of the Urban Web* University of Texas Institute of Urban Planning publication No. 33
3. Salingaros Nikos(2004). *PRINCIPLES OF URBAN STRUCTURE*. Faculty of Architecture Delft University of Technology Jensen Søren Underlien. *Pedestrian Safety Analyses and Safety Measures*. Danish Road Directorate Division of Traffic Safety and Environment. Denmark McDonald Gregory. *The Continuum of the Landscape: Promoting a Livable Network Strategy*. York University A. Kushner James.

- The Post-Automobile City - Legal Mechanisms to Establish the Pedestrian Friendly City*. Carolina Academic Press
4. Ghobadian vahid (2003). *Climatic analysis of the traditional Iranian buildings*. university of Tehran press
 5. Dr. Ronald G. Hughes, Dr. Ronald G. Hughes (2002). *Evaluation and application of pedestrian Modelling capabilities using computer Simulation*, the institute for transportation research and Education (ITRE),
 6. Jen Te PAI, Jon-Jye CHENG (2007) *exploring issues and strategies of developing skyway Systems: a case study of the Taipei shin-yi district*. *Journal of the Eastern Asia Society for Transportation Studies*, Vol. 7, 2007.
 7. Benard Jacob FAIA and Catrol Morphew, (1984) *Skyway Typology* Minneapolis, Washington DC, AIA Press.
 8. Krsto Lipovac, Milan Vujanic, Bojan Maric, and Miladin Nestic (1994) *Pedestrian Behavior at Signalized Pedestrian Crossings*. DOI: 10.1061/(ASCE) TE.1943-5436.0000491. © 2013 American Society of Civil Engineers.
 9. Muhammad M. ISHAQUE (1994) *pedestrian modeling in urban road networks: issues, limitations and opportunities offered by micro-simulation*.
 10. Ronald John Galiza and Luis Ferreira (2013) *Standard Pedestrian Equivalent Factors: New Approach to Analyzing Pedestrian Flow*. *Journal of transportation engineering*.
 11. IRC 103-2012 *Guidelines for Pedestrian Facilities*.
 12. Prabhati Bhattacharya (2004) *Methodology to optimize for pedestrian delay and vehicular delay in a signal network*. University of Missouri-Columbia.



THE EFFECTIVENESS OF COMPETENCE BASED TEACHING ON KNOWLEDGE AND COMPETENCE AMONG STAFF NURSES IN CARE OF NEONATAL HYPOTHERMIA

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ABSTRACT

An infant is a God's celestial valuable blessing given to a mother. Hence the introduction of an infant is one of the most wonderment rouse and brilliant blissful occasion that happens ladies' time. The WHO expressed that roughly 125 million in born every year of due to various complications among that about 2.5% newborn die due to hypothermia. It is additionally discovered that hypothermia builds the hazard for metabolic acidosis, jaundice, respiratory trouble, hypoglycemia, a pulmonary hemorrhage and death, regardless of the newborn's weight and gestational age. Neonatal hypothermia is a common and wide spread problem even in developed Counties. WHO reported hypothermia was found as common cause of death in all the age groups. Be that as it may, the majority of the wellbeing Nurses don't know about it. There are distinctive wellbeing programs acknowledged and proliferated by various areas of Government at State and focal level by Voluntary organizations. It is a real challenge to the health personnel to improve the primary care of the newborn.

KEYWORDS: *Effectiveness, Competence Based Teaching (Cbt), Staff Nurses, Neonatal Hypothermia .*

I.INTRODUCTION

An infant is a God's celestial valuable blessing given to a mother. Hence the introduction of an infant is one of the most wonderment rouse and brilliant blissful occasion that happens Womens' time. ⁽¹⁾ The WHO stated that approximately 125 million in born every year of due to various complications among that about 2.5% newborn die due to hypothermia.⁽²⁾ Bonding or the intense attachment between the baby and his/her parents can increase a child's self esteem and sense of security. Caring for a newborn is often an experience few nurses are prepared for prevention of neonatal hypothermia ⁽³⁾. Piere Budin[1900]First drew attention to the high neonatal mortality due to cold. Optimal thermal environment for neonates was identifying in mid 1960s ⁽⁴⁾. Hypothermia is one of life's biggest challenges to care for a newborn child and can be somewhat more difficult than caring for a

great challenges to care for a newborn child and can be somewhat highly difficult than caring for an older infant. Hypothermia occurs when the newborns body temperature goes below 36.5°C (97.7°F) generally because the environment is too cold for the baby. Hypothermia is caused more by lack of knowledge than lack of equipment. The newborn with a temperature of 36.0-36.4 °C(96.8-97.5°F)is under cold stress(mild hypothermia).A baby with a temperature of 32.0-35.4°C (89.6-96.6°F)has moderate hypothermia, while a temperature below 32°C(89.6°F) is called severe hypothermia⁽⁵⁾.

In cases of moderate hypothermia, the clothed baby may be re warmed by the following measures:

- ❖ Under a radiant warmer.
- ❖ In an incubator, at 35-36.5°C [95-96.8°F].
- ❖ By using heated water filled mattress.



- ❖ In a warm room, the temperature of the room should be 32-34°C/89.6-93.2°F.
- ❖ In a warm cot if it is heated with a hot water bottle, should be removed before the baby is placed in.
- ❖ The re warming process should be continued until the baby's temperature reaches the normal range ⁽⁶⁾.

In case of severe hypothermia following measures are followed in severe hypothermia studies suggest that fast re warming over a few hours is preferable to slow re warming over several days. Rapid re warming can be made by using a thermostatically controlled heated mattress set at 37-38°C (98.6-100.4°F) or an air-heated incubator ⁽⁷⁾. Baby must be kept warm at the place of birth (home or hospital) and during transportation for special care either from home to hospital or within the hospital. Satisfactory control demands both prevention of heat loss and promotion of heat gain⁽⁸⁾. Neonatal period is very crucial. It is exactly to say that during the first few minutes especially when a risk situation exists prompt and adequate care should be carried out⁽⁹⁾.

Based on this thermoregulation is an important physiological function that is closely related to the survival of the infants⁽¹⁰⁾. An understanding of the physiological function of temperature control in neonates is essential in helping the mothers to provide an appropriate environment to promote thermal stability

II.OBJECTIVES

- To assess and evaluate the knowledge and competence regarding neonatal hypothermia among Staff Nurses.
- To evaluate the effectiveness of competence based teaching programme on knowledge and competence regarding neonatal hypothermia among Staff Nurses.
- To associate the knowledge and competence regarding neonatal hypothermia with selected demographic variables.

III.HYPOTHESIS

- H1: There will be significant difference between the pre-test and post-test level of knowledge and competence on neonatal hypothermia in newborn babies among Staff Nurses.

- H2: There will be a significant association between the post-test level of knowledge and Competence with selected socio demographic variables.

IV.METHODOLOGY

Pre-Experimental research design with one group pre-test and post-test was adopted 50 samples of Staff Nurses were selected by Purposive Sampling technique in MGMC&RI Puducherry. A formal permission was obtained from the staff Nurses at Mahatma Gandhi Medical College and Research Institute. Data collection period is one week. The sample selection based on the inclusion criteria. 50 staff Nurses were selected through purposive Sampling technique. Structured knowledge questionnaire and check list were used to assess the knowledge and competence of the samples respectively during pre test and Teaching and Demonstration given for staff nurses. After 7 days, again the same structured knowledge questionnaires and skill assessment check list were used to assess the knowledge and competence regarding neonatal hypothermia among staff nurses. The data collection was analyzed by using Interpretation descriptive and inferential statistics. Frequency and percentage distribution was used for demographic variables. Chi square test was used to associate knowledge neonatal hypothermia with selected demographic variables.

V.ANALYSIS AND INTERPRETATION

Table 1(See Appendix); Depicts the pre and post test level of knowledge neonatal hypothermia among staff nurses. In pre-test out of 50 samples 21(42%) had inadequate knowledge, 24(48%) had moderate knowledge and 5(10%) of adequate knowledge. In post-test majority of the sample had only adequate knowledge and 21(42%) had moderate knowledge. Table 2(See Appendix); Depicts the pre and post test skill assessment of neonatal hypothermia among Staff Nurses. In pre-test out of 50 sample 6(12%) had inadequate skill, 37(74%) had moderate skill and 7(14%) of adequate skill. In post-test majority of the sample had only adequate skill and 49(98%) had moderate skill. Table 3(See Appendix); Shows that the effectiveness competence based teaching programme regarding neonatal hypothermia among Staff Nurses. Mean score knowledge level of neonatal hypothermia was 16.86 with the standard deviation of 4.436 whereas after implementation of competence based teaching programme, the post test knowledge level was increases about 24.48 with standard deviation 3.699.



The improvement of knowledge statistically tested by paired t-test which was founded to be statistically significant at $p < 0.001^*$ level. It indicates that competence based teaching programme was effective in improving the knowledge on neonatal hypothermia among Staff Nurses. Hence the statistical hypothesis (H1) was accepted. Table 4(See Appendix);Shows that the effectiveness competence based teaching programme regarding neonatal hypothermia among staff nurses. Skill assessment mean score on neonatal hypothermia was 7.72 with the standard deviation of 2.15 whereas after implementation of competence based teaching programme, the post test skill assessed was increases about 13.28 with standard deviation 1.13. The improvement of skill status statistically tested by paired t-test which was founded to be statistically significant at $p < 0.001^*$ level. It indicates that competence based teaching programme was effective in improving the skill assessment on neonatal hypothermia among staff nurses. Hence the statistical hypothesis (H1) was accepted.

Association between knowledge competences regarding neonatal hypothermia with socio demographic variables of Staff Nurses was assessed. It reveals that there is association between the selected demographic variables like Area of work, previous knowledge, Year of experience with the demographic variables of the staff nurses.

VI.DISCUSSION

The frequency and percentage distribution of the socio demographic variables of selected samples. With regarding the age of staff nurses 20-25 year,38(76%) were in the age group 26-30 year 11 (22%) were in the age group of 31-35 years 1(2%) and there is no staff nurses in the age group of above 36. Marital Status of staff nurses is Unmarried 43(86%).Were in the Married staff nurses are 7(14%).In type of family of staff nurses is Nuclear 33(66%).In type family, majority of sample 33(66%) belongs to nuclear family. Out of 50 sampled 28(56%) rural area. Nursing experience 0-1 year 11(22%) were in the 2-3 year 28(56%) were in the 4-5 years 8(16%) were in the more than 5 years 3(6%). Regarding previous knowledge about Neonatal Hypothermia 21(42%). Area of work NICU 14(28%) were in the PICU 9(18%) were in the labour ward 7(14%) Pediatric Ward 20(40%).Regarding Nursing Studies Underwent Institution Belong to Pondicherry 34(68%) were in tamilnadu 9(18%) were in the other states 7(14%). The present finding revealed that, out of 50 samples during pre test 21(42%) had inadequate knowledge, 24(48%) had moderate knowledge, 5(10%)

had adequate knowledge. In post-test 21(42%) had moderate knowledge, 29(58%) had adequate knowledge⁽¹¹⁾.

The effectiveness of competency based teaching programme on knowledge and care of neonatal hypothermia among staff nurses. Pre-test knowledge level was 7.72 with the standard deviation of 2.15. Where after implementing of competence based teaching programme, the post-test knowledge mean score was increased to 13.28 with standard deviation of 1.13.The improvement of knowledge and skill was statistically tested by paired t-test which was found to be statistically significant with $p < 0.001$ level. It indicates that neonatal hypothermia competency teaching programme was effective in improving knowledge and skill regarding neonatal hypothermia among staff nurses. Here the stated hypothesis (H1) was accepted. It indicates that improving the effectiveness of competence based teaching programme on knowledge and competence regarding neonatal hypothermia among staff nurses in MGMC&RI at Puducherry⁽¹²⁾.

Finding shows that the association between the knowledge with selected demographic variables. Hence it is evidence there is association between the selected demographic variables like Year of experience, previous knowledge, Area of work had significant association with knowledge and competence because the p value is < 0.001 .Hence the stated hypothesis (H2) was accepted.

VII.CONCLUSION

The main aim of the study was to determine the effectiveness of competence based teaching programme on knowledge and competence regarding neonatal hypothermia among Staff Nurses in selected hospital at Puducherry. The study reveals that the competence based teaching programme improves the knowledge and practice skills of the Staff Nurses.

VIII. ACKNOWLEDGMENT

The author would like to thank the Participants who are a part of the project. She thanks Head of the Institution, the departmental colleagues and students for their support in conducting this project.

**IX. REFERENCES**

1. World Health Organization. *Essential Newborn Care. Report of a technical working group Geneva;WHO/FRH/MSM 2018 ;96.13.*
2. Bonding with newborn-Benefits of bonding (www.google.cm),<http://www.newbrn-babies.info/artical/bonding/index.php>.
3. "Thermal protection of newborn" (www.google.com)<http://medical.abo-osba.com> published papers/2018, 1128142418.
4. HaobijamJodibala "Hypothermia and its management in newborn" (www.google.com)http://www.e-pao.net/ep_subpage_extractor_education_Health_issue_Hypothermia_and_its_management.
5. Dorthy R. Marlow, BarabaraA.Redding, *Textbook of paediatric Nursing, 8th edition, 2015, Elsevier Publications, a division of reed publications. P 370-371*
6. Bergstrom A.*The impact of newborn bathing on the prevalence of neonatal hypothermia in Uganda.A randomized controlled trial, Asian journal of hospital care, 2015 oct;9 4(10);1462-7.*
7. Kumar V,Shearer Neonatal Hypothermia in low resource settings; A review *Journal of Tropical paediatric 2017;51(4);212-4.*
8. [http://www.ncbi.nlm.nih.gov/pubmed/15298464.](http://www.ncbi.nlm.nih.gov/pubmed/15298464)
9. Camer al. heat loss prevention: a systematic review of occlusive skin wrap for premature neonates. *International journal of neonatal nursing, (2015) Dec; 25(12):763.*
10. Dravich D et al: thermal control of the newborns knowledge and practice f health professional in seven countries. *Asian journal of paediatric, (2016) Jun; 86:645-50*
11. Hackman Ps recognizing and understanding the cold stressed term infants. *Journal of Neonatal care (2018) Dec; 20(8):35-41*
12. Watkinsn.M Temperature control of premature infants in the delivery room. *Clinical perinatal care (2016) march; 33(1): 43-45.*

APPENDIX**TABLE 1: DISTRIBUTION OF PRE TEST AND POST TEST LEVEL OF KNOWLEDGE REGARDING NEONATAL HYPOTHERMIA.**

Knowledge level	PRE-TEST		POST-TEST	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Inadequate	21	42	-	-
Moderate	24	48	21	42
Adequate	5	10	29	58
Total	50	100	50	100

TABLE 2: DISTRIBUTION OF PRE-TEST AND POST-TEST LEVEL OF SKILL ON CARE OF NEONATAL HYPOTHERMIA AMONG STAFF NURSES.

N=50

SKILL ASSESSMENT LEVEL	PRE-TEST		POST TEST	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Inadequate skill	6	12	-	-
Moderate skill	37	74	1	2
Adequate skill	7	14	49	98
Total	50	100	50	100



TABLE 3: COMPARISON OF MEAN & STANDARD DEVIATION OF KNOWLEDGE REGARDING NEONATAL HYPOTHERMIA BEFORE AND AFTER COMPETENCE BASED TEACHING PROGRAMME.

Knowledge	Mean	Std. Deviation	t-test	p-value
Pre-test	16.86	4.436	11.869	<0.001*
Post-test	24.48	3.699		

TABLE 4.COMPARISON OF MEAN, SD OF PRE TEST POST TEST SKILL ASSESSMENT SCORE ON CARE OF NEONATAL HYPOTHERMIA BEFORE AND AFTER COMPETENCE BASED TEACHING PROGRAM

Knowledge score	Mean	Median	Standard Deviation	Wilcoxon Test	p-value
Pre-test	7.72	7	2.15	6.166	<0.001*
Post-test	13.28	14	1.13		



THE ARTISTIC FUNCTION OF NARRATIVES IN THE SACRED BOOKS AND RELIGIOUS-HISTORICAL EVENTS IN MODERN PERSIAN NOVELS

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Article DOI: <https://doi.org/10.36713/epra4174>

ABSTRACT

Every nation has its own way of life, culture, spiritual and religious values. These values are also reflected in the fiction, which is the product of the artistic thinking of that nation. Since the creation of the Holy Qur'an, the Bible, the Torah, and the Psalms, they have played an important role in the lives of people who believe in a particular religion. One of the main reasons for this is the existence in the holy books of stories didactic in spirit about life and death, good and evil. The writers make effective use of these stories, as well as the exemplary lives of the prophets and religious historical events, in shaping the plot of their works, and in increasing the effectiveness of the ideas they put forward. Considered one of the hearts of ancient civilization, Iran is famous for its heroic spirit and epic traditions that glorify kings. But the twentieth century went down in history as the century in which modern-type novelism flourished in Iran. It was a new century for Iranian novelists to be recognized not only domestically but also globally. The purpose of the study is to shed light on the impact of religious narratives on the art of the work, their ideological and artistic function. The study found that sacred narratives given in the sacred books and the new interpretation of religious-historical figures in the modern Persian novels has significantly impacted on the styles of writers.

KEYWORDS: *Qur'an, Torah, Bible, Modern Persian Romanism, Style, Abel and Cain, Archetype, Motive, Life of Prophets, Religious Story.*

I. INTRODUCTION

In the literature of the peoples of the world, reference is often made to stories and narrations in religious books such as the Qur'an, the Bible, the Torah, and events related to the Prophets and their lives. The philosophical, spiritual, didactic content reflected in the stories of religious books has not lost its significance over the centuries. That is why writers and poets use them effectively to increase the impact of their works, to convey their ideas, thoughts, creative intent to the reader. It is recognized in science that the related aspects of literature and religion, the artistic reflection of the basic philosophical and moral views of religion in the literature of the peoples of the world and the East, the

understanding of Muslim Eastern literature requires knowledge of the wisdom of the Qur'an [20:91]. It is not a novelty today that the topics of the Qur'an are widely used not only in the East but also in Europe. [9; 10; 14] In the artistic thinking of the Iranian people, which is deeply rooted in the spirituality and culture of Islamic beliefs, reference to the Qur'an and religious stories also plays an important role. The themes of good and evil, goodness and depravity, kindness and back biting, generosity and envy, honesty and dishonesty, patience and purity reflected in the stories of the Qur'an have not lost their relevance today.



II. LITERATURE REVIEW

In the Study of Persian Novels Adam and Eve: Shahrnush Porsipur "Women without Men" [15]; Abel and Cain (The actual names are Khobil and Qobil, but we have decided to use the Abel and Cain as they are the same figures in both Islam and Christianity. Furthermore, these names are more popular and well-know for Anglophones across the Globe) : Abbas Marufi's Symphony of the Dead [12]; Bibi Maryam: Sadiq Chubak "Stone of Patience" [19], Shahrnush Porsipur "Women without Men" [15]; Stories about the devil, Satan: Tagi Muddarisi's "Yakolia and her loneliness" [3] and stories of a religious nature in general: Riza Amirkhani's "I" [2], Marjone Sotropi's "Persepolis" [18] - the plot of modern Persian novels played an important role in the construction, artistic technique. In such works, the myth of Mishi and Mashyone - Adam and Eve - is widely used, while in the surrealist Hormuz Shahdadi's novel "The Night of Fear" [21], the stories of Abraham (a), Ishmael (a), Mother Hagar and Sarah are widely used. As part of the study, we will delve deeper into a few of these novels.

III. ANALYSIS

In Iran, which has long been world-famous for its poetry, a novel genre was formed in the early twentieth century that was new to the country. A series of novels created in the early stages of the development of Romanism (20-40 years) is on a religious theme, mainly covering the Prophet Muhammad (PBUH), imams and their way of life, the lives of their predecessors, and the details of the battle for Islam. Among the novels in this direction, the works of Zaynalobidin Rahnama "The Prophet" [5], "The Life of Imam Hussein" [6] were met with great interest by Iranians and foreign readers. In Iranian society, where Islamic beliefs have taken a leading position, it was natural that the novel, in which the lives of religious figures were artistically interpreted, would be warmly received. The plot and compositional aspects of the novel were specially studied by the Tajik orientalist G. Kadyrov [8]. Russian scholar J. Dorry also expresses his attitude to these novels. [4: 58-59] J. Dorry's remarks on the novel's novelty and the writer's novelty are particularly noteworthy here: "the distinctive feature of "The Prophet" is that it portrayed the founder of the Muslim religion and his followers, his predecessors, and their interpretation of their activity is free from any religious bigotry" [4:58]. J. Dorry draws attention to the uniqueness in the interpretation of the image of prophet Muhammad (PBUH). What draws our attention is the style used by the writer in shaping the composition of the novel. It is known that there are many works dedicated to the lives of prophets like Joseph and Jesus (more than 150 works

dedicated to Yusuf/Joseph (pbuh) have been created in the world literature. [S.S.] There are also many works devoted to the life and career of Jesus as well; some of the examples are "A scene from the period or the stories of Isa ibn Hisham" by M.al-Muvaylihy, and "Isa- the son of humanity" by J.J. Jubron.).

IV. DISCUSSIONS

In the development of Iranian novelism until the first half of the twentieth century, among the novel-trilogies there is no series of novels based on the biographies of the prophets. Z.Rahnamo was one of the first to create a trilogy of novels related to the life of Muhammad (PBUH). The plot of the novel by Rahnamo was built upon the events (the discovery of a Zamzam well near Kaba by Abdulloh the son of Abdul Muttalib, Abdulloh's marriage to Omina, the birth of Muhammad (PBUH), the death of his parents when he was aged eight, the revelation of prophecy to Muhammad (PBUH) by archangel Jabroil/Gabriel (Volume I); The period up to the migration of Muhammad (PBUH) to Madina (Volume II) The events took place in Madina up to the death of Muhammad (PBUH) (Volume III) directly related to the life of Muhammad peace and blessings of Allah be upon him [5]. All of these were used as the devices that could provide the natural flow of the novel-trilogy in terms of semantic integrity and logical consistency. Although the plot of the novel is based on the stories of the prophets, the main difference is that the text of the novel contains examples from the works of famous Persian poets such as Rumi, Firdausi, Hafiz, and folk songs. The plot and composition of the novel are related to the biography of the protagonist, and the sequence of all events is placed in a way that is relevant to his life in terms of time. G.Kadyrov discovers that during the creation of the novel, the writer used more than a hundred sources of Western and Eastern historians, theologians, semi-historical and semi-mythical legends, hadiths, legends, historical and geographical information in the description of Firdavsi's «Shohnoma» and Nasir Khusrav's «Safarnoma» [8:24]. This also increases the value of the novel as a work of art, and helps to enrich its excitability.

The 50s and 70s of the twentieth century saw a significant shift in the way Iranian writers addressed stories in religious books. Taqi Mudarrisi (born 1932), a famous prose writer of his time, began this turn with his novel «Yakolia and His Loneliness» [3]. The novel was named "Best Novel of the Year" in the magazine "سخن" ("Sokhan). The content of the work is enriched with Torah plots, philosophical observations, myths, and through them the universal social problems are described. It is noteworthy that Muddarisi narrated these problems in the language of the Torah, and this method led to the popularity of



the author's work among the people. Observing the author's style, the Iranian critic H. Mirabidini writes that "the writer became a singer, seeking refuge in the Torah and weeping over the inevitable fate of man," as if the only way out for the frustrated intelligentsia was to seek refuge in the pits of history [22: 345].

The number of characters in the novel is not so great. The protagonist is Jacoli, the daughter of the king of Israel. She is exiled by her father for falling in love with an ordinary shepherd boy. On the banks of the "Obone" River, she meets an old shepherd. Satan appears in front of her in the guise of an old shepherd. He tells Jacoli an ancient legend about King Mikoh's love for a woman named Tomar. According to legend, King Mikoh had a son named Azar, who, returning from one of the next battles, brought a woman as a gift for his father. King Mikoh falls in love with her. One day the messenger brings the message about Satan taking a woman as a maid from Sodom into his service and that the curse of the Creator is with her, that woman was that Tomor. The priests call her Satan's agent [3:17]. The people demand punishment from King Mikoh for Tomor. King Mikoh's various excuses do not deter them from their covenants. As a result, the king is forced to surrender in defiance of his inner inclination and because of the pressures placed on him. Tomor is captured and Mikoh is condemned to loneliness. Similarly, Yakulia, who had been banished to the wilderness, was alone. The novel states that Tomor was from the city of Sodom. Chapters 18 and 19 of Genesis, the first book of the Torah, deal with the city of Sodom. Sodom is the name of an ancient city that was destroyed by the Lord because of its sinfulness and savagery. The people living in this city were engaged in piracy and corruption (homosexuality). "And the Lord said: "there were many plagues upon Sodom and Gomorrah, and their sins were very great. Now I go down and see if the sighs that have reached my ears are true, if they have gone astray as I have heard. If not, I should know." [7: 645-646]. According to the Torah, Abraham prayed to God not to destroy Sodom and not to leave righteous servants in the midst of the wicked. Then the Lord says that if ten righteous people are found, He will save this city and sends two angels to know the real situation in the city. But the people in this city were really evil. As a result, only Lot and his daughters survived, and fiery sulfur was poured down from heaven on the city, and the city was razed to the ground. [7: 646; 11: 230-231]. The legend of Tomar and King Mikah also refers to Satan's deceptions, his misleading abilities. When Tomor reports the order of Mikah for Asobo, who brought the information about Satan being a human, to leave the city, Asobo compares his situation to that of the two angels who came to Lot's house. At the

same time, the story of Lot in the Torah [7: 649] is fully incorporated into the text of the novel. The story of Lot's daughters getting their father drink wine up to the point he loses consciousness, and having intercourse with him which results them to get pregnant from their father is cited as a sign that King Mikoh's indulgence in alcohol will not lead to good results.

The content of Yakulia and Satan's conversation stems from the essence of Jehovah and Satan's rebellion against him in the Torah. According to the Torah, Satan tries to mislead man in various guises. In particular, the temptation of Adam and Eve in the form of a serpent to eat the forbidden fruit, the murder between brother that began through the story of Cain and Abel, and so on, are all related to Satan's tricks. The fact that the shepherd is originally a devil is understood through his conversation. He speaks arrogantly to Yakolia for not fearing the Lord, and asks Yakolia a question, pointing to heaven, saying, "Why do you love the Lord?" and tries to plant the seeds of hopelessness, sadness, and insecurity into the heart of the girl by asking questions like that, and attempts to make the girl believe that she is alone. This man, who was called a shepherd at the beginning of the novel, was later directly referred to as Satan.

Satan in Muddarisi's interpretation is very close to that of character Satan in "Demon" by Russian poet M.Lermonotov in essence (1814-1841). Satan, as interpreted by M. Lermontov, also awakens hopes and dreams in the heart of a girl thirsting for love, and at the same time sows the seeds of sorrow and depression in her heart [23]. In Muddarisi's interpretation, Satan is proud of his independence, his non-subordination to Jehovah, and considers Yahweh to be the enemy of beauty. His whole existence was filled with pride:

آن روز من و "او" با هم پنجه در انداختیم و "او" مرا از آسمانها
بزیر انداخت. اما چه کسی شما را سرشت؟ مگر من و "او" با هم
نبودیم؟ "او" از رازی که من در شما بجای نهادم چیزی نمی دانست.
یکلیا "او" نمی دانست که زمین پسر انسان چه می خواهد. چرا
شمارا از من رم می دهد؟ گو این که من اسیری هستم و در این جا
تنها، تنهای تنها، مثل تو یکلیا، گذشت زمانرا تماشا می کنم.
(ص.۵)

Translation: That day I and He fought cats and dogs and He threw me from the Heaven to the Earth. But, Who created you? Weren't He and me together? He was completely ignorant of the secret I told you. Yakulia, He did not know what the children of Adam wanted from life. Why does he scare you from me so much? I am a lonely prisoner here, alone, just like you, Yakulia, watching the time passing. [3: 5]

In the novel, Muddarisi tries not to deviate from the plots of the Torah. For the problems that concern the author (Yahweh, love, sin-disobedience,



loneliness, relationship with society) are eternal, and here the period is irrelevant. The role of Satan-related interpretations in the novel is replaced by artistic, lyrical episodes at times. In the creation of the psychological portrait of King Mikoh and Yakoliya, the writer uses image of the landscape, and lyrical poetic verses are also effectively used. The scene of Yakolia suffering in solitude on the banks of the Abone River is proof of our opinion:

غروب بر سینه خاموش افق پر ده سیاه می زد.
آسمان بازو متعجب

روی هر چیز خمیده بود و ابانه تا کبودی آبادیها دور می رفت و
گویای حرکت نمی کرد.

ستارگان مانند الماس های ریز که از اعماق دریا بچشم بخورند بر
چهره نیلی آسمان می درخشیدند و نم بهار روی علفزار ها سنگینی
می کرد. (ص. ۱)

Translation: "The sun was setting on the black curtain of the horizon. The sky opened, and he bowed in amazement over everything, and the blue color and prosperity of Obone became more and more distant, and seemed to cease to move. The stars looked like tiny diamonds taken from the bottom of a river and glistened in the blue sky. The humidity of the spring weighed heavily on the grass." (3: 1)

Changes in Yakolia's mental state were described in a manner consistent with changes in nature. Also, in one of the scenes expressing King Mikoh's love for Tomor and his inner experiences, the following poetic verses are quoted:

اما پادشاه خاموش بود. گویی می خواست بیمی را در وجودش رام
کند. تاملر همان طور که به زانوی او تکیه داده بود، چنگش را بر
داشت و این غزل سلیمان را خواند:

من خواب هستم، ولی دلم بیدار است

این آواز مخیوب من است، که در را می گوید:

- از برای من باز کن. ای خواهر من،

ای محبوبه من و کیوترم... (ص. ۱۴)

"But the king was sad. Tomor leaned on his knee, picked up the dust, and recited Solomon's ghazal:

I am asleep, and my heart is awake

The sound of knocking on the door - my dear lover.

Open for me, my dear sister, open that door,

You are my beloved, and my dove. [3:14].

Evils such as lust, satanic desires, and arrogance also determine the main idea of Bahrom Sodiqi's (1936-1984) novel "ملکوت" (Malakut) [16]. In the novel, reality and unreality are presented in a mixture of real life stories and myths. The events in the work begin at midnight, full of amazing mysteries. The novel consists of six chapters, and each chapter begins with verses from the Qur'an or lines or poetic verses taken from the Torah. For example, the first chapter is called "جین حلول" (Jinn possession), and begins with *اللَّهُ بِآيَاتِ يَكْفُرُونَ الَّذِينَ إِنَّ الَّذِينَ يَكْفُرُونَ وَيَقْتُلُونَ النَّاسَ مِنَ الْبَاطِلِ يَأْمُرُونَ الَّذِينَ وَيَقْتُلُونَ حَقَّ بَغِيرِ النَّبِيِّينَ وَيَقْتُلُونَ* ("Those who disbelieve in the signs of Allah and kill the prophets without right and kill

those who order justice from among the people - give them tidings of a painful punishment".) The Noble Qur'an, Surah Ali 'Imran, 21st ayah; [11]; the second chapter is about "ل.م. سرگ داشت" ("The Adventures of M.L."), and it starts with the poetic lines of Mawlana Rumi's "ز پست دور من ی ناله از من سر" (My secrets are closer than my moans); The third chapter is called "س یزده" and begins with the last book of the Bible, "Revelation" [1: 167] - the prophecy of God to the apostle John ("Darkness of Heaven"), and similar titles are common to all chapters. The fact that the number of chapters in the novel is six also has a special meaning: the writer refers to the message in religious sources that God created the universe in six days. The novel is also based on the idea that the universe was created from two different parts (essences): the hidden world - the world of the unseen, and the visible world. The world of the unseen is the "world of angels"; hence the name of the novel is derived from that.

The events of the work take place in two spaces: outside the house (in the garden) and inside the house. There are 4 people in the garden: Mr. Mo'vdat (مودت means "friendship", "nobility" in Persian), Nashnas (ناشناس - means anonymous or stranger in Persian), Munshy (ممنشی means "secretary" in Persian), Chaquluv (چاقالو means stout, fat in Persian) and they are socializing in the garden. They are talking about some mysterious death, a crime that took place in the city. There are also 4 people inside the house: Dr. Hotam, who is a manifestation of Satan (خاتم means "judge", "generous" in Persian), Saqiy (ساقی), Mr. M.L. (م.ل.), and Mr. Sheku (شکو). The behavior, actions, and appearance of the protagonists in the novel all have mystery and abstraction. For example, Mr. M.L. - his whole body is full of cuts and scars, and he keeps his cut body parts in an alcohol bottle. He also came to the doctor to amputate the last surviving part of his body (?!). He has been living in Dr. Hotam's house for 13 days, writing down his memories and feelings on a piece of paper. Meanwhile, Sheku and Saqiy are looking after him kindly. Saqiy is Dr. Hotam's unhappy wife. She was sentenced to death by injection of death for allegedly sharing a secret with Sheku. Not only the family, but many residents of the town were "gifted" by Dr. Hotam with a lethal injection. From outside, Monshiy wants to get closer to Dr. Hotam and learn his secrets. But the doctor does not let him in on the pretext that "whoever wants to go in must know nothing" [16:27].

"Perhaps the writer took these four concepts from Revelation to John, Apocalypse of John and his discoveries. In general, the number 4 in the novel is symbolic. The number four is one of the most important numbers in the Bible and is widely used. The fact that the Bible is in four copies proves the



subject. The seventh chapter of the Bible, in Revelation chapter on page 1432, it states: "Then I saw four angels standing in the four corners of the Earth, holding the winds from the four corners of the Earth so that they would not blow over the Earth, the sea, the rivers, or any tree. There is also another point in the names of the three friends (Except the Stranger, the Stout, Munshiy and Muwaddat are followers of the devil), from cultural point of view "three friends" are the names of three trees: desire for ambition, long life and having virtues are indicated here.

In the novel, two worlds are mixed: the world of earthly slaves who fear death and dream of eternal life, and conversely, the world of Satan who is bored of eternal life. The fate of all those inside the house has the same ending - they pass away.

The fate of the outsiders is a bit different. None of them have a name. Their nicknames are used as their mask. Masks were used to reveal the character in their personalities. The lust of their souls always tells them that they should enjoy every minute, everything and anything, in every moment. The main thing that unites them is their extreme selfishness. At the same time, great sins are hidden behind these masks. For example, the Stout: he is actually a big trader, a selfish man who loves himself very much, and dreams of living a long life and living his life to the edge. He thinks of nothing but enjoying life. He is so concerned about his health that even when someone talks about his death or illness, he becomes embarrassed and feels vulnerable. The following scene shows this once again:

ناشناس به نرمی کف دست گرد و سنگین مرد چاق را در دست گرفت و سر پا بین آورد و در تاریک و روشن به خطوط فراوان و عمیق آن خیره شد: سکنه می کنی... مرد چاق خنده خود را فرو خورد و دستش را از دست دوستش بیرون کشید: صدبار گفتم که از این شوخی ها بدم می آید. به کوری چشم تو، درست گوش کن، خیال دارم صد سال عمر کنم به همین چاقی و سلامتی (ص. ۸)

Translation: "The Stranger gently took the round and heavy hand of the Stout man, bowed his head, and in the dim light stared at the countless deep marks on his palm: - "You will have a heart attack in the future." The Stout man hid his laughter and took his hand from his friend's and said, "I've said a hundred times that I hate jokes like that." "I swear to you, listen carefully, I am going to live alive and well for another hundred years." [16: 8].

The Stout has 7 sins: pride, lust, temptation, jealousy, anger, greed, laziness.

Monshiy, unlike the Stout, is a big fan of beauty. But he, too, was only in pursuit of pleasure because of Dr. Hotam's injections. These too will eventually leave their life one by one. Only the Stranger survives to the end of the work.

The fact that events take place in two different places (outside and inside) in terms of space

shows that Dr. Hotam has two worlds (inner and outer) and that they do not complement each other, in other words, they are very distinctive from each other.

The main idea put forward in the novel is that man is not capable of changing the world in this life, the destiny of his life is determined by the Fate. In this world he is alone, defenseless, and forced to live only in suffering. There is no meaning of life in this world, evil reigns and it is always victorious. The only remedy is death.

Unfortunately, Sodiqi's novel «Malakut» was not completed. The author has fallen victim to his own mistrust and pessimism. He was so depressed that life and existence lost its meaning for him. The fate of many of his heroes in his works became his fate as well.

The methods used by the writer in the process of transforming the reality of life into an artistic reality play an important role in defining his artistic skills. One such method is the principle of *using archetypes* in the architecture of Persian novels. In essence, the concept called archetype in scientific language is nothing new for Persian literature. Persian novels have always been dominated by myths and legends, which are the source for the 'first image', the pattern 'plot and plot situations', which is now implied by the concept of archetype.

In the next novel, "The Symphony of the Dead", [12] Abbas Marufiy (1958)¹ begins his work with a story about Abel and Cain in the Qur'an (Qur'an, Surat al-Ma'ida, 27) and introduces the reader to the story of brother's killing each other in order to mentally "prepares" the plot of his work. The main conflict in the plot of the work is reflected in the relationship between the brothers Urhan (اورهان) and Aydin (بن آید). The important role of the story "Abel and Cain" in the Qur'an as an archetypal motif is shown in the following:

First, this archetype-motif plays an important role in defining the idea of the work. Showing the consequences of ignorance and jealousy are the main idea of the work. The writer did not refer to this old story in vain. The books claim that "the conflict between Cain and Abel was the first struggle between good and evil" [1:39], and that it has been "living" and "repeating" in different ways and forms for centuries. In the character of Urhan, we

¹ Ma'rufiy Abbas (معروفی عباس) is one of the most modern avant-garde Iranian novelists. He entered the world of literature with his stories like "روی پیش" (Face to Face with the Sun, 1980), "نسل آخرین" ("The Last Best Generation", 1987), "س عطریا" ("The Lilac Scent", 1992).), novels such as "بلوال سا" (Year of Rebellion) and "مردگان سمفونی" (Symphony of the Dead, 1989) and a number of poems.



see the qualities of Cain, who was mentally ill, prone to evil, tempting to lust and sin. Motives such as Cain's endless hatred and envy of his brother Abel and his murder are also repeated in Urhan's relationship with his brother Aydin in the "Symphony of the Dead". However, in contrast to the story mentioned in the Qur'an in the novel, Aydin ends up to be insane even though he is not physically dead, his soul gets "vanished". Due to the oppression of his brother Urhan and his father, his talent, which had just sprouted, was destroyed.

Second, the archetype-motif is one of the factors ensuring the compositional integrity of the novel. The novel consists of five parts, the first and last part of which serves as the main modeler of the story. The essence of this stereotyped story is revealed through archetypal motifs. That is, one of the main antagonists, Urhan's intention to kill his brother Aydin, and his efforts to carry out this heinous intention, and how they ended, forms the plot of the story.

Third, the archetypal motif plays an important role in determining the pathos of the novel. "The Symphony of the Dead" is dominated by tragic pathos. The fate of all the main heroes ends tragically. Urhan suffers from a guilty conscience and, remembering his deeds in an abandoned part of the city, freezes to death in the bitter cold of the morning, Ayda (Aydin's twin sister) burns herself alive, and Yusuf (Aydin's brother) falls from the roof as a child, he gets severely injured and dies. Aydin goes crazy. However, all tragedies are directly or indirectly linked to Urhan. Here is an episode from the work about the fate of the people in their family:

...غم انگیزتر از این نمیشود. پیش از این که آیدین را پیدا کنم کلکم کنده شد. این هم سرنوشت من. اما این زهر را تنها من نبوده ام که سر کشیده ام، آیدا هم خودش را گشت. آیدین می گفت: «درجه حرارت بدن که چهل و دو برسد، آدم مرده است. پس قبول کن که مرده ها حرارتشان چهل و دو درجه است.» گفت: «نه آیدین، من تو را نمی کشم. تو هم مرا نکش.»

Translation: It can't be worse. My soul came to my throat until I found Aydin. That's my fate. But I was not the only one who tasted this poison, and Aydo also committed suicide.

"If a person's body temperature reaches 42 degrees, he dies. In that case, admit that the body temperature of the corpses will be 42 degrees," said Aydin. "No, I'm not going to kill you, Aydin. Don't kill me either." - He said.

Tragedy is manifested not only in the fate of the heroes, but also in the social relations in society, in the attitude of the father (Jobir Urhan) and his children and wife, who are ignorant due to illiteracy. At every step, Jabir humiliates his son Aydin, who is interested in poetry, art and books. Urhan, on the other hand, is the opposite of Aydin, ignorant and rude, with all the same characteristics as his father.

The only girl in the family is Ayda, Aydin's twin, who is similar to him in many ways. His father treats her as a useless object as well. Ayda grows up missing the love of her parents. The mother, on the other hand, mourns the loss of her children but cannot help them either.

Fourth, the archetype-motif was effectively used to create conflict and strong drama, which is very important for a work of art. The main conflict in the play is between Aydin and Urhan, Aydin and Jabir. The conflict between Aydin and Urhan is caused by a strong jealousy of Urhan's brother (because Aydin is talented, he writes poetry, his mother always pays more attention to him than Urhan) and the inheritance from his father, the conflict between Aydin and Jabir is the result of the father's ignorance (he does not understand poetry, ignores his son's talent, considers education and reading books to be "useless work", and he requires him to pursue a profitable profession). The following scene is evidence of the father's place in the family, his character, and his different attitudes toward his children in the family:

«یوسف را مرده فرض کن. یوسف که آدم نیست. خودت هم می دانی. مگر عیبی دارد که به زندگی حاضر و آماده بچسبی و به فکر خودت باشی. این همه سال تلاش کرده برای کی؟ حجره را برای کی خریدی؟ برای اورهان تنها؟»
«من نمیخواهم زندگی پدرم را تکرار کنم. تو که می دانی مادر، من پیش استاد ناصر دلخون، کلاس شعر می روم. قرار است شعرهایم را بدهد در مجله چاپ کنند. آنوقت بیایم تخمه فروش بشوم؟»

Translation: "Suppose Yusuf is dead. Because Joseph is not a man. You know that. What is wrong with a person who clings to life with his teeth and nails and cares about himself? Who did he work for all his life? Who did he buy the building for? Only for Urhan?"

"I don't want to repeat my father's life. Mother, you know, I go to poetry classes of teacher Nasir Dilhun. My poems are to be published in a magazine. Why should I come and sell seeds?" [12: 155]

In order to enhance the drama in the work, the author introduces the scene of burning Aydin's books and poems by Jabir and a monologue by Aydin's wife Surmelina (a Christian girl of Armenian descent), which forms the whole third part of the work. Through this monologue-observation, the tragedies that befell upon the family of Jabir Urhans are assessed objectively, critically and sharply.

The story of the Blessed Virgin Mary is also one of the most frequently used religious stories by Iranian novelists. In the 1967 novel «صد بور سنگ» (The Patient Stone) [19] by the great Iranian prose writer Sadiq Chubak (1916-1998), we can see an appeal to the story of the Blessed Virgin Mary in the interpretation of one of the protagonists, Gavhar. The novel's title and main motif are taken from a famous Persian tale about a man who went to a stone which



can patiently listen to his sufferings. At the heart of the novel is the problem of the value of human life in general. Human life has its value, whether it is sad, full of sorrow, or helpless or poor. The life of each protagonist in the novel is manifested either as an expression of trampled honor, or grief, or weakness, or a lie. But what unites them all is infinite PATIENCE. The concept of "patience" has a philosophical meaning in the interpretation of the writer. The "Stone of Patience" is not a fairy tale, so it is a human, not a stone, that must be endured to such grief. Jahansultan, who had endured the immoralities of the world all his life despite the fact that his body was rotting from wounds and ridicule, Gavhar, who could not resist the humiliation of her masters by her unconditional obedience to religious beliefs and customs, and was eventually poisoned by a doctor, Kokulzari, who dreamed of a goldfish and eventually sank into the pool to catch it - all of them died. In short, the limit of human patience, that is, the society which causes him to feel lose his temper as the cup of his patience is filled and can keep no more of anything, and, finally, the depression of the human will in relation to it, determine the main idea of the work. At the age of 12, she was given as a fourth wife to a wealthy merchant who wanted to "get an heir-bearing wife" and was later rejected by her husband and parents due to an unfortunate accident to her newborn child. The victim, Gavhar, and her tragically deceased son (Kokulzari) are embodied in the image of Jesus in the arms of the Blessed Virgin Mary. The author also cites the story of Adam and Eve (Mishe and Moshyone) at the end of the novel. The purpose of this is to show how negative the oppression, injustice and cruelty of the human race, which is descended from one parents, is.

One of the modern writers, Shahrnush Porsipur, also creatively used the symbol of purity associated with the Virgin Mary in his novel "زندان مردان بدون" (Women Without Men) [15]. It is no exaggeration to say that Porsipur revolutionized novel writing on the women's topic with this novel. The main theme of the novel is the *WOMAN and her mysterious world*. The main idea of the novel is to glorify pure love, free from all kinds of hatred and lust. The protagonists of the novel are women who have rebelled against the society in which they live and the laws that affect their female destiny. The volume of the novel is not large, only 140 pages. The protagonists of the work are also five Iranian women, and the chapters of the novel are named after them: کلاه زرین (Foyize), فائزه (Mahdukht), مهدخت (Zarrinkuloh), لقا فرخ (Munis), and لقا فرخ (Farrukhliqo).

These five women have their own destiny. These roads connect in one place in the GARDEN built by Ms. Farrukhliqo. Events took place in the lives of these women lead them to leave their homes

to express their dissatisfaction. One of them were humiliated at an early age (Foyize), deceived by their relatives or trustees (Mahdukht), one of them was forced into prostitution by fate, another was severely beaten (Zarrinkolah), and the other was a teacher (Munis) who was deprived of the beauties of her life.

In the novel, Porsipur introduces the images of the Garden and the "the people of garden" as a symbol of the pure love, pure, warm relationship she dreams of. The garden is located in the Karaj area outside of Tehran, where women build the society of their dreams. The novel consists of several chapters, each of which tells the story of the fate of one of the heroes of the events. It is in this garden that reality is replaced by mysticism. For example, one of the protagonists, Mahdukht, declares herself as a "tree" in the garden and says that she will give birth to his "pure fruit" without any close relationship, for which she will have to "sow" her feet to the ground [15: 127]. And she gives birth to her own flowers. In the eyes of Porsipur, the tree that has become a mahdukht is embodied as a symbol of femininity, love without animal lusts. On the basis of this symbolism, there is a reference to Mary, the only woman mentioned in the Qur'an (Surat at-Tahim, 12; Surat al-Anbiya, 91; Surat al-Imran, 35, 42, 43) and her attributes.

V.CONCLUSION

In Iranian novels references to, which are mainly written on a historical-religious theme and in a surrealist style, the stories in the holy books, the events in the lives of the Prophets, and historical events of a religious nature are observed.

The main protagonists of historical religious novels are mainly the Prophet Muhammad (PBUH), imams, companions of the prophet Muhammad (PBUH), and caliphs. These novels have a biographical character, and their plot is based on the events that took place with the family, relatives and companions of the Prophet (PBUH). The novels use works of various religious nature, legends and stories, historians of the West and the East, theologians, semi-historical and semi-mythical narrations, hadiths, legends. The works convincingly describe the details of holy cities such as Mecca, Medina, Karbala, the customs, rituals, and clothing of the time of the Prophet (PBUH), which are of great geographical and ethnographic importance. The novels are not detached from classical traditions. Firdavsi's "Shohnama" and Nasir Khusrav's "Safarnama" were also effectively used in them.

The story of Abel and Cain, chosen by Abbas Marufiy as an archetypal motif in "The Symphony of the Dead", plays an important role in defining the idea of the work, ensuring compositional integrity, defining the pathos of the work,



strengthening conflict and drama, defining the writer's creative direction. All this together played an important role in the realization of the author's creative intention to express through artistic scenes that ignorance, the tendency to oppression are ancient human habits and their negative consequences in any period can lead to tragedies.

In "The Stone of Patience", S. Chubak tries to be based on real facts, using traditional and heroic epic methods, but the influence of the concepts of irrationalism and existentialism is still noticeable. This is manifested in the chaotic description of the world, in the fact that the heroes think that their minds are depressed, and that the tragic end of existence is inevitable. The stories of the Virgin Mary, Eve, and Adam are of great importance in expressing the writer's state of mind.

The content of the story of the Blessed Virgin Mary is creatively used in the depiction of pure love, free from all hatred and lust, which is the main idea of the novel "Men without Women" by Sh. Porsipur. The authoress creatively interprets the content of this story and through it shows the attitude towards women in her society.

Hence, it can be concluded from the above that the stories narrated in the holy books, historical events of a religious nature and the life of the Prophets (peace and blessings of Allah be upon all of them), their universal humanistic ideas and didactic-philosophical content serve for the spiritual maturity of mankind regardless of which religion they follow.



AN OUTLINE OF THE SYMBIOTIC RELATIONSHIP BETWEEN NATIONAL SECURITY AND NATIONAL DEVELOPMENT

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ABSTRACT

It is popularly acknowledged that international relations has been in a state of flux leading to alteration in the narratives and perceptions of Third World countries including Nigeria towards internal realities and the traction of norms and pattern of social behaviour. National Security and development also known as national unity, survival and progress are core objectives of national interest that constitute State responsibility. Various attempts have been made to contextualise the failure of the State to deliver in its task towards the society. These efforts along the emerging trends elicit renewed understanding of the concepts of national security and development as symbiotic. Quantifications of the are inadequate at estimating the success and failure of the State. This paper therefore attempted a descriptive account of the problem. Dependency theory is adopted as possible explanation for the causes, dynamics and effects of the problem. Secondary data is mostly relied upon for its findings and analysis. Findings are that there is a disconnect between the State and society in Nigeria. It is recommended that sovereignty, the rights and freedoms of the citizens must be respected through deepening of democratic principles if the nation is to advance.

KEY WORDS: *National Security, National Development, Natio/State*

INTRODUCTION

Beginning from the early post-independence period, Nigeria's policy choices have been determined by the composition of the global setting in which it found itself and its domestic multi-ethnic configuration. At the international level, Nigeria and indeed African States were faced with the challenge of managing artificial boundaries drawn by the colonialists (Akinyemi, 2001:2,3) Colonial legacies no doubts contributed to the prevailing security and development

challenges in Africa, however the influences of internal dissension and war which characterised the history of Nigeria in the Nineteenth Century, notably the *Jihads* in the north and the Yoruba Wars cannot be overemphasised. Faced with the background of internal dissention and colonisation, what was to constitute Nigeria's national interest upon independence became its unity and survival or security as applicable to other African states. Nigeria's national interest therefore was



shaped by a response to the domestic and international milieu.

On the domestic front, far back as 1954 under the Littleton Constitution, Nigeria adopted the federal system of government and liberal democratic system which is deemed to be more consistent with her multi-ethnic configuration. (Bakari, (2017) The Fundamental Objectives and Directive Principles of State Policy provided in Chapter II of the Constitution of the Federal Republic of Nigeria (1999) which declares that the welfare and security of the citizens is the primary purpose of government also testifies to its liberal democratic nature. The ideological persuasions of all political groups in Nigeria are estimated to derive from these basic objectives of national interest. (Egwu, 2015)

External factors have induced Nigeria's adoption of the African centre-piece policy, being the largest country in Africa and concentration of black people in the world. The negative impacts of these external and internal factors obviously became responsible for the failure of Nigeria and African countries in general to achieve unity, peace and development. Some of the challenges that have resulted from the problem of security and development include rising trans-boundary conflicts due to ill-drawn colonial boundaries; religious bigotry, extremism and violent crises; self-centeredness and mis-governance; vandalism of public assets, kidnapping, Advance Fee Fraud (419), internet scam (yahoo! yahoo!) Others forms of criminality include insurgency, terrorism and the deepening rot in national infrastructure. Besides the realities on the domestic scene, at the international level, Nigeria found itself in a world divided along two ideological poles. This division made Nigeria to identify itself with States of like nature in the Southern part of the global divide which is characterised by underdevelopment and pervasive insecurity.

Apart from government efforts at integration, cohesion and development, scholars and concerned entities have attempted to contextualise the problem of security and development in Nigeria and probably the Third World in general through an assessment of the patterns and trends, the effects and the likely solutions to the pervasive problem. Quantitative terms have been applied in certain attempts on the traction of security and development studies, such attempts are sometimes inadequate because among the variables apart from population and costs that can be quantified, the volume of security and development can hardly be quantified correctly. This study takes a descriptive approach as a methodical departure from other endeavours in examining the primacy of national security and national

development through a study of symbiotic relationship between the two concepts and other nascent contexts extending to security as index for human survival.

CONCEPTUAL CLARIFICATION

National Security

The concept, national security is subjected to various interpretations, paralleled along the world axis the State under study belongs and whether it belongs to the developed or the underdeveloped world. Some of the nascent perceptions about security includes human security, which in the views of the United Nations Development Programme (UNDP, 1994) includes freedom from such chronic threats as hunger, disease and repression. Brennan (1961) Al-Marshat (1985) Ray (1987) Ochoche (1998) and Asad (2007) variously hold that national security includes guarantee of national survival, capacity for self-defence or acquisition of military hardware, personnel and expenditure, socio economic and psychological improvement in all spheres of human existence.

Oshio (2009) maintains that there is a divergence between States' and axial perception of national security; either as State-centric and synonymous with the survival of the State, or holistic, in factoring the people's well being into the security equation. The palpable gap thrown up by Oshio, (2009) is the determination of the custody of sovereignty, between nations and nation-states and between the citizens and government. This gap is the paradox between the promotion of the sovereignty and legitimacy of the State and the protection and promotion of the rights and freedom of the people. There is a breach of agreement involved in the relationship regarded as social contract between the people and the State; therefore there is a priority question between the interest of the government and the interest of the people which includes security, development and guarantee of freedoms.

National Development

National Development can be seen in the same generic context as National Security which involves a holistic improvement in the lives of the citizens and the nation extensively. Various scholars have described development multi-dimensionally as the gradual liberation or positive change of man politically, economically, psychologically and socially. Ake (1972) Amucheazi (1980) Ogai (2003) cited in Ebeh, (2015) Others have looked at development from the levels of poverty, unemployment, equitable distribution of income, inflation, savings and investment, access to health, education water, electricity and other basic necessities. Gobak & Kwopnan, (2018) Others have



seen national development as the level of life sustenance, self esteem and freedoms. It can also be seen as the application of nascent schemes and techniques to the factors and production processes and the smooth interaction of basic societal elements. Cited in Akowe, (2019)

Nation/ State

Refers to a group of people with common history, culture and identities including language, kin and filial relations; and the social behaviours or cognitive sense of individuals about their country. The concept of nation can be relative, as the existence of and cohesion among ethnic loyalties and as a fusion or assimilation of the sub-nationalities into the national centre. The concept of nation-State can be expressed as meaning the central political organisation referred to as State or nation as a group identity and forms. The feelings of nationhood generate social order which become standard norms for the complex society. Integrating the various nationalities that comprise the Nigerian State has been the task of successive governments. The determinant factor has been the stake of each federating unit at the centre, based on the responsibility of the State to the aspirations of the people.

The elements necessary for the identification of a State according to Shaw, (2008:198) are neither exhaustive nor immutable. Legal entities that comprise of a permanent population; a properly defined territory; some form of government or central control (though it is debatable whether this requirement is unchangeable); possessing the rights to enter into legal relationships; independence or sovereignty, recognisable by other States and sovereigns. (Shaw, 2008) What is in question under this concept is the custodianship of sovereignty, either belonging to the State or the people from whose will derives power and legitimacy. The concept of nation is lost to the privatisation of the State by the elites, tilting the social order in favour of the few that acquired the instruments of government to the detriment of the people. (Egwu, 2015)

Theoretical Conceptions

This paper does not have the ample of time to fashion out a theory which is capable of explaining the cause(s), effects, trends and solution to the problem of security and development in Nigeria; however, there are scholarly views which may be relevant to this discourse. Due to unavoidable exceptions, there may not be a single theory which absolutely underlines all the contexts under examination. We shall mention few models though with eyesight on one which may possess lesser exception. The most popular models apart from acknowledging the division of the world into Northern

and Southern poles in line with the distribution of wealth, are premised on the Capitalist and Socialist development paradigms of the North. While some scholars have suggested patterns of development like Rostow's (cited in Saul, 2006) 'economists' wisdom,' that the States of the global South should emulate the capitalist North in their development bid, others have merely conjectured the state of developments in Hamza Alavi's 'over-developed state,' Gunar Myrdal's 'soft state' and Adele Jinadu's Dependency. (cited in Olaitan, 1993)

While some scholars have blamed the colonial legacy for the absence of ideologies in Nigerian political settings, others have viewed as more intense, the Marxist class structure and class interest activities which changed the mode of production to the liberal pattern, created a social class structure, integrated and rendered Nigeria dependent on the capitalist metropolitan system (Aforka Nweke, 1985:5,6) The Nigerian state according to Claude Ake (cited in Olaitan, 1993) can be likened to an 'irrelevant state' due to the disconnect between the State and the majority of its citizens. (see Olaitan, 1993:331) Olaitan, (1993) has summed the Nigerian situation as a 'Hanging State' where the productive link between the State and the society is disconnected, with each surviving on its own. State resources are up for grabs as not belonging to anyone. Beyond Olaitan's (1993) Hanging State conjectures, the Nigerian State exhibits absolutist tendencies that suppress societal life through denial of basic rights and freedoms. Within this context, scholars have called for another liberation from the second scramble for and partitioning of Africa. Osaghae, (2005) The Nigerian situation elicits a cephalometric examination of the size of the State as the head resting upon a feeble body and legs. This study adopts the Dependency theory of Andre Gunder Frank as a paradigm which suitably underlines the problem of the Nigerian State and its relation with the society.

NATIONAL SECURITY AND DEVELOPMENT CONSIDERATIONS

This study therefore maintains that security means the prevalence of peace, while holding development as progress. It therefore goes that there cannot be progress without peace and in the same vein there cannot be peace without the atmosphere to realise individual and national dreams and aspirations. This perception has altered the narratives of national development to include health, wealth or resources, environmental and demographic issues. Mathew (1989) The concepts of national security and national



development are therefore interleaved and indispensable goals of national policy. The concepts of National Security and National Development can notably be explicated as two sides of a coin (Saliu:2009) contextually referred to as national interest. Both concepts are key objectives of national interest.

It has been argued by Ebeh, (2015) that national security in Nigeria from independence is viewed as an exclusive domain of the coercive agencies of the government. He further stated that in assessing security arrangements, greater focus has always been placed on internal security. Security to him is seen not from the causative factors but from the aftermath known as insecurity. The concept of security when viewed from the context of government responsibility is still subjective. If development means the air of liberty to aspire to realise individual dreams rather than government provision of guards to individual homes, security and development is somewhat apparently the responsibility of the people. Owing to the abuse of the meaning of security as the safety or protection of government or regime in power, focus has tended to be on sustenance of administrations rather than providing the enabling environment for self actualisation and development which invariably increases the people's stake in their own security investment.

In trying to determine what pie each factor contributed to the question of security and development in Nigeria, Akinyemi (2001) has juxtaposed the responsibility of domestic and external forces for the inability of Nigeria and other African countries to develop. Domestic crises he says are generated by the demarcation of artificial national boundaries by the colonial powers, however he balanced this argument with the existence of multi-nationalities in the states of Europe. He further argued that the wars that characterised African societies in the pre-colonial period could not have done more damage than the series of war including the Great European Wars. Devoid of subjective tendencies, this study would not blame the post independence structure of Nigeria on the colonial legacies as much as the internal forces which feel comfortable with the state of affairs and offer to remain unbalanced in a world of change.

The end of the Cold War according to Otto and Ukpere, (2012) exposed the interlink and symbiosis between security and development and that security spending among the developing countries has increased tremendously, thereby affecting the prospects of development. This is a quantitative attempt at analysing the relationship between security spending and the resultant development, and also at explicating the

holistic impact of peace, security and development which defy accurate numerical representation. Security and development are obviously mutual preconditions, meaning national security is a precondition for economic and social development as much as economic and social development is a precondition for national security. Wolfgang-Peter Zingel

BRIEF TRENDS IN NIGERIAN SECURITY

During the Nineteenth Century, the area known today as Nigeria witnessed the *jihad* in the northern parts, the Yoruba Wars and internal strife in other areas for the control of trade routes. Nigeria upon gaining independence found itself in the global Cold War where African countries needed external support for liberation struggles and to suppress internal revolts. The Nigerian Civil War of 1967-1970, the involvement of the USA and then USSR in Ethiopia and Somalia, support for UNITA and the MPLA in Angola are evidential. Nigerian and African security perception was dominated by western conception of security which is solely dependent on the acquisition of military hardware. (Orhero, 2006)

The end of the Cold War altered Africa's security narrative and dependence on foreign powers because their relevance in the new equation was absent; internal arrangements for security sufficed. Nigeria experienced military and civilian administrations until the current dispensation, experience shows that the pace of threats to national security and development have heightened during the civil rule of the last few years. This may not reflect relative preference, but it shows the predilections of the people and administrations and how their priorities affected development. Needless to embark on this disquisition. The functional requisite of a modern state includes the maintenance of law and order, the maintenance of internal security and sovereignty against internal subversion and external invasion, provision of social amenities and basic welfare services. (Ottoh, 2006) A State is therefore deemed a failed State from the moment it fails to take responsibility for the security and welfare of the increasing population and the growing needs. The conception of security has however changed from the military strength to the guarantee of the (Orhero, (2006)

FACTORS MILITATING AGAINST NATIONAL SECURITY AND DEVELOPMENT

One of the basic factors that militate against the success of national security and development



efforts in Nigeria includes the lack of integration and cohesion as a nation. Ayoob, (cited in Olaitan, 1993) has adduced the threats to Third World security to the poor integration of multi-ethnic groups and irrational borders as also put forward by Akinyemi, (2001) and disarticulated economies and external dependency. Nweke blamed insecurity on economic and military dependence on internal rivalry and external interference in Africa. (cited in Olaitan, 1993) Ethnic division, sentiments and rivalry or conflicts have manifested in the formation of ethnic and regional political platforms right before independence, when the Action Group led by Obafemi Awolowo dominated the western Nigeria while the Northern Peoples Congress dominated the northern part and the National Council for Nigerian Citizens dominated the eastern region. These rivalries culminated in the surge of the military on the political scene in 1966, the resultant counter-coup and the Nigerian Civil War 1967-1970 which led to the arrogation of political powers to the centre.

Nigeria from the time of the oil fortunes in the early 1970s depended on oil without turning the proceeds of oil into productive capacity. This generated the popular Niger-Delta militancy and demands for resource control. Nigeria has suffered the lack of visionary leadership following the lack of ideologies that drive political party inclination, a misnomer which affected the election processes and the well being of democratic institutions. In order to sustain itself and protect itself from the popular protest of the poor, the elites have generated poverty and tried to maintain the status quo using all forms of primordial and bigoted means.

The Nigerian education system is mainly concentrated on academic laurels without adequate skill acquisition towards a productive economy. Thus, poverty among Nigerians and the attending societal ills have produced a generation of cannon fodder ready for use in the perpetration of violence in reaction to feeling of neglect at the centre and during elections. Absolutism and despotism have overtaken genuine democratic drive for national security and development; regime security is made synonymous with national security because murderers walk freely on the streets while mere critics of the State suffer incarceration without recourse to the rules. Phantom electioneering promises have renewed the people's faith in new administrations, however abandoned projects and schemes continue to depreciate national funds. There is a palpable bid to satisfy narrow interests leading to excessive interference in the economy, a

phenomenon which has discouraged foreign and local investors.

CONCLUDING REMARKS

Following their experiences of colonisation, independence struggle and the Cold War, the security orientation of Nigeria and African countries became synonymous with the western acquisition of military hardware. This orientation as noted earlier was meant to ward off external threats and suppress internal revolts against their regime interest. Regime interest became known as national interest or national security and development. A new dawn of security perception resulted from the end of the Cold War, where the failure of government to meet the increasing needs of the local population and the demands for development became the source of insecurity in Africa. It became obvious that national security cannot be met without meeting the development needs of the citizens.

RECOMMENDATIONS

Ogaba (2001) has recommended regional security which conforms with the domestic priorities including survival and generalised solidarity. To him, the security of neighbouring countries in Africa and peace in Nigeria are *sine qua non*. This view is corroborated by Nweke's (1985) position that Nigeria's national interest must be considered not from the narrow point, but from the broad perspective of domestic and international politics which estimates the interest of all sectors or groups within the society dictated by the ideological and analytical factors.. Though this idea focuses more on the acquisition of military hardware than the nascent perception of security which includes human security through improved democratic practice and governance system, it provides a reasonable platform in the spirit of the African Peer Review Mechanism of the New Partnership for Africa's Development.

It is necessary to reconsider security and development projects on Wolfers' (2006) chain of goals and means; it is not viable to draw a sharp line of demarcation between the two because all means can be said to constitute intermediate or proximate goals, and few goals if any can be considered ultimate because they can be sought as ends in themselves.

REFERENCES

1. Akinyemi Bolaji A. (2001) *Understanding African Security Problems: The Link between the Past, Present and Future*. In R. A. Akindele and Bassey E. Ate (eds) *Beyond Conflict Resolution*:



- Managing African Security in the 21st Century*. Lagos: Nigeria Institute of International Affairs.
2. Al-Marshat & Lipmann W. (1985) quoted in an article by Ayogu, E. 'The Concept and Dynamic of National Security in Nigeria'
 3. Amucheazi, E. C.(1980) *Reading in Social Sciences: Issues in National Development*. Fourth Enugu Dimension Publishing Co. Ltd.
 4. Arnold Wolfers, (2006) *The Goals of Foreign Policy*. In Stephen Chan and Cerwyn Moore (eds) *Theories of International Relations, Volume 1 Approaches to International Relations: Realism*, London: Sage Publications
 5. Brennan (1961) *Setting the Goals of Arms Control*, in Brennan (ed.) *Arms Control, Disarmament and National Security*. New York: George Brazille.
 6. Mathew, J. T. (1989) *Redefining Security*. New York: Foreign Affairs.
 7. Malcolm N. Shaw (2008) *International Law*, New York: Cambridge University Press, Sixth Edition
 8. Ochoche (1998) *The Military and National Security in Africa*. In Hutchful (ed) *Military and Militarism in Africa*. Senegal: Codesirea
 9. Ogaba Oche, (2001) *The State System and African Security*. In R. A. Akindele and Bassey E. Ate (eds) *Beyond Conflict Resolution: Managing the African Security in the 21st Century*. Ibadan:
 10. Ogai, J.O.(2003) *An analysis of the concepts of development and underdevelopment in communication and national development*. Onitsha: Afrika-Link Book.
 11. Prakash Chandra, (1983) *International Relations*, New Delhi: Vikas Publishing House PVT Ltd
 12. Ray, J. (1987) *Global Politics 3rd ed*. Boston: Houghton Mifflin.
 13. Saul, John S. (2006) *Development After Globalisation. The Theory and Practice of the Embattled South in a New Imperial Age*. India: Three Essays Collective. p.2
 14. UNDP(1994) *Human Development Report*. New York: Oxford University Press, cited in Otto and Ukpere (2012)
 15. Vilas (1990) *Is Socialism an Alternative for the Third World?* New York: Monthly Review A2.3
 16. Wolfgang-Peter Zingel *National Security and Economic Development: Securing Development – Developing Security* www.bundesheer.at/publikationen/ec
 17. Asad, D.(2007) *National Affair* retrieved September 2007 <http://www.nigeriavillagesquare.com> cited in Ebeh John Igbogo (2015) *National Security and National Development: A Critique*. *International Journal of Arts and Humanities (IJAH)* vol'4(2). S/No.14 Bahir Dar-Ethiopia: retrievable at <http://dx.doi.org/10.4314/ijah.v4i2.1>
 18. Bakari, Salihu (2017) *National Integration in Humanities and Development: The Way Forward* UJAHSpecial Edition, <http://dx.doi.org/10.4314/ujah.v18i2.21>
 19. Ebeh, John Igbogo (2015) *National Security and National Development: A Critique*. *International Journal of Arts and Humanities*,
 20. Eghosa E. Osaghae, (2005) *The State of Africa's Second Liberation, Interventions International Journal of Postcolonial Studies*, 7(1) 1-20 March, retrieved from <https://www.researchgate.net/publication>
 21. Ferdinand O. Ottoh, *Failure and Revitalisation of the State in Africa*, *Nigerian Forum, A Journal of Opinion on World Affairs*, Lagos: NIIA Press, September/October, 320-340
 22. Gobak Happy and Bulus Kwopnan, (2018) *National Security Challenges and Sustainable Development in Nigeria: A Critical Analysis of the Niger Delta Region*, *Global Journal of Political Science and Administration*, Vol. 6, No. 4, September, 32-50 retrieved from European Centre for Research Training and Development, UK @ www.eajournals.org
 23. Godly Otto and Wilfred I. Okpere (2012) *National Security and Development in Nigeria*. *African Journal of Business Management* vol.6 (23) :6765-6770 www.academicjournals.org/AJBM
 24. Olaitan, Wale Are (1993) *The Hanging State in Nigeria*. *Nigerian Forum*, Lagos: NIIA Press, November-December
 25. Orhero Abraham Ejogba, (2006) *African Security in the Twenty-first Century*, *Nigerian Forum, A Journal of Opinion on World Affairs*, Lagos: NIIS Press, September/October, 303-319
 26. Saliu, Hassan A. (2009) *Economic Development as A Pre-Condition for Democratic Consolidation*. *Nigerian Forum* vol.30, Nos.7-8 July-August. Lagos NIIA
 27. Ake, C. (1972) *Development of what? For what? A paper presented at a conference on Development Strategies in Africa of the 1970s held in Arusha Tanzania*. September
 28. Akowe, Joel (2019) *Social and Economic Development Lecture Notes*, Lokoja: Kogi State Polytechnic,
 29. Ehi Oshio, (2009) *Challenges of National Security and Development, Being a Paper Delivered at the Delta State Christian Professional League Seminar on Crisis Management and Nation Building*, Asaba: 19 November,
 30. Samuel Egwu, (2015) *Technology of Power and Dramaturgy of Politics: Ethnicity and Democracy in Nigeria's Fourth Republic*, *UniJos Inaugural Lecture series* 72, July 9



THE USE OF STABLY FORMED INTERROGATIVE SENTENCES AS SPEECH ACTS

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Metacommunication¹ is defined as the regulation of the process of verbal communication using lingual tools [9,32-33]. Such a definition of metacommunication, according to Matyukhina and Jacobson, is related to the fulfillment of the phatic function of language. Metacommunication (or phatic metacommunication) includes the aspects, such as a) the initial stage of the establishment of speech contact / speech contact; b) speech contact support / approach phase and c) speech contact disconnection / termination phase. [9, 32-33; 8,110-111; 5,15].

The boundary between metacommunication and original communication is not always easily defined. Contrasting informativity and metacommunication in real speech communication does not necessarily mean the autonomy of each of them, however, requires interrelation [7,146; 4,32].

Such a mixture (syncretic) and multifaceted nature of the speech movement performing the phatic function complicates their study. In the context of a metacommunicative speech act, there are two groups of active interrogative sentences which are used for the following purposes:

- 1) establishing contact (at the meeting, at the beginning of the conversation) and drawing the attention of the addressee to the reception of the message;
- 2) the use of communicators in the process of message transmission (contact). We try to

describe the conditions for success in the context of a metacommunicative speech act:

1. Prerequisite: The addressant and the addressee are able to establish and maintain a verbal relationship.
2. The condition of sincerity: the addressee and the his/her desire to establish and apply a verbal relationship.
3. An important condition: it is clear from the opinion of the addressee that there is a purpose to establish a verbal relationship.

Among the fixed-content interrogative sentences that perform the function of establishing a verbal relationship, typically, verbal etiquette formulas are listed in dictionaries:¹ How do you do? How are you? How are you getting on? How's it going? How's tricks? How are you doing? How are things? How are you keeping? How's yourself? How goes it? where such greetings are included.

As mentioned above, clichés are the sentences which are used as ready-made speech structures and allow for some variation in the lexical structure. The purpose of this communication, as well as “creating an environment of trust in the message and its source”, is to ensure the success of this communicative act. [6,122-123; 13,125].

The choice of this or that form of greeting depends on many factors, such as gender, age, service or social status of the addressee, distance between communicators, communication situation and so on. It is not appropriate to apply to a close acquaintance, a person of a younger or equal age in a natural situation, to an older person who is less familiar and in a formal situation. [11,50; 12,155]

¹ The works by R.Jacobson, D.Vunerlich, A.Vejbitskaya, V.D. Devkin, A.A.Knyazeva, Y.V. Matyukhina, Y.L.Baydikova are dedicated to the problem of phatic communication. Y. Matyukhina and R. Jacobson associate the phatic function of language with the process of communication, the focus on contact, the ability to establish, continue or pause a relationship, check that the communication channel is working, attract the speaker's attention or make sure he/she is listening attentively. [Matyukhina 1999:pages 147-148; R.Jacobson 1975-page 201].

¹ Dictionary of American Idioms and phrasal verbs. R.A. Spears . New-York, McGraw-Hill, 2005. – pages 312-314



The following example proves the social basis for the choice of the desired form, taking into account the above signs of greeting:

- Hello, George. How's everything?
- Good evening, Mrs. Kalvin [26, 25].

As we can see, different forms of greeting are chosen for the same situation to the addressees who are different according to their age and social status.

How do you do? is a common form of greeting, can be characteristic of formal situation communication and is used at a meeting of strangers. Compare lexical comments: How do you do? → a standard inquiry and response on greeting or meeting someone. [20,312]. For example:

"Gavin, this is Sheila Beckwith, our number one editor". "How do you do", said Wilson. "I understand you've had to interrupt your holiday on my account" [22, 21].

How are you getting on? How are you doing? How are things? How are you keeping? How are you? which is freer, hence, is a cliché which does not differ from the most polite forms of communication and greeting. They are used in the communication of well-known people in a free natural state depending on age and social status. Compare lexical comments: How are you? — a conventional greeting, often also a definite inquiry about someone's health and welfare. Alec: How are you doing? How are / or how's / things? How are you keeping? [19,78].

Also compare lexical comments: How are you keeping? / Coll. Rather old-fashioned / How are you? / used when one meets a friend whom one has not seen or met for some time / This can be varied, for example to refer to another person, as in: How is your mother keeping? Or in such phrases as: Are you keeping well? [16, 181].

How goes it? How's tricks? is an even freer cliché, it is usually used among close friends. In this context, let's look at the lexical commentary: How goes it? / coll / -Hello, how are you? What is happening? - / used to seek news, especially when two friends meet. [16, 132]. Other examples:

- "How goes it?" he asked pleasantly.
 - Oh, fine. How are you?
 - Busy as hell [25,231];
- It isn't Janice, Harry. It's me, Peggy.
 - Oh. Hi. How's tricks? How's Ollie? [24, 222].

How's yourself?, the cliché is included in the list of slangs and is usually used by the younger generation and probably somewhat educated people. Thus, the greeting consists of a minimal dialogic unit, two different speech acts are repeated alternately by the two communicators.

For example: "Elizabeth! How lovely to see you. How are you?" Elizabeth's smile was polite and blank. "We met at the Gholmondeleys" said Morgan hurriedly.

"Yes, of course! How are you?" [27,15].

The greeting is also different from the original form:

Mrs Burnett: How are you keeping, love?

Steven: Hello, Mrs. Burnett... Well enough... [21, 15].

In some cases, the answer can be in the form of "I'm fine; fine; Couldn't be better; so so". For example:

- "How are you?" he asked, following her into the living room.
- "Fine, absolutely wonderful. Can I get you a drink?" [27, 358];
- "How's it going?"
- "So-so," he said. [23, 52].

As a result of their regular use in verbal communication, greeting forms become semantically narrowed and become "outdated ideas within the framework of speech etiquette", [1, 26] and the speaker does not intend to obtain information about the real state of affairs of the interlocutor. So, How are you? How's it going? How do you do? phraseological interrogative sentences serve as a greeting, usually not demanding information, but as high-level ritual speech acts, help to make social contact. Even if these verbal acts require some information, they will continue to serve the addressee to communicate with the interlocutor. Interrogative sentences with such phraseological content are only activated as a metacommunicative speech act of interaction.

Usually, after the greeting, the metacommunicative function is followed by interrogative pronouns with other phraseological content which eventually form a complete set of metacommunicative features and create the conditions for the transition to direct communication. So, How are you? How are things? The ideas expressed in this form can be expressed and specified in the context of the family environment and service, for example: How is your wife / family, mother? /; How are the children? How's your mother keeping?; How are things at home / in your department? How are you getting on with your thesis? and so on.

This type of persistent questionnaire is a unique preparation for future conversations of communicators on "non-informational" topics and an invitation to this conversation. [2,146]. In such cases, it is important to have a conversation in general, not what to talk about [3,5].

For example:

"Mr. Kosak," I said, "how are you anyway?"

"I'm fine, Johnny," said Mr. Kosak. "How are you?"



“Couldn’t be better, Mr. Kosak” I said.
“How are the children?”

“Fine!” said Mr. Kosak. “Stephan is beginning to walk now.”

“That’s great,” I said. “How is Angela?”

“Angela is beginning to sing,” said Mr. Kosak.

“How is your grandmother?”

“She’s feeling fine,” I said. “She’s beginning to sing too.” [26, 76].

What is important for small talks is not the transmission of information (communicators exchange information in any case during communication), but the implementation of social communication as part of social activities [15,29].

In communication with the interlocutor, in addition to greetings, phraseological interrogative sentences are also used to attract the attention of the addressee. This metacommunicative task is very important in the initial phase of communication and requires the addressee to break the barrier of negligence in receiving the communicatively important information because “sudden speech (without the addressee’s attention) may not be accepted at all or partially distorted” [10,52].

In conclusion, it should be noted that in the text of the metacommunicative speech act, there are interrogative sentences with a fixed content, which help to establish a communicative contact. Stable interrogative sentences which serve as a contact include greetings, as well as other phraseological phrases helping attract the addressee’s attention. Phraseological interrogative sentences supporting speech communication are divided into groups of sentences used by the speaker and the addressee. Thus, the speaker can use so-called reflective interrogative sentences to support speech contact, and this case their function is to activate the addressee’s attention to the information conveyed, to enhance his receptive and thinking activity.

REFERENCE

1. Akishina A.A., Formanovskaya N.I., Publication. *Russian speech etiquette. Practical work of polite communication. Textbook. The 4th edition 2009, page 184.*
2. Babushkina M. A. *Incentive metacommunicative situation and its peculiarities. // Vestnik(bulletine). Tambov: Gramota, 2019. Book 12. Edition 9. pages 143-147*
3. Bazilev V.N. *Phatic speech // Effective communication: history, theory, practice. Dictionary with reference. - M., 2005. - p. 561-562. 5.*
4. Devkin V.D. *Metacommunication // Foreign languages in school. - 1987. - № 5. - p. 31-36.*
5. Knyazeva A. A. *Specifics of communicative behavior of a person in situations of flirt: Dissertation of a candidate of philological sciences. - Tver. 2018 – page 24.*
6. Matyukhina Y.V. *Features of speech behavior at the stage of establishing speech contact in English, 16-20 centuries // Vestnik. Kharkov National University named after V.N. Karazin. - 2001. - #537. - p. 122-127.*
7. Matyukhina Y.V. *Phatic metacommunicative speech acts of continuation of communication in English language, 16-20 centuries. // Vestnik. Kharkov National University named after V.N. Karazin - 1999. - #461. - p. 144-150.*
8. Matyukhina Y.V., Shevchenko I.S. *Pragmatical features of phatic and metacommunicative information in discourse // The materials of an international scientific and methodical conference“. The third Karazin readings: the methodics and linguistics - on the way to integration”. -- Kharkov: 2003. -- p. 110-111.*
9. Pocheptsov G.G. *The theory of communication. - M.: Refl.-book; K.: Vakler, 2001. - page 656.*
10. Pocheptsov G.G. *Phatic metacommunication // Semantics and pragmatics of syntactic units. A thematic collection among educational institutions – Kalinin. Publication of Kalinin University 1981. - p. 52-59.*
11. Samigova Kh.B. *The comparative research of the rhetorical aspect of English and Uzbek speech cultures. An author’s abstract, dissertation for the degree of a doctor of philological sciences T, 2017- page 66.*
12. Shomakhmudova A.F. *Ethnopragmatic factors bringing the direct speech acts into action (as an example of Spanish language). PHD of philological sciences, dissertation - Samarkand, 2019-page 164.*
13. Shkolnik L.S. *The research of speech impact: targeted approach // Language as a means of ideological impact. - M. 1983. - pages 122-138.*
14. Jakobson R. *Linguistics and poetry // Structuralism “for” and “against”. - M. Nauka(science).1975- pages 193-220.*
15. Palmer, F. R. *Semantics / F. R. Palmer. - 2nd ed. - Cambridge ; New York : Cambridge University Press, 1993.- page 213.*
16. LDEI – Longman Dictionary of English Idioms. – Harlow and London: Longman Group Ltd, 1984. – page 386.
17. MDCI – Manser M. H. *A Dictionary of Contemporary Idioms. – London and Sydney: Pan Books, 1983. – page 219.*



18. *SDAI–Dictionary of American Idioms and phrasal verbs.* R.A. Spears . New-York, McGraw-Hill, 2005. – pages 312-314.
19. *MDCI – Manser M. H. A Dictionary of Contemporary Idioms.* – London and Sydney: Pan Books, 1983. – page 219 .
20. *WDECI – Wood F.T. Dictionary of English Colloquial Idioms.* Great Britain: Wheaton and Co. Ltd., 1979. – page 354 .
21. *DS-P- Storey D. Plays.* – Harmondsworth: Penguin Books, Ltd, 1982.– 359p.
22. *ES-MWC- Segal E. Man, Woman and Child.* – Great Britain: Granada Publishing Ltd, 1981. – page 221.
23. *IS-TH- Shaw I. The Top of the Hill.* – London: New England Library, 1983. – page 320.
24. *JU-RR- Updike John. Rabbit Redux.* – N.Y.: Fawcett Crest, 1985. – page 352.
25. *RJ-CR- Jaffe R. Class Reunion .* – USA: A Dell Book, 1980.– page 445.
26. *WS.SS. The Man with the Heart in the Highlands/W.*
Saroyan II Selected Short Stories. - M.: Raduga Publishers, 2002. - page 144
27. *UMP-R- Parker U. –M. Riches.* – USA: New American Library, 1987. – page 463.



ISLAMIC RELIGION AND ATTITUDE TO SLAVERY RELATIONS

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ABSTRACT

This article scientifically analyzes and draws conclusions about the specific causes and content of the existence of slavery in the Islamic world, the causes and consequences of the failure of Islam to eradicate slavery. At the same time, the article provides a scientific analysis of the issues of slavery in the Khiva khanate.

KEYWORDS: *Islam, slavery, the Karan, hadiths, sharia, Shiites, fatwas, mukotaba, Russian slaves, Iranian slaves*

DISCUSSION

The existence of slavery in the Islamic world has a specific cause and content. By the time Islam came into being, slavery was already deeply ingrained in society. Therefore, Islam, knowing that slavery could not be eradicated, tried to mitigate its consequences and change its essence. In particular, Islam has changed its view of the term slave, saying that all people are equal and that they are only meant as servants or slaves of Allah, and set that slaves should be treated not as slaves but as sons or daughters by their owners. In particular, the Prophet (peace and blessings of Allaah be upon him) said to the slaves, "None of you should call them as slave or a helot. However, it was recommended that he say, "My son and my daughter." [6]

In Islamic doctrine, it has been explained that the slaves were explained that the slaves in their hands are human beings also and they are their relatives.

For example, in a hadith narrated by Imam Bukhari, the Prophet Muhammad (peace and blessings of Allaah be upon him) said: "Your slaves are your brothers. God wanted them to be under your control. So whoever has a brother, let he give him the food he eats and the clothes he wear." [3]

There is a lot of information in the hadiths about the attitude towards the slaves. In particular, the Prophet (peace and blessings of Allaah be upon him) issued an order: "A slave is given food and clothing, and he is not forced to do a job that he cannot bear. [5] At the same time, the enslavement of

Muslims who professed Islam was completely forbidden.

One of the manifestations of the struggle against slavery in Islam was that the merit of freeing these slaves was emphasized and introduced as an unwritten law among the five basic fards of Islam. Muslims were encouraged to free slaves in various ways. In particular, it was proclaimed that whoever freed a slave would be saved from the torment of hell. As one of the most basic conditions for the atonement of sin, one should release of the slave under his control or if he doesn't have one he should buy one and then release the slave from slavery. This act is reflected in the Qur'an in the deed of "mukotaba." Although the word "mukotaba" originally meant "two-sided writing" in the dictionary, in the Shari'ah terminology it meant a contract made by a slave or maid with her master to be set free in exchange for a certain amount of money or service. It was also a way of fighting against slavery in Islam, an opportunity created for the liberation of slaves and maids. In short, this concept in Islam means that by addressing Muslims through the Qur'an, Allah has commanded them to make a deed with whomever if they want to make a contract for their freedom.

It is known that the slaves are the most right people to give the zakat tax. That is, spending a certain amount of zakat tax to free a slave is preferred in the holy Koran. [3]

Islam has honored the emancipation of slaves to the level of the greatest prayer and the most effective means of worshipping Allah.



It is clear from many verses and hadiths that in Islam, the beginning of the things that bring a person to paradise is the liberation of a slave or financial support for the liberation of a slave. The Islamic government was also recommended to contribute to the liberation of slaves from the wealth of the state [6.].

So, just as Islam gradually cured and eradicated the social diseases that people have become accustomed to evil, such as alcoholism, adultery, and usury, so did slavery. Islam began a systematic and gradual struggle against slavery. At first, it was explained to people that it is not good to enslave one another. Then it was explained through verses and hadiths that the liberation of a slave is a good deed and will lead to salvation and atonement in the Hereafter life. Then the release of slaves was included in prayers such as zakat and kaffarah. Most importantly, these cases did not remain as prate, but were obeyed by common in practice [1.].

The Prophet Muhammad (peace and blessings of Allah be upon him) himself freed sixty-three slaves. Aisha, the wife of the Prophet Muhammad (peace and blessings of Allaah be upon him), freed sixty-seven slaves. Abbas ibn Abdulmuttalib, the uncle of the Prophet Muhammad (peace and blessings of Allah be upon him), freed seventy slaves, one of his companions was Hakim ibn Hizam, one hundred, Abdullah ibn 'Umar, one thousand, Dzu'l-Kula' Humayri, eight thousand, and 'Abdur-Rahman ibn' Awf released thirty thousand slaves. Due to the large number of slaves freed by Abu Bakr and 'Usman, the historians were not able to quantify them.[1]

This practice was widespread among Muslims. The liberation of the old slaves was implemented. At the same time, Islam forbade the enslavement of free people. As an exception, only captives of war were allowed to be enslaved. This was a permit issued under the current situation at the time. That is, slavery was not completely abolished, given the plight of others.

In general, in Islamic society, family slavery has replaced the economic slavery, and the abomination of slavery in society does not apply to the rules of Sharia.

There is another sensitive issue, which is the fact that foreign sources have the misconception that the development of slavery among the peoples and states of Central Asia is supported by the Sharia. Such views are especially common in Russian sources. It is self-evident that in such a case, blaming Islam or the Shari'a is extremely wrong approach to the issue. We have already mentioned above how the attitude towards slavery is reflected in Islam. It is safe to say that the development of slavery stemmed from the shortsighted worldview of certain rulers,

groups or individuals, from the lack of understanding of the essence of Islam, or more precisely from the laziness of some people, and from the pursuit of wealth in any way. Islam, like all religions, is a religion that encourages humanity and glorifies universal values, and it is up to people and their conscience in general whether or not to follow its rules, violate the rules of the Shari'a, and whether or not to believe in religion.

As for the existence of slavery in the Khiva khanate, we see that the rules of Sharia were fully observed in the khanate as well. That is, first, the enslavement of Sunni Muslims was completely forbidden. There is almost no evidence in sources and even in Russian sources that this rule has been violated. Agahi's 'Shahid-ul-Iqbal' also condemns the capture of not only Muslims but also Russians from neighboring Russian villages near Khorezm and their sale at Khiva's slave markets. Although the author does not hide his hatred for "invaders", he does not approve of the "sale of man as a bad creature", regardless of his/her religion, and instills in the spirit of his work the fact that people of different religions must live in equal neighborhoods with equal rights. [4. 198, 203-204, 215].

We may sometimes find facts about selling own children to escape poverty or starvation. However, it should be noted that they also did not sell their children for slavery, of course. This is especially the case among the nomadic tribes, or more precisely among the so-called Khiva Kyrgyzians (Kazakhs and Kyrgyz) in Russian sources that they were sold to work for certain period of time and it is also a proof of our above mentioned opinion [2.279-285].

REFERENCES

1. Ali Vecheslav Polosin, Aydin Alizoda. *Islam's Attitude to Slavery.*// <https://islom.uz/article/3736/22.04.2017>
2. Zimanov S. *The Social System of the Kazakhs of the first half of the XIX century and the Bukeev Khanate. In Russian. Almaty: "Arys" publishing house, 2009. p.400*
3. *Islam and Slavery. Ask the People of Wisdom. In Uzbek.*// islom.uz/24.08.2013
4. Muhammad Rizo Erniyozbek oglu Ogahi. *Works.7-vol. Shohidu-l-iqbol (Testimony of Iqbal) .In Uzbek./ Prepared by, Nafas Shodmonov, Doctor of Philology, Tashkent: Sharq Publishing House, 2019, p.288*
5. *SunnanyTermiziy.*
<https://hadis.uz/hadiths?query=қўлап>
6. Sheikh Muhammad Sadiq Muhammad Yusuf. *Human Rights in Islam. Islam and Slavery*
<http://www.info.islom.uz/03/30/2016>



SIMILARITY OF QUADRILATERALS

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ABSTRACT

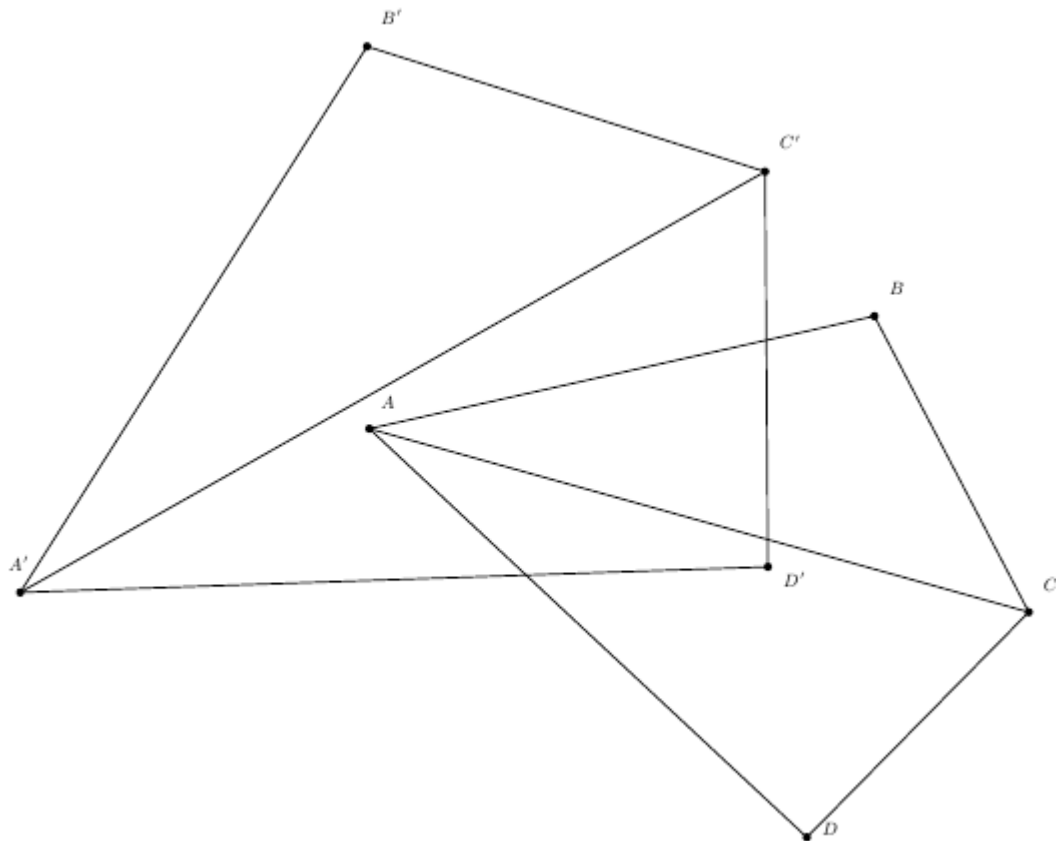
In the article, there is very little information about the similarity of rectangles, but its applications are very wide, making it easy to solve olympiad problems. The paper presents the theorem on the similarity of rectangles and the solution of problems using this theorem.

KEYWORDS: *similarity, quadrilateral, cyclic, ratio, theorem, congruent, polar, circle, distance, angle, point, constant, midpoint, parallelogram, circumcircle.*

We know very well about similarity of triangles. However, although used widely, not a lot of people know about similarity of quadrilaterals. The method of finding similar quadrilaterals is called **SSAAA Similarity**. The following theorem will look into it broadly.

Theorem-1 (SSAAA Similarity) Two quadrilaterals $ABCD$ and $A'B'C'D'$ satisfy

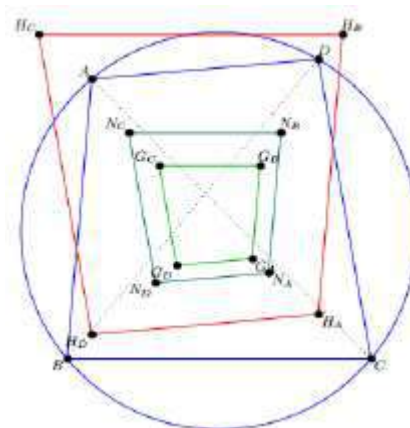
$\angle A = \angle A'$, $\angle B = \angle B'$, $\angle C = \angle C'$ and $\frac{AB}{A'B'} = \frac{BC}{B'C'}$. Prove that $ABCD$ and $A'B'C'D'$ are similar.



Proof: Notice $\triangle ABC$ and $\triangle A'B'C'$ are similar from **SAS** similarity. Therefore $\angle C'A'D' = \angle A' - \angle B'A'C' = \angle A - \angle BAC = \angle CAD$. Similarly $\angle A'C'D' = \angle ACD$ so $\triangle A'C'D' \sim \triangle ACD$. Now notice we have $\frac{AB}{A'B'} = \frac{BC}{B'C'} = \frac{AC}{A'C'} = \frac{AD}{A'D'} = \frac{CD}{C'D'}$ so our proof is complete.

Now let's use this theorem to solve some interesting and hard problems.

Problem-1 . Let $ABCD$ be a cyclic quadrilateral. We define G_A, H_A, N_A to denote the centroid, orthocenter, and nine-point center of $\triangle BCD$. We define G_B , etc. similarly. Show that $ABCD, H_A H_B H_C H_D, G_A G_B G_C G_D, N_A N_B N_C N_D$ are all similar quadrilaterals with a similarity ratio of $6:6:2:3$, respectively.



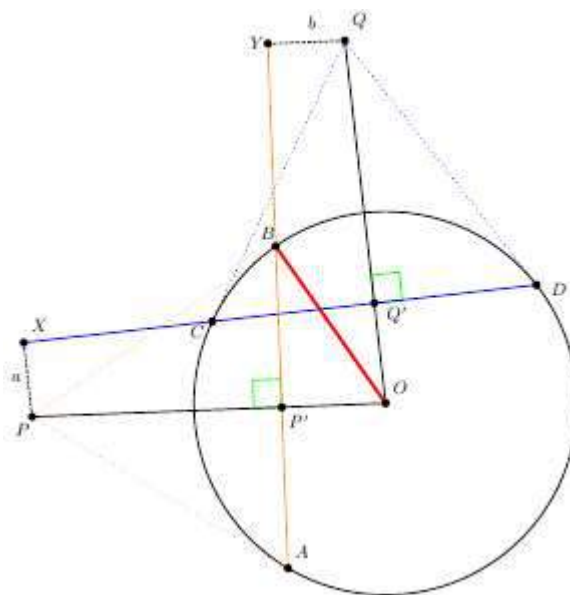
Proof: From a well-known lemma, $AH_B = 2R \cos \angle DAC$. We know



$$2R \cos \angle DAC = 2R \cos \angle DBC = BH_A$$

Also $AH_B \perp DC \perp BH_A$, so ABH_AH_B is a parallelogram, so $AB \parallel H_AH_B$, $AB = H_AH_B$. Similarly, $BC \parallel H_BH_C$, $CD \parallel H_CH_D$, $DA \parallel H_DH_A$, and so $ABCD$ is similar to $H_AH_BH_CH_D$, and furthermore congruent. It is well known that the nine-point center N_A lies on the Euler line, and is the midpoint between the circumcenter O and the orthocenter H_A . Therefore $N_A N_B N_C N_D$ is simply a dilation of $H_AH_BH_CH_D$ by a factor of two, meaning it is similar to $H_AH_BH_CH_D$ and therefore similar to $ABCD$ with a ratio of $\frac{1}{2}$. It is well-known that $OG : OH = 1 : 3$, so $G_A G_B G_C G_D$ is similar to $H_AH_BH_CH_D$ with a ratio of $\frac{1}{3}$. Since $H_AH_BH_CH_D$ is congruent to $ABCD$, we get our result.

Problem-2 . (Salmon’s Lemma) Let O be the center of an arbitrary circle and let P, Q be arbitrary points. If a is the distance from P to the polar of Q , and b is the distance from Q to the polar of P , then show that $\frac{OP}{OQ} = \frac{a}{b}$.

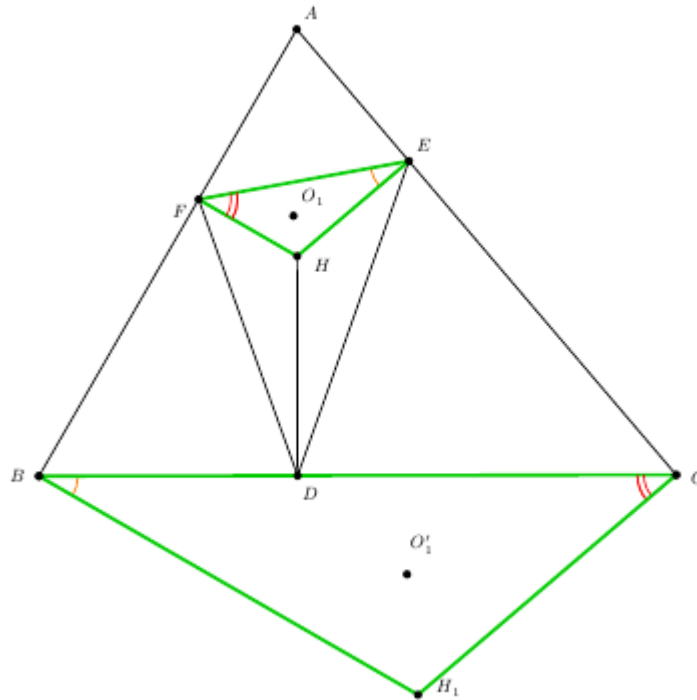


Solution: Draw the tangents from P, Q to circle O to intersect at A, B, C, D respectively. Notice AB is the polar of P , and CD is the polar of Q . Drop perpendiculars from P, Q to CD, AB at X, Y respectively. Let PO intersect AB at P' , and QO intersect CD at Q' .

Notice that because AB is the polar of P , we have $\angle PP'B = \angle PBO = 90^\circ$. From similar triangles $\triangle P'BO \sim \triangle BPO$, we have $OP \cdot OP' = OB^2 = R^2$, and similarly from right triangle OCQ we have $OQ \cdot OQ' = OC^2 = R^2$, so $OQ \cdot OQ' = OP \cdot OP'$. Notice quadrilaterals $XPOQ'$ and $YQOP'$ are similar because they have: two right angles each at X, Q' and Y, P' ; share an angle at O ; and furthermore satisfy $\frac{OQ'}{OP'} = \frac{OP}{OQ}$. From this we get $\frac{OP}{OQ} = \frac{PX}{QY} = \frac{a}{b}$ as desired.



Problem-3. In a triangle ABC , construct altitudes AD , BE , CF and let H be the orthocenter. Let O_1, O_2, O_3 be the incenters of triangles EHF , FHD , DHE , respectively. Prove that the lines AO_1, BO_2, CO_3 are concurrent.



Proof: Denote H_1 as the point outside triangle ABC where $\angle CBH_1 = \angle FEH$ and $\angle BCH_1 = \angle EFH$. Denote the incenter of the triangle H_1BC as O'_1 . Define O'_2 and O'_3 similarly. Then, by Jacobi's Theorem, we see that AO'_1, BO'_2, CO'_3 are concurrent at a point P . Notice that because $\angle BFC = \angle BEC = 90^\circ$, $BFEC$ is cyclic so from Power of a Point, $\frac{AF}{AE} = \frac{AC}{AB}$. Also, $\angle AFE = \angle ACB$, $\angle AEF = \angle ABC$ so $\angle AFH = \angle ACH_1$ and $\angle AEH = \angle ABH_1$. So from $SSAAA$ similarity, we know quadrilaterals $AEHF$ and ABH_1C are similar. Therefore $\angle BAO_1 = \angle CAO'_1$. Similarly, we get $\angle CBO_2 = \angle ABO'_2$ and $\angle ACO_3 = \angle BCO'_3$, so AO_1, BO_2, CO_3 are concurrent at the isogonal conjugate of P .

Next, we will prove an intriguing lemma that will be key to a more difficult problem. Both the lemma and the following problem will use properties of similar quadrilaterals in their proofs.

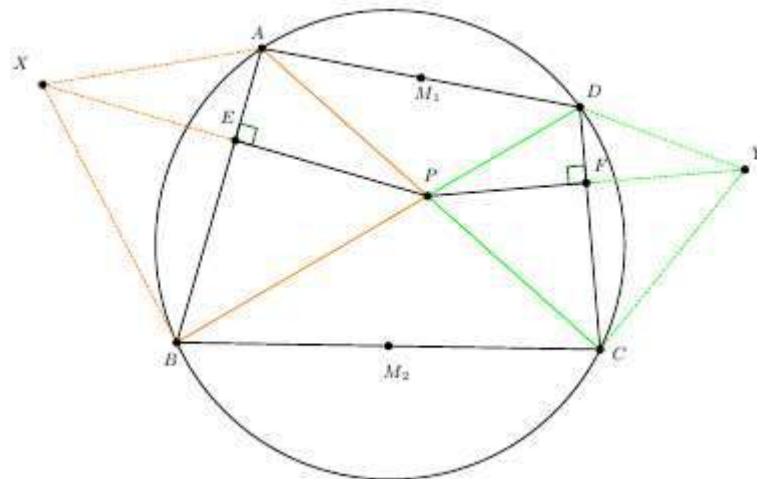
Lemma: Let $A_1A_2...A_n$ and $B_1B_2...B_n$ be directly similar n -gons, and k be a real number. Show that $C_1C_2...C_n$ is similar to both $A_1A_2...A_n$ and $B_1B_2...B_n$, where for $1 \leq i \leq n$, C_i is on A_iB_i with ratio $A_iC_i : C_iB_i = k$.

Proof: Consider the center of spiral similarity X of $A_1A_2...A_n$ and $B_1B_2...B_n$. Therefore all triangles of the form A_iXB_i for $1 \leq i \leq n$ are similar. We know all degenerate quadrilaterals of the form $XA_iC_iB_i$ have $A_iC_i : C_iB_i$, $\angle XA_iC_i$, $\angle A_iC_iB_i$ and $\angle XB_iC_i$ constant, because they are equal to k , $\angle XA_iB_i$, 180° , and $\angle XB_iA_i$, respectively, which are known to be constant. Therefore, from $SSAAA$



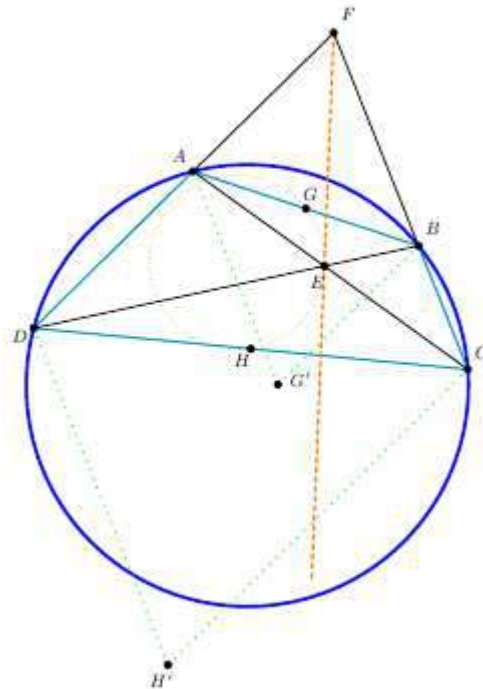
similarity, we have for all $1 \leq i \leq n$, the quadrilaterals $XA_iC_iB_i$ are similar. It is now clear that the ratio $\frac{XC_i}{XA_i}$ and the angle $\angle C_iXA_i$ are constant over $1 \leq i \leq n$, meaning there exists a spiral similarity mapping $A_1A_2\dots A_n$ to $C_1C_2\dots C_n$ implying the result.

Problem-4. (USA TST – 2000) Let $ABCD$ be a cyclic quadrilateral and let E and F be the feet of perpendiculars from the intersection of diagonals AC and BD to AB and CD , respectively. Prove that EF is perpendicular to the line through the midpoints of AD and BC .



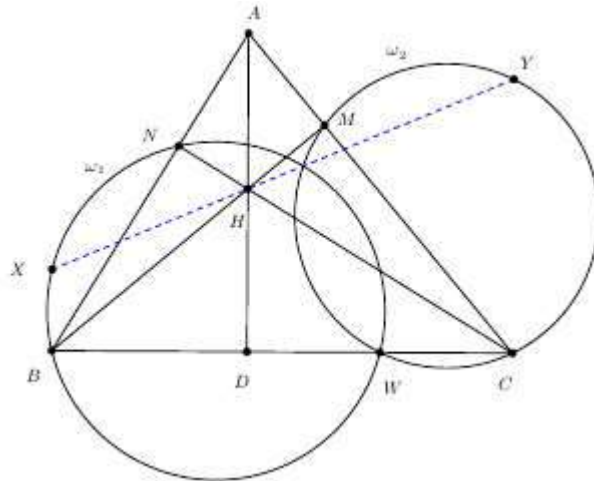
Proof: Denote P as the intersection of the diagonals and M_1 and M_2 as the midpoints of AD and BC , respectively. Let X and Y be the reflections of P across AB and CD , respectively. Since $\angle ABD = \angle ACD$ and $\angle BAC = \angle BDC$, triangles APB and DPC are similar, which implies quadrilaterals $APBX$ and $DYCP$ are similar. Notice quadrilateral M_1EM_2F is formed by the midpoints of AD , PY , BC and PX so from the preceding lemma, this quadrilateral is similar to both $APBX$ and $DYCP$. Because $APBX$ and $DYCP$ are kites, M_1EM_2F is also a kite which implies $M_1M_2 \perp EF$ as desired.

Problem-5. (ISL– 2009) Given a cyclic quadrilateral $ABCD$, let the diagonals AC and BD meet at E and the lines AD and BC meet at F . The midpoints of AB and CD are G and H , respectively. Show that EF is tangent at E to the circle through the points E , G and H .



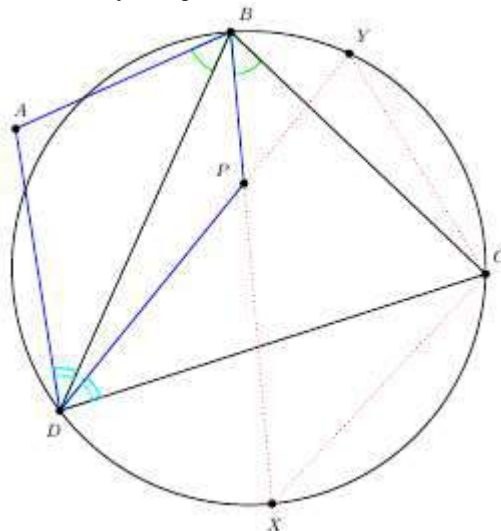
Proof: Let G' be the reflection of point F across point G , and let H' be the reflection of point F across point H . Note that we have parallelograms $FAG'B$ and $FCH'D$, which are similar because triangles FAB and FCD are similar. From this and from $\square EAB \sim \square EDC$ we obtain that quadrilaterals $FDEC$ and $G'AEB$ are similar, and the quadrilaterals $FAEB$ and $H'DEC$ are similar. These pairs of similar quadrilaterals implies that the position of point E in $FAG'B$ corresponds to the same position as point E in $FCH'D$. Therefore, we have that $\angle G'EF = \angle H'EF$ which implies that E, G', H' are collinear. Because $G'H'$ is a homothetic transformation of scale 2 of GH in respect to the point F , we see that GH and $G'H'$ are parallel. This means that $\angle GHE = \angle H'EH$, and since we know that $\angle FEG = \angle H'EH$, we have $\angle FEG = \angle GHE$ implying EF is a tangent to the circumcircle of GEH at E .

Problem-6. (IMO 2013) Let ABC be an acute triangle with orthocenter H , and let W be a point on the side BC , lying strictly between B and C . The points M and N are the feet of altitudes from B and C , respectively. Denote by w_1 the circumcircle of $\square BWN$, and let X be the point such that WX is a diameter of w_1 . Analogously, denote by w_2 the circumcircle of CWM , and let Y be the point such that WY is a diameter of w_2 . Prove that X, Y and H are collinear.



Proof: Note that $\angle ANC = \angle HNB = 90^\circ$, and $\angle A = 90^\circ - \angle ABM = \angle NHB$, so $\square NHB \sim \square NAC$. Also, we know $\angle NXB = 180^\circ - \angle NWB = \angle NWC$, and because WX is a diameter, $\angle XNB = 90^\circ - \angle BNW = \angle WNC$. Therefore, $\square XNB \sim \square WNC$. From both similar triangles we get $\angle NAC = \angle NHB$, $\angle NXB = \angle NWC$, $\angle ANW = \angle ANC + \angle CNW = \angle HNB + \angle BNW = \angle XNH$ and $\frac{NA}{AC} = \frac{NH}{HB}$. Therefore, from *SSAAA*, quadrilaterals $XNHB$ and $WNAC$ are similar. From this we obtain $\angle NHX = \angle NAW = \angle WAB$. We analogously obtain quadrilaterals $YMHC$ and $WMAB$ are similar, meaning $\angle WAB = \angle YHC$, and we conclude that $\angle NHX = \angle YHC$. Therefore points X, Y, H are collinear.

Problem-7. (IMO 2004) In a convex quadrilateral $ABCD$, the diagonal BD bisects neither the $\angle ABC$ nor the $\angle CDA$. The point P lies inside $ABCD$ and satisfies $\angle PBC = \angle DBA$, $\angle PDC = \angle BDA$. Prove that $ABCD$ is a cyclic quadrilateral if $AP = CP$.



Proof: Assume $A \notin (BDC)$. Let $X = BP \cap (BDC)$ and $Y = DP \cap (BDC)$. We shall prove that quadrilaterals $PBAD$ and $PYCX$ are similar, and furthermore congruent. By angle-chasing: $\angle ABP = \angle CBD = \angle CYD$, $\angle ADP = \angle CDB = \angle CXB$ and $\angle BPD = \angle YPX$. Also, by Power of a Point $\frac{PB}{PD} = \frac{PY}{PX}$. So from *SSAAA* similarity we can conclude that $PBAD \sim PYCX$. But the similarity



ratio between the two is $\frac{AP}{CP}$ which equals one, so the two quadrilaterals are congruent. In fact they are reflections of each other over the angle bisector of $\angle DPX$. Since $BYCXD$ is cyclic its reflection $YBADX$ is cyclic as well. But these two circles are the same implying that $ABCD$ is cyclic.

Independent Study Problems.

Problem-8. (India – 2014) In a acute-angled triangle ABC , a point D lies on the segment BC . Let O_1O_2 denote the circumcentres of triangles ABD and ACD respectively. Prove that the line joining the circumcentre of triangle ABC and the orthocentre of triangle O_1O_2D is parallel to BC .

Problem-9. (Korea – 2010) Let $ABCD$ be a cyclic convex quadrilateral. Let E be the intersection of lines AB, CD . P is the intersection of line passing B and perpendicular to AC , and line passing C and perpendicular to BD . Q is the intersection of line passing D and perpendicular to AC , and line passing A and perpendicular to BD . Prove that three points E, P, Q are collinear.

Problem-10. (USA – 2006) Let ABC be a triangle. Triangles PAB and QAC are constructed outside of triangle ABC such that $AP = AB$ and $AQ = AC$ and $\angle BAP = \angle CAQ$. Segments BQ and CP meet at R . Let O be the circumcenter of triangle BCR . Prove that $AO \perp PQ$.

Problem-11. (ISL – 2003) Let ABC be an isosceles triangle with $AC = BC$, whose incentre is I . Let P be a point on the circumcircle of the triangle AIB lying inside the triangle ABC . The lines through P parallel to CA and CB meet AB at D and E , respectively. The line through P parallel to AB meets CA and CB at F and G , respectively. Prove that the lines DF and EG intersect on the circumcircle of the triangle ABC .

Problem-12. (Greece – 2001) A triangle ABC is inscribed in a circle of radius R . Let BD and CE be the bisectors of the angles B and C respectively and let the line DE meet the arc AB not containing C at point K . Let A_1, B_1, C_1 be the feet of perpendiculars from K to BC, AC, AB and x, y be the distances from D and E to BC , respectively.

(a) Express the lengths of KA_1, KB_1, KC_1 in terms of x, y and the ratio $l = \frac{KD}{ED}$.

(b) Prove that $\frac{1}{KB} = \frac{1}{KA} + \frac{1}{KC}$.

REFERENCES

1. R. A. Johnson, *Advanced Euclidean Geometry*, 2007
2. Guangqi Cui, Akshaj Kadaveru, Joshua Lee, Sagar Maheshwari, -, „Similar Quadrilaterals”



LEGAL MECHANISM FOR STATE SUPPORT OF NON-GOVERNMENTAL NON-PROFIT ORGANIZATIONS IN UZBEKISTAN: COMPARATIVE LEGAL ANALYSIS

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ABSTRACT

This article examines the legal mechanisms of state support for NGOs on the basis of new trends, such as the recognition of NGOs as socially useful, social entrepreneurship, social partnership, based on foreign experience and scientific and theoretical views of scientists. As a result of the study, proposals will be put forward to support non-governmental non-profit organizations and social partnership in Uzbekistan.

KEYWORDS: *NGO, public control, social entrepreneurship, socially beneficial status, tax benefits, social partnership.*

INTRODUCTION

In international practice, the implementation of social partnership between non-governmental organizations and government agencies has been identified as one of the main priorities in the formation of civil society in general and the effectiveness of its institutions.

It is no coincidence that in his Address to the Parliament on January 20, 2020, the President said that "in order to increase the practical effectiveness of reforms, to promote new initiatives on the ground, we must make our people more active and proactive."

In our opinion, the following goals can be achieved in Uzbekistan through state support of non-governmental non-profit organizations and improvement of legal mechanisms of social partnership:

- implementation of socially useful projects such as poverty reduction, job creation, human rights;

- Improving the position of our country in prestigious international rankings through the development of the institute of "people's diplomacy";

- Improving a strong public oversight mechanism by NGOs using effective and efficient forms of control, such as "public hearings", "public expertise", and "public monitoring";

- Implementation of the principle of "Society - the initiator of reforms" through the active

participation of non-governmental non-profit organizations in the development and discussion of draft regulations.

We will try to focus on strategic issues, as the legal mechanism for supporting non-governmental non-profit organizations in our country is described in detail in paragraph 1.3 on a historical step-by-step basis.

In covering this paragraph, we aim to cover three main aspects of government support for NGOs:

1. Prospects for the legal regulation of the recognition of a non-governmental non-profit organization as socially useful;

2. Prospects for improving the legal mechanisms of the institution of social partnership with the participation of non-governmental organizations;

3. Strategy for the development of the non-governmental sector in Uzbekistan on the example of the National Association of Non-Governmental Organizations.

Today, in most developed countries, especially in Brazil, Germany, and the United States, support for NGOs is provided through the recognition of these organizations as "socially useful."

Recognizing a nonprofit organization as "socially useful" or "socially oriented" was a process that began in Europe in the 17th century, and in 1601



a list of charitable purposes for nonprofits was approved in the United Kingdom under the Charter of Charitable Purposes.

MATERIALS AND METHODS

According to D. Moor, the recognition of a non-governmental non-profit organization as socially useful consists of the following 6 organizational and legal bases: i The formation of the regulatory framework for the recognition of socially useful; the procedure for recognizing it as socially useful; decision-making bodies in this area; registration or certification procedure; state-guaranteed benefits for a socially useful organization; the order of accountability of socially useful organizations [4].

S.N. According to Nemgirova, the effective operation of socially oriented NGOs will be an important factor in ensuring the stability of the region [5].

E.K. As Guseynov rightly points out, empowering non-governmental organizations to provide basic social protection services is a very dangerous and time-consuming process that requires a restructuring of the entire mechanism of social policy implementation. This "transformation" is more promising for additional social protection services, significantly improving social services and expanding the number of services provided [6].

It is known from foreign experience that information on the activities of non-governmental non-profit organizations engaged in sponsorship and charitable activities is published in a number of independent sources. Various rating agencies analyze the activities of funds and publish their ratings. This situation also serves as a kind of reporting for those who carry out sponsorship and charitable activities.

Recognition of social benefits and the provision of tax benefits are enshrined in the Tax Code in countries such as Germany and the Netherlands, and this model takes precedence in the application of administrative law, as recognition of social benefits is the subject of taxation. A shortcoming of this model is the impossibility of legal regulation of a non-profit organization that is recognized as socially beneficial in tax legislation [7].

According to another model, the recognition of a non-profit organization as socially beneficial is regulated by certain framework laws in countries such as Bosnia, Bulgaria, and Romania. The disadvantage of this model is the procedure for recognizing public associations, foundations and similar non-governmental non-profit organizations as socially useful in separate legislation for each organizational and legal form. This situation leads to different approaches to the application of socially beneficial status of non-governmental non-profit organizations for different legal forms [8].

Therefore, in order to ensure a single legal

mechanism for recognition of social benefits in some countries, Hungary adopted the Law on Recognition of Social Benefit in 1997, Lithuania in 2002 adopted the Law on Charity and Sponsorship, and Poland adopted the Law on Socially Beneficial Activities and Volunteerism. .

This model is characterized by regulating all aspects of the recognition of a non-governmental non-profit organization as socially useful, such as granting this status, applying its criteria, benefits and their application, obligations and the procedure for their implementation.

Recognized as socially useful in all the European countries analyzed above, amateur sports, arts, support for people with disabilities, refugee assistance, charity, human rights, consumer protection, culture, democracy, environmental protection, education, activities such as combating racism, health, humanitarian aid, protection of historical monuments, medical care, protection of children, youth and socially vulnerable persons, religious, scientific, social integration, social security.

In our opinion, the experience of granting socially beneficial status to non-governmental non-profit organizations shows that they will have the opportunity to enter the additional market for social services. It should also be noted that social services provided by non-governmental non-profit organizations are cheaper than those provided by government agencies, and it is easier for them to attract extra-budgetary funds, grants and establish cooperation.

In addition, unlike government agencies, one of the strengths of the nonprofit sector is flexibility, which means that they are willing to work on weekends, have more opportunities to develop innovative services, are free of bureaucratic rules, and involve many non-financial people (volunteers).

D. Morris, a scholar who has studied the process of recognizing the non-governmental sector as socially useful in most developed countries, argues that the status of socially useful should serve the public interest. The commissions for the recognition of social benefits by the competent authorities in different countries must provide this status on the basis of three factors: the organization must bring to society a clearly visible social benefit recognized by members of society; in order to be socially useful, a group of individuals must enjoy the results of this social activity sufficiently. socially useful activities should be of a completely random nature when directed at individuals. This is to prevent conflicts of interest [1].

Different ratios are given in different countries in determining socially useful activities. In the Netherlands, when a non-governmental organization is recognized as socially useful, more than 50% of the organization's activities must be



considered socially useful. In France, in order for an organization to be recognized as socially useful, the organization is required to perform at least 1 social service on a statutory list [11].

In most countries, the tax authorities grant the "third sector" socially useful status. The analysis showed that in granting this status, the legislation does not pay attention to the organizational and legal forms of the organization. Denmark, Finland, Germany, Ireland, the Netherlands, Portugal and Sweden follow this procedure. In Denmark, the tax authorities announce to the general public at the end of each year which organizations have socially beneficial status.

In Germany, socially useful status is provided by local tax authorities and every 3 years organizations are inspected for socially useful subject. In the Netherlands, there is a notification procedure for finding socially useful, and this procedure is aimed at preventing potential administrative legal disputes. In the Netherlands, the main manifestation of the recognition of social benefits is the open publication of the organization's annual reports on the basis of special standards [12].

In our opinion, this fact, especially the fact that the sponsoring organization has this status, serves as a reliable source in the implementation of charitable funds of the donor organization and individuals. In addition, the disclosure of the activities of independent rating agencies and the publication of their ratings by independent rating agencies outside the tax authorities will prevent cases such as various corruption and conflicts of interest.

Recognition as socially useful in Bulgaria is carried out by the Ministry of Justice of the non-profit organization by submitting an application with the relevant documents attached. If the Ministry of Justice refuses to grant socially useful status, the NGO has the right to appeal to the Supreme Administrative Court against the decision of the administrative body [13].

In our opinion, the appointment of a single body authorized to provide socially useful status can lead to the subsequent deprivation of this status of non-governmental non-profit organizations for political reasons. Therefore, in Hungary and Poland, the judiciary is empowered to grant socially useful status and special certificates. In France, too, this power is vested in the Council of State, the highest administrative court.

Based on the above analysis, it is expedient to develop criteria and methodologies for evaluating the activities of non-governmental non-profit organizations in the Republic of Uzbekistan, taking into account their contribution to the solution of socio-economic issues and the development of society.

These criteria are aimed at recognizing a non-governmental non-profit organization as socially

useful and determining the level of social utility based on foreign experience. The transfer of this authority to the Public Chamber, established on the basis of the Decree No. PF-5980 of April 16, 2020 "On the establishment of the Public Chamber under the President of the Republic of Uzbekistan" is a right thing to do.

Today, public chambers and their analogues have been established in **more than 80 countries**. They are constitutional advisory bodies in some countries and have advisory status in others. We can see that these structures are formed in the form of councils or in the form of various commissions, groups, advisory meetings, etc. [16].

In our opinion, the following goals will be achieved by giving this structure a socially useful status to a non-governmental non-profit organization:

The Public Fund for Support of Non-Governmental Organizations and Other Civil Society Institutions under the Oliy Majlis of the Republic of Uzbekistan pays special attention to fairness, transparency and efficiency in providing subsidies, grants and social orders from the state budget.

There will be an opportunity for socially recognized organizations to cooperate in lawmaking, implementation of social projects, development of the institute of "people's diplomacy".

The Public Chamber assists non-governmental non-profit organizations in cooperating with other state bodies, including higher and local representative bodies, in addressing systemic problems in various spheres of state and society, as well as in the use of targeted social order and social partnership mechanisms.

At the same time, the main criteria for the effectiveness and efficiency of civil society institutions are the number of socially useful projects, proposals to improve the legislation in the field and the relevant changes in the work process and legislation, the level of activity in public oversight. These criteria and the rating of non-governmental organizations should be made available to all taxpayers online on the basis of the principles of openness and transparency on the electronic platform.

In the context of the coronavirus pandemic faced by all mankind, social partnership has once again proved to be the most necessary social, political and legal institution for the development of the state and society. In the example of the most powerful states, we have seen that the state alone is powerless to combat problems such as the pandemic without the participation of society and the general public.

On the history of social partnership Sh. Yakubov acknowledges that social partnership, formed and developed on the basis of historical periods, was a transformation into social partnership in the twentieth century [17].



According to the experience of foreign countries, in the UK and Canada, the government can be regulated by certain agreements and arrangements for cooperation with the non-governmental sector on social partnership. In countries such as Germany, South Korea, and Japan, the legal mechanism of government social partnership with the non-governmental sector is based on the basic principles set out in the Basic Law. That is, in these countries, social partnership is not regulated by a separate law.

Dedicated to the social partnership of NGOs with government agencies, M. S. Haque [18], D. A. Bräutigam, M. Segarra [19], P. Willetts, C.C. Millar [21] and a number of other research studies can be cited.

T.B. Matibaev noted that in the middle of the twentieth century, the theory of social contract was replaced by the theory of social partnership, and its theoretical conceptual theory was formed on the basis of the ideas of social movement, social solidarity, social harmony, social cohesion [22].

M. According to Tukhtaeva, the law provides for the interaction of civil society institutions, first of all, with government agencies in the social, economic and humanitarian spheres [23].

Sh. According to Yakubov, the adoption of this law established a legal mechanism for all government agencies to enter into social partnerships with non-governmental non-profit organizations and other institutions of civil society [24].

In the Address of the President of the Republic of Uzbekistan Sh. Mirziyoyev to the Oliy Majlis on January 24, 2020, it would be expedient for non-governmental non-profit organizations and other civil society institutions to draw the attention of government agencies to the problems facing the population.

To do this, we need to expand social partnerships with non-governmental non-profit organizations at the national and regional levels and increase grants and social orders. Ministries and agencies should also expand the work of such social partnerships without sitting as spectators on the sidelines. Therefore, it is necessary to improve the activities of the Public Fund for Support of Non-Governmental Organizations and Other Civil Society Institutions under the Oliy Majlis [25].

In accordance with Article 58 of the Constitution of the Republic of Uzbekistan, interference of state bodies and officials in the activities of public associations, as well as interference of public associations in the activities of state bodies and officials is not allowed.

A. Saidov noted that social partnership has not become an effective mechanism of cooperation between government agencies and non-governmental organizations aimed at solving a wide range of social problems of citizens, especially the real promotion of youth initiatives and modern ideas [26].

The Law of the Republic of Uzbekistan "On Social Partnership" No. ZRU-376 is a special document adopted to determine the legal mechanisms of social partnership.

As Sh. Yakubov rightly points out, this law has become a narrow-minded law regulating only the relations between the Public Fund for Support of Non-Governmental Organizations and Civil Society Institutions under the Oliy Majlis and non-governmental organizations [27].

In addition, Karimova studied the activities of the Public Commission for Social Partnership in Tashkent city and region during the research and noted that the tasks were not fulfilled at all and in general the structure is almost non-existent in practice [28].

RESULT AND DISCUSSION

According to the amendment to Article 21 of the Law "On Social Partnership" in accordance with the Law of the Republic of Uzbekistan dated September 14, 2017 No. ZRU-446, public authorities can directly order non-governmental non-profit organizations at the expense of extra-budgetary funds to address social issues.

Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated February 23, 2018 No 135 approved the Regulation on the procedure for issuing state social orders by public administration bodies for the implementation of projects of social and social significance.

According to the amendments to this legislation, public administration bodies have been able to address social issues within the scope of their tasks and functions in an efficient and cost-effective manner by directly issuing state social orders to non-governmental non-profit organizations at the expense of extra-budgetary funds.

However, in practice, the experience of public administration in addressing social issues within its tasks and functions in an efficient and cost-effective manner to non-governmental non-profit organizations at the expense of extra-budgetary funds is almost never used.

One of the reasons for this is the fact that public authorities are not fully aware of the opportunities and benefits of this institution.

Therefore, it is proposed to organize regular seminars and trainings for senior government officials on the opportunities and benefits of this institution by the Ministry of Justice and the Public Chamber.

The author of many scientific researches in this field Sh. Yakubov proposes to improve the legal mechanism of social partnership, including private entrepreneurship in social partnership, sharply reduce government interference in the work of collegial bodies on social partnership, decentralization of funding for the "third sector" [29].



According to Article 4 of the Law on Non-Governmental Organizations, interference in the activities of state bodies and their officials by non-governmental non-profit organizations, as well as interference in the activities of state bodies and their officials by non-governmental non-profit organizations is prohibited.

These provisions are reflected in Article 5 of the Law on Guarantees for the Activities of Non-Governmental Organizations.

However, the legislation does not provide for liability for obstruction or interference with the lawful activities of non-governmental non-profit organizations.

Accordingly, it is proposed to establish administrative liability for obstruction or interference in the legal activities of NGOs and to strengthen the legal framework for the National Association of NGOs in this process to appeal to the competent authorities, including the courts and other proceedings.

The role of the National Association of Non-Governmental Organizations of Uzbekistan (NAOO) is very important in defining a strategy for further improving the role of NGOs in the life of the state and society in Uzbekistan. The Association is one of the largest public organizations in the country, established in 2005 at the initiative of 150 non-governmental non-profit organizations operating in the country and regions. Its main goal is to provide full support to non-governmental non-profit organizations and further liberalize and democratize their public life, build a free and open strong civil society, and further improve the role of NGOs in state and public life.

In 2017, the non-governmental non-profit organization MA provided 660 mln. soums, in 2018 - 780 mln. soums, in 2019 - 700 mln. soums, and in 2020 - 1,500 mln. UZS received a state subsidy. Today, more than 660 non-governmental non-profit organizations are members of the Uzbek NGO, and systematic cooperation has been established with them.

During 2017-2020, the Uzbek NGO organized 5 forums of large non-governmental non-profit organizations and provided practical assistance in organizing 6 forums.

In our opinion, the following systemic problems are observed in the effective functioning of the Association:

1. The system of non-governmental non-profit organization MA does not have an effective system of personnel policy. As a result of low salaries of employees of non-governmental non-profit organizations, qualified and specialized specialists are almost not involved in non-governmental organizations.

2. There are no structural subdivisions and potential employees of the NGO, which is aimed at

preparing systematic and analytical data on the development trends of non-governmental non-profit organizations and the effective protection of the rights of non-governmental non-profit organizations.

3. Insufficient logistical support of the Association. Also, due to the fact that the regional branches of the Uzbek NGO do not have the status of a legal entity, they do not have the material and technical resources.

4. Parliamentary Commission on Management of the Public Fund for Support of Non-Governmental Organizations and Other Civil Society Institutions under the Oliy Majlis of the Republic of Uzbekistan, Jogorku Kenesh of the Republic of Karakalpakstan, Public Commissions for Social Partnership under Regional and Tashkent City Councils and the Public Chamber and its non-inclusion in regional public chambers has a negative impact on the support of NGOs and the effective representation of their interests in these systems.

5. The Association has done almost no work to protect the rights and interests of non-governmental non-profit organizations. Also, there is no direct responsibility for obstructing or interfering with the legal activities of non-governmental non-profit organizations, and the legal basis for the Association's procedural participation in this process has not been strengthened.

6. Based on the mechanisms of incentives for non-governmental non-profit organizations to join the Association and the interests and rights of non-governmental non-profit organizations on draft laws, there is no institution of non-governmental sector representation in Parliament.

7. The practice of systematic monitoring of cooperation between public administration and local government with non-governmental non-profit organizations and the observance of the rights and interests of non-governmental non-profit organizations is not established.

CONCLUSION

The Association offers the following to support non-governmental non-profit organizations:

1. Increasing the number of staff units and the amount of their salaries of the central office and territorial subdivisions of the non-governmental non-profit organization, as well as increasing the amount of state subsidies to the Association, provided for the allocation of additional funds for material and technical base.

2. The Parliamentary Commission on Management of the Public Fund for Support of Non-Governmental Organizations and Other Civil Society Institutions under the Oliy Majlis of the Republic of Uzbekistan, the Upper palate of the Republic of Karakalpakstan, Public Commissions on Social Partnership under the Regional and Tashkent City Councils and inclusion in the Public Chamber and



regional public chambers.

3. Establish administrative liability for obstruction or interference with the lawful activities of non-governmental non-profit organizations and strengthen the legal framework for the National Association of Non-Governmental Organizations, including the courts, and other procedural participation in this process on the example of the Chamber of Commerce and Industry.

4. To submit to the Cabinet of Ministers in accordance with the established procedure a draft law on amendments and additions to the Tax Code on the provision of benefits from taxes and fees to members of influential national associations uniting civil society institutions.

5. Introduce the institution of permanent representative of non-governmental non-profit organizations in the chambers of the Oliy Majlis.

6. On the basis of annual reports of the State Non-Governmental Organization on cooperation between state bodies and non-governmental non-profit organizations, state rights and local authorities in the Chambers of the Oliy Majlis and the Upper palate of the Republic of Karakalpakstan, regional and Tashkent city palates of People's Deputies strengthening the legal framework for discussing the work done in this direction by.

REFERENCES

1. *Address of the President of the Republic of Uzbekistan to the Oliy Majlis. January 20, 2020.*
2. Koroleva L. P. *Problems and proposals on the qualification status of socially oriented non-profit organizations in the quality of taxpayers // Taxes and financial law. - 2011. - №. 6. - S. 192-196.*
3. *Izbrannye polozheniya iz mirovoy praktiki o poryadke predostavleniya organizatsiyam statusa blagotvoritelnykh, obshchestvennoy polzy i osvobodennykh ot nalogooblojeniya. Collection of materials. // Mejdunarodnyy tsentr Nekommercheskogo prava. Almaty 2008. S. -10.*
4. *Izbrannye polozheniya iz mirovoy praktiki o poryadke predostavleniya organizatsiyam statusa blagotvoritelnykh, obshchestvennoy polzy i osvobodennykh ot nalogooblojeniya. Collection of materials. // Mejdunarodnyy tsentr Nekommercheskogo prava. Almaty 2008. S. -10.*
5. Nemgirova S. N. *Potential development of socially oriented non-commercial organizations as postmenscheshno poleznykh uslug // Vestnik Instituta kompleksnykh issledovaniy aridnykh territoriy. - 2017. - T. I. - №. 1 (34).*
6. Guseynov E. K. *Non-commercial organizations in the sphere of social protection: perspectives of development and problems of state support // Discussion. - 2013. - №. 11 (41).*
7. Sigidaeva A. V., Koropets A. A., Pavlova V. S. *Analiz zarubejnogo opyta nalogooblojeniya nekommercheskix organizatsiy // Problem razvitiya predpriyatiy: teoriya i praktika. - 2019. - №. 1-3. - S. 126-130.*
8. Mixeeva E. M., Peshkova N. N. *Status of benevolent organizations in the structure of the region. - 2012.*
9. *Goncharenko L. I. and dr. Nalogooblojenie non-commercial organizations. - 2017.*
10. Morris D., Unit C. L. *How Does the Common Law Assess Public Benefit in Order to Define a Charity // International Journal for Not-for-Profit*
11. *Izbrannye polozheniya iz mirovoy praktiki o poryadke predostavleniya organizatsiyam statusa blagotvoritelnykh, obshchestvennoy polzy i osvobodennykh ot nalogooblojeniya. Collection of materials. // Mejdunarodnyy tsentr Nekommercheskogo prava. Almaty 2008. S. -16.*
12. Borovkova Yu. I. *Blagotvoritelnost i sponsorstvo // Vestnik nauchnogo obshchestva studentov, aspirantov i molodyx uchenyx. - 2018. - №. 2. - S. 19-25.*
13. *Law "On legal litsax with non-commercial tselyami";*
14. *Izbrannye polozheniya iz mirovoy praktiki o poryadke predostavleniya organizatsiyam statusa blagotvoritelnykh, obshchestvennoy polzy i osvobodennykh ot nalogooblojeniya. Collection of materials. // Mejdunarodnyy tsentr Nekommercheskogo prava. Almaty 2008. S. -20.*
15. *National Database of Legislation, April 17, 2020, No. 06/20/5980/0450*
16. Sh.A. Saydullaev. *Society is the initiator of reforms. // July 15, 2020. People's word No. 14.*
17. Sh. Yakubov. *Legal mechanisms of cooperation between state and civil society institutions / Monograph. - T. : LESSON PRESS Publishing House, 2018-96 p.*
18. Haque M. S. *Governance based on partnership with NGOs: implications for development and empowerment in rural Bangladesh // International Review of Administrative Sciences. - 2004. - T. 70. - №. 2. - S. 271-290.*
19. Bräutigam D. A., Segarra M. *Difficult partnerships: the World Bank, states, and NGOs // Latin American Politics and Society. - 2007. - T. 49. - №. 4. - S. 149-181.*
20. Willetts P. *From "consultative arrangements" to "partnership": The changing status of NGOs in diplomacy at the UN // Global Governance: A Review of Multilateralism and International Organizations. - 2000. - T. 6. - №. 2. - S. 191-212.*
21. Millar C. C. J. M., Choi C. J., Chen S. *Global strategic partnerships between MNEs and NGOs: Drivers of change and ethical issues // Business and Society Review. - 2004. - T. 109. - №. 4. - S. 395-414.*
22. Matiboev T.B. *The system of social partnership in Uzbekistan: formation, development and prospects. - T., Academy. -2014. - B.10.*
23. <http://parliament.gov.uz/upload/iblock/cb3/srsiefppoztkk.pdf>
24. Sh. Yakubov. *Legal mechanisms of cooperation between state and civil society institutions / Monograph. - T. : LESSON PRESS Publishing House, 2018 -114 p.*
25. <https://uza.uz/oz/politics/zbekiston-respublikasi-prezidenti-shavkat-mirziyevning-oliy-25-01->



2020

26. Sh. Yakubov. *Legal mechanisms of cooperation between state and civil society institutions / Monograph. - T .: LESSON PRESS Publishing House, 2018 –123 p.*
27. Saidov A.X. *Civil society institutions are on the rise. 08.05. 2020. // UzA official website: <http://uza.uz/oz/society/fu-arolik-zhamiyati-institulari-yuksalish-bos-ichida-08-05-2018>*
28. Karimova M. *It is necessary to take a serious approach to the issues of social partnership // Socio-political newspaper "Jamiyat". –2016. № 87.*
29. Sh. Yakubov. *Legal mechanisms of cooperation between state and civil society institutions / Monograph. - T .: LESSON PRESS Publishing House, 2018 - pp. 125-29.*



LEXICOGRAPHIC ANALYSIS OF THE CONCEPT OF "MEMORY"

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ABSTRACT

In the article, we analyzed the cognitive features of the linguistic expression of the concept of "memory". This analysis consists of the following steps:

- 1. Analysis of the semantic structure of Memory lexeme.*
- 2. Identification of words where the Memory lexeme is central.*

In order to determine the conceptual aspects of the concept, it is necessary to first analyze the dictionaries that explain this concept. In this task, we have selected dictionaries in English as research material. In English, the semantic field of the "memory" lexeme consists of different meanings. Basic meanings of "memory" lexeme are given in <https://dictionary.cambridge.org/dictionary/english/memory>, <https://www.merriam-webster.com/dictionary/memory>, "The Oxford English Dictionary", "Websters New Dictionary of English Language", "Macmillan English Dictionary for Advanced Learners", and "Longman Lexicon of Contemporary English".

As a result of the research, the following semantic groups of "memory" lexemes in English were identified: 1) the ability to remember, recall; 2) facial expressions for someone; 3) a memorized, memorable impression about someone or something; 4) souvenir, memorial, mausoleum, gift, statue, ancient written source; 5) thinking, the ability to think, thought, concept, intellect, mind, brain — human mental abilities; 6) mnemonics; 7) to regain consciousness; 8) the name of the position applied after the name of the monarch, prince or other high-ranking officials awarded for their activities and abilities; 9) remembering the past; 10) a part of the computer where the router, software and information are stored; 11) memorization. New meanings of the lexeme "memory" have entered the modern English language from computer terminology. From the core of the cognitive-semantic field "memory" in modern English, along with the lexeme "memory" are synonyms as recollection, remembrance, reminiscence, commemoration, memorial, mind, souvenir, memento, token.

KEYWORDS: *memory, concept, semantic field, lexicographic analysis.*

INTRODUCTION

The concept is a product of the subject's linguistic activity, the processing of reality by language, from which it follows that the verbalization of the concept is the main condition for its appearance and implementation. Z.D. Popova, I.A. Sternin believe that the presence of a linguistic expression supports the concept in a stable state, makes it generally known and ensures its dissemination, since the meanings of the words through which it is transmitted are interpreted forged by native speakers and recorded in dictionaries [Z.D. Popova, I.A. Sternin, : 28]. The description of a separate concept can be carried out on the analysis of

the material of various oral (polls, questionnaires) and written (fiction, publications, scientific, religious and other texts) sources. The aggregate of the largest number of sources, as well as observation of the historical development and transformation of the concept, allows us to describe it in the most detail as an element of the cognitive picture of the world of native speakers.

MATERIALS AND METHODS

The word 'memory' entered the English language through the assimilation of the French word 'memoire'. The first form of this word was the Latin word memoria, which meant "to think, to remember".



In English, the semantic field of the “memory” lexeme consists of different meanings. Basic meanings of “memory” lexeme are given in <https://dictionary.cambridge.org/dictionary/english/memory>, <https://www.merriam-webster.com/dictionary/memory>, “The Oxford English Dictionary”, “Websters New Dictionary of English Language”, “Macmillan English Dictionary for Advanced Learners”, and “Longman Lexicon of Contemporary English”.

1. a) The power or function of reproducing and identifying what has been learned or experienced; the faculty of remembering. This function includes learning, retention, recall and recognition, and is sometimes taken to include motor habits and skill.
- b) The strength and trustworthiness of one’s power to reach and represent or to recall the past.– The mental ability to remember information (the ability to remember; the ability to recall past events). (The Pocket English Dictionary and Thesaurus. - Scotland: Geddes and Grosset Ltd., 1997, Webster’s New Dictionary of Synonyms. - Massachusetts, USA: Merriam-Webster Inc, Publishers, 1984, Longman Lexicon of Contemporary English. - Longman Avon, The Bath Press, 1986).
2. a) The recall and recognition of anything previously learned or experienced.
- b) State of being remembered; commemoration; remembrance; as in memory of youth.– recalling previously learned or experienced events, situations.
- c) the sum of what one can remember– memory size; as a richly stored memory; that which is remembered; as faint memories of old days.
3. Character, conduct, etc., as preserved in remembrance, history, or tradition; as the war became only a memory.– an event or situation that is preserved in memory, history, tradition.
4. The time within which past events can be or are remembered; as within the memory of man.– is the time interval of memories stored throughout human life.
5. Any particular act or experience of remembering; as, absorbed in memories of childhood; the thing or aggregate of things remembered – any action or event that encourages recollection.
6. a) a ceremony of commemoration; service for the dead.– memorial service for the dead.
- b) a historical or biographical record. – historical or autobiographical record. c) a memorial; a memento.– monument
7. Eccl. = Memoria, 2 b, c.
8. psychol. a) the power or a process of mental representation of at least a recognizable equivalent of the reproduced experience.– a power or mental state that helps to remember past situations.
- b) The power or a process of recognition, comprising a awareness of the familiarity of the experience and a

reference of it to a definite past time or occasion. – the ability to recall past events.

c) The retention of any modification of structure or behavior resulting from the organism’s activity, from the action of the environment, or even from heredity; mneme.– A condition peculiar to human physiology.

“The Oxford English Dictionary” gives the following interpretations of the word “memory”:

1. The faculty by which things are remembered; the capacity for retaining, perpetuating, or reviving the thought of things past.– эшлаш қубилияти.
- b) mnemonics; a system of mnemonic devices.– мнемоника, мнемоник услублар тизими.
2. This faculty considered as residing in a particular individual; often with epithet denoting the extent to which the faculty is developed or the department in which it is most active.– a specific individual’s ability.
- b) In the language of wills, etc;
- c) to recover from unconsciousness.
3. Recollection, remembrance.
- b) An act or instance of remembrance; a representation in the memory, a recollection– to remember;
- c) a person or thing held in remembrance– a person or thing in memory.
4. The fact or condition of being remembered.
- b) so as to keep alive the remembrance of; as a record of – to remember.
5. The recollection (of something) perpetuated amongst men; what is remembered of a person, object, or event; (good or bad) posthumous repute.– a factor reminiscent of a person, event, or thing.
- b) Of blessed, happy, famous (etc.) memory: a formula used after the names of sovereigns, princess, or other notable persons who have been distinguished for their actions or virtues. - the title used after the name of a monarch, prince or other high-ranking official awarded for his activities and abilities.
6. The length of time over which the recollection of a person or a number of persons extends; chiefly in phr. Beyond, past, out of, within the memory: - The time interval in which human memory is stored.
- b) Law. Time of (legal) memory.
7. A commemoration, esp. of the departed.– Remembering the past.
8. To make memory of: to preserve a record or memorial of; to record, mention – to memorize.
9. A memorial writing; a historical account; a record of a person or an event; a history.– inscription on a tombstone; a memoir about a person or event, history.
10. An object or act serving as a memorial; a memento – an object or activity taken as a monument.



11. A memorial tomb, shrine, chapel, or the like; a monument – a mausoleum, a small temple; monument

12. memory-man, a professor of mnemonics; memory-mountebank, a quack exponent of mnemonics – mnemonics teacher.

13. a part of a computer, where instructions are kept– a part of a computer where instructions, programs, and information are stored;

14. retell by memory [The Oxford English Dictionary. - Oxford: Clarendon Press, 1961. vol.VI.].

Explanations on the psychology of the lexeme "Memory" are given in the New Oxford American English Dictionary:

1. Memory cell - a type of lymphocyte in the human body.

2. Memory hole - the imagination quickly forgets by placing any unpleasant information.

3. Memory trace [New Oxford American English Dictionary. Second Edition. - New York, Oxford University Press].

The following examples give a set of artificial words for the lexeme "memory".

1. Ability to remember:

a) Qualitative combinations of the lexeme Memory: excellent, good, long, retentive, prodigious, bad, poor, short-term, long-term, visual, photographic, vivid, abiding, treasured;

b) Verb combinations of the memory lexeme: jog memory, refresh memory, lose memory, commit smth. to memory, arouse memory, recall memory;

c) Prepositional compounds of the lexeme Memory; from memory, in living memory, in memory of smb.

2. Remembering past events.

a) quality compounds: childhood, early, dim, distant, fading, hazy, vague, clear, vivid, affectionate, fond, good, happy, lovely, nostalgic, pleasant, positive, precious, sweet, warm, wonderful; bad, bitter, disturbing, embarrassing, horrific, painful, sad, traumatic, unhappy, unpleasant; abiding, enduring, lasting, lingering memory.

b) verb compounds: bring back; evoke; rekindle; revive; stir (up); blot out; trigger; come flooding back; fade.

c) prepositional conjunctions: in memory of smb .; do smth. from memory; a trip / walk down memory lane [Oxford collocations dictionary for students of English. –New York: Oxford University Press].

New meanings of the lexeme “memory” have entered modern English from computer language. That is:

1) Memory - where computer information is stored in which it is most active.– ability specific to a particular individual.

b) In the language of wills, etc;

c) to recover from unconsciousness.

3. Recollection, remembrance.

b) An act or instance of remembrance; a representation in the memory, a recollection– to remember;

c) a person or thing held in remembrance– a person or thing in memory.

4. The fact or condition of being remembered.

b) so as to keep alive the remembrance of; as a record of – to remember.

5. The recollection (of something) perpetuated amongst men; what is remembered of a person, object, or event; (good or bad) posthumous repute.– a factor reminiscent of a person, event, or thing.

b) Of blessed, happy, famous (etc.) memory: a formula used after the names of sovereigns, princess, or other notable persons who have been distinguished for their actions or virtues. - the title used after the name of a monarch, prince or other high-ranking official awarded for his activities and abilities.

6. The length of time over which the recollection of a person or a number of persons extends; chiefly in phr. Beyond, past, out of, within the memory: - The time interval in which human memory is stored.

b) Law. Time of (legal) memory.

7. A commemoration, esp. of the departed.– Remembering the past.

8. To make memory of: to preserve a record or memorial of; to record, mention – to memorize.

9. A memorial writing; a historical account; a record of a person or an event; a history.– inscription on a tombstone; a memoir, history, of a person or event.

10. An object or act serving as a memorial; a memento – an object or activity taken as a monument.

11. A memorial tomb, shrine, chapel, or the like; a monument – a mausoleum, a small temple; monument

12. memory-man, a professor of mnemonics; memory-mountebank, a quack exponent of mnemonics – mnemonics teacher.

13. a part of a computer, where instructions are kept– a part of a computer where instructions, programs, and information are stored;

14. retell by memory [The Oxford English Dictionary. - Oxford: Clarendon Press, 1961. vol.VI.].

Explanations on the psychology of the lexeme "Memory" are given in the “New Oxford American English Dictionary”:

1. Memory cell - a type of lymphocyte in the human body.

2. Memory hole - the imagination quickly forgets by placing any unpleasant information.

3. Memory trace [New Oxford American English Dictionary. Second Edition. - New York, Oxford University Press].

The following examples give a set of artificial words for the lexeme "memory".

1. Ability to remember:



a) Qualitative combinations of the lexeme of Memory: excellent, good, long, retentive, prodigious, bad, poor, short-term, long-term, visual, photographic, vivid, abiding, treasured;

b) Verb combinations of the memory lexeme: jog memory, refresh memory, lose memory, commit smth. to memory, arouse memory, recall memory;

c) Prepositional compounds of the lexeme Memory; from memory, in living memory, in memory of smb.

2. Remembering past events.

a) quality compounds: childhood, early, dim, distant, fading, hazy, vague, clear, vivid, affectionate, fond, good, happy, lovely, nostalgic, pleasant, positive, precious, sweet, warm, wonderful; bad, bitter, disturbing, embarrassing, horrific, painful, sad, traumatic, unhappy, unpleasant; abiding, enduring, lasting, lingering memory.

b) verb compounds: bring back; evoke; rekindle; revive; stir (up); blot out; trigger; come flooding back; fade.

c) prepositional conjunctions: in memory of smb.; do smth. from memory; a trip / walk down memory lane [Oxford collocations dictionary for students of English. - New York: Oxford University Press].

New meanings of the lexeme "memory" have entered the modern English language from the computer language. That is:

1) Memory - the part of the computer where information is stored.

2) Main memory (primary memory) - the most important part of computer memory.

3) RAM (random access memory) - the memory that drives the disk in a computer system.

4) Virtual memory - memory in a computer system that starts automatically when needed.

5) Memory address - a number indicating the part of the information in the computer memory [Longman Lexicon of Contemporary English. - Longman Avon, The Bath Press, 1986].

6) Memory bank - a computer part that stores information [Macmillan English Dictionary for Advanced Learners. - Oxford: Macmillan Publishers Ltd., 2006].

7) Memory hog - 1. a computer part that can accommodate a very large amount of memory; 2. a person who uses a computer program that requires a lot of energy (in this case, other people in the network have difficulty using their own programs).

8) Memory board - the part of the computer where the memory chips are stored.

9) Memory leak - a malfunction in a computer program.

10) Memory mapping is a type of operation in the part of the computer where the main memory program is stored [New Oxford American English Dictionary. Second Edition. - New York, Oxford University Press, 2005].

Volume 2 of the Dictionary of Idioms and Phrases Index contains 149 phrases used with the lexeme "memory". These phrases are lexicographical meanings collected from different dictionaries and grouped into one dictionary [Idioms and Phrases Index. - Detroit, Michigan: Gale Research Company, Book tower, 1983. Vol.2].

The next task is to consider the synonyms that form the core of the English concept of "memory":

Recollection is the compulsory recall of information that has once been remembered in human memory.

Remembrance is a type of fact or condition stored in memory.

Reminiscence - memories of the past.

Commemoration - remembering the past.

Memorial - The object that stores mind-memory is the power of memory.

Souvenir - a small type of memento-souvenir.

A token is a souvenir that is left before someone leaves [Webster's New Dictionary of Synonyms. - Massachusetts, U.S.A.: Merriam-Webster Inc, Publishers, 1984.].

The concept of "memory" in the thesaurus dictionary includes concepts such as celebrities, fame, renown, popularity, reputation-prestige-attention, retrospection-looking at the past, thought-thinking, mindfulness-exceeding the promise. [The Pocket English Dictionary and Thesaurus. - Scotland: Geddes and Grosset Ltd., 1997].

The antonym of the lexeme Memory has been found to be the oblivion lexeme [Webster's New Dictionary of Synonyms. - Massachusetts, U.S.A.: Merriam-Webster Inc, Publishers, 1984.].

RESULTS

As a result of the research, the following semantic groups of "memory" lexemes in English were identified: 1) the ability to remember, recall; 2) facial expressions for someone; 3) a memorized, memorable impression about someone or something; 4) souvenir, memorial, mausoleum, gift, statue, ancient written source; 5) thinking, the ability to think, thought, concept, intellect, mind, brain — human mental abilities; 6) mnemonics; 7) to regain consciousness; 8) the name of the position applied after the name of the monarch, prince or other high-ranking officials awarded for their activities and abilities; 9) remembering the past; 10) a part of the computer where the router, software and information are stored; 11) memorization. New meanings of the lexeme "memory" have entered the modern English language from computer terminology. From the core of the cognitive-semantic field "memory" in modern English, along with the lexeme "memory" are synonyms as recollection, remembrance, reminiscence, commemoration, memorial, mind, souvenir, memento, token.



DISCUSSIONS

The analysis confirms the hypothesis put forward in the results of our study. The lexicographic analysis showed that the following semantic groups of "memory" lexemes exist in English: 1) the ability to remember, recall; 2) facial expressions for someone; 3) a memorized, memorable impression about someone or something; 4) souvenir, memorial, mausoleum, gift, statue, ancient written source; 5) thinking, the ability to think, thought, concept, intellect, mind, brain — human mental abilities; 6) mnemonics; 7) to regain consciousness; 8) the name of the position applied after the name of the monarch, prince or other high-ranking officials awarded for their activities and abilities; 9) remembering the past; 10) a part of the computer where the router, software and information are stored; 11) memorization. New meanings of the lexeme "memory" have entered the modern English language from computer terminology.

The research work is interrelated with scientific researches in the field of cognitive linguistics. Researches in cognitive analysis of Memory re being interesting not only for the psychologists but for linguists also. The results will contribute to the development of these science fields.

Future researches of Memory in the field of cognitive science demands not only linguistic or cognitive analysis, but also sociolinguistic or discourse analysis will be of great interest to the researchers.

REFERENCES

1. Попова З.Д., Стернин И.А. *Когнитивная лингвистика*. – М.: АСТ: Восток-Запад, 2007
2. *A Comprehensive Etymological Dictionary of the English Language*. – Amsterdam London New York: Elsevier Publishing Company, 1967, vol.II. – 1776 p.
3. *Idioms and Phrases Index*. – Detroit, Michigan: Gale Research Company, Book tower, 1983. Vol.2. – 1169 p.
4. *Longman Business English Dictionary*. Pearson Longman ELT, 2003. – 1949 p.
5. *Longman Lexicon of Contemporary English*. – Longman Avon, The Bath Press, 1986. – 910 p.
6. *Macmillan English Dictionary for Advanced Learners*. – Oxford: Macmillan Publishers Ltd., 2006. – 1692 p.
7. *New Oxford American English Dictionary*. Second Edition. – New York, Oxford University Press, 2005. – 2051 p.
8. *Oxford collocations dictionary for students of English*. –New York: Oxford University Press, 2003. – 893p.
9. *The Oxford English Dictionary*. – Oxford: Clarendon Press, 1961. vol.VI. – 820 p.
10. *The Oxford Dictionary of Modern Quotations*. – www.giga-usa.com/quotes/topics.htm.
11. *The Pocket English Dictionary and Thesaurus*. – Scotland: Geddes and Grosset Ltd., 1997. – 400 p.
12. *Webster's New Dictionary of Synonyms*. – Massachusetts, U.S.A.: Merriam-Webster Inc, Publishers, 1984. – 909 p.
13. *Webster's New International Dictionary of the English Language, Second Edition*. – London: G.Bell & Sons, Ltd., 1953. – 3194 p.
14. *Webster's New World Thesaurus*. – USA: A Meridian Book. New American Library. Times Mirror, 1975. – 677 p.
15. <https://dictionary.cambridge.org/dictionary/english/memory>
16. <https://www.merriam-webster.com/dictionary/memory>



COMPOSITION, PROPERTIES AND IMPORTANCE OF OILS. DETERMINATION OF QUALITY INDICATORS OF OILS

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ANNOTATION

The article describes the process of "The composition, properties and importance of fats, determining the quality of oils" in the educational process of the younger generation.

KEYWORDS: *composition, properties, importance of oils, quality indicators of oils.*

DISCUSSION

Substances that are soluble in water and well soluble in organic solvents are called oils. Oils contain hydrocarbons, waxes, alcohols, carbonyl compounds, fatty acids, pigments, steroids, vitamins, and other water-insoluble organic substances, in addition to triglycerides, which are esters of glycerin and fatty acids.

Oils, such as proteins, carbohydrates, and nucleic acids, are important biologically important for living organisms. First of all, the available oils serve as a source of energy for the living organism.

Of the high molecular weight unsaturated fatty acids in fats, oleinate, linolate, linolenic, and arachidonic acids are called essential acids, and fats made from these acids are liquid and are called fats. Deficiency of these acids in the body leads to various diseases. For example, diseases such as atherosclerosis, eczema in young children, and the body's inability to tolerate various infections are caused by a lack of unsaturated fatty acids.

Vitamins and steroids, which are components of vegetable and animal fats, are also of great physiological importance and play an important biological function in the body.

The quality of vegetable oils is different from that of animal fats. Vegetable oils are high in unsaturated acids. Therefore, vegetable oils are of great physiological importance.

The diversity of the daily diet and the importance of the content of fats are very important for the normal functioning of the human body.

Vegetable oils are widely used in the pharmaceutical industry to make medicines. Vegetable oils are also used as a raw material in many other industries, in perfumery, paints and soaps.

One of the main tasks of our graduate work is to study the methods of determining the suitability or unsuitability of oils for consumption by determining the quality indicators of the above-mentioned oils.

The solvents and reagents required for the experiment were purified and prepared using organic matter purification methods. The extraction method with hexane or gasoline was used to separate the oils. Drying and drying methods were used to remove oil from the solvents. The physical properties of the oils were determined by a pycnometer, and the refractive index was determined by a refractometer.

The number of saponification from the chemical properties of oils was achieved by heating the oil with an alkaline solution and titrating the separated fatty acids with a solution of potassium hydroxide. The Ganus method was used to determine the iodine number of the oil. The acidic number of the oil was calculated by titration with a solution of potassium hydroxide.

Thus, in our experiment, methods of analysis of organic and analytical chemistry were used. The experimental data were compared with the values in the literature and appropriate conclusions were drawn.

Along with cotton and sunflower oils, soybean oil is also produced in large quantities on an industrial scale. Soybean oil is mainly obtained from



soybean processing. Soybean oil is high in unsaturated fatty acids. Soybean oil is rich in phosphatides. Soy is not only a source of fat, but also a plant rich in protein and various nutrients. Therefore, the study of soybean oil is of great practical importance.

Of the high molecular weight unsaturated fatty acids in fats, oleic, linoleic, linolenic, and arachidonic acids are called essential acids. Deficiency of these acids in the body leads to various diseases. For example, diseases such as atherosclerosis, eczema in young children, and the body's inability to tolerate various infections are caused by a lack of unsaturated fatty acids.

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Vegetable oils are widely used in the pharmaceutical industry to make medicines. Vegetable oils are also used as a raw material in many other industries, in perfumery, paints and soaps.

A mixture of mono-, di- and triglycerides is found in natural fats and oils. Such compounds are especially abundant in emulsifiers formed during oil refining. A quick and easy way to separate these compounds is by chromatography in a column and in a thin layer.

Therefore, it is of great practical importance to study the methods of separation and separation of glycerides in fats.

Fatty acids in fats

While glycerin is a constant component of fats, the acids that make up fats are very diverse. To date, about 300 different acids have been isolated from fats. Among them, there are those who are saturated and those who are not. It is characteristic that almost all acids in fats have an even number of carbon atoms (from 4 to 28) and the chain of carbon atoms has an unbranched structure. Fats often contain 12 to 18 carbon atoms (SA) and saturated and unsaturated fatty acids.

Saturated fatty acids are as follows.

1. CH₃ - (CH₂)₂ - COOH may acid
2. (CH₃)₂ - CH₂ - CH₂ - COOH isovaleric acid
3. CH₃ - (CH₂)₄ - COOH kapronic acid
4. CH₃ - (CH₂)₆ - COOH caprylic acid
5. CH₃ - (CH₂)₈ - COOH capric acid
6. CH₃ - (CH₂)₁₀ - COOH lauric acid
7. CH₃ - (CH₂)₁₂ - COOH myristic acid
8. CH₃ - (CH₂)₁₄ - COOH palmitic acid
9. CH₃ - (CH₂)₁₆ - COOH steric acid

10. CH₃ - (CH₂)₁₈ - COOH arachinic acid

Fatty acids that have a high melting point are usually solid. For example, palm oil is one of them. The fatty acids in plants that grow at moderate temperatures are unsaturated fatty acids. That is why vegetable oils are liquid and they are called fats. Examples of unsaturated fatty acids are:

1. CH₃ - (CH₂)₅ - CH = CH (CH₂)₇ - COOH palmitooleinate
2. CH₃ - (CH₂)₇ - CH = CH (CH₂)₇ - COOH oleinate
3. CH₃ - (CH₂ - CH = CH)₃ - (CH₂)₇ - COOH linolenate
4. CH₃ - (CH₂)₃ - (CH₂ - CH = CH)₂ - (CH₂)₇ - COOH linolate
5. CH₃ - (CH₂)₄ - (CH₂ - CH = CH)₄ - (CH₂)₃ - COOH arachidonate
6. CH₃ - (CH₂)₇ - CH = CH (CH₂)₁₃ - COOH norvanate
7. CH₂ - CH₂ - CH - (CH₂)₄ - COOH lipoat

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Linoleic, linolenic, arachidonic and lipoic acids are the most important unsaturated acids in fats. These acids are not synthesized in animals or humans.

Palmitinate C₁₅H₃₁COOH, stearinate C₁₇H₃₅COOH; oleinanic C₁₇H₃₃COOH, linolate C₁₇N₃₁COOH, linolenate C₁₇N₂₉COOH acids are among them.

In some cases, fats contain 14 or less, as well as saturated and unsaturated acids, which contain 20 or more carbon atoms.

Physicochemical properties of oils

Fats are insoluble in water and are soluble in organic solvents such as diethyl ether and petroleum ethers. Some oils are solids at normal temperatures (e.g., lard and beef fat) while others are soft (butter) or even liquid (e.g., vegetable oil, fish oil). Liquid oils are commonly referred to as fats.

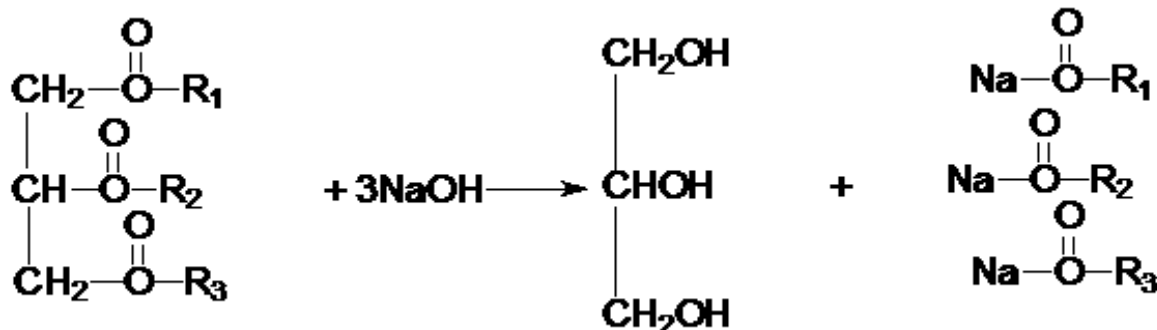
The consistency of fats depends on what fatty acids they contain. Fats that have saturated fatty acid residues in their molecules are solid unsaturated acids, and fats that have high residual fatty acids are liquid. In addition, as the number of carbon atoms in a fat molecule increases, so does the liquefaction temperature, which means that the consistency of the fats changes with increasing molecular weight. In addition to the liquidus temperature, different oils are also characterized by constants called iodine content.

The amount of iodine is an indicator of fat saturation, expressed in grams of iodine per 100 g of fat. This method determines the number of double bonds in a fat molecule.

Hydration or saponification is the most important property of oils and is done in the following ways. Hydrolysis with caustic alkalis: Fats



are easily hydrolyzed by caustic alkalis to glycerin and soap.



Importance and use of fats

Fats act as a reserve substance in the body of animals and plants. Fats are widely used in technology. Drying oils (oils that contain a lot of double bonding), for example, when flaxseed oil is applied in a thin layer, they harden into a thin hard film. Aliya and oil paints are made using this property.

To accelerate the solidification of oils, catalysts called desiccants are added to them. Lead compounds and some manganese salts are used as desiccants. The mechanism by which oils are formed is not well understood.

In medicine, some oils are used in the preparation of ointments (for example, lard *Axungia porcina*, as well as liniments, sunflower oil). Many oils (olive oil - *Olium oli varum*, peach oil - *Olium persicorum*) are used to dissolve subcutaneous drugs, such as camphor, myarsenol and a number of other drugs. Fish oil is used for both drinking and rubbing on the skin.

In recent years, polyunsaturated fatty acids have been found to have a positive effect on lipid and protein metabolism, the course of hypertension and atherosclerosis. Fats are a source of energy for plants and animals. The heat energy released from the oxidation of fats is much higher than the energy released from the oxidation of carbohydrates and proteins. For example, 17.5 kJ (4.2 kcal) is lost when 1 g of carbohydrate is completely oxidized, 18 kJ (4.3 kcal) is released when 1 g of protein is oxidized, and 39 kJ (9, 3 kcal) of energy is produced.

Fats are stored in special fat depots (subcutaneous fat, carcass, kidneys, heart, liver, etc.) as a backup in the animal body, while the seeds of plants (seeds, sunflower, hemp, flax, sesame) collected in The fat content in the seeds can be 30-40% or more. In addition to being important nutrients in the body, fats also participate in the formation of the structure of the protoplasm in combination with proteins, carbohydrates and many other substances.

Quality indicators of oils

One of the most common organic substances in living nature is a mixture of substances composed of various organic compounds called lipids. The main part of lipids consists of glycerins, which are complex esters of glycerin and fatty acids. When we say fats, we mainly mean triglycerides with a liquid consistency. In this dissertation, we will focus on the methods of determining the number of saponification, iodine and acidity, which play an important role in determining the quality of oils.

Free fatty acids in fats are formed by hydrolysis under the influence of water vapor in light. As a result, the oil has a peculiar odor and becomes bitter.

Fats hydrolyze under the influence of water vapor, as well as when heated with acid and alkaline solutions, and break down into glycerin and fatty acids. When hydrolysis is carried out under the influence of alkali, salts of fatty acids or soaps are formed. That is why the alkaline hydrolysis of fats is called the saponification of fats.

As a result of alkaline hydrolysis of oils, the saponification process takes place. In this case, salts of high fatty acids with glycerol are formed. This process is of great importance in the production of soap. Therefore, it is necessary to determine the number of saponification of oils in order to know how much soap can be obtained as a result of alkaline hydrolysis of oil and how much alkali is required.

Fats may contain free fatty acids, indicating the acidic number of the fat. The amount of free acids can increase when oils are exposed to light, temperature and humidity.

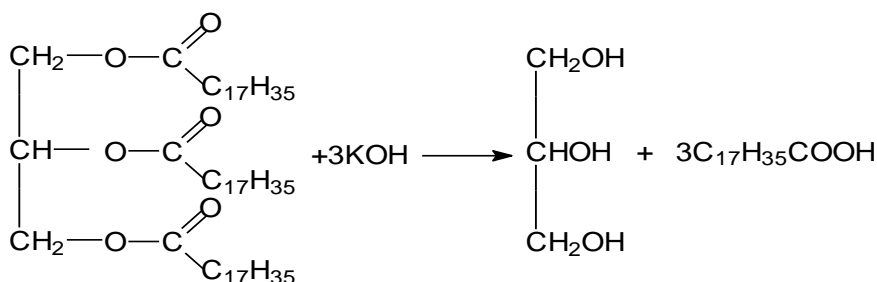
So it is necessary to know in advance the oils and their properties in order to recommend their use in this or that area of production. It plays a major role in expanding the field of application of oils and creating new technologies.

The amount of milligram of potassium alkali used to neutralize the free and bound fatty acids in 1 g of fat is called the saponification number of the fat.

Oils are somewhat chemically stable compounds, but when hydrolyzed by alkali, the ether



bonds are easily broken, resulting in the formation of fatty acids and glycerin.



The amount of potassium hydroxide used to neutralize the free and bound fatty acids in one gram of fat is called the saponification number of the fat. The value of the saponification number is used to calculate the amount of alkali used to hydrolyze the oil, the amount of glycerin and soap that can be obtained by hydrolysis.

The number expressed in milligrams of 0.1 N potassium hydroxide used to neutralize free fatty acids in one gram of fat is called the acid number of fats. The higher the acidity of the fat, the lower the quality of the fat. This is because the acid number depends on the presence of free fatty acids, which are formed as a result of the hydrolysis of fat and lead to fat degradation. Therefore, this number is one of the most important indicators of oil quality.

The number of iodine per hundred grams of fat is called the iodine number of fats. The higher the iodine content, the more liquid the fat. That is, the iodine number of a fat indicates the amount of unsaturated fatty acids in that fat. As mentioned above, fat with a high iodine content is a biologically important quality fat.

An easy way to determine if a fat is unsaturated is to use an iodine number. The higher the iodine number, the more unsaturated the fat. This means that when the oil is high in unsaturated acids, it is high in oleic, linolate, linolenic and arachidonic acids. The higher the content of unsaturated acids in vegetable oils, the higher the physiological value of the oil.

In addition to the above parameters, there are liquefaction and boiling points, peroxide number, number of genes, density, refractive index and other constants of oils. Determining these parameters also indicates whether the oil is fit for consumption or not. In summary, constants such as saponification number, acidity number, iodine number, oil solubility, density, and refractive index were determined from the important physicochemical parameters that characterize the quality of glycerides that form the basis of oils. The values of these indicators are shown in the table.

Various additives found in oils have a significant effect on their physicochemical properties. Therefore, the determination of the physical and chemical

constants of edible oils is of great practical importance in the analysis of their quality, in the knowledge of the nature of their additives, and in the determination of food quality.

From the point of view of water, we determined the physicochemical properties of the sparrow oil in Satio. The density of sunflower oil is determined on a pycnometer, the refractive index is measured on a refractometer. The number of acids, the number of saponification, the number of ethers are determined by the above methods.

To determine the acid number, 3 g of oil is titrated with an 0.1 N alcoholic solution of potassium hydroxide. The acid number is calculated according to the following formula.

$$Kc = \frac{a \cdot K \cdot 5,61}{C}$$

Here: a is the amount of KOH solution used for titration of the obtained oil, ml,

K - coefficient of 'duzetio' of 0.1 N KOH solution (0.095)

S - amount of fat, 3 gr

To determine the amount of saponification, boil 3 g of a 0.5 N alcoholic solution of potassium hydroxide in a flask for 3 minutes. The mixture is then titrated with 0.5 N HCl solution. The number of saponification is calculated by the following formula:

$$Cc = \frac{(a - v)K \cdot 28,05}{C}$$

a - v - volume of HCl used for titration of control and experimental samples, ml

K is the 'duzetio' coefficient of hydrochloric acid

28.05 - 0.5 n 1ml HCl solution to KOH equivalent

S - amount of fat, 3 gr.

The number of ethers is calculated by the difference between the number of saponification and the number of acids:

$$\mathcal{E}c = Cc - Kc$$

We determined the molecular weight of the oil according to the following formula:



$$M = \frac{3 \cdot 56110}{Kc}$$

Table 1.
Determination of acid number

Amount of oil (sample), grams	Volume of KOH (0.1 n) used for titration,	ml Acid number, mg KOH / g	
			average
2,8	8,7	1,65	1,52
3,0	8,5	1,51	
3,1	8,2	1,41	

Table 2.
Find the number of soaps

Oil content, grams	Titration volume 0.1 n NSI volume, ml	Number of saponification, mg KOH / g	
			average
2,9	20	193,4	191,7
3,0	20,5	191,7	
3,1	21	190,0	

Table 3.
Physicochemical properties of oils

Indicators	Meaning
Density, d_4^{20}	0,915
Refractive index, n_D^{20}	1,470
Acid number, mg KON / g	1,52
Number of saponification, mg KOH / g	191,7
Ether number	190,18
Molecular number	878,1

REFERENCES

1. Khomchenko G.P., Sevastyanova K.I. *Okislitelno-vosstanovatelnye reactions. M.Ximiya, 1980g*
2. *Methods of purification, separation and disposal of organic compounds. Method. manual, / O'teniyazov Q., Bektursynov B. x.b./, QMU, No'kis, 1992,*
3. Uteniyazov Q., Bektursynov B., Uteniyazov K.Q. *Practical work on organic chemistry. Read the app. Nokis, QMU. 1999 ..*
4. Bektursinov B., Ismaylov M., Uteniyazov K. *Superconductivity of monofires of sucrose and carbonic acid. Materials XXV nauchno-prakt. konf. KGU, Nukus, September 13-15, 2001.*
5. Bektursinov B., Uteniyazov K. *Emulsifier of monoglycerin carbonic acid. Thesis conf. "Chemical education, science and technology in Uzbekistan". Tashkent, November 28-29, 2002.*
6. Bektursinov B., Ismaylov M., Uteniyazov K. *Superconductivity of monofires of sucrose and carbonic acid. Vestnik KOANRUz 2003,*
7. Bektursinov B., Ismaylov M., Uteniyazov K. *Colloid-chemical properties of mono- and diacylglycerides of carbonic acid. Thesis is scientific-practical. konf. "Modern meanings of chemical education, science and technology in Karakalpakstan". KGU, Nukus, 2004*
8. Bektursynov B., Uteniyazov K. *Examination of emulsifying activity of monoglycerides of carbonic acid. Vestnik KOANRUz 2000,*
9. Bektursynov B., Noskova L.S., Bektursynov A.B. *Poisk bezopaCHix stimulyatorov rosta rasteniy v ryadu fosfatov. Thesis conf. "Modern meanings of chemical education, science and technology in Karakalpakstan". Nukus., 2004*



MEDICINAL PLANTS AND PRODUCTS CONTAINING ESSENTIAL OILS

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ANNOTATION

The Central Asian flora is rich in colorful spices. They contain biologically active substances, essential oils, vitamins, organic acids, minerals and other compounds necessary for humans. Spices play an important role in the preparation of various foods. Spices are used in the accents and fruits, roots and leaves of plants. They make the products delicious and easier for the human body to absorb.

KEYWORDS: *herbs, essential oils, fats, carbohydrates, esters*

DISCUSSION

The role of essential oils in the world of plants has not yet been fully elucidated. Some scientists believe that essential oils and resins protect plants from various diseases, such as, pests, rot, and poisoning. Some theories claim that essential oils attract insects and help pollinate plant flowers. It is also thought that essential oils can be used as plant waste or as a food source. Kiyikot(the herbs of the deer), mint, lemon, common daisy, sagebrush, marmara earth, black cumin fruit and oil, eucalyptus leaves and oil, birch and pine buds, spruce (dome), valerian rhizome and The roots, chamomile and medicinal wormwood, a large amount of essential oils accumulate in the upper part of the earth.

Spices have not yet been adequately studied and the sources have not been adequately covered. Nowadays, the food industry is doing a lot of research and cultivation of essential oils and spices. In addition, the study of their ecological and biological properties will solve the problems of future expansion and cultivation of natural areas.

Essential oil is a mixture of volatile organic substances with a specific odor and taste that is extracted from plants by water vapour. Fragrant plants and some of their products (essential oils, resins, and essential oils from plants) have long been known.

People have widely used these products in the treatment of various diseases ,as well as, in cooking. In the Middle Ages, the Arabs knew how to extract essential oils from plants and separate them from water.



Although the properties and composition of essential oils have been studied since the 18th century, work in this area was particularly active in the second half of the 19th century and the beginning of the 20th century. A.M. Butlerov and A.N. Reformatsky (Russia), Guildemeister and Hoffman (Germany), Y.E. Wagner (Poland) and other famous scientists made great contributions to the study of essential oils.

Plants which contain essential oils are mainly grown in Ukraine, Moldova, Georgia, Tajikistan, Kyrgyzstan, the North Caucasus, Crimea and Voronezh regions.

The word "spice" in the broadest sense refers to a number of plants that give off a fragrant new taste. For example, black pepper, black cumin, gardori, barberry, beet leaf, coriander, barn, ajgon, bujgon, kardamon are among them. Sometimes the word spice is replaced by the word medicine. This is because spices, when consumed in moderation, have a healing effect on the human body. They improve human metabolism.

Spices such as cumin, mint, pepper, anise, dill, and deer grass have been known to the peoples of Central Asia since ancient times. Peppers, saffron, black pepper, etc. are imported from eastern countries such as India, China and Afghanistan and Iran. At a time when the demand for cumin is growing from year to year, the natural areas of plants such as cumin, barberry, algae, deer grass are declining sharply.

The value of herbs depends on the properties and amount of essential oils they contain. Most of the essential oil plants found in Central Asia belong to the family of umbels, lilies of the valley, lilies of the valley, lilies of the valley, and lilies of the valley, and range from the desert to the mountains.

Almost all the organs of plants contain essential oils. It accumulates in flowers and fruits, leaves and underground organs, as well as in the entire surface of the plant.

The amount of essential oil in plants can be 0.001-20%. The amount and composition of this oil varies depending on the place of growth, development, age and navigation of the plant.

The accumulation of essential oils in different plants occurs at different times. Plants usually accumulate the maximum amount of essential oils during flowering, some during budding or earlier. The accumulation of essential oils in plants depends on the temperature and humidity of the air, soil moisture and the amount of minerals in the soil.

Normally, as the temperature rises, more essential oils are synthesized in the plant, and as the humidity increases, the amount of these compounds

decreases. Excessive or low soil moisture leads to a decrease in essential oils in the plant. Drought also causes some plants to accumulate essential oils. Typically, the flora of the southern regions is richer in essential oil-retaining species than that of the northern regions. Under these conditions, the essential oils of the plants are more fragrant and more complex. Kiyikot (herbs of the deer), mint, lemon, common daisy, sagebrush, marmara earth, black cumin fruit and oil, eucalyptus leaves and oil, birch and pine buds, spruce (dome), valerian rhizome and The roots, chamomile and medicinal wormwood, essential oils accumulate in large quantities in the upper part of the earth

Essential oils are volatile liquids composed of a mixture of hydrocarbons, terpenes, alcohols, phenols, aldehydes, esters, and certain heterocyclic compounds. Essential oils are found in many plants and give them a fragrant scent. Soluble in alcohol, ether and benzene, most insoluble in water, some insoluble at all. Essential oils are obtained from plants in the following ways: driving with water vapor; extraction with low-boiling solvents or odorless pure oil (beef fat) (also known as extracting). Essential oils are widely used in industry. They are used in the manufacture of perfumes, soaps, toothpastes, food essences, tobacco flavorings, and medicine (pepper and eucalyptus oils). Essential oils are also used in the chemical industry and pharmaceuticals. Camphor is synthesized from pine, and tree oil is used as a solvent in the production of turpentine varnish and paint. There are also synthetic analogues of essential oils with fine organic synthesis technology. Under natural conditions, the area under cumin is declining from year to year. Because the demand for it is growing. Because it is a very delicate plant, it is demanding to natural conditions. It takes at least 4 years for him to grow up. It only grows from seed. Therefore, its distribution areas should be strictly controlled and controlled by the relevant authorities. It is advisable to sow cumin seeds at the expense of.

It has also been proven in practice that cumin can be grown under cultural conditions. With this in mind, people living in the hills and mountainous areas can sow its seeds and grow them on their own private plots or in vacant lots.

Precautions must be taken to ensure that the above-ground parts of the plants are not killed by farm animals during the breeding season. Because sheep and cattle graze on the hills at the same time. To prevent this, areas with natural habitats should be protected as reserves.

In the hilly and mountainous areas, when the population grows cumin under irrigated conditions, its productivity increases significantly. In addition, arable



farms can produce good results if they cultivate it. There are about 2.5 million hills in the country, which are located in the Tashkent, Jizzakh, Samarkand, Kashkadarya, Surkhandarya and Fergana valleys, most of which are not fully used. Therefore, it is advisable to expand the natural areas of cumin there.

The implementation of the above measures is considered to be the main task of the authorities. In addition, cumin and sand are the duty of the people living in areas where cumin is widespread. Propagation of cumin and sand cumin plants is a public affair.

REFERENCES

1. A. Karimov, A. Shomahmudov. *Medicinal plants used in folk medicine and modern science.* - T.: Ibn Sino 1993.
2. A. Hamidov, M. Nabiyev, T. Odilov. *Plants of Uzbekistan.* - T.: Teacher, 1987.
3. *Data from the National Encyclopedia of Uzbekistan (2000-2005) were used.*
4. Haydarov Q.H., Hojimatov Q.H. *Plants of Uzbekistan.* Tashkent, "Teacher", 1992.
5. Kholmatov X.X., Qosimov A.I. *Medicinal plants.* Tashkent, "Ibn Sino" NMB, 1994



COMPARATIVE CHARACTERISTICS OF THE SPLEEN OF WHITE RATS IN NORMAL AND CHRONIC RADIATION SICKNESS

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ABSTRACT

In an experimental study, morphofunctional features of the spleen of 3-month-old white rats in normal and chronic radiation sickness were studied. As a result of the study, it was found that in chronic radiation sickness, the structural parameters of the spleen of white rats undergo quantitative changes. This is manifested by a decrease in the relative area of the white pulp, the diameter of the periarterial lymphatic couplings, lymph nodes, as well as a decrease in the width of the mantle, marginal and periarterial zone. As a result, the functional activity of the spleen's lymphoid tissue decreases.

KEYWORDS: *immune system, spleen, lymphoid follicles, chronic radiation sickness.*

INTRODUCTION

One of the most dynamic systems of the body is the immune system of humans and animals, which quickly reacts to the impact of external adverse factors. Immune organs provide protection from various pathogenic influences [2,3,8].

Among the peripheral organs of the immune system, the largest and most complex organ is the spleen, which performs filtration, cleansing, immune, hematopoietic and depositing functions [6, 9,10.].

According to researchers from various countries, the immune system disease associated with environmental pollution is currently increasing in the world. [7,11].

To date, radiation remains one of the most adverse factors that affect the human body. Radiation has the most destructive effect on the human body and causes profound changes in all organs and systems. [1,4,5].

Today, the study of the health status of a person exposed to radiation from various sources of ionizing radiation is an urgent and important problem in science and health. Taking into account the above we set the task of studying the morphological parameters of the spleen of white rats in normal and chronic radiation sickness.

PURPOSE

To study morphofunctional features of spleen lymphoid structures in 3-month-old white rats in normal and chronic radiation sickness.

MATERIAL AND METHODS OF RESEARCH

The study was conducted in 22 mongrel white male rats with a weight of 90 to 130 g, which were kept in standard vivarium conditions. The rats were divided into 2 groups: control group (n=12), 1-experimental group (n=10). Irradiation of rats was performed using the device "AGAT P1 "(Baltiys plant" Narva, Estonia, 1991 year of manufacture, operation since 1994, recharge 2007) with a capacity of 25,006 SGR/ min for 20 days at a dose of 0.2 G. The total radiation dose for rats up to 90 days of age was 4.0 GR. All experimental studies on animals were conducted in accordance with the "Rules for conducting work using experimental animals".

The animals were weighed and removed from the experiment at 90 days of age by instant decapitation under ether anesthesia.

The spleen was removed from the abdominal cavity. To conduct morphological and morphometric studies of the study, spleen fragments



were fixed in a 10% formalin solution, passed through a battery of alcohols and poured into paraffin blocks according to generally accepted methods. Paraffin sections with a thickness of 5-8 microns were stained with hematoxylin-eosin. The sections were examined morphometrically using an eyepiece-micrometer DN-107T/ Model NLCD-307B (Novel, China) measured the diameter of the periarterial lymphatic couplings, lymph nodes and their germinal centers, the width of the mantle, marginal and periarterial zones, the relative area of the white pulp and connective tissue elements of the spleen to the total area of the cut. Measurements were made in five fields of view of each histological section. The fields of view were chosen randomly.

In order to study the cytoarchitectonics of the spleen's lymphoid structures, cells were counted using a NOVEL Model NLCD-307 microscope, at 10x90 magnification, under oil immersion. The cells were counted using a morphometric grid embedded in the eyepiece (10x) of a microscope.

We calculated the total number of lymphocytes, the number of large, medium and small lymphocytes per unit area of the cut in the PALM, in lymphoid nodules without a breeding center.

Using directly from the General data matrix "Excel 7.0" on a Pentium-IV personal computer, mathematical processing was performed, and the standard deviation and representativeness errors were determined.

THE RESULTS OF THE STUDY AND THEIR DISCUSSION

When examining the spleen of 3-month-old intact rats, it was found that the relative area of the white pulp ranges from 19.8% to 26.2%, on average $22.2 \pm 0.59\%$. The relative area of connective tissue elements varied from 5.0% to 6.1%, on average $5.52 \pm 0.1\%$ (to the total area of the spleen section)

The diameter of the PALC ranges from 122.6 microns to 139.6 microns, with an average of 132.14 ± 1.56 microns. The diameter of the lymph nodes ranges from 341.8 microns to 486.05 microns, with an average of 466.05 ± 13.27 microns. The percentage of primary and secondary LN is 32% and 68%, respectively. The diameter of the germinal centers ranges from 94.6 microns to 167.8 microns, with an average of 147.8 ± 6.73 microns. They are large AND often merge. The LN of the white spleen pulp is generally round, oval, and elongated.

In micro-preparations, you can visually distinguish all the zones of LN. The width of the mantle zone ranges from 39.7 microns to 49.45 microns, with an average of 45.32 ± 0.89 microns. The width of the marginal zone ranges from 70.3 microns to 84.7 microns, with an average of 77.14 ± 1.32 microns. The width of the periarterial zone ranges from 81.9 microns to 89.4 microns, with an average of 85.04 ± 0.69 microns. (Fig 1).

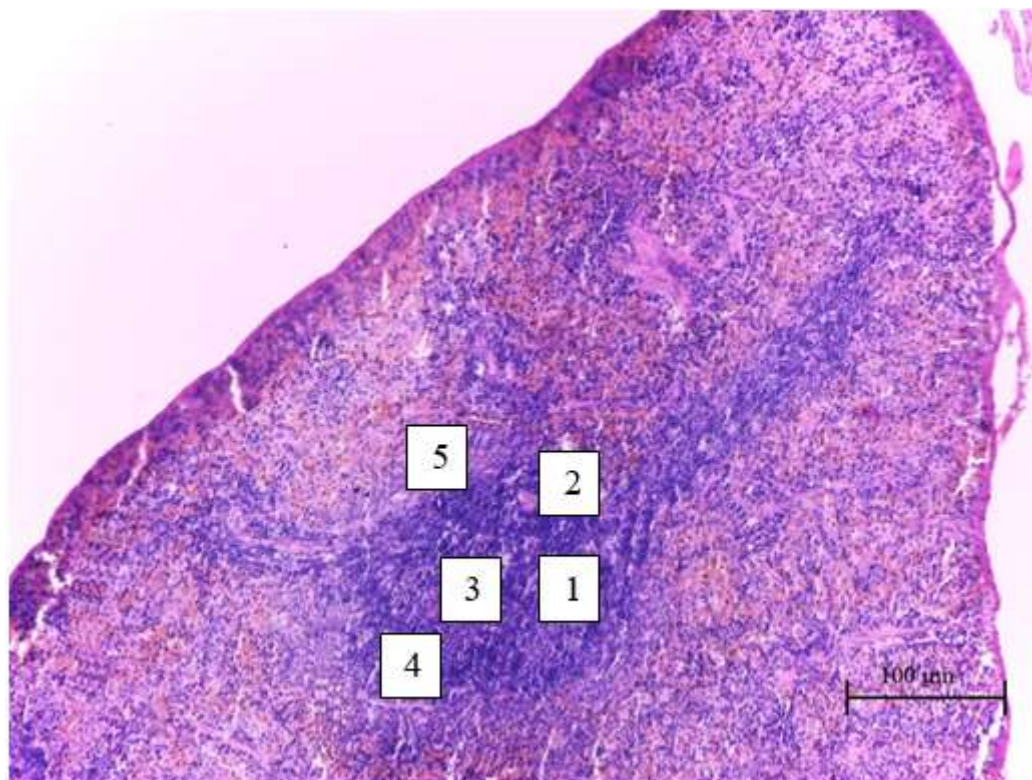


Fig 1. Spleen of a 3-month-old control rat. Painting with hematoxylin – eosin. Oc. 10 x Ob. 20. 1 - lymph node, 2 - periarterial zone, 3-germinal center, 4-mantle zone, 5-marginal zone.



It was found that the total number of lymphocytes in the LN without breeding centers is 42-53, with an average of 47.3 ± 1.01 cells. Lymphoid nodules without centers of reproduction contain (per unit area) small lymphocytes-30-38, on average - 34.0 ± 0.74 cells, medium lymphocytes-10-12, on average - 11.0 ± 0.18 cells, large lymphocytes-2-3, on average - 2.3 ± 0.1 cells.

The total number of lymphocytes in the periarterial lymphoid couplings of the white spleen pulp is 41-53, with an average of 47.2 ± 1.1 cells. Periarterial lymphoid couplings contain (per unit area) small lymphocytes-29-37, on average - 33.0 ± 0.74 cells, medium lymphocytes-9-11, on average - 10.25 ± 0.18 cells and large lymphocytes-3-4, on average - 3.5 ± 0.1 cells.

When studying the spleen of 3 month old rats with chronic radiation diseases the following data were obtained:

The relative area of the white pulp varies from 12.8% to 16.4%, with an average of

$14.6 \pm 0.39\%$. The relative area of connective tissue elements varied from 5.2% to 6.3%, on average - $5.73 \pm 0.84\%$ (to the total area of the spleen section)

The diameter of the PALC ranges from 95.2 microns to 104.3 microns, with an average of 99.35 ± 0.98 microns. The diameter of the lymph nodes is in the range from 160.4 microns to 240.2 microns, on average 195.81 ± 8.62 microns in the LN there are no germinal centers. Lymphoid nodules generally take a rounded-oval, elongated (67.6%) and irregular (32.4%) shape.

In micro-preparations, you can visually distinguish all the zones of LN. The width of the mantle zone ranges from 32.3 microns to 40.4 microns, with an average of 36.54 ± 0.87 microns. The width of the marginal zone ranges from 56.8 microns to 65.7 microns, with an average of 60.26 ± 0.96 microns. The width of the periarterial zone ranges from 57.2 microns to 65.4 microns, with an average of 59.88 ± 0.88 microns (Fig. 2).

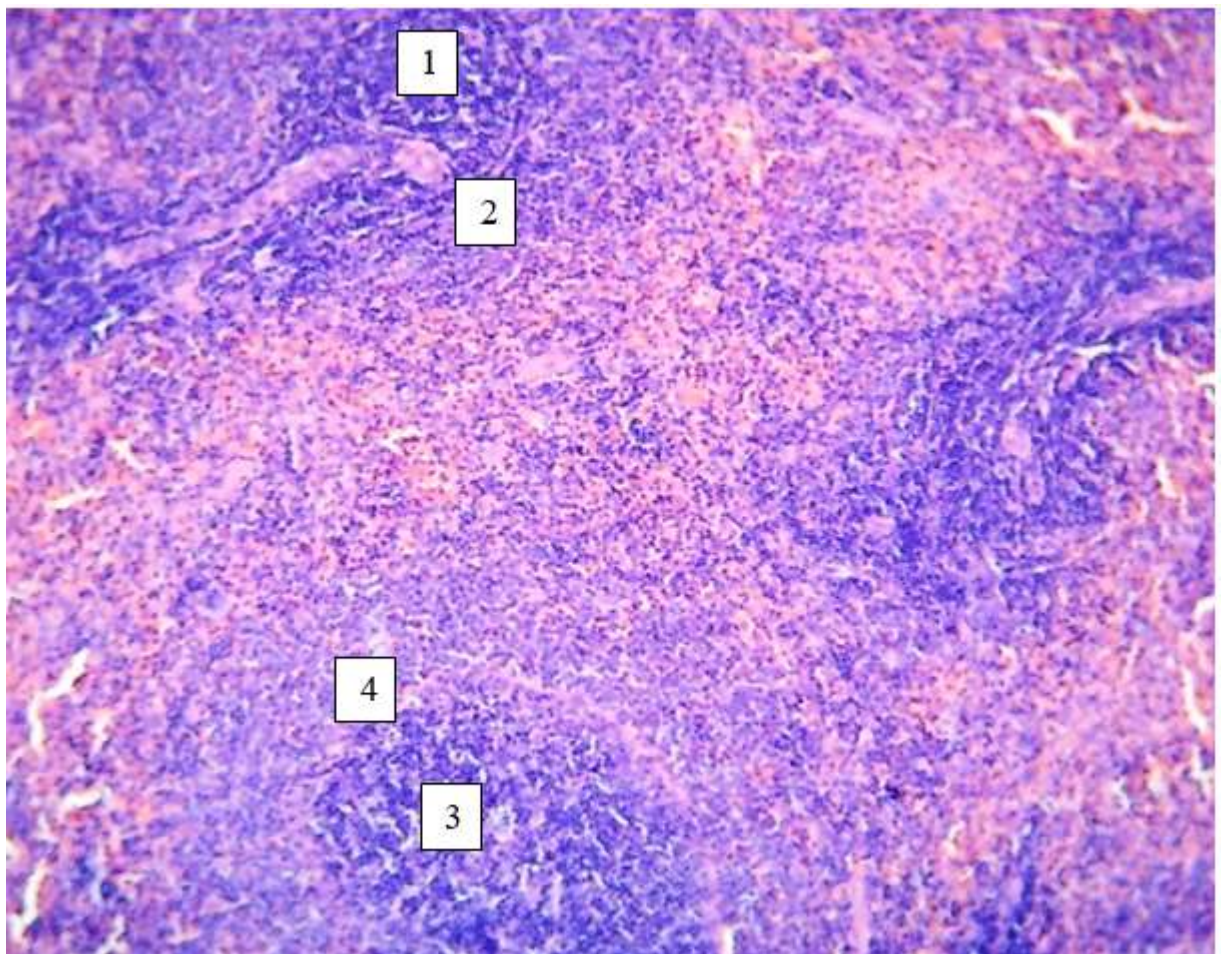


Fig.2. Spleen of a 3-month-old rat with chronic radiation sickness. Stained with hematoxylin-eosin. Oc. 10 x Ob. 20. 1-lymph node, 2-periarterial zone, 3-mantle zone, 4-marginal zone.



It was found that the total number of lymphocytes in the LN without breeding centers is 30-38, on average - 35.1 ± 0.86 cells. In micropreparations as part of lymphoid nodules without a breeding center, large lymphocytes are not detected. Lymphoid nodules without centers of reproduction contain (per unit area) small lymphocytes-22-28 on average- 26.0 ± 0.65 cells, average lymphocytes-8-10, on average - 9.1 ± 0.22 cells.

The total number of lymphocytes in the periarterial lymphoid couplings of the white spleen pulp is 31-40, on average - 35.2 ± 0.97 cells. The PALC does not contain large lymphocytes. Periarterial lymphoid couplings contain (per unit area) small lymphocytes-24-31, on average- 26.8 ± 0.76 cells, average lymphocytes-7-9, on average - 8.4 ± 0.22 cells.

Thus, the relative area of the white spleen pulp in white rats of the intact group is on average $22.2 \pm 0.59\%$, and in rats with chronic radiation sickness, this indicator decreases by 1.52 times and is equal to $14.6 \pm 0.39\%$. The relative area of connective tissue elements in control group rats is on average - $5.52 \pm 0.1\%$, and in rats with chronic radiation sickness there is an increase in this indicator by 1.04 times and is equal to $5.73 \pm 0.84\%$ (to the total area of the spleen section).

The diameter of the PALC and lymph nodes of the spleen of irradiated rats in comparison with healthy rats is reduced by 1.33 and 2.38 times, respectively, and is on average 99.35 ± 0.98 and 195.81 ± 8.62 microns, respectively. The lymphoid nodules of the spleen of the control group of rats were mostly rounded-oval and elongated, and in rats with chronic irradiation, irregular shapes were determined (32.4%). The diameter of the spleen germinal centers in rats of the intact group is on average 147.8 ± 6.73 microns, and in rats with chronic radiation sickness, no breeding centers are detected in histopreparations. The width of the mantle, marginal and periarterial zone in healthy rats is 45.32 ± 0.89 μm , 77.14 ± 1.32 μm and 85.04 ± 0.69 μm , respectively, and in irradiated rats 36.54 ± 0.87 μm , 60.26 ± 0.96 and 59.88 ± 0.88 μm , respectively.

The total number of lymphocytes in the LU without reproduction centers and periarterial lymphoid couplings of the spleen in control group rats is on average 47.3 ± 1.01 and 47.2 ± 1.1 cells, respectively, and in rats with chronic irradiation 35.1 ± 0.86 and 35.2 ± 0.97 , respectively.

CONCLUSIONS

1. In the lymphoid structures of the spleen of white rats with chronic radiation diseases observed quantitative changes, which are expressed by the

relative reduction in area WP, diameter of the PALC, LN.

2. In the lymph nodes of the spleen of irradiated rats, the disappearance of germinative centers is observed. Irregular forms (32.4%) of LN are detected, which are not detected in the spleen of healthy rats. The width of the mantle, marginal, and periarterial zones decreases, as well as the total number of lymphocytes in the LN without a breeding center and PALC by 1.35 and 1.34 times, respectively.

3. These data indicate that radioactive radiation has a negative effect on the lymphoid formations of the spleen, causing the development and formation of immunodeficiency

REFERENCES

1. Baimuradov R. R., Tshaev sh. Zh. Influence of different types of radiation on the male reproductive system // *Problems of biology and medicine* 2019, №4.2 2 (115). C. 208-210
2. Buklis Yu. V. Study of immune structures of the spleen in the conditions of chronic radiation exposure to the body // *Morphology*.-2010. - Volume 137. - No. 4. - P. 42.
3. Kiryanov N. A. et al. Morphological characteristics of the immune and endocrine systems in endotoxemia // *Medical Bulletin of Bashkortostan*. 2013. Vol. 8, No. 6. Pp. 156-158.
4. Tshaev sh. Zh., Baimuradov R. R. Morphological parameters of testes of 90-day-old rats in normal and under the influence of a biostimulator on the background of radiation exposure // *Operative surgery and clinical anatomy* 2020,4 (2), P.22-26.
5. Khasanova DA., Tshaev sh. Zh. Macroanatomy of lymphoid structures of the mesenteric part of the small intestine of rats in normal and on the background of chronic radiation sickness // *Morphology* 2019, 156 (4), P. 51-55.
6. Chulkova S. V., Stilidi I. S., Glukhov E. V., Grevtsova L. Yu., Ned S. N., Tupitsyn N. N. the Spleen is a peripheral organ of the immune system. The influence of splenectomy on the immune status // *Bulletin of the N. N. Blokhin Russian Academy of medical Sciences*, vol. 25, no. 1-2, 2014.
7. Karmaus W., Brooks K., Nebe T., Witten J., Obi-Osius N., Kruse H. Immune function biomarkers in children exposed to lead and organochlorine compounds: a cross-sectional study. // *Environ. Health*. - 2005. - Vol.14. - №1. - P.5.
8. Kour K., Bani S. Augmentation of immune response by chicoric acid through the modulation of CD28/CNLA-4 and Th1 pathway in chronically stressed mice // *Neuropharmacology*. -2010.- V.60, №6. - P. 852-860.
9. Mebius R.E., Kraal G. Structure and function of the spleen // *Nature Reviews Immunology*. 2005. Vol. 5. P. 606-616



10. Turdiyev M. R., Teshayev Sh. J. *Morphometric Assessment of Functional Immunomorphology of White Rat Spleen in the Age Aspect American Journal of Medicine and Medical Sciences 2019, 9(12): 523-526 DOI: 10.5923/j.ajmms.20190912.16.*
11. Udoji F., Martin T., Etherton R., Whalen M.M. *Immunosuppressive effects of triclosan, nonylphenol, and DDT on human natural killer cells in vitro. // J. Immunotoxicol.–2010. – Vol.7. - №3. – P.205-212*



COMPARATIVE ANALYSES OF ARBITRATION AND LITIGATION

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ABSTRACT

Today, because of developing commerce and trade there are occurring various types of disputes between the companies. The arbitration became strong and widely used as a tool for conflict resolution. It is difficult to say the exact percentage of international disputes but some commentators have suggested more than 90% of disputes are governing by arbitration clauses. Sharply globalization and enhancement of business gave effect on drafting different international contracts which settle according to arbitration law. In turn, the existence and effectiveness of international arbitration are targeted at facilitating cross-border trade and investment.

KEY WORDS: Litigation, Arbitration, The UNCITRAL Model law, UAE laws, ADGM laws, DIFC laws, Islamic Sharia, the governing litigation and arbitration by federal and Emirati courts, Onshore and Offshore zones, Civil Procedure Law, UAE Constitution, alternative dispute resolution, Arbitral Tribunal, enforcement.

INTRODUCTION

Today, because of developing commerce and trade there are occurring various types of disputes between the companies. The arbitration became strong and widely used as a tool for conflict resolution. It is difficult to say the exact percentage of international disputes but some commentators have suggested more than 90% of disputes are governing by arbitration clauses.

Sharply globalization and enhancement of business gave effect on drafting different international contracts which settle according to arbitration law. In turn, the existence and effectiveness of international arbitration are targeted at facilitating cross-border trade and investment.

As a federation, the United Arab Emirates is governed by a constitution that regulates, among other things, the issuing of legislative powers among the federation (country capital is Abu Dhabi) and the individual emirates. Under the UAE Constitution, federal laws have the advantage over individual laws. However, "private emirates are permitted to enact private laws. Individual emirates can also legislate on matters where the federation has not yet implemented its legitimate powers. Federal laws, with exception of property law, generally govern civil and commercial transactions."

"United Arab Emirates" legal system is based on civil law principles and the Islamic Sharia law. Such as:

- The Constitution;
- Federal laws and regulations;

- Emirate laws and regulations;
- Islamic Sharia;
- The Dubai International Financial Centre (DIFC) and the London Court of International Arbitration (LCIA).

There are many Financial Free zones in United Arab Emirates, but the majority numbers of zones are situated in Dubai. The most popular Free zones are:

- DIFC - Dubai International Financial Centre;
- JAFZ - Jebel Ali Free Zone;
- DMCC – Dubai Multi Commodities Centre;
- DAFZ – Dubai Airport Free Zone;
- DCC - Dubai Creative Clusters, otherwise known as TECOM and which includes Dubai Internet City, Dubai Media City;
- KIZAD – Khalifa Industrial Zone Abu Dhabi;
- Masdar City;

Within most of the free zones we typically see two main types of free zone limited liability companies:

Free Zone Establishment;
Free Zone Company."

The FRZ (free zone) established in the Emirate shall have a sovereign lawful personality and enjoy full legal capacity and financial and administrative independence. It shall be affiliated with the Government and called "Abu Dhabi Global Market. The goals of the Global Market is the promotion of the Emirates as a global financial center, develop the Emirates economy, and to



create an attractive environment for financial investments and contribution to the international financial services industry.

UAE „onshore“ courts:

Court of First Instance;
Court of Appeal;
Court of Cassation.

Dubai International Financial Centre (DIFC) courts:

1. Court of First Instance;
2. Court of Appeal.

Abu Dhabi Global Market (ADGM) courts:

1. Court of First Instance;
2. Court of Appeal.

Arbitration;**Courts of another jurisdiction.**

If the business parties have a dispute with each other and they could go to the UAE “onshore” courts, the disputes will be solved by the Civil law and the judges do not decide the dispute according to the previous dispute (like in a common law system, the law is not binding). In addition, parties could go to the Dubai International Financial Centre (DIFC) courts where all the proceedings will be followed by The Dubai International Financial Centre Court Law. The Dubai International Financial Centre courts were formed in 2004 and have jurisdiction over various civil and commercial matters. The courts set up in the Dubai International Financial Centre according to the Judicial Authority Law, that is the Court of First Instance and the Court of Appeal, should be recognized as a Dubai International Financial Centre court.

Before process starts parties should draft text of the Rules of Court and they should obey the rules by the end of the trial process. The Dubai International Financial Centre Court has the authority to make decisions and provide with guide-lines as to the control of any proceedings in front of the Dubai International Financial Centre Court that it realizes suitable.

The Dubai International Financial Centre (DIFC) Courts could provide the attendance of witnesses and production of any documents which are needed to solve the dispute. The evidences could be in oral, video link, telephone and affidavit forms. After the hearings are finished the judges deliver the judgment and the judgments shall be written down and published to the public.

Subject matter to another the Dubai International Financial Centre (DIFC) Law, “a proceeding should not be started more than 6 years after the date of the incidents that show increase to the judicial proceedings.”

If a party or the both parties are disagree with the decision they could appeal the Dubai International Financial Centre (DIFC) Court statement according to Article 52 of the Dubai International Financial Centre (DIFC) Law.

According to the Abu Dhabi Global Market (ADGM) Law, “the Global Market Courts shall be of two degrees, first instance courts (formed of a single judge) and courts of appeal (formed of three judges). The

Global Market's Courts shall have a Chief Justice appointed by a Board of Directors resolution which shall become effective upon the expiry of 15 days of notifying the Chairman of the Judicial Department of such resolution and receiving no objections thereto. The remuneration of the Chief Justice shall also be determined in this resolution. The judges of the Global Market Courts shall be nominated by resolutions which were released by the Board of Directors based on the proposal of the Chief Justice of the Global Market Courts. The management of the Global Market's Courts, and the procedures for the litigation and judgments and all forms of dispute resolution procedures shall be controlled by a regulation which was issued by the Board of Directors”.

“The Dubai International Financial Centre (DIFC) Court, on proposition by the parties to a judicial proceeding in front of the Dubai International Financial Centre court (DIFC), may remind any situation relating to the proceedings to an arbitrator.”

Arbitration vs. Litigation in UAE: To what extent is arbitration more advantageous than litigation?

The parties will often strive to settle arguments through arbitration tribunals because of its perceived potential priorities over litigation:

- ✓ Unlike to judicial proceedings, where parties "choose the judge", arbitration authorizes the parties to select the trial. No one shall be prevented by cause of his citizenship from acting as an arbitrator, unless otherwise harmonized by the parties. “The parties are independent to comply on a discipline for nominating the arbitrator or arbitrators.”
- ✓ Arbitration is often faster process than in a full-scale litigation in court. The arbitrator shall start as soon as possible to regulate the proofs of the incident by all proper methods. “Subsequently explore of the written submissions of the parties and of all papers believed upon, the arbitrator shall listen the parties jointly; and failing such a demand he may of his own sign conclude to hear the claimant and defendant.” “Time-limit must be established within two months from the conferment of the document case to the tribunal.”
- ✓ Arbitral proceedings and an arbitral award are usually nonpublic, and can be made strictly confidential. Confidentiality is ensured in some established principles, and can be broadening (to recover witnesses and experts) by the parties” agreement to demand parties to be limited by a confidentiality agreement.
- ✓ The enforcement of an arbitration award is generally easier than a federal court decision because of the provisions of the New York Convention 1958. The Convention is realized to have a pro-enforcement, and the majority number of courts will interpret permissible proofs are very narrow for non-enforcement, advanced to the



enforcement of the numerous of awards. According to the New York Convention, article 3 „requires countries to recognize arbitral awards as binding and to enforce them in accordance with national law, consistent with the provisions of the Convention“.

- ✓ In the majority number of legal systems have restricted avenues for appeal of an arbitral judgment and it evaluates as a priority since it limits period of the disagreement and related liabilities. “The award of the arbitrators may not be contested by any manner of appeal the judgment approving the arbitrators award may be contested in any of the appropriate manners of appeal notwithstanding the preceding paragraph, the award shall not be appeal able if the arbitrators were authorized to reconcile the dispute or if the parties have expressly waived their rights to file an appeal or if the disputed amount was not in excess of AED 20 000”. In contrast to arbitration, in litigation according to articles 158 and 159, the parties may appeal against the judgment of the first instance courts before the higher court of appeal. In addition, the time for appeal shall be thirty days, the unless otherwise provided by law as well as it shall be 10 days in summary cases.

13. *Campbell J. P.(2007), "Taft, Roosevelt, and the Arbitration Treaties of 1911"*
14. *Blake N.M.(2007), "The Olney-Pauncefote Treaty of 1897"*
15. *Prof. Berger K.P.(2007), "Principle XIII.5.1 - Confidentiality - Trans-Lex.org". www.translex.org.*

CONCLUSION

As we mentioned there are many advantages for resolving the disputes according to arbitration rules, such as the process is faster than the civil proceedings, parties could choose the judge or a suitable language for claimant and respondent. In addition, arbitral proceedings and an arbitral decision are nonpublic and can be made in secret. And in particular, the enforcement process is provided by the New York Convention and it leads to enforce the vast majority of awards. In contrast to litigation, arbitration has limited avenues for appeal and it is evaluated as a benefit for the parties, because the time for any further disputes and related liabilities will be restricted.

REFERENCES

1. *UAE Constitution,1971*
2. *UAE Civil Procedure Law,1992*
3. *DIFC Law No.10, 2004*
4. *Abu Dhabi Global Market(ADGM) Law, 2013*
5. *Arbitration regulations, 2015*
6. *UNCITRAL Arbitration Rules, 1976*
7. *American Arbitration Association Commercial Arbitration Rules, 1991*
8. *Doing Business in the UAE A tax and legal guide, 2017*
9. *Doing business in the UAE, 2017,*
10. *London Court of International Arbitration Rules, 1985*
11. *Moses M.L. (2012), "The Principles and Practice of International Commercial Arbitration".*
12. *O'Sullivan, Arthur, Schiffrin, Steven M. (2003). Economics: Principles in Action.*



SOCIO - PEDAGOGICAL METHODS OF CULTURE READING

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ABSTRACT

This article deals with the social and pedagogical problem of learning the culture of reading. Various effective social and pedagogical reading technologies are listed, ensuring full perception and understanding of the text by the reader.

KEYWORDS: *society, pedagogy, reading, book, computerization, reading technologies.*

INTRODUCTION

Today, the world has absolutely changed compared to what it was half a century ago. A new period has come. Now radical social transformations are taking place in all spheres of human life. This affected the economy, culture and education. This stage gave impetus to the revival of public interest in the true values of spiritual culture.

MAIN PART

Every day we try to preserve the social experience accumulated by previous generations, remembering that culture is the trail by which we can find in our peoples the best that they had in the past, and follow this trail into the future.

It is well known that today a lot of attention is paid to "making money" and there is less and less concern about the spiritual development of a person. Bitter as it may seem, all this can lead to the fact that we become financially rich, but spiritually poor. To prevent this, we need to pay close attention to our spiritual enrichment, which is impossible without instilling a culture of reading in each of us. It should be emphasized that reading is one of the most important ways of learning, as it is associated with literacy and civilizational development: "Since 2008, an increasing number of developing countries are evaluating the reading skills of primary school students." This shows how important this activity is for personal achievement, as well as for society as a whole, and any ignorance of this vital activity,

especially at an early age, means that there are many problems in the educational process: "students who cannot read do not have the necessary skills for successful learning in later grades"[1].

To confirm the above, it is important to note the following facts: - firstly, reading is "a complex cognitive process of decoding symbols in order to create or obtain meaning (reading comprehension). It is a means of language acquisition, communication and exchange of information and ideas."[2]

"Reading is an activity with a purpose. A person may read to gain information or to test existing knowledge, or to criticize a writer's ideas or writing style. A person can also read for pleasure or to expand knowledge of the language that is being read. Reading goals guide the reader towards choosing texts. [3]

Various methods and technologies can be used to instill a culture of reading in each of us. Social and pedagogical methods of developing a reading culture are effective in this regard. Any pedagogical technology has means that activate and intensify the activities of students, and in some technologies these means constitute the main idea and the basis of the effectiveness of the results. The use of any reading technology involves the performance of actions prior to reading the text, direct reading of the text and the resulting actions after reading the text. Performing actions prior to reading the text is associated with the diagnosis of background knowledge, reading skills and abilities.



During the direct reading of the text, on the basis of the applied technology, cognitive and communicative tasks are solved. Let's consider some reading technologies that provide full-fledged perception and understanding of the text by the reader.

Search engine reading, it is also called: viewing, scanning, fast, selective reading. Already from the title it is clear that the general idea of the material being read is formed after reading the headings, subheadings, individual paragraphs. The purpose of search reading is to select from the text the necessary information on a specific problem, combine information on individual issues from several texts, find data of interest in the text or in an array of texts: facts, characteristics, numerical indicators, instructions.

Introductory indicative reading - establishing in the text the presence of information related to a specific problem of interest to the reader; anticipates learning cognitive reading.

Studying reading, it is also called analytical reading. It is aimed at the most complete and accurate understanding of the information contained in the text, at its thoughtful comprehension.

On-screen reading - reading information from electronic media with extensive audio and visual resources. This is by far the most common type of reading, which is used by absolutely all members of society who are able to read.

Semantic reading is a thoughtful penetration into the text with the aim of such an understanding of the material, which makes it possible to analyze, compare, contrast and evaluate previously obtained and new information. Critical reading requires the reader to fully understand the content of the text, the ability to correlate the author's opinion with a personal point of view, with his own life experience. Critical reading forces the reader to correct their own beliefs or even abandon them if they contradict new knowledge. This type of reading is directly used in universities in the field of arts and culture, since there are certain areas of education that need to fully and completely possess this technology of reading in the future and purposefully apply it in connection with the profession.

CONCLUSION

As a result, it should be noted that computerization has had a strong influence on reading as a tool for the cultural development of the individual. With the value of reading declared by the society, a destructive tendency of loyalty to ignorance is developing in the youth environment, reading is being intensively replaced by new information technologies, only two functions of reading are preserved and dominate: educational and

relaxation. A decline in reading status leads to an increasing deficit of knowledge, hinders the progressive movement of society on the path to progress, and affects the level of general education. Scientific and technological progress, not only does not bring young people closer to reading and books, but rather removes both from them and from material and spiritual values created by man in the course of history, forming a rational-consumer type of consciousness.

Based on the above, it should be emphasized that it is necessary to pay as much attention as possible to the spiritual enrichment of the individual, and the culture of reading in this takes a special place.

REFERENCES

1. *UNESCO: Missed Opportunities: Impact of Repetition of Grades and Early Dropout.* UNESCO Institute for Statistics - 2012. Canada
2. *Wikipedia ...* <https://ru.wikipedia.org/wiki/>
3. *NCLRC:* <http://www.nclrc.org/essentials/reading/reindex.htm>



NATIONAL SINGING TRADITIONS

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ABSTRACT

There is a very rich and diverse written information on the history of national music in Uzbekistan. In the books and chronicles of Beruni, Narshahi and other historians, in the works of such writers as Mahmud Kashgari, Yusuf Khas Hajib, Firdavsi, Alisher Navoi, , valuable insights into its social and educational significance. In prose and poetry books there are countless records of ancient customs and their word scenes and musical programs, melodies and songs closely related to various aspects of social life, activities of musicians and singers, varieties and forms, musical instruments, descriptions and interpretations of melodies and songs.

KEY WORDS: *Programs, valuable, records, songs.*

INTRODUCTION

Sometimes they are so pure and wise that they have not lost their value even today. As an example, let us look at a wonderful description of melody and melody in the way of humanity in one verse of Yusuf Khas Hajib's Qutadg'u bilig:

Who melts the heart benavo

Neither dead nor alive, the pain is incurable

It is difficult to overstate that music is an important factor in human perfection. Poverty, that is, indifference to pleasant melodies and words, is the worst and incorrigible defect for man, says the wise writer.

MAIN PART

Classical literature written in Arabic, Persian and Turkish, as well as historical works express many wise ideas, theoretical views and life observations about the various links of music to the social way of life, from which we can get valuable impressions about the distant and recent past of our region. Without going into the details of the issue, let us turn to the legacy of Alisher Navoi, who is dear and sacred to us. In fact, we can say that the works of Hazrat are not only a unique literary flower, but also a detailed "musical encyclopedia". In them we can find deep thoughts and reflections on philosophical, scientific, theoretical and practical issues of music.

Among the written sources, pamphlets directly related to the science of music are of special importance. The musical doctrine founded by the ancient musicologists of the East, such as Farobi, Khorezmi and Ibn Sino, and later their worthy

successors Safiuddin Urmavi, Abdulkadir Maroghi, Abdurahman Jami lived and worked in our region and their musical treatises are closely connected with the traditions of this land. In the 19th century, in Bukhara, the tanbur line was discovered in Khorezm, and the entire maqom complex was recorded. , testifies to the depth of the scientific foundations of the art of this land. If we focus the musical ideology from Farobi to Fitrat in terms of the living traditions of the Uzbek national art of singing and their scientific basis, we must first take into account that the scale of this great heritage is very wide. It should be noted that the interrelationships between the philosophical, scientific-theoretical and practical views within it are different.

The most important source in getting a fuller picture of our musical heritage is, of course, its surviving traditions. Although musical values are not accustomed to the use of notes in it, it is firmly passed down from generation to generation without losing its identity.

In this regard, although the use of note notes in our national anthem has not become a habit, the symbol of the melody and other laws of preservation of its text have been applied. It is also the ability to memorize the image of the melody, its inner form - the core. In other words, the basis of the melody is consciously assimilated (memorized) as a system of curtains and methods, that is, a text in a certain order, and when necessary, the "text" in the memory is taken out (performed) in the same order. Inheriting this knowledge and skills, a series of fluent translations of musical texts from generation to



generation is called the "teacher-student" tradition in the language of musicians.

The development of the national singing tradition, of course, has a meaning in the fact that the "teacher-student" tradition is simply called "oral tradition". So, in the ideology of oral music, there is a solid basis, a "text". This solid foundation is the stable and vibrant core of a piece of music. He lives in harmony with the changing, ever-changing qualities of musical ideology. The harmony that arises from this contradiction, that is, the rules and their creative assimilation, is not a defect or defect of our "oral" music, which is introduced without a note, but its inner nature, the law of life. Indeed, if we look at the classical music samples of our music, which are memorized and recorded on sound recorders, we see that the main text of Ushshak, Navo and other melodies with specific names, their core almost unchanged, their appearance, decoration and splendor change.

Another aspect of this predominant principle is that in the oral context, the writing of a note, the text of a letter, is not a moni for the continuity of traditions. On the contrary, at a time when the environment is filled with a variety of musical styles, the classical texts of our national music, and especially the original texts of maqom sets in large forms, meticulously crafted notation texts can serve as a very important factor.

CONCLUSION

In the past, various notes were used in Oriental music. For example, a note based on the order and rules of the alphabetical account. Or it is a finger note system consisting of signs indicating the position of the strings of the handles of the instruments and the fingers that press the curtain. However, they were mainly used only to explain musical-theoretical views and to summarize the order and regulations of sound units based on musical works.

REFERENCES

1. *Yusuf Khos Hajib. "Kutadg'u bilig". Toshkent 2017.*
2. *Fitrat. Uzbek classical music and its history. (Prepared for publication by A.Rustamov with comments by K.Hasan). Tashkent 1993.*
3. *O.Matyakubov. Authority. Tashkent 2004.*



INDICATORS OF ENVIRONMENTAL SAFETY

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ABSTRACT

The article provides a characteristic of environmental safety. The ways to assess the country's environmental safety using indicators are considered. You will also learn the reasons for the evolution of environmental problems

KEYWORDS: *ecology, environmental safety, indicator, environmental indicator, environment.*

DISCUSSION

The issues of ensuring environmental safety are becoming more urgent and more global every day.

Unfortunately, in the pursuit of technological development, which is based on the satisfaction of human needs, the issues of environmental protection have lost their importance and society has not yet fully realized the nature and scale of environmental problems.

We must not forget that environmental problems have no state, they are limitless and have no nationality. Taking this into account, while protecting nature and the environment, we must thoroughly analyze the criteria of ecological safety in order to slow down and ultimately stop the scale of development of an ecological catastrophe.

But in order to analyze these criteria, we need to study what environmental safety means.

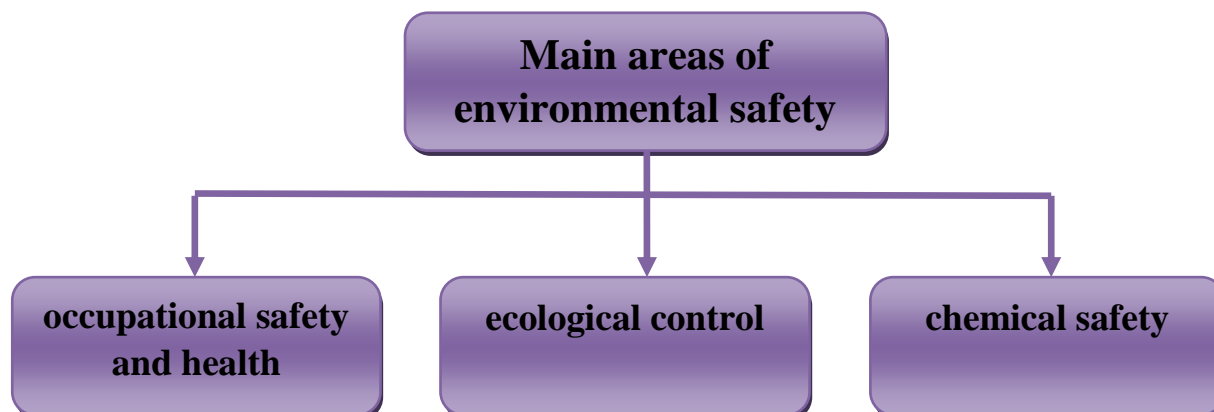
Environmental safety is the state of non-protectiveness of the relevant environmental interests of people, primarily their rights to a favorable natural environment for life, which occurs due to the proportionate coexistence of the environment and human economic activity.

Environmental safety is a state of stable dynamic balance of the biosphere [1].

Environmental safety means "a set of states, processes and actions that ensure the ecological balance in the environment and do not lead to vital damage or threats to the natural environment and humans".

The object of ecological safety is the geosocioecosystem of various levels; global, national, regional, local level of an individual enterprise or person who are exposed to environmental threats. Thus, it includes a set of natural, social and other conditions, the purpose of which is the safe life and activities of people.

Today, there are many reasons for the deterioration of the environment and human activities. The main reason for this problem is the interaction with hazardous substances (radioactive, toxic, chemical, etc.), which can lead to destructive consequences, as well as the use and creation of destructive technologies [4]. It should not be forgotten that many chemicals, when used in a wise manner, contribute to the improvement of human quality and health. In addition, natural disasters are also a global environmental problem.



1-Picture. Main Areas of Environmental Safety [5]

Occupational safety and health include a system for saving the life and health of workers in emergency situations during working hours. For example, prevention of the harmful effects of working environment factors on workers; protection against the dangerous effects of electric current and electricity; the state of protection against accidents at production facilities; fire safety, etc.

Environmental control is a system of state and public measures to prevent and identify violations in the field of environmental protection. In addition, the main tasks are also: monitoring the state of the environment; verification of the implementation of programs for the protection and improvement of the environment, etc.

Chemical safety is a practical performance that uses chemicals to prevent damage to the environment. It includes all aspects of the use of chemicals.

Renewable natural resources in many developing countries have been hit hard in recent decades. Growing populations, and often livestock as well, are one of the main factors determining the rate of degradation and depletion of these resources. The indirect effects of environmental degradation often extend to social, environmental, economic and sociopolitical issues of concern. For this reason, it is important that we monitor the consequences of our actions to ensure the safety of the environment and the country. Indicators are used to establish the level of the state of the environment and take the necessary measures to prevent problems.

An indicator is a significant index of the state of the environment and its elements, which determines the presence of an impact (natural disasters, pollution, etc.) and the response to this impact [6]. The main purpose of indicators is

informing. Indicators convey information to the user clearly and clearly.

The main objectives of the indicator are:

- 1) primitivization of information in order to understand the problem and solve it accordingly
- 2) be real and practical

Indicators are intended for:

- Ministries and departments
- legislative and executive authorities
- scientific and educational organizations
- enterprises
- public and non-governmental organizations

It should be noted that environmental indicators are used at various levels: global, regional, national and local.

At the global, regional and national levels, environmental indicators provide information on the state of the environment over large areas, and at the local level they are monitored over small areas. A quantitative analysis of environmental services and departments should be combined with qualitative ones.

Some environmental effects were noted where indicators should be used [2]:

- climatic change
- ozone depletion
- health
- noise
- eutrophication
- forest damage
- fish death
- contamination
- recreation
- biodiversity
- biological production
- marine eutrophication

For example, changes in radiative forcing can be taken as an indicator of climate change. In equilibrium the Earth must re-radiate same amount of



energy in order not to heat up or cool down. In other words, radiative forcing determines the heating impact on the Earth and all its sub-systems from increases in density of greenhouse gases after the industrial revolution.

One of the main reasons for disturbances about ozone depletion, is increase in ultra-violet (UV)-radiation at ground level. This leads to increased deaths and skin cancer in humans and animals. It should be noted that changes in the ozone layer can affect changes in the chemical composition of the atmosphere.

Forests play an important role in human life. Therefore, we need to protect them. For example, there are indicators of forest resources. The main purpose of these indicators is to inform whether timber stocks are being depleted faster than they are being produced.

The most advanced countries in the development of indicator systems are Australia, Canada, the United States and a number of European countries. The system of eco-indicators for the organization of environmental cooperation and development is widely recognized in the world. The OECD system of indicators explains the relationship between the economy and environmental protection, as well as identifies the economic-environmental and socio-environmental relationships. The OECD indicator system is a pressure-state-response model. The DSM model works as follows: if a person is engaged in some kind of activity and has a negative impact on natural resources, then society reacts to these changes.

The system of environmental-economic accounting was proposed by the Statistics Division of the UN Secretariat in 1993. The purpose of the environmental-economic accounting system is to take into account the environmental factor in national statistics. It expands the potential of national accounts, but is not seen as a substitute for national accounting, and also provides an opportunity to assess environmental costs. The genuine savings rate was proposed by the World Bank. Genuine savings is the rate at which national savings are accumulated after accounting for resource depletion and pollution damage. The World Bank has calculated the values of natural, produced and social capital, as well as the share of natural capital in the national wealth of the country. Thus, the share of natural capital in national wealth is on average 2-40% for more than 100 countries of the world, the share of human capital is 40-80% [7].

Analysis of international databases made it possible to identify trends in the publication of statistical indicators characterizing the ecological state in various countries. 16 international databases were studied, including the United Nations Statistics

Division, the Economic and Social Commission for Asia and the Pacific, the United Nations Eurasian Economic Commission, the United Nations Food and Agriculture Organization, the International Monetary Fund, the International Labor Organization, UNESCO, UNIDO, the World Bank and others.

In the Republic of Uzbekistan, attention is paid to the state of environmental safety. Within the framework of the project of the Republic of Uzbekistan "Environmental indicators for monitoring the state of the environment in Uzbekistan", a system of environmental indicators has been created. The system contains not only a set of national environmental indicators for monitoring, but also a database for analyzing the storage and transmission of these data [3]. A number of problems arose in the formation of the list of environmental indicators. The main problem is different information that is collected by various organizations. Consequently, inconsistent data make it difficult to process. The second key problem is limited access to environmental information. To solve these problems, the Project involved an international consultant - a specialist in the development and application of environmental indicators and 16 highly qualified national experts for cooperation. Consequently, the experience of leading foreign countries and international organizations was studied, and the main environmental problems of the country were identified. It should be noted that the criteria for the selection of national environmental indicators have been implemented. In order to increase user knowledge and public awareness of the system of environmental indicators and the role of environmental indicators in monitoring and assessing the state of the environment, the Project engaged a public awareness expert.

Based on the foregoing, indicator is an important index that play a key role in the formation of environmental safety. Therefore, it is necessary to improve the quality and reliability of indicators in all directions, and based on the factor to solve the problem accordingly. The indicator must be sensitive to changes in the state of the environment. We cannot predict environmental problems without a development model. Such forecasts provide an opportunity to anticipate changes in advance and direct them to the right decisions. An adequate response to environmental problems requires that we be able to model the relationship between economic activity and the environment. The indicators should preferably be consistent. It should be noted that it is important to understand what the environmental safety indicators should be used for and what changes they will lead to.



REFERENCES

1. Яковлев В.В. Экологическая безопасность, оценки риска. 2007, p.10
2. KNUT H. ALFSEN, KJELL ARNE BREKKE, FRODE BRUNVOLL, HILDE LURAS, KARINE NYBORG AND HANS VIGGO SEBØ. *Environmental indicators*. 1992, p.21
3. Алиханов Б.Б. Экологические индикаторы для Узбекистана. 2006, p.8
4. <https://center-yf.ru/data/Menedzheru/obekty-ekologicheskoy-bezopasnosti.php>
5. <https://www.spokaneenvironmental.com/what-is-environmental-safety/>
6. <http://naukarus.com/indikatory-ekologicheskoy-bezopasnosti>
7. <http://mail.icwc-aral.littel.uz/bk/14-1-1.htm>



PROBLEM OF PRIORITY OF MORALITY AND EDUCATION IN SOCIETY IN WORKS OF FARIDUDDUN ATTOR

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ANNOTATION

This article discusses the socially moral views of Fariduddin Attor. Attor has written many books. In his works, he explores the mores, norms of ethics, the nature of people. The article gives an analysis of such concepts as mind, knowledge, patience, nobility.

KEY WORDS: *man, matter, substance, ontology, mind, knowledge.*

DISCUSSION

At present, prompt development of social-economic processes requires not only searching optimal ways to solve global problems of humankind, but also development of matters such as preservation of material and spiritual values and their transfer to future generations.

As we know from the history of humankind, every society, nation, people strives for its future, for future generations to be highly spiritual, scientific and, most importantly, happy. Therefore, the development of material and spiritual values is urgent issue today.

Establishment of high spiritual qualities in society, formation of national ideology, upbringing of young people in the spirit of our rich cultural heritage, respect for our historical traditions, universal values, love for the Motherland, and devotion to ideas of independence is a decisive factor in all reforms in our country.

Fariduddin Attor is one of the mutasavvif (scientist in Tasawwuf) who contributed to the development of our spirituality. The teachings of Attor contain specific ideas about human morality. There is a manuscript of ethics belonging to Attor in Asian Museum in Moscow, which English scientist G.Ete describes this epos as “Book of Hiyatnoma or Transition”. Russian researcher E.E. Bertels also said that there were several manuscripts of the epos and presented them in the form of “Hiyatnoma”¹.

However, the Austrian scholar Aloes Schprenger points out that the title of the epos “Hiyatnoma” is wrong. Because if the word “hiyat” in Persian texts means “transition”, it does not correspond to the essence of the work. The research is about good qualities and flaws.

Attor dedicated this epic to the life of some man. That is why it is called “Biography (Hayotnoma)”. G. Ete in his work “New Persian Literature” shows “Hayotnoma” in one of 26 works that actually belong to Fariduddin Attor. E.E. Bertels in his work “Sufism and Sufi Literature”² cited the stories from “Hayotnoma” and tried to comment on them.

“Hayotnoma” consists of 10 seasons (chapters). The first chapter of “Hayotnoma” deals with tawhid (monotheism), and we witness the verses about Allah, His Oneness, and His mercy to His servants.

In the second chapter, salawats (salutation upon the prophet) upon our Prophet Muhammad (s.a.w.) are written. Mutasawwuf in the third chapter dwells on the history of writing the epos.

After the introduction, the main part of the epic is covered, and this part consists of 10 seasons (chapters). Each chapter is showing virtue or flaw enriched with stories.

The fourth chapter gives the following good qualities in man.

¹ Bertels. E.E. Sufism and Sufi literature. M.: Nauka, 1965, p. 422.

² shortened form of this epos is covered in E.E. Bertels's “Sufism and Sufi Literature”



1. The first chapter describing the mind

Attor highly rates the place of the mind. Attor says: mind is the factor that develops a person. The human mind is different from other living organisms. A wise person gets out of all unpleasant situations, even though a mentally retarded person cannot achieve the truth by acquiring knowledge.

2. The second chapter describing learning

In the chapter, Attor writes about the man who wrote the book on philosophy for a king who is far from science, but later admits that the king knows nothing about philosophy and names the book after another man. The king was upset and ordered him to be exiled. They call the dervish to the palace to announce the decision. No one opens his mouth. The dervish then tells the story of the mice who wanted to hang a bell around the cat's neck. The king forgives the dervish and frees him. One of the qualities that elevate a person to greatness is to be knowledgeable. Through science, man learns the mysteries of the universe and rises to a higher rank.

3. The third chapter describing to be soft-spoken

In this chapter, Attor wrote about an incident that happened to Ibrahim Adham: Ibrahim Adham meets an unknown passenger on the way, which asks him to show him the way to the city. Ibrahim Adham raises his hand. The passenger orders him to put aside the ridiculous jokes and show the way. Then the sheikh shows him the cemetery. Angry passenger slaps Ibrahim Adham in the face with a whip in his hand. Without saying a word, Ibrahim went to the stream and washed the blood from his face. Continuing on the passenger path, he encounters a crowd of people. They went out to look for a man, and when the passenger asked who they were looking for, the people said a dervish. People say to the passenger, "If you find a dervish, we will give you money". The passenger cried after asking about the dervish's outward signs and told about his encounter with the dervish on the way. People found Ibrahim Adham sleeping on the bank of the stream. The horseman apologized to the sheikh. The sheikh forgave him on the condition that he would not offend anyone from now on.

4. The fourth chapter describing gratitude

Mutasawwif states that the slaves of Allaah can attain a high rank through gratitude, and mentions the condition of a sinner in prison. In the prison, he sees a man tied up with a dog and eating from a bowl. The dog dies and the dog's corpse is not removed. Seeing this incident, he thanks Allah that it did not happen to him. Attor shows the following three types of gratitude. 1. Science 2. State 3. Practice.

5. The fifth chapter describing patience.

Attor pointed out three types of patience: 1. Patience when facing the failure, 2. Patience in

listening and doing good deeds, 3. Patience in preventing mistakes. In the time of our Prophet, the eighteen-year-old son of woman named Ummu Abdullah fell ill and died. When her husband came home from work and asked his son, she said, "He is asleep, don't wake him up". In the morning, the woman said to her husband, "I had a strange dream last night, when something was rented to our neighbors, and the owner came and asked them to return their belongings. Then they cried and complained". Her husband said his neighbors had done something wrong and that they had gotten rid of the obligation on their necks. Then the woman told the story of her son. Seeing his wife's patience, the husband bravely overcame this grief (story from Rumi) Alisher Navoi in "Nasoyim ul-muhabbat" emphasizes patience among the qualities of avliyas (saints).

6. The sixth chapter condemning corruption.

According to Attor, the first of the assaults is corruption. In the time of Sultan Mahmud, an old man had a plum tree. He did not permit to take the fruits of the tree neither himself nor his relatives. He put the fruit in a basket and went to Sultan Mahmud to receive the reward. On the way, he saw Shah Mahmud and gave him the basket. The king took the basket and ordered the old man to be arrested. The king forgot the old man and he stayed in prison. Mahmud became ill and the medication had no effect. The king thought that his illness was because of his injustice. Sultan Mahmud regretted what had happened and ordered the old man to go to his treasury and get what he wanted. The old man chose a diamond axe, went home, and cut down the plum tree that had caused him trouble.

7. The seventh chapter condemning envy.

In this chapter, mutasawwif thought that various calamities would befall people because of jealousy. Ibn Sina says, "One should not be afraid, laughing at a jealous, a liar, and a needy person".

8. The eighth chapter condemning avarice.

Attor brings the following story about the consequences of avarice. In the time of Isa, a young man met a girl and married her. The girl had no hand and Allah accepted her prayers and returned her hand. While a dervish was asking for alms, the woman tried to give the dervish two loaves of bread. However, her husband would not allow it. When the woman was upset that her husband was greedy, he said, "These two loaves of bread are not enough for the dervish. Give him the whole bread". Rejoicing in her husband's generosity, the woman told about her life: "One day my husband was not at home. At that moment, I gave the chicken to the beggar who was asking for alms. There is a precious ring inside the chicken. When my husband heard that I had given him a chicken, he cut off one of my arms and drove me out of the city". When her husband heard about



this, he said that he was the beggar and that he had made a fortune by selling the ring. In the doctrines of Naqshbandi, values such as honesty, diligence, integrity, helping others, generosity, faith and conviction, and compassion are of great importance³.

As long as a person lives in a society, he should do for others what he wants to do for himself. Vice versa, he is ignored by society because of avarice.

9. The ninth chapter condemning covetousness.

Attor cites the following story when he writes about covetousness. The merchant gave the judge to store a sealed bag containing gold coins. Ten years later, he asked to return the bag. The seal was untouched, but inside the bag were iron coins instead of gold. The deceived merchant addressed the king. "You have no evidence, so the judge is innocent", said the king. Nevertheless, he said he have to think of situation. The king torn off the corner of his pillow and went out hunting. The cleaner cleaned the house, saw the torn pillow, and took it to weaver. The weaver saw the pillow so that the torn area was not visible. The king ordered the weaver to be brought, so that the weaver admitted that he fixed the bag at the request of the judge. The judge was punished and the gold was returned to the merchant.

10. The tenth chapter condemning arrogance.

Attor dwells on arrogance – one of the sins, and divides it into seven: arrogant scientists, arrogance of asceticism, arrogance of wealth, arrogance of lineage, arrogance of power, arrogance of beauty, arrogance of close relatives

Perfection is not spontaneous phenomenon or talent, but the ability of person to control his desires because of study. Attor opposes the wrong ideas of this society, and laughs at the filthy people of his time, trying to point out mistakes in their behavior. He emphasizes the need for all people to work honestly, to be enlightened, and to be spiritually and physically healthy.

As conclusion, we can say that

-Fariduddin Attor includes mind, learning, to be soft-spoken, gratitude and patience into the characteristics that lead the person to perfection.

- Meanwhile, he includes corruption, envy, avarice, covetousness and arrogance into the characteristics that lead to the degradation of man. Education the young generation with the characteristics that Attor mentioned helps to be harmonious perfect person.

LIST OF REFERENCES

1. Shayx Fariduddin Attor. *Asrornoma. Jamol Kamol tarjimasi*. – Tashkent, O'zbekiston milliy ensiklopediyasi, 2008. –P. 125-126.
2. Shaykh Fariduddin Attar Nisaburi. *Musibatnoma*. Tehran, 1959. P. 358
3. Shayx Fariduddin Attor. *Asrornoma. Jamol Kamol tarjimasi*. – Tashkent, O'zbekiston milliy ensiklopediyasi, 2008. –P. 36.
4. *Divani ghazaliyat va qasoidi Attor*. Tehran, 1962. P.336.
5. Fariduddin Attar. *Mantiq ut tayr*. Translation by Najmiddin Komilov. T.: "Ghafur Ghulom. 2006. –P. 16.
6. Fariduddin Attar. *Mantiq ut tayr*. Translation by Najmiddin Komilov. T.: "Ghafur Ghulom. 2006. –P. 17.
7. Shayx Fariduddin Attor. *Asrornoma. Jamol Kamol tarjimasi*. – Tashkent, O'zbekiston milliy ensiklopediyasi, 2008. –P. 186.
8. Shayx Fariduddin Attor. *Asrornoma. Jamol Kamol tarjimasi*. – Tashkent, O'zbekiston milliy ensiklopediyasi, 2008. –P. 186.
9. Shayx Fariduddin Attor. *Asrornoma. Jamol Kamol tarjimasi*. – Tashkent, O'zbekiston milliy ensiklopediyasi, 2008. P. 187.

³ Navruzova G.N. Bahouddin Naqshband. Monograph. B.: Institute of Philosophy and Law, 2009. p 141.



TO STUDY THE EFFECT OF FRACTIONATION OF WHEAT FLOUR VARIETIES ON THEIR BAKING PROPERTIES

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ANNOTATION

The article is devoted to improving the functional properties of wheat grains with a low wheat content, grown in an arid climate. It is also intended to study the improvement of the functional properties of varietal bread flour made from these wheat grains without additives or additives. The scientific novelty of the study is that the baking properties of baked flour grown in dry climates are improved without additives by separating damaged starch grains from baked flours.

KEYWORDS: *baking, fraction, granule, dispersion, flour size, functional, wheat.*

INTRODUCTION

Today in the world there is an increase in the production of wheat grain and a decrease in baking properties as a result of research aimed at increasing its productivity in order to more efficiently use the land.

It was studied that the vitreousness of wheat grains plays an important role in grinding high-quality flour, it is easily separated from the endosperm shell, and flour has high baking properties [1]. The reason for the low viability of wheat grains grown in an arid climate was studied by the action of the harmful wind during their ripening [2, 3]. It is recommended to study the effect of hydrothermal treatment on the rational use of the technological potential of wheat grain grown under these conditions [4].

It was studied that when preparing wheat grains for grinding high-quality flour, the preparation of a mixture of lots of grains of different quality and the same hydrothermal treatment leads to a decrease in their baking properties [5, 6].

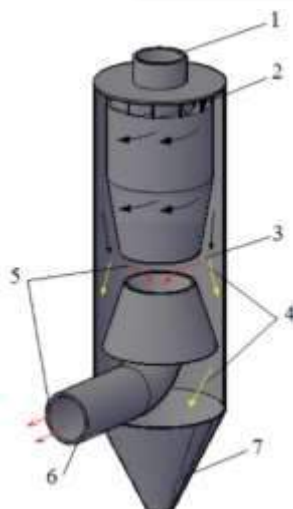
The aim of the study was to study the improvement of the functional properties of varietal bakery flour obtained from wheat grains grown in arid climates, without additives or additives.

In countries with developed mills, special types and varieties of flour with enhanced functional properties are used for the production of bread, pasta and flour confectionery. Given the fact that durum

wheat is not grown in the country, it is important to use different types and varieties of flour for the production of bread, pasta and flour confectionery from flour from soft wheat grains. There is no perfect technology for dividing them into fractions according to functional properties and production of bread, pasta and flour confectionery products that meet regulatory requirements. This requires deep research in this area.

Bread is the most widely consumed food in the daily diet of the population of the republic, and one of the urgent tasks is to make it environmentally friendly and without synthetic additives.

It was revealed that wheat grains with high baking properties are in short supply and do not meet the regulatory requirements for the production of bread, pasta and flour confectionery without additives. However, in recent years, porosizers containing sodium dihydrogen phosphate, sodium dihydrogen pyrophosphate (E 450), sodium bicarbonate, calcium monophosphate, ammonium tartrate, calcium sulfate, corn starch and others have been widely used. They are sometimes called yeast. According to the warning of the medical staff, uncontrolled use of phosphorus leads to an imbalance between phosphorus and calcium in the body [7-11]. Excessive consumption of phosphate impairs calcium absorption, which leads to the accumulation of calcium and phosphorus in the kidneys and the development of osteoporosis. Caution



should be exercised when consuming phosphate-containing foods. People who eat foods high in natural phosphorus are at risk. For example, sodium dihydrogen pyrophosphate (E 450) causes intestinal upset. In addition, modified starch is used in these mixtures.

Research has shown that gluten proteins and intact starch grains provide the baking properties of wheat grain. Therefore, the protein fraction and intact grains of wheat flour starch from wheat grains with this index reflecting the baking properties can be divided into fractions in accordance with their aerodynamic properties. As a result, it was theoretically possible to obtain competitive high quality bread, pasta and flour confectionery.

In order to improve the functional properties of varietal flour obtained from local wheat grains, the first task is to divide them into fractions according to aerodynamic properties, analyze the physicochemical properties and determine the purpose of production. In parallel, in the experiment, samples of flour from wheat grains, which have high baking properties and are not grown in an arid climate, were divided into equal fractions, and compared with the results of preliminary experiments. Therefore, the first object of research was selected flour from soft wheat of the 1st grade, grown in the arid climate of the republic, and flour from wheat of the highest grade, grown in the north of the Republic of Kazakhstan. These samples were divided into three fractions in accordance with their aerodynamic properties: less than 10 microns, the distance between them is 10-20 microns and more than 20 microns. Fractionation by size was carried out in the laboratory of the Institute of Mechanics and Seismic Strength of Structures. M.T. Urazbaeva of the Academy of Sciences of the Republic of Uzbekistan in a centrifugal air separator. This device works in the following order. The original product is fed with primary air through line 1 above the separator. With the help of control vanes 2, the air flow is given a circular motion. Under the action of centrifugal forces of inertia, particles move to the outer cylindrical wall of the separator body and fall into the classification zone 3 between the cone and the walls (Fig. 1). Extensive research has been carried out in this device to sort the scattered particles by size and density.

Particles less than 7 μm in size have been effectively studied theoretically and experimentally [12, 13]. Due to the mass size of large particles (yellow line) 4, they accumulate around the inner walls of the separator under the action of centrifugal force, and under the action of inertia, the separator falls into the hopper 7. Small particles (red line) 5 are carried away by air and are removed from the separator through the exhaust pipe 6. Thus, the original flour is divided into fractions.

Figure 1. Scheme of air-centrifugal separator, which separates wheat flour into fractions by size.

It has been studied that the susceptibility of flour starch depends mainly on the size of the flour particles, the size of the starch grains and their degree of mechanical damage. It has been found that the smaller and more damaged these particles are, the greater their susceptibility to α -amylase, and the higher the gas-forming capacity of such flour [14 - 16].

The size of flour particles has been studied to affect the rate of biochemical and colloidal chemical processes in the dough, and hence the properties of the dough, the quality and yield of bread [17-19]. It has been studied that the size of high and first grade flour particles varies from a few micrometers (μm) to 180-190 μm . It has been found that about half of the particles in a typical bakery flour are smaller than 40-50 μm , and the rest in the range of 40-50 to 190 μm , and that the flour particles obtained from soft wheat are smaller than the particles of durum wheat flour [20].

The size of wheat grain starch grains has been studied to have a significant effect on the production of bread, pasta and flour confectionery. In particular, it was found that it is not advisable to produce bread from wheat flour with starch grains in the range of 1-9 microns, ie they reduce the rheological properties of the dough. Production of high quality bread products from wheat flour with starch grains in the range of 9-18 microns. It is especially recommended for the production of pasta from wheat grains with a grain size of 18 μm higher than starch grains [5, 21, 22]. It was found that the size of starch grains of wheat grains varies depending on climate, agro-technical processing, type, navigation. However, in order to determine the size, dispersion and granulometric composition of starch grains of soft wheat grains compared to hard types, they were detected in a granulometric measuring device called GIU-1 at MGTU named after B.E. Bauman.

The following laboratory equipment and methods were used to study the effect of the size of the flour samples obtained for the study on its baking properties.



RESEARCH MATERIALS AND METHODS

The object of the study was the first variety of local type IV soft wheat grown in arid climates and high-quality baked type IV soft wheat flour grown in the northern part of the Republic of Kazakhstan. Their baking properties were determined using the following laboratory equipment and standard methods.

The whiteness of the flour samples was determined using laboratory equipment "SKIB-M" (Russia) according to GOST 26361-84, and the amount of gluten was determined using laboratory equipment "Perten Inframatic 9500 IK" (Sweden) and a simple method based on GOST 17839-89.

The quality (deformation) of gluten was determined according to GOST 17839-89 on laboratory equipment "IDK-5M" (Russia) and the moisture content of flour samples in a laboratory drying cabinet "SESH-3M" (Russia) based on GOST 9404-88.

The number of drops was determined on the basis of GOST 27676-88 on laboratory equipment PChP-3 (Russia) and GOST ISO 17715-2015 on laboratory equipment SDmatic (France).

Its sedimentation analysis was carried out on laboratory equipment Y15 (Turkey).

RESEARCH RESULTS AND DISCUSSIONS

An objective assessment of the dispersity and particle size distribution of wheat bakery flour, the study of their dependence on the quality of flour and bread is an urgent task. When determining the dispersion of flour, not only the size of the flour particles, but also the quantitative assessment of their shape makes it possible to objectively assess their baking properties. This study first examined the importance of studying the effect of flour particle size on its baking properties.

The scientific novelty of the research lies in the study of changes in the baking properties of the first grade flour from low-grain wheat grown in an arid climate, with a fraction of less than 10 microns. It also includes a comparative analysis of the baking properties of premium wheat flour grown in the northern part of Kazakhstan, with the release of a small fraction of 10 microns of premium flour.

Crushed starch granules increase the water absorption capacity of the dough, affect its rheological properties, increase nutrient reserves for yeast and increase the susceptibility of fungi to alpha-amylase. Although the starch content of whole wheat grains is 67-68%, it has been studied to be 78-82% after milling. The semi-crystalline structure of starch grains in the endosperm of wheat grains can be damaged as a result of any mechanical impact, especially during grinding. Damaged starch is very important for baking, since damaged starch absorbs 4 times more water than its own weight, but in natural starch this figure was equal to 0.4 [23].

Damaged starch granules are also selectively affected by specific enzymes (alpha and beta amylase). It was found that some of these enzymes cannot act on intact starch grains due to the protective coating on the surface [24].

Therefore, table 1 shows the results of the experimental separation of flour samples into fractions by size when changing their baking properties.



Table - 1
Influence of annuality of flour samples obtained for research on baking properties

Flour samples	Its quality indicators							
	Flour fractions	Whiteness	The amount of gluten %	I.D.K Conditional unit indicator	Humidity %	Number of drops	Damage to starch	Sedim
First grade flour	Initial quality indicators	50	26.7	79	13.5	582	21.8	21
	10 mkm each	55	26.4	85	11.4	541	29.4	24
	10-20 mkm interval	50	29.7	72	11.5	519	24.1	33
	20 higher than mkm	44	27.8	75	12.2	585	16.6	27
High quality flour	Initial quality indicators	66	30.2	63	13.2	196	24.5	61
	10 mkm each	66	28.4	65	11.2	184	29.3	63
	10-20 mkm interval	63	31.7	66	11.5	208	23.7	60
	20 higher than mkm	61	30.8	70	12.4	217	18.2	57



We focused on the significance of the effect of flour size and starch grain damage on its baking properties in the introductory and discussion parts of the study. Now, from the experimental results (Table 1), it can be seen that two samples of flour of different quality had different effects on the baking properties. In particular, when we divided the weak first grade flour into fractions in the rectifier, significant changes were observed compared to the fractions of the premium strong flour. That is, its color index in the first class increased by 5 units in a small fraction of 10 microns compared to the control, and in the fraction over 20 microns decreased by 6 units. In this strong high quality variety, no increase was observed, and in the fraction greater than 20 μm , a decrease of 5 units was observed. From this we can conclude that when dividing strong flours into fractions by size, their color changes slightly.

Compared to the gluten content of the flour samples, the weak first grade was 3% higher than the control, and the strong higher grade was 2.2%. For this indicator, fractionation has a significant effect on weak flour.

The conventional unit of gluten IDK is of great technological importance for an objective assessment of the baking properties of wheat flour. When we divided the flour samples into fractions by size, we observed a decrease in the baking properties of the IDC standard block from 63 to 70 compared to the control of the high-grade strong flour sample. In the weak first class, it was observed that in the fraction in the range of 10-20 μm it improved by 7 conventional knowledge, and in the fraction of 10 μm it decreased by 6 conventional units in comparison with the control. From this we can conclude that a weak first grade improves the conditional unit indicator of the fractional IDC.

Technologically significant changes in flour moisture and the number of drops did not occur. Naturally, flour drying is observed during fractionation.

The finer the flour, the more starch is formed. However, it turned out that this indicator also depends on the sown area of wheat, climate, agricultural processing and physicochemical parameters. In other words, the results of the experiment showed that wheat of the first grade, grown in an arid climate, had a share of 10 microns less and a share of 10-20 microns, which increased by 5-11%. This can be explained by the size of the starch grains in the endosperm of wheat grown in arid climates. It is these starch granules that are reflected in the results of experiments with mechanical damage during grinding.

Starch is the main polysaccharide of grain, and the degree of damage during grinding is an important characteristic of the resulting flour. It has been established that the amount of damaged starch grains depends on the hardness and type of grain, the type of technological scheme used for grinding grain [25]. This indicator determines its water absorption capacity. (the moisture capacity of damaged starch is 10 times higher than that of natural starch), which, in turn, affects the rheological properties of the dough. At the same time, the amount of damaged starch determines the degree of its enzymatic hydrolysis, in other words, its ability to form sugars and gases.

It can be noted that mechanical damage to starch was 16.6 conventional units in the large fraction of weak flour of the first grade and 18.2 conventional units in the corresponding fraction of strong flour of the highest grade. If we take into account the fineness of grinding of premium flour, then we can conclude that flour of the first grade requires fractionation, given the low baking properties of ground wheat grain. According to this indicator, even in small fractions, the first grade was 0.1% higher.

The sedimentation index of the fractions of the flour samples showed that the strong high-grade variable had little variation in all fractions. A partial slight decrease is observed in the large fraction. The insignificance of its influence on the quality of bread in the production of bread is indicated in the normative norms. However, a sharp change in control was observed for the first grade flour fractions. The average flour yield was below the standards.

The experimental results show that it is possible to improve the functional properties of flour from soft wheat grains grown in dry climates by fractionation.

**REFERENCES**

1. Berkutova N.S., Davydova N.V., Davydova E.I., Soboleva E.V. *Texnologicheskie svoystva zerna pshenitsy*. // *Xleboprodukty*, №8, 2006, p. 42-44.
2. Juraev D.T., Dilmurodov Sh., Hazratqulova Sh., Azimova M., Juraev S.T. *Influence of hot dry winds on productivity elements of wheat crop observed in the southern regions of the republic of Uzbekistan*. // *International journal of applied and pure science and agriculture*. ISSN 2394 - 5532, ISSN 2394 - 823X, 2017. Pp. 27 - 31. IF - SJIF - 4,446 (06.00.00 №6)
3. Amonov A., Jo'raev D. *Influence of Garmsel on soft wheat varieties and samples on grain yield and quality indicators*. // *Republican scientific-practical conference on genetic resources of agricultural crops: status and prospects of use*. - Tashkent - 2014. - B. 251 - 253.
4. Ravshanov S.S., Kodirov O.Sh., Ramazanov R.R., Musaev X.P. *Uluchshenie xlebopekarnyx svoystv pri podgotovka sortovogo pomola zerna mestnyx sortov pshenitsy* // *Jurnal «Ximiya i ximicheskaya tehnologiya»*. - Tashkent, 2019. - №4. - S. 76-79.
5. Egorov G.A. *Technology muki. Technology croup*. «Kolos» M., 2005. - 304 p.
6. Kuprits Ya.N. *Technology pererabotki zerna*. - M.: «Kolos», 1965. -504 p
7. Azin, D.L. *rasstitelnye poroshki i pishchevaya tsemnost xlebobulochnyx izdeliy* [Text] / D.L. Azin, N.Yu. Merkulova, O.V. Chugunova // *Xlebopechenie Rossii*. - 2000. - №6. - S. 24-25
8. Uxina, E.Yu. *Issledovanie vozmozhnostey ispolzovaniya tykvennogo puree v xlebopechenii* [Text] / E.Yu. Uxina, O.B. Maraeva // *Pishchevaya industriya*. - 2012. - № 3 (12). - S. 50-52. 10.
9. Shenderov, B.A. *Sovremennoe sostoyanie i perspektivy razvitiya kontseptsii «Funksionalnoe nutrition»* [Text] / B.A. Shenderov // *Pishchevaya promyshlennost*. - 2003. - № 5. - p. 4-7.
10. Shlelenko L. A. *Znachenie xleba v zdorovom pitanii naseleniya* [Electronic resource]. Access mode: <http://www.gosnihp.ru/17.htm>.
11. Lukin, A. A. *Development of technology bezdrojjevogo xleba* / A. A. Lukin, S. P. Merenkova, D. G. Ligostaev. - Text: neposredstvennyy // *Molodoy uchenyy*. - 2016. - № 11 (115). - S. 411-414. - URL: <https://moluch.ru/archive/115/30367/> (contact information: 03.08.2020).
12. Madaliev M.E. *Chislennoe modelirovanie techeniya v tsentrobejnom separatore na osnove modeley SA i SARC. Mathematical modeling and numerical methods*. 2019, № 2, p. 35–50.
13. Malikov 3.M., Yuldashev A.T., Madaliev M.E. *Eksperimentalnoe issledovanie effektivnosti tsentrobejnogo vozdušno-proxodnogo separator*. 2019, № 3, p. 27-30.
14. Kazakov E.D., Karpilenko G.P. *Biochemistry of grain and bakery products K 14 (3-e pererabotannoe i dopolnennoe izdanie)*. - SPb.: GIORD, 2005. - 512 p.
15. Calvin Onyango, Susan Karenya Luvitaa, Guenter Unbehend, Norbert Haase. *Physico-chemical properties of flour, dough and bread from wheat and hydrothermally-treated finger millet* // *Journal of Cereal Science* Volume 93. May 2020 Article 102954.
16. Frohlich, P., Young, G., Bourré, L., Borsuk, Y., Sarkar, A., Sopiwnyk, E., Malcolmson, L. (2019). *Effect of premilling treatments on the functional and bread-baking properties of whole yellow pea flour using micronization and pregermination*. *Cereal Chemistry*, 96 (5), 895-907. doi: 10.1002/cche.10193.
17. Auerman, L. Ya. *Technology of bakery production: [ucheb. dlya vuzov po specialnosti "Technology xleba, muchnyx konditer. i makaron. izdeliy"]* / L. Ya. Auerman. - Izd. 9-e, pererab. and dop. - SPb.: Professiya, 2005. - 415 p.
18. Chijikova, O. G. *Technology of production of bread and bakery products: a textbook for bachelors* / O. G. Chijikova, L. O. Korshenko. - 2-e izd., Ispr. and dop. - M.: Izdatelstvo Yurayt, 2016. - 199 p.
19. Stanley Cauvain /. *Technology of breadmaking. Third Edition*. - Perth, Australia.: "Springer", 2007.- 406 p.
20. Vasiev M.G. *Bakery technology*. - Tashkent "Darslik" "Yangi asr avlodi" 2009. - 268 p.
21. Uralpova I. B. *Influence of granulometric composition on the quality of pshenichnoy xlebopekarnoy flour: Dis. ... cand. techn. nauk: 05.18.01: Moscow, 2004 235 s.*
22. Egorov G.A. *Texnologicheskie svoystva zerna*. M.: «Agropromizdat», 1985. - 334 p.
23. Pankratov G.N., Uralpova I.B. *Dispersed sostav pshenichnoy muki* // *Xlebopekarnoe i konditerskoe proizvodstvo*. - 2002. - №11. - s. 1-4
24. Baasandorj, T., Ohm, JB, Manthey, F., Simsek, S., 2015. *Effect of kernel size and mill type on protein, milling yield, and baking quality of hard red spring wheat*. *Cereal Chemistry* 92, 81-87.
25. Chebotaryov O.N., Shazzo A.Yu., Martynenko Ya.F. *Technology muki, groats and kombikormov*. - M.: IKTs «March», Rostov n / D, 2004. - 688 p.



ASSESSMENT OF IRRIGATION WATER USE EFFICIENCY USING REMOTE SENSING APPROACHES IN THE ARAL SEA BASIN, IN CENTRAL ASIA

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ABSTRACT

Retrieving crops and their location, as well as their spatial extent, are useful information for agricultural planning and better management of irrigation water resources as well as for crop health monitoring, towards an increased food production and reduced water use. Multispectral remote sensing images with a spatial resolution of 30 m or greater are often used for mapping crops in extensive agricultural systems at global and regional scale. Analysis of multi-spectral images obtained from satellites on the basis of remote sensing technologies and identification of irrigated crop areas on the basis of GIS technologies, observation of crop types, assessment of productivity and regional distribution of surface water resources and calculation of water consumption possible. This is because, sustainable water use is one of the priorities in arid agriculture. Improvements in satellite imagery technology in recent decades have helped to track the development of agricultural crops. In this article, images from the Landsat 8 OLI satellite identified crop types in irrigated crop areas in terms of spectral, geometric, and periodicity. The training data were prepared from 450 areas of the most common crops in the area: cotton, rice, wheat-rice, wheat and secondary crops and fodder crops. The calculation of the level of accuracy of reading data was tested on the basis of special kits of the Rstudio program, developed in collaboration with scientists from the University of Wuerburg (Germany). The results obtained are analytical methods with landsat images and Rstudio software that are convenient for identifying and monitoring crop types. Based on the maps created, we can achieve water savings for crops by considering several factors.

KEYWORDS. CAWa, Landsat, GPS, Irrigated Lands, Crop Types, Classification

INTRODUCTION

Water scarcity is a growing issue across the globe and because agriculture is the main consumer of water (Merks, 2018). In particular, the water level in the Aral Sea, the world's fourth largest lake, has fallen sharply since the 1960s from the Amudarya and Syrdarya rivers in Central Asia for agricultural use. It became an "island desert" (Savoskul et al., 2003). This process is leading to deterioration of environmental conditions, salinization of lands and, consequently, a decrease in crop yields (World Bank, 2013). The Amudarya annually receives 57 km^3 of water in Uzbekistan. More than four million hectares of land in the Syrdarya basin are used for irrigation. Today, agriculture is a

major part of the economy and a large amount of water resources is used for agricultural irrigation (Awan et al., 2011). Indeed, after the independence of Uzbekistan, the agro-policy pursued in the country, bringing agriculture to the level of developed countries, is aimed at meeting the needs of the population in food and other agricultural products (Vazirligi, 2014). As noted by the first President of the Republic of Uzbekistan IA Karimov, In the second stage of the reforms, the resource potential of production in general in the agricultural sector, Achieving truly progressive shifts, including by optimizing the composition of arable land, taking into account the specifics of each region, is one of the most important priorities of



structural change policy (Nomidagi et al., 2012). It was noted that the total area of the country is 447.4 thousand km^2 and the area of agricultural land is 22614 thousand hectares. The area of irrigated land has increased 2.36 times over the last century: from 1,809.5 thousand hectares (1914) to 4276.1 thousand hectares.

Uzbekistan's water industry has a complex character. At present, the total demand for water in the country is 56-60 billion m^3 per year. Of this, 92% is spent on agriculture, 5.5% on household needs and 1.5% on industry, 0.8% on fisheries and 0.2% on energy (Maxsus et al., 2007). At the same time, in addition to saving irrigation water for agriculture, one of the constant needs is to grow enough food for the growing population. According to Weiss, the world's population is expected to increase by about 10 billion by 2050, which is almost 50% more than in 2013 in terms of economic growth (Weiss et al., 2020). Sustainable growth in crop yields (productivity) is one of the main challenges due to the high demand to meet the needs of the rapidly growing world population. In particular, sustainable intensification of crop growth is almost the only way to increase food security (L w et al., 2017). However, the optimal step in improving the efficiency of water use in the agricultural management scheme is to ensure that the water meets the specific needs and the need for water for irrigation, ie the need to properly assess the rate of irrigation. will provide. The norm of irrigation of agricultural crops is the amount of water given for one irrigation per 1 hectare, determined in m^3 / ha or mm. The norm of irrigation is the water-physical properties of the soil, the area will vary depending on factors such as relief, type of crop, irrigation methods and their transfer technology (Maxsus et al., 2007). In particular, continuous monitoring of groundwater levels to improve yields and crop quality, reduce the risk of salinity, and increase sustainability is one of the most important events in agriculture. Assessing and applying the water needed for good plant growth is associated with many challenges: agronomic, economic, and environmental (Alvino & Marino, 2017). In particular, the main purpose of implementing strategies such as maximizing productivity, saving water, improving the reclamation condition of the soil, limiting saline leaching is inefficient water resources management, lack of reliable hydrological data, lack of training of farmers and of course, the construction of the Aral Sea, which is important for Central Asia. The goal of this program is to modernize irrigated lands for efficient use of water as a result of the drying up of the Aral Sea. Climate change and sandstorms are having a negative impact on

agricultural crops, while over-irrigation is also reducing yields. In particular, due to the lack of moisture in the fertile soils of arid regions, the difficulty of creating favorable conditions for plant life, the productivity of plants there is low (Respublikasi et al., 2008). Satellite imaging is widely used in the control and management of water used for agricultural crops. Currently, new capabilities for mapping and monitoring crop yields are provided by high-precision satellite sensors (Alvino & Marino, 2017). Remote sensing sensors play an important role in crop classification, growth monitoring, and detection of affected crops and crop types. Remote sensing, in turn, has a number of advantages for agronomic research purposes. In particular, the method of remote sensing in the assessment of agricultural crops provides valuable information to agronomists (Shanmugapriya et al. 2019). Timely monitoring ensures productivity and economic growth. Over the last 30 years, remote sensing data has been used successfully to obtain accurate data for irrigation planning and management. The main approaches focus on the parameters that are directly related to the process of crop growth (photosynthesis, metabolism, leaf expansion, phenological stage) (Moran et al., n.d.). Today, remote sensing satellite imagery is used for a variety of purposes in almost every field. Digital satellite imagery consists of pixels, each of which has its own spectral and spatial characteristics (Alvino & Marino, 2017). Remote sensing is based on the assessment of plant spectral parameters, biomass, water and crops (Sanli et al., 2014). Depending on the type and method of use, we can select the appropriate satellite imagery for remote sensing. MODIS, Landsat, Sentinel-2, Landsat 8, Landsat 7 (ETM+) The use of satellite imagery is free, plus high definition AVHRR, CARTOSAT, Aqua, Cloudsat, GPM, Pleiades-1A, QuickBird, Rapideye, SMAP, SMOS, Spot-6 and 7, IKONOS, Worldwide-1, Worldwide-2, ASTER, Geoeye-1 widely used in satellite imagery such as, irrigation systems based on these sensors have been studied by many researchers (Stone 1985; Jacobson 1989; Zazueta and Smajstrla; Meron 1995; Testezlaf 1997; Stone 1985 and others) (Kim & Evans, 2009). In particular, in the remote study of agriculture in Khorezm region, MODIS satellite data were used to classify the use of 7 types of crops over the past 10 years: cotton, rice, wheat- rice, wheat-fallow, orchard, vegetables, alfalfa and empty fields. Classification is done to differentiate classes based on the year-round development of plants. We tried to take samples from all the fields of Khorezm region and identify different types of crops. In this process, we identified 8 different types of crops. Our goal is to



classify and map the growth and development of crops throughout the year so that we can identify plant drinking water and use water resources with reliable statistics.

MATERIALS AND METHODS

The total study area covers the entire territory of Khorezm region. Khorezm region is located in the north of the Republic of Uzbekistan, in the lower Amudarya region, occupying an area of 6.1 thousand km^2 . The region can be divided into two parts in terms of land structure: the large northern part, located at an altitude of 100-110 m above sea level, and the southern part, located at an altitude of 120-150 m above sea level (Nomidagi et al., 2012). The Amudarya River flows through the right side of the region. Agricultural fields in the study area are irrigated by the Amudarya River. The focus for this study is to identify different crop types using satellite imagery to accurately distribute water used in agriculture, one of the main tasks to be performed in the next stage of this process is to determine the water demand of each type of crop by

studying the types of crops and to calculate the water consumption for agriculture, by summarizing the results of scientific research, such as determining soil salinity, studying the reclamation of the soil, it is possible to rationally use limited water resources, along with good yields as a result of adequate irrigation of each crop field contour. Subsequent modeling allows you to classify the yield by crop type for each pixel. Satellite data can be reliable information for water users. This process is done using Landsat images. A total of 10 multi-spectral images of the Landsat satellite were used from April 30 to August 4 (Table 1).

The number of cloud images is also high, which reduces the accuracy of the data, but in the CAWa Rstudio model, this problem is solved using the necessary code. In the CAWa model, several steps are taken to create a reliable map. These include downloading and processing landsat images, and training data from the field. Field training data will be validated using GIS technology and the CAWa model. The CAWaR model automatically corrects detected errors.

Table. 1

No	159	160
1.		30 April
2.	9 May	
3.		16 May
4.	25 May	
5.		10 June
6.	26 June	
7.		3 July
8.	28 July	
9.		4 August

Dates of landsat multispectral images

In Khorezm region, 220,000 hectares out of 300,000 hectares will be irrigated. We can also use satellite imagery to get information about irrigated fields, but this information may not be accurate. Field remon sensing training information from the field will help us draw the fields. More than a thousand training data were collected in the field and more than 12 crop types were identified. Of these, 50 training data were collected for the minimum crop type and 250 for the maximum crop type. Two GPSs, Magellan and Etrex, were used to collect data from the field. Before taking a sample from a field by Magellan, we need to upload a road map so that we can determine how far the crop fields are from the roads. Magellan has the advantage of displaying files in ARCPAD. Before going out into

the field, the magellan is loaded with Field Remon Sensing data, which also serves as a map of the studied area, dividing the same crop species into fields by color, but not showing the crop type and name. We take into account criteria such as crop diversity and yield when allocating landfills. We take into account criteria such as crop diversity and yield when placing fields. Once we have identified the area identified in the GPS, an attribute table is created, and we type the crop type and click the save button, the received data is stored in GPS memory. In addition to Magellan, we also used a second GPS etrex. In Magellan, not all areas can be identified, in which case etrex is used. In Magellan, not all areas can be identified, in which case etrex is used. In Etrex, the coordinates are taken from the field, an automatic number is written to the obtained



coordinates, and the outline of the field is drawn there and numbered according to the GPS number.

After completing the fieldwork, separate drawings will be made for the two GPSs. The coordinates of the fields obtained in Etrex are loaded into GIS Google Earth is used in the GIS toolbar to draw the fields. The next step is to create a shp file and put a few columns in the attribute table: sampler - the name of the person responsible for sampling, yyyy-mm-dd - the date of sampling, label - the class of the sample from which the characters are taken. After adding the columns, we can start drawing the fields. The number of fields obtained by Etrex is 657.

Identified crop types: alfalfa, wheat-maize, wheat-fallow, orchard, cotton, rice, sunflower, wheat-rice, wheat-mung bean, maize, wheat-vegetables, grapes. In addition to Google Earth, an NDVI (Normalized Difference Vegetation Index) image is also used to check the accuracy of the fields during the drawing process. NDVI uses the NIR and Red bands of the Normalized Differentiation Vegetation Index of the electromagnetic spectrum. In agriculture, plant parameters show several indices. The following table describes several plant indices, detection formulas, and variability

Table. 2

No	Name	Formula	Variables
1	Crop water stress Index	$\frac{C - A}{B - A}$	
2	Green leaf Index	$\frac{2GREEN - RED - BLUE}{2GREEN + RED + BLUE}$	
3	Normalized Difference Vegetation Index	$\frac{NIR - RED}{NIR + RED}$	RED=[670;50;30],NIR=[800;10;10]
4	Soil Adjusted Vegetation Index	$\frac{800nm - 670nm}{800nm + 670nm + L}$	L=0,5

Vegetation (spectral) index

NDVI has been used for plant identification and various research purposes since its introduction in the 1970s (Yeom et al., 2019). Basically, NDVI is widely used in agricultural monitoring to determine the

vegetation period of a plant, and NDVI is calculated as follows.

$$NDVI = \frac{NIR - Red}{NIR + Red}$$

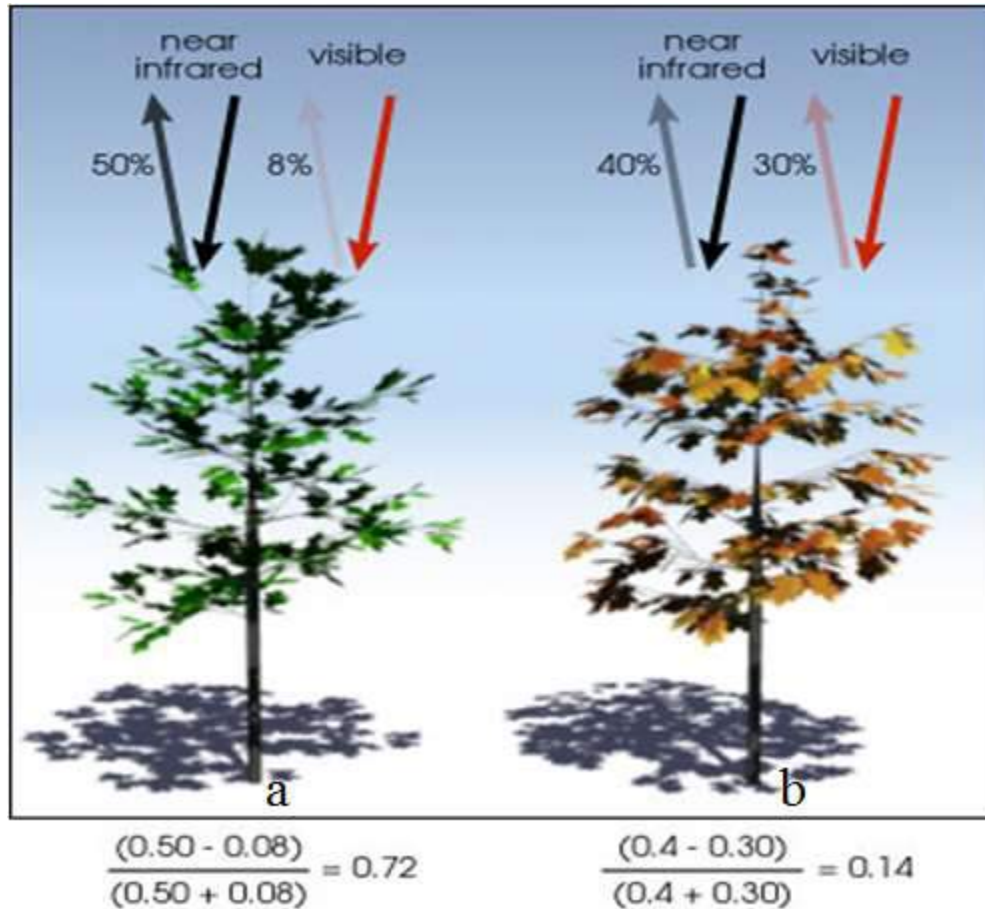


Figure. 1 Normalized Difference Vegetation Index (NDVI) indicator

Here, it measures the difference between NIR (which the plant strongly reflects) and Red (which plant wins) and determines the amount of plant. The ratio of near-infrared rays is calculated from minus (-1) to (+1). The result of this calculation is called the normalized differentiation vegetation index or NDVI. A zero value of NDVI means no green vegetation and a high density of green leaves of about 1 (0.8 - 0.9) (Figure. 1). In the figure below, a) NIR = 0.50 for the plant and Red = 0.08 as a result of the plant absorbing and returning light NDVI = 0.72, the plant is healthy, and b) the NDVI value of the plant is 0.14 resulted in the process of plant construction. After completing the mapping of the fields using the NDVI image using Etrex data, the mapping of the fields based on the data collected from the Magellan GPS is also performed according to the order of the work performed in the etrex. When the drawings are completed, the attribute tables of Magellan and etrex are combined, the overlapping areas and some of the shortcomings are corrected. In the next step, we will start by entering the generalized

GPS data into the CAWaRStudio project. The CAWaR (Central Asian Water) project plans to contribute to a reliable scientific and regional database to develop a strategy for sustainable water management in Central Asia. The sample data obtained in the field are closely related to the CAWaR project.

RESULTS

CAWaR.R data geCheck()-detects geometric errors and speeds up the workflow. CheckSamples()-also checks the accuracy of the data, the relevant fields, and their formats and checkLabels()- checks for errors in the name of the crop types in the sample and automatically corrects them. SampleCorrect<-labelCheck (fieldData\$label) – training creates a graph of crop types based on data, in this case for analysis maize, sunflower, grapes, wheat-maize, wheat- mung bean, wheat-vegetables classes must be renamed.

checklable<-labelCheck(fieldData\$label)- to rename classes with a label that corresponds to the set of labels above. We can see it by the number of



fieldData@data\$label2<-checkable\$labels- fully "labelCheck.RData")- saves the corrected label graph.
corrected labels. Save(checkable, file =

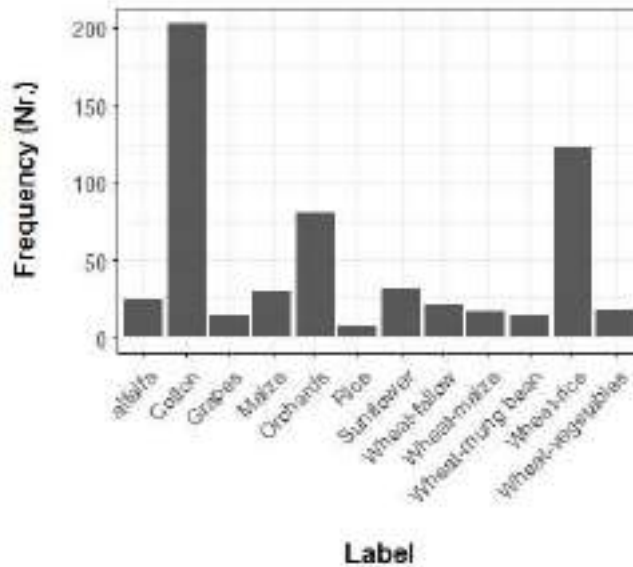


Figure.2 Graph of crop types in CAWaR model

Figure. 3 shows a new view of the renamed crop types, such as alfalfa, cotton, orchards, rice wheat-fallow, wheat-rice. In this case, the types of crops belonging to the same category as wheat-mung bean, wheat-maize, wheat-vegetables, wheat-other as grapes and maize other are generalized and renamed.

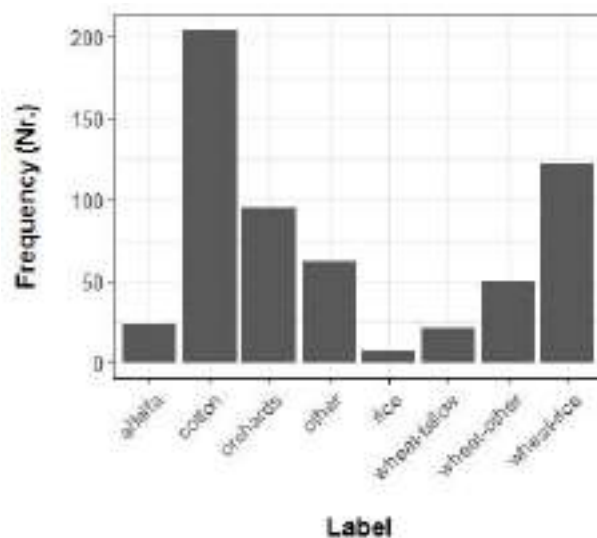


Figure.3 Graph of renamed crop species

CheckTS1<analysTS(as.data.frame(fieldDataTS\$weighted.mean)fieldData\$label2)- creates a profile for each sample view. The profile indicates which crop type it is suitable for, whether the named label is true or false (Figure. 4). It is also possible to check the growth profile of each crop type on the dates of satellite

imagery. The planting time of cotton corresponds to the time taken from the satellite image in May. The growth schedule of the harvest coincides with the growing season of cotton in August, and we can determine the accuracy of the following growth profile of cotton as a result of inspections.

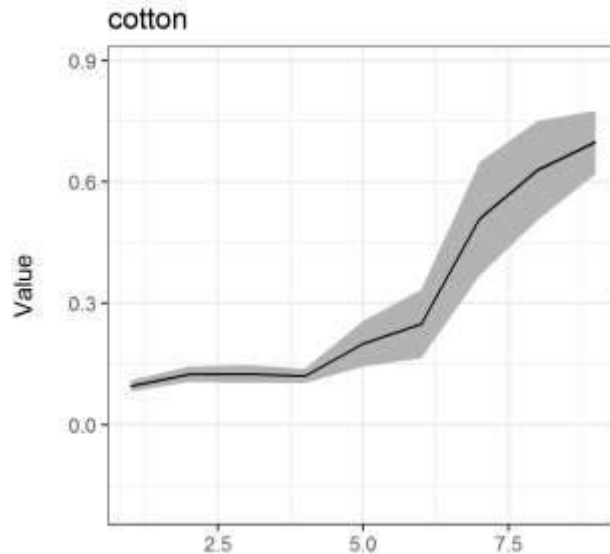


Figure.4 Crop type growth profile

`cl<-compare`
`(as.data.frame(fieldDataTS$weight.mean),`
`reference.profiles, fieldData$label2, checkTS1$labels)-`
 matching of samples to classify profiles or determines
 incompatibility (Figure.5) Field training data collection
 may result in certain errors, as a result of which the
 CAWa R model uses the following image to determine
 whether the samples are compatible with each other.

Label

Field training data gives TRUE if correct and FALSE if
 incorrect. `fieldData$validation`
`<-`
`as.factor(cropVal$sample.validation)-` determines
 whether the samples are classified correctly and
 incorrectly. This result determines the distribution of
 errors and, in some cases, helps to identify incorrect
 samples that have been skipped during the initial tests.

x.label	y.label	pearson	compare
cotton	cotton	0.91	TRUE
cotton	cotton	0.91	TRUE
wheat-other	wheat-other	0.93	TRUE
cotton	cotton	0.83	TRUE
cotton	cotton	0.89	TRUE
cotton	cotton	0.91	TRUE
cotton	cotton	0.89	TRUE
cotton	cotton	0.92	TRUE
cotton	cotton	0.94	TRUE

Figure.5 Profiles Classification Indicator



Crop mapping is a challenging task due to spectral similarity of various crops. In the map of the location of the following crops created by the CAWaRsudio model and GIS in Khorezm region, we can see that the main crop of this region is cotton, alfalfa and other (Fig.6). In order not to make it difficult to read on the

map, similar crops were named wheat-other and other using the CAWaRsudio model. The appropriate Landsat-8 OLI data set for the CAWaR model includes a normalized differential index (NDVI) and plant distribution data for May and August for each selected area.

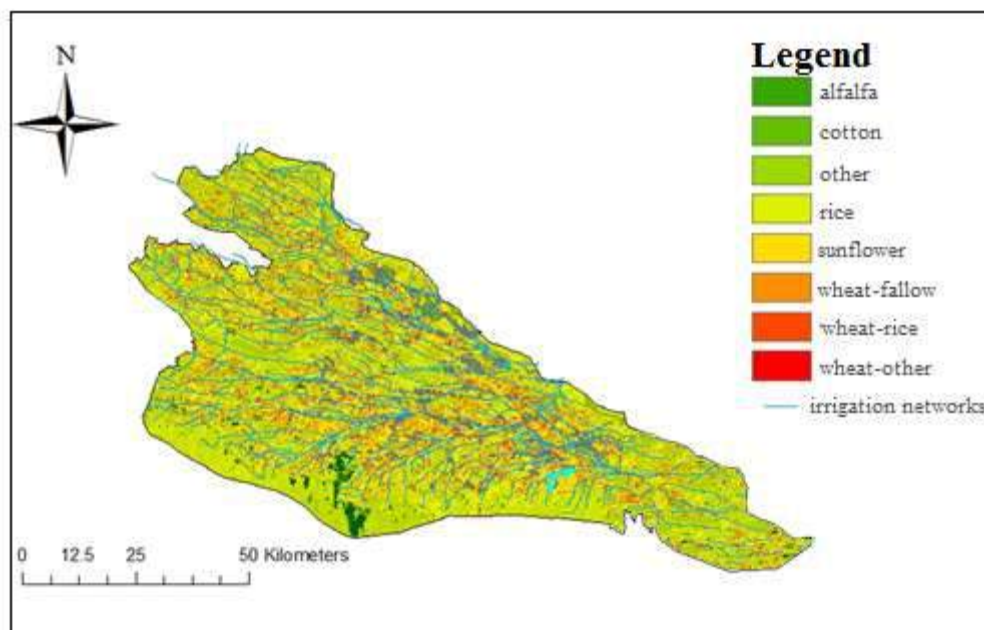


Figure.6 Crop Type Map Obtained As A Result Cawarstudio Model and GIS

CONCLUSIONS

At present, not enough attention is paid to soil, water and plant conditions at the field level, although monitoring of soil moisture and crop species monitoring will meet the demand in terms of organic correlation, it satisfies professionally managed irrigation. The identification and mapping of irrigated crops are a very important step for agricultural management and food security control towards an increased food production and reduced water use. Undoubtedly, traditional mapping techniques and monitoring crops are laborious, time-consuming and costly. The aim of this study is to map the types of irrigated crops using remote sensing data. Following the collection of training data from the “crop mapping” field based on Landsat-8 OLI satellite imagery, the above steps were gradually performed on the CAWaR model. Some of the shortcomings encountered in the process of mapping crop types were attempted to address some of the shortcomings in the collection of cloud images and training data from satellite images, the article noted. The results show that measures based on satellite imagery in solving the Aral Sea-based water

problem for Central Asia are crucial for creating a comprehensive system for water use analysis. Collaborative reports based on satellite imagery maps and water supply survey data are based on the evaluation of irrigation efficiency indicators over a period of time and for individual crops. The results of this study will be used to develop an irrigation water use assessment system and a water use efficiency report. As a recommendation for future work, the use of new systems with spatial, spectral, and temporal resolution, such as MODIS, will improve the accuracy of the results. The use of these systems standalone or in synergy with radar systems such as Sentinel-1 will alleviate the confusion of unstable or short-cycle crops like alfalfa and ensures better phenological monitoring of crops during the cloudy days in arid and semi-arid regions.

REFERENCES

1. Alvino, A., & Marino, S. (2017). *horticulturæ Remote Sensing for Irrigation of Horticultural Crops*. January. <https://doi.org/10.3390/horticulturæ3020040>



2. Awan, U. K., Tischbein, B., Conrad, C., Martius, C., & Hafeez, M. (2011). *Remote Sensing and Hydrological Measurements for Irrigation Performance Assessments in a Water User Association in the Lower Amu Darya River Basin*. *Water Resources Management*, 25(10), 2467–2485. <https://doi.org/10.1007/s11269-011-9821-2>
3. Kim, Y., & Evans, R. G. (2009). *Software design for wireless sensor-based site-specific irrigation*. 66, 159–165. <https://doi.org/10.1016/j.compag.2009.01.007>
4. Löw, F., Biradar, C., Fliemann, E., Lamers, J. P. A., & Conrad, C. (2017). *International Journal of Applied Earth Observation and Geoinformation Assessing gaps in irrigated agricultural productivity through satellite earth observations — A case study of the Fergana Valley , Central Asia*. *International Journal of Applied Earth Observations and Geoinformation*, 59, 118–134. <https://doi.org/10.1016/j.jag.2017.02.014>
5. Yeom, J., Jung, J., Chang, A., Ashapure, A., & Maeda, M. (2019). *Comparison of Vegetation Indices Derived from UAV Data for Differentiation of Tillage Effects in Agriculture*.
6. World Bank. (2013). *Strengthening Analysis for Integrated Water Resources Management in Central Asia : Strengthening Analysis for Integrated Water Resources A Road Map for Action (Issue September)*.
7. Moran, M. S., Maas, S. J., Vanderbilt, V. C., Barnes, E. M., Carolina, N., Miller, S. N., & Clarke, T. R. (n.d.). *Application of Image-Based Remote Sensing to Irrigated Agriculture (Vol. 4)*.
8. Sanli, F. B., Abdikan, S., & Esetili, M. T. (2014). *Crop Type Classification Using Vegetation Indices of RapidEye Imagery CROP TYPE CLASSIFICATION USING VEGETATION INDICES OF RAPIDEYE*. September. <https://doi.org/10.5194/isprsarchives-XL-7-195-2014>
9. Savoskul, O. S., Chevnina, E. V., Perziger, F. I., Baburin, V. L., Matyakubov, B., & Murakaev, R. R. (2003). *Water , Climate , Food , and Environment in the Syr Darya Basin. Contribution to the project ADAPT*. Change, July. <https://www.ijraset.com/files/serve.php?FID=12295>
10. Shanmugapriya, P., Rathika, S., Ramesh, T., & Janaki, P. (2019). *Applications of Remote Sensing in Agriculture - A Review*. 8(01), 2270–2283.
11. Weiss, M., Jacob, F., & Duveiller, G. (2020). *Remote Sensing of Environment Remote sensing for agricultural applications : A meta-review*. *Remote Sensing of Environment*, 236(December 2018), 111402. <https://doi.org/10.1016/j.rse.2019.111402>



REPRESENTATION OF THE POLITE AND PLAIN FORMS OF PERMISSIVE SPEECH ACTS (in the example of Japanese)

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ANNOTATION

This paper discusses the important aspects of the representation, rules and forms of permissible sentences in Japanese language as well as the grammatical constructions of imperative which play an important role to develop the native uzbek students` skill of learning foreign language.

KEYWORDS: *Speech act, prohibition, imperative, request, grammatical construction, direct, usage of polite and plain forms, permission*

DISCUSSION

Japanese speakers believe that any speech performed in the process of communication can be enriched with the criteria of an act of respect and simplicity or humility and flattery, and this can be a reason to have high hopes for the continuity and effectiveness of communication.

Indeed, in influencing speech effectiveness, not only social factors, linguistic means representing categories of respect and simplicity as well as the semantic, syntactic and pragmatic features that these means represent, but also the social status of communication participants and the social functions they perform are mainly important. In communication, respect and simplicity or humility and flattery are also taken into account in terms of communication etiquette. After all, the attitude towards flattery is also a socio-normative condition.

For this purpose, honorific appearances can be classified according to two principles:

Firstly, according to the level of mutual acquaintance of the communication participants;

Secondly: according to the social distance available between the participants.

According to the first principle, communicative communication is based on an analysis of a particular speech situation and in such case, the use of the following constructions will help to ensure the effectiveness of speech:

① -て form of the verb

大丈夫だよ、やってみて. . .

No problem, try it ...

② -て+ (も) いい form of the verb

大丈夫だよ、やってみて (も) いい. . .

No problem, you can do it ...

③ -て+ごらん form of the verb

大丈夫だよ、やってごらん. . .

No problem, do it ... (rough tone)

④ -て+ (も) かまわない form of the verb

大丈夫だよ、やってみて (も) かまわない. . .

No problem, you can try ...

There are numbers of grammatical constructions that form direct permissive speech act. While, these may at first glance, seem to be the direct permission of the speaker to perform a particular action, when each device is analyzed individually, one can observe the respect and humility ratio determined by the interpersonal relationships they display.

Researches in Japan show that in permissive speech acts, most speakers refer to use the construction “-て+もらってもいいですか” belongs to“-て+もらう型” form, which has a high degree of respect for the permissive meaning. [2; 88]

Indeed, in the process of communication in the Japanese language, it is normal to use the special compounds that form a permissive speech act, such as “verb-て+もらう”, “verb-て+もらってもいいですか”



If the construction of the “*verb-てください*” (verb-te form + ku dasai) creates verbal acts urging the interlocutor to perform the action directly, the construction of the “*verb-てもらってもいいですか*” determines whether the speaker can ask permission to perform a certain action. It has a very high level of respect, devoid of features such as “*verb-てください*” that compel the interlocutor to carry out the activity and impose responsibility.

Many Japanese linguists, including Okamoto (1988) and Yamata (2004), have noted in their work that there is a pleading tone in sentences that form a permissive speech act in Japanese, and that such cases are manifested in various forms.

In particular, it is possible to explain the constructions that combine requestive and permissive speech acts as follow:

1. *verb*～て
2. *verb*～てくれよ
3. *verb*～てくれる?
4. *verb*～てくれないかなあ?
5. *verb*～てもらえない?
6. *verb*～てほしいんだけど
7. *verb*～てください
8. *verb*～てくれませんか?
9. *verb*～てくださいますせんか?
10. *verb*～てくださいますか?
11. *verb*～ていただけないでしょうか?
12. *verb*～ていただきたいんですが

These devices are analyzed according to their participation in speech as follow:

Compounds that represent the height of simplicity then respect.

Compounds indicating a high coefficient of respect.

Compounds expressed in imperative tone.

Compounds in the form of affirmative interrogation.

Compounds in the form of a negative interrogation.

Compounds in the form of request.

According to these compounds, the use of auxiliary verbs in the speech process, such as “くれる、もらう、ください、くださる” also differ in the process of speech.

1. The imperative form is in a requisitive tone.
2. ～てくれる structure in the tone of requisitive permission.
3. ～てもらう structure in the tone of asking permission.
4. Ask for permission with expressions of plea.
5. Conditional inclination based on permissive tone.
6. In the tone of desire and please.

In the process of communication in Japanese, according to the interrelationships, position and social background of the interlocutors, the appropriate of the groups analyzed above is selected and reflected in the speech.

For example, in cases where the position of listener, except relatives, is not high than the speaker, the phrase “～てくれる型” is most often used in permissive speech acts in the process of dialogic speech.

Contrarily, in cases where the interlocutors are not related and the listener is of high social origin and status, the permissive speech act is usually accompanied by devices with a higher tone of respect and courtesy, such as “いただく型、もらう型、くれる型”.

Auxiliary verbs in permissive speech acts in the form of “もらう型 then “くれる型” and “否定型肯” than “定型” in the listener's sense of responsibility probably intensifies, and these forms are more widely used in male-specific dialogic discourse than in women.

Ko no zhùsuǒ、jiào e te mo ra e na i ?

Can you teach me this address (please).

Literal meaning: Please allow me to teach (address) this address.

Nowadays, there are many different forms and formulas in Japanese that have a permissive tone, which are reflected in the process of dialogic speech based on the communication and the interaction of the interlocutors. Even if these devices are widely used in the direct speech acts to express the permission meaning, they completely lose their appearance of the form but the implicit meaning of the speech is fully preserved.

REFERENCES

1. Okamoto Shinichiro “依頼表現の使い分けの規定因”--Aychi, 1988y.
2. Noro Kenichi “現代日本語の依頼表現における許可求め型の広がり”- Takada Koukou, 2002y.
3. 隆 横田 “日本語教育における命令文”, 東北大学 - 2017y.
4. 小川巖 “みんなのほんご-II, 日本, 2018y.
5. “日本語文法入門”—アルク、2014y.



EFFECTIVENESS OF USING INTENSIVE TECHNOLOGIES FOR FOOD PRODUCTION IN THE EXPORT OF AGRICULTURAL PRODUCTS

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DISCUSSION

In increasing the competitiveness of our national economy and strengthening the export potential, the issues of introducing international standards for improving the quality of agricultural products play an important role. In particular, the intensification of agriculture is the basis of economic policy of any state. For instance, in the care of agricultural crops, there are optimal agrotechnical terms for each technological process.

In the agricultural field, the intensification, by its very nature, has certain limits. Researches distinguish the types of extensive and intensive economic growth. It is necessary to provide for the sustainable development of the agricultural sector of the economy, increase the volume of agricultural production and regular supply of raw materials to enterprises of the processing industry.

Increasing the amount of production funds leads the extensive economic growth. Land, labor production funds will retain the previous technical equipment. Consequently, labor productivity does not increase. For example, the development of dry lands in order to obtain large quantities of agricultural products is an extensive approach.

The improvement of agricultural production through the application of advanced modern techniques, advanced technology, new varieties and breeds of plants and animals, the achievements of science, training of workers characterizes the intensive economic growth. In this case, an increase in labor productivity and product quality is achieved through more efficient use of production resources.

The intensive type of economic growth prevails with the assimilation of the achievements of scientific and technological progress. However, in practice, these types do not exist in pure form, so it is worthwhile to comment on both types of economic growth. If the share of product growth exceeds 50%

due to intensive growth factors, an intensive type is preferred for the economy. Conversely, if the share of product growth due to intensive factors is less than 50% of the total product growth, an extensive type of growth is preferred.

Economic growth is determined by a number of factors. Economic growth factors are the conditions and processes that determine the ability to increase production, increase efficiency and quality.

Factors of economic growth are as follows:

- ▲ Increasing the number and quality of labor resources;
- ▲ Improving the volume of fixed assets and improvement of the quality structure;
- ▲ Improvement of production technologies and organization;
- ▲ Increasing the volume and improving the quality of land resources involved in economic activities;

The economic essence of intensive development is that the amount of produced output must grow faster than the increase in labor and expended material costs. In other words, the unit cost of the product produced should be relatively low. Until recently, the development of the agricultural economy was largely due to the widespread use of methods in the same order. This is due to the lack of agricultural technical equipment, low productivity of households, machinery and equipment, and so on. In order this to be more effective than before, the activities of the agricultural industry are becoming more relevant as the main means and direction of increasing the efficiency of further intensification processes.

In recent years, the President of the Republic of Uzbekistan has been carrying out consistent reforms to ensure food security, improve the quality of agricultural products and export potential.



Great attention is paid to the development of the agricultural sector, the rapid and effective introduction of advanced technologies, the acceleration of food production and export potential, as well as the transformation of the country's agricultural sector into one of the leading sectors in terms of innovation.

Systematic work is being done to ensure food security, create a favorable agrobusiness environment and value chain, reduce state participation in governance and increase investment attractiveness, ensure the rational use of natural resources and protect the environment, rural development.

The Republic of Uzbekistan has one of the agricultural sectors specializing in agriculture. The food produced in the country is inextricably linked with agriculture.

Exports of agricultural products are one of the important links that provide more than 55% of the country's foreign exchange earnings.

The export of agricultural and food products to the Republic of Uzbekistan accounts for about 20-25 percent of total export earnings. Today, more than 180 types of agricultural and food products are exported to more than 80 countries.

In order to introduce effective mechanisms for the production, processing and export of agricultural products and services, to provide effective use of innovative information and communication technologies and to implement the Decree No.PF-5614 of the President of the Republic of Uzbekistan on January 8, 2019 "On additional measures to further develop the economy and increase the effectiveness of economic policy": the potential of the country in the field of agricultural processing is further increasing, consulting and marketing services are being developed in the field of production, processing, standardization and agribusiness in accordance with the ongoing reforms and modern requirements, an intensive agro-industrial system based on scientific research is being established, the food industry is being further developed, the investment attractiveness of the industry is being increased, and modern technologies are being introduced in the agricultural sector.

In this regard, a regulation on the procedure for providing subsidies was approved to cover 50 percent of the expenditures related to the training of members of agricultural associations of fruit and vegetable exporters on new technologies of fruit and vegetable production, monitoring of agro-technical measures on the lands of members of agricultural associations and conducting marketing research in foreign markets of fruit and vegetable products produced by members of agricultural associations. Subsidies are provided by the Ministry

of Finance for the calendar year from the State Budget to the Agency for Investment Promotion and Export Promotion under the Ministry of Foreign Trade, as well as from international financial institutions, including the World Bank.¹

Based on the conclusions, one of the important issues is to increase the efficiency of intensive technologies in production through modern technologies, increase the export, quality and competitiveness of agricultural products grown in our country, as well as eliminate technical barriers to trade, to increase the competitiveness of our national economy and strengthen its export potential, radically improve the quality of agricultural products, introduce international standards, develop agriculture in modern resource conditions, identify effective indicators to accelerate the process of agricultural production.

¹ The document was published in the National Database of Legislation and came into force on 17.01.2020.



GENESIS AND EVOLUTION OF THE POETICS OF MYTH IN THE WORKS OF UZBEK WRITERS

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ABSTRACT

The myth contributed to the birth of literature and was the source and beginning of literature. It is difficult to overestimate the importance of mythology in the development of various types of arts, in the very development of artistic and figurative thinking, and, of course, primarily in the development of fiction. The article discusses the definition of the myth of various researchers, as well as the use of myth elements in the work of such an Uzbek writers as Alisher Navoi and Askad Mukhtar. On the example of their work, an analysis of the poetics of myth, as well as the use of mythological motives that perform certain artistic functions, act as expressive and visual means.

KEY WORDS: *myth, mythology, poetics of myth, tradition, literature, myth elements, writers.*

I. INTRODUCTION

World literary criticism of the second half of the 20th - early 21st centuries considers with particular interest the issue of the use of myth in fiction. Of particular importance are the issues of study, analysis of the relationship of myth to poetic creativity, genesis, evolution of the use of the poetics of myth, functionality, transformation of myth in the modern literary process.

The myth made its contribution to the emergence of fiction and was the basis of artistic creation. The study of this phenomenon began a very long time ago, already in the ancient period, and since then many definitions have arisen.

II. LITERATURE REVIEW

The largest specialist in ancient mythology A.F. Losev in his book "Dialectics of Myth" notes: "... the myth is (for the mythical consciousness, of course) the highest in its concreteness, the most intense and extremely tense reality. This is not an invention, but the brightest and most authentic reality."¹

In the philosophical encyclopedic dictionary, in the article by E.M. Meletinsky, one can find the following interpretation: "Myth - (from the Greek - legend, story), archaic narratives about the deeds of gods and heroes, behind which there were fantastic ideas about the world, about those who govern it gods and spirits."²

On the one hand, myth and mythology are a creative tradition, especially for early-written literatures; on the other hand, myth performs certain artistic functions, acts as a means, a device. The conscious appeal of writers to the mythopoetic heritage is usually called mythologism. The types of mythology can be different. It depends on the method and direction of the writer, on his writing style. In ancient Eastern literature, there is also an appeal to mythology. At the same time, the poetics of myth in ancient literature is characterized by such specific features as consideration of natural phenomena, in particular of heavenly bodies, which become a sign of time, periodicity, universal order and predetermination of the fate of the main characters.

¹ Losev A.F. Dialectics of myth. - M.: Pravda, 1990. - (electronic version of the book from the Library Fund for the Promotion of Psychic Culture Development (Kiev)).

² Philosophical Encyclopedic Dictionary. - M.: Soviet Encyclopedia, 1983. - P.378.



III. ANALYSIS

Traces of the influence of ancient mythology, the use of myths at the plot level, in creating the characters of heroes, in the very style of narration can also be traced in the work of the poet, thinker, humanist of the 15th century Alisher Navoi (1441-1501). The poet in his work also turns to ancient myths. The predominance of the mythologically fabulous beginning, the artistic and emotional predestination in the poems of A. Navoi help the writer in the construction of episodes, in the creation of the versatility, polyphonicity of the depicted images, which preserve the autonomy of folk poetic folklore as a plot basis, on the other hand, folk legends and myths are associated with subjective sensations, the poet's inner vision, his emotional projections. The range of issues of concern to A. Navoi is wide and varied - this is social injustice, the depravity of man and society as whole, reflections on the eternal questions of life - about good and evil, about the moral and moral qualities of a person, about the mystery of life and death. His lyrical and philosophical reflections are imbued with a sense of anxiety and pain, for the state of society, the poet sees the way out in the inner improvement of man, in serving people, in non-violence.

A. Navoi freely introduces myths into the fabric of the work, sometimes giving a new color, but retaining the basic motives. In his works there are mythological characters such as div, yadzhuzh and ma'juzh, peri, dragon, Semurg, Kayumars, Zahhak. In addition, in his poetic work, A. Navoi also uses traditional images, for example, the tree of life, living water, sun, month, wind, stars, etc., which acquire mythological meanings. These images are used by the poet to express specific aesthetic goals when he thinks about the phenomena of his time, about his problems. However, such a "modern" attitude to mythology does not reject the original features and original originality of his works.

The myths in the work of A. Navoi also fulfill characterological functions. To describe and characterize his heroes, he refers to the names of mythical heroes, comparing them with the characters in his works. In the process of getting to know the myths, A. Navoi introduces us into the world of fantasy, miracles, magic, on the other hand, into the world of concrete phenomena of the 15th century life.

In such a fusion of mythological material and modernity, A. Navoi's great skill is manifested. The poet gives a secular essence and vital content to some religious and mythological images and concepts. This concerns the poem "The Wall of Iskander", where the images of yajuzh and majuzha are used by the poet as a symbol of violence, enslavement, calamity and misfortune. In the work of

A. Navoi, cosmogonic mythology is widely used in order to build the composition of the work. The poem "Seven Planets" is a vivid evidence of this: seven planets, seven palaces, seven days of the week are associated with the geocentric system of the universe and cosmogonic mythology.

In such works as "History of Saints and Sages", "History of the rulers of Ajam", one can trace the painstaking work of the poet on myths, legends, historical sources, which preceded the creation of "Khamsa". A. Navoi in the poem "Confusion of the Righteous" (Mahzon al-Asror) actively and creatively weaves biblical and Koranic mythology into the fabric of the narrative. Thus, in the chapter "Description of the Soul", the well-known and widespread among many people's myth about the creation of man is used as a plot opening:

In the garden of Eden - at the dawn of time
Man was created from clay.³

N.M. Mallaev notes: "Khamsa" was born not only as the embodiment of historical conditions and needs, but also as a result of the influence of myths and legends, stories and fables, images and winged expressions created by the artistic fantasy of the people."⁴ Images are usually constructed using comparisons taken from the environment. These comparisons, based on external similarity, sometimes grew into vivid descriptions, which made up and add special charm to the poems. In this poem, humanistic tendencies, ethical pathos, a persistent desire to create an image of a worthy, ideal king who guarantees a just, human order, not devoid of utopianism, were clearly revealed.

The heroic-romance epic of the Middle Ages relied on its own tradition and widely used pre-Islamic mythological plots, partly associated with Zoroastrianism, and historical ones, glorifying the ancient Iranian kings and heroes. Incarnations were organically included in the plot of the tale and myth, since the closeness to nature, non-isolation from the environment - natural and social - lay on the whole perception of the primitive man.

The book of Uzbek researchers M. Juraev, M. Narzikulova "Myth, folklore and literature" provides an analysis of the use of mythologism in the work of A. Navoi, where it is noted that, according to their historical foundations, the mythologisms used in

³Navoi Alisher. Anchovy. Confusion of the righteous // Translation from the Old Uzbek by V. Derzhavin. - In _____ access _____ mode: https://librebook.me/smiatienie_pravednyh.

⁴ Mallaev N.M. From an eternal spring. - T. : Publishing house of literature and art, 1983. - P.103.



the works of Alisher Navoi can be divided into the following types:

1. Mythologisms related to the mythological views of the ancient Turkic tribes and their customs and beliefs.

2. Mythologisms from the "Avesto".

3. Mythologisms arising on the basis of the poetic transfer of mythological ideas and legends associated with Islamic beliefs.

4. Mythologisms that arose under the influence of legends and traditions created by our people in the Middle Ages.⁵

Gradually in literature there is a decline in mythological thinking, its degeneration into a system of philosophical allegories and conventionally poetic techniques. The image of the first man passes into medieval folk ideas. Durbek, Ferdowsi, Omar Khayyam and others write about him.

In the 50-80s of the twentieth century, literature again, with special interest, turned to myths. This tendency can be traced in the works of Central Asian writers, such as Ch.Aytmatov, Sh.Rashidov, A. Mukhtar, O. Bokeev, A. Alimjanov, T. Zulfikarov, etc. The poetics of myth helps each of them find writers eternal moral supports and values in the problem of good and evil, in self-knowledge and the laws of human spiritual development. One of the writers who continued the tradition of using the poetics of myth in their work is Askad Mukhtar. A. Mukhtar's novel "Chinar" (1969) is a fundamentally new phenomenon, both in plot and compositional construction. In the Uzbek literature of the 60s, the novel occupies a special place as a search for new forms, new solutions. I would especially like to note that in this novel it is possible to trace elements of the so-called conditional mythological or mythological prose.

A. Mukhtar's novel "Chinar" reflected the desire of modern literature to use the poetics of myth to enrich the image of contemporary reality, artistic and philosophical understanding of human existence and people's life. The author defines his work as follows: "a novel in legends, stories and novellas." The travel genre helps to connect and illuminate the destinies of dozens of people, to plunge into the historical past and visit many parts of Uzbekistan and the world. Compositionally, all the threads of the plot are drawn to the main character Achil-buva, a six-year-old age-old who, together with his grandson who came from abroad, makes trips to visit relatives,

and at the same time through the labyrinths of his memory and destiny.

It should be noted that the systemic, highly artistic use of mythopoetic elements does not destroy its canons, but enriches the work in creating the versatility, polyphony of the depicted reality. In A. Mukhtar's novel "Chinar" various folklore genres are presented. In the narration, one can single out a myth, a legend. Such are, for example, the myth of the Chinar, which reflected the national idea of the sacralization of trees as a sacred symbol of life, the spiritualization and transfer of human qualities. The best feelings and character traits have always been put into the myth of the tree of mankind.

IV. DISCUSSION

In A. Mukhtar's novel, Chinar develops into a symbolic national image of the keeper of the best traits of the people: kindness, love, devotion, loyalty, perseverance, which creates unity among people.

From the very first lines A. Mukhtar disposes the reader to the perception of Chinar as a living person, a symbol and guardian of the foundations of the people. The story begins in the epic style, "It's not a cloud on the side of a mountain. And our Chinar."⁶ The author himself notes: "One could, of course, start a story without remembering the plane tree, but in our district it does not happen that they talk about something without remembering the plane tree."⁷ So the myth of the plane tree sets the tone for the rest of the story. Immediately after the introduction follows the author's exposition of the myth (legend) about "Chinar". This legend should be cited, since it has a conceptual meaning and gives a philosophical multidimensionality and polyphonic sound to the whole story. "Achil-buva stood on a stone mortar all night. He stood and peered into the tree. And, they say, when midnight came, the plane tree suddenly rustled with leaves, said:

- I will not burn, I cannot burn, because then the end of life will come. And life is eternal, life is endless.

Those who were young at that time began to grow old, and the old people say:

- At the time of my youth, they thought that the plane tree is old, now I have grown old, but the plane tree is still the same. And they also say: the one who heard the voice of the plane tree is immortal."⁸

⁵ Myth, folklore and literature./Mamatkul Juraev, Manzura Narzikulova. - T.: Publishing House of the National Library of Uzbekistan named after Alisher Navoi, 2006. - 184 p. - P.92-93.

⁶ Mukhtar A. Chinar. - T.: publishing house of Gafur Gulyam, 1983. -- P. 3.

⁷ In the same place.

⁸ In the same place. - P. 5.



As you can see, the excerpt reveals the skill of A. Mukhtar in the synthesis of the poetics of myth, and the harmonious use of myths and legends of the Uzbek people.

In the story of Chinar, at first the myth dominates, then the legend, the reality, while the image of Chinar, as the keeper of the national foundations and the best features of the people: kindness, loyalty, love and devotion, is later associated with the image of Achil-buva, six years old the same age.

In the novel by A. Mukhtar, several more myths and legends function, which somewhat transformed their mythological essence, significance and were brought by the author into the plot of the narrative, although the impact of these elements on the plot-compositional structure of the work is palpable. At the same time, situational analogies can be traced, given in allegorical terms before each chapter of real characters.

The motives of homesickness in the legend about the eighth wonder of the world, which tells about the fate of Abu Nosir Farabi, correlate with the fate of Bazarkul and Anabibi, cut off from the homeland. The legend of the land of love echoes the love story of the granddaughter of Achil-buva Kamila and Matniyaz.

In A. Mukhtar's novel, the emotional and psychological projection of myths and legends in the structure of the context also serves to create a special tone, in the framework of which further narration is perceived. The motives of homesickness, not slow life, but death in a foreign land are vividly reflected in the legend of the eighth wonder of the world. In the country of Bilujiston, slaves from all over the world are building the eighth wonder of the world. Farabi, looking for his brother, sees the unfortunate, living and dying everywhere. And those who were dying did not know what disease they were dying of, and every day there were fewer slaves, and the day came when the alarmed Shah was afraid that there would be no people left to finish building the eighth wonder of the world. Listen and remember. Not in order to save people from death, but in order to complete the eighth miracle, the shah ordered to increase the food for the slaves and give them sugar almonds once a week and meat once a month. But the slaves were dying. And then, recognizing the dervish Al-Farabi in his clothes, the legend says, he was summoned to the palace and showered with gold. Farabi, not afraid of the shah's anger, replied that he was unable to stop the plague, that the slaves were dying of boredom. "And longing from parting. Return them to their homeland and the pestilence will end." But the shah ordered to put Farabi in shackles and put him on the hardest work. But Farabi did not break his spirit, taking out a nai from the khurjun, he

played the melody of Pegiravi-diyar, which means "Harbinger of the Motherland." People who at first listened in silence, gradually began to speak: "You hear, these are the waves of Syrah, stroking the wormwood shore. Farab's gardens are making noise! No, this is the wind of the steppes. And the slaves shouted in chorus: This is the voice of the motherland! And then their backs straightened, their eyes sparkled and none of them died anymore, because they recognized in the Farabi melody that their Motherland was alive."⁹

In the light of this legend, the tragedy that happened to the daughter of Achil-buva Anabibi and Bazarkul, who, by the will of fate, were thrown into a foreign land, intensifies. And the grandson of Achil-buva, who was born far from his homeland, admits that it seemed to him that his father's greatest fault was that he deprived him of his family. "Made him (me) a wanderer."¹⁰

The legend of the Turtle is parableally associated with the fate of Akbarali from The Tale of One Moment. A. Mukhtar is creative, as if synthesizing a new myth, while combining elements of legend and myths. It is well known that one of the functions of a myth is etiological, i.e. explaining the origin of this or that phenomenon, object, animal. So, revealing the transformation that took place with the turtle, the author in the myth notes that she was not always like that, enjoying life. Once the country was attacked by enemies and, unobtrusively, the turtle decided to wait out this difficult moment, hiding among the stones. Cowardly clinging to the stones, she lay for many years and overgrown with a stone shell¹¹. In the light of this myth that condemns cowardice, we show and perceive the fate of Akbarali.

The legend of Don Juan and the commander with a story about the tragic prisoners of a concentration camp tortured to death by the "doctor" Kurt Berger and the doctor Kariyeva Umida, exposing the scientific experiments of a fascist doctor. As the researcher of the image of Don Juan and the Commander Vsevolod Bagno notes: "The myth of Don Juan is the myth of retribution."¹² The hero of Askad Mukhtar did the same, he killed the one who decided to laugh at the living soul, taking away all the joys of life.

Don Juan is an immortal, universal mythological image of the world.

⁹ Mukhtar A. Chinara. - T.: publishing house of Gafur Gulyam, 1983. -- P. 25.

¹⁰ In the same place. - P. 19.

¹¹ In the same place. P.151

¹² In the same place.



The text of the novel includes legends, myths, one way or another related to the artistic context. It should be noted that legends and myths enter the text as separate, autonomous parts of the whole, so to speak, in a stylistically distinctive key. Excluding one of them from the context of the novel would not violate the ideological and artistic integrity of the narrative. How, say, it is unlikely to exclude without violating the artistic integrity of such works by Ch. Aytmatov as "Skewbald Dog Running by the Edge of the Sea", "Storm, Stop", "Bad Thing".

In A. Mukhtar's novel "Chinar", proceeding from the above, it can be noted that legends and myths do not constitute the main part of the artistic context. But this does not at all diminish their ideological, philosophical, aesthetic significance. It should be noted that myths and legends are included both in the plot of the work and in the structure of images in a somewhat transformed, transformed form, performing the function of strengthening, highlighting the main, according to the author, thought in the stream of ideas. The author often refers to the mythopoetic polyphonicity of sound and philosophical multidimensionality in the coverage of events, to enhance the severity of the conflict of plot situations, one way or another, fitting into the artistic context, they create an emotional and psychological background.

In mythology, ideas about the world order are associated with the symbolism of the garden. The legend of the dried garden in this work allegorically reflects the problems of the collective and the individual in a special tone, in a different way, in the light of this legend, the relationship between Yuldash and Farmonov appears.

The use of legends, myths, determines the internal dialectic of the narrative, although talking about an organic entry, when the whole narrative was a single system, when a change or inclusion of one of the elements changed the structure of the narrative, is generally not observed.

At the same time, these elements, in addition to narrative, plot-forming, perform another function - expressing the essence of the peculiarities of national characters, everyday life, and worldview of heroes.

It should be noted that only a highly artistic harmonious entry of mythopoetic elements contributes to the enrichment of a work of art, polyphony, vivid emotionality and philosophical multidimensionality in the coverage of reality.

V.CONCLUSION

From the very beginning of its emergence and up to the present time, literature has constantly turned to myth and its relation to mythology has changed from era to era in accordance with the change in the general historical and cultural situation.

The myth was undoubtedly the source and cradle of fiction. Unlike the primordial myth, a myth in literature is an artistic image, in which, however, its mythological components are present as a defining structural principle and as a basis for further interpretations and artistic creation.

In the novel by Askad Mukhtar "Chinar", the novelist of the writer manifested itself - an appeal to conventional mythological prose. The writer uses the poetics of myth to enrich the depiction of contemporary reality. When creating his work, A. Mukhtar resorts to the methods of personification, symbolism inherent in the poetics of mythologizing. His legends and myths exist autonomously and are not woven into the text of the work.

REFERENCES

1. Bakhtin M. M. *Aesthetics of verbal creativity*. - M.: Art, 1979. -- 423 p.
2. Bocharov A. G. *Literature and time: From the creative experience of prose 60-80-ies*. - M.: Artist. lit., 1988. -- 383 p.
3. Lifshits M. *Ancient and modern mythology*. - M.: Art, 1980. -- 582 p.
4. Losev A.F. *Dialectics of myth*. - M.: Pravda, 1990. - (electronic version of the book from the Library Fund for the Promotion of Psychic Culture Development (Kiev)).
5. Mann Yu. V. *Dialectics of the artistic image*. - M.: Sov. writer, 1987. -- 317 p.
6. Meletinsky EM *Poetics of myth*. - M.: Nauka, 1976. -- 407 p.
7. Meletinsky EM *From myth to literature*. - M.: Russian State University for the Humanities, 2001. -- 168 p.
8. Mukhtar A. *Chinara*. - T.: Publishing house of literature and art, 1983. -- 304 p.
9. Navoi Alisher. *Anchovy. Confusion of the righteous*. Translated from Old Uzbek by V. Derzhavin [Electronic resource]. - Access mode: https://librebook.me/smiatienie_pravednyh
10. Naydysh VM *Mythology*. - M.: KNORUS, 2010. -- 432 p.
11. Epshtein MN *The paradoxes of novelty: On the literary development of the nineteenth and twentieth centuries*. - M.: Sov. writer, 1988. -- 416 p.



CLASSIFICATION ISSUES OF KASHKADARYA REGION TOPONYMS

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ABSTRACT

The article discusses the criteria for classifying the geographical names of Kashkadarya region of the Republic of Uzbekistan. The relevance of the study is explained by the need to systematize all available toponymic classifications based on the study of place names in a particular area. Using descriptive and comparative methods of scientific research, the geographical names of Kashkadarya region were classified and on this basis their geographical features were studied. The study is based on toponymic dictionaries, scientific literature, reference books and more than 3000 toponyms from a 1: 100000 scale topographic map of the region.

KEYWORDS: *toponym, oronym, gidronym, zootonym, etnotonym, religious names, historical names.*

INTRODUCTION

In addition to a comprehensive analysis of the area under study in any geographical study, the study of geographical objects by type, ie classification, increases efficiency in finding solutions to problems, distinguishing them from each other, identifying their features and imagining them as a common system gives good results. Such research is also relevant in the study of geographical names. The classification of geographical names is one of the important aspects of the theory of toponymy. Theoretical study of any science is not only a sign of the emergence and growth of science, but also a driving force for the further development of this science.

MATERIAL AND METHODS

The criteria for classifying geographical names are based on their similarities and differences. Because of differences in local place names, it is advisable to classify them separately, as well as have common geographical features that can be combined into geographical names. According to the Chinese writer Cu Yapin, the classification of geographical names is the process and result of distinguishing these specific features and combining the common features of geographical names [1].

The essentially comparative description of the classification of toponyms is different. In

particular, geographers pay more attention to the geographical features of toponyms when describing them, while linguists pay special attention to the lexical-semantic aspects of place names and classify them according to the rules of linguistics. According to V. Nikonov, "a geographical name - is a word and like all words, it obeys the laws of language, not social laws" [2, p.66].

In the works of scientists, toponyms are divided into different types and classified on the basis of different principles and criteria. For example, H.R.Mill (1898), V.P.Semenov Tyan-Shanskiy (1924), A.M.Salishev (1939), V.Tashitskiy (1958), J.R.Stewart (1970), E.M.Cherniyakhovskaya (1970), E.M.Murzayev (1982), A.V.Superanskaya (1985) and others referred to toponymic classification, complemented and differentiated geographical place names, showed methods of classification, but in all such works the classification of toponyms is unique principle does not exist.

According to Professor V.A.Juchkevich, in a perfect classification of toponyms, a single classification should answer three main questions:

- 1) what is the name of the object;
- 2) what is the name of the object, what is it called, on what language it is formed and by what means;
- 3) Why is it so called, what is the meaning of the name?



Continuing his opinion on the problem of classification, V.A. Juchkevich said, "... it reflects the integrity of toponymy as a science - the answer to the first question is geography, the second is linguistics, and the third is toponymy. However, we must recognize that the creation of a single universal classification scheme by scientists is a matter for the future" [3, p.90-91].

The main disadvantage of toponym classification schemes is "the inability to fit different geographical names into the Procrustic bed of a single classification" [4, p.115]. However, some linguists have tried to classify toponyms that combine different principles at the same time.

E.M. Murzaev proposes to divide toponyms into five classes:

- 1) oronyms;
- 2) hydronyms;
- 3) names of plant communities (forests, fields, meadows, etc.);
- 4) names of settlements (cities, villages, farms, etc.);
- 5) bridges in squares, towns and villages [5, p.89].

In the 1970 s, the American toponymist J.R. Stewart proposed 10 classifications of geographical names and made a comparative analysis of their common and different methods:

- Descriptive (names that describe the quality or location of an object);
- Associative (names that cause merging with different objects);
- Related to events (names of events related to the person, the author also includes in this group religious events, calendar names, names of animals, names of human movements, names derived from emotions, and other names);
- Possession (names derived from any idea of ownership);
- Monument (names given in memory or in honor of celebrities and names for famous qualities);
- Praiseworthy names (names with some attractive features of a geographical object);
- Folk Etymology (names with false etymology);
- Artificial (names that are consciously formed in fragments of other words, capital letters, letters or forms in reverse order and by other means);
- Error (names that appear as a result of copying toponyms from one language to another, listening to what is said incorrectly, or incorrectly conveying sounds in writing);
- Migration names (names moved from one place to another) [6].

Taking into account the type, symbol of geographical objects, as well as the attitude of the person to this object, A.V. Superanskaya

distinguishes the following groups of place names: a) names of natural objects; b) names of man-made objects; c) names of settlements; d) other types of names [7, p.48-49].

Classification works taking into account the geographical features of toponyms of Uzbekistan H.Hasanov (1985), S.Karayev (1991), P.Gulyamov (2005, 2011, 2013), K.Seytniyazov (1998), M.Mirakmalov (2008, 2016), K.Hakimov (2010), Y.Ahmadaliyev (2018), A.Nizomov (2012).

While H.Hasanov distinguished 10 types according to the origin of geographical names, P.Gulyamov, using a two-stage system of classification of toponyms, initially divided them into two major groups (I. depending on the natural geographical features of the place names; II. names formed in connection with socio-economic, political features, circumstances), which in turn are studied in several subtypes [8, p.8-10].

Based on the toponymic features of the region (classified on the example of toponyms of the northern coastal districts of Karakalpakstan) K.Seytniyazov divided geographical names into 9 toponymic types [9, p.9-13], in the toponymic classification of M.Mirakmalov H Based on Hasanov's classification work and complementing it, he identified 15 toponymic types of geographical names [10].

On the theoretical issues of toponyms and the normative-legal basis of their use, as well as in the research work of Y.Ahmadaliyev on the study of toponyms of the Fergana Valley, attention was paid to the classification of toponyms (according to the size of the objects, according to the etymological analysis, according to the historical, linguistically, semantically) and classified into subtypes for each criterion [11].

In his research, K.Hakimov studied the classification of toponyms on the example of toponyms of Jizzakh region, semantically divides the toponymy of the region into 3 major groups (oronyms, hydronyms, oykonims) and pays more attention to the classification of toponyms of the region [12]. A. Nizamov in his manual "Toponymy" divides place names into 16 types and gives examples [13].

O The toponymy of Uzbekistan has been studied by many linguists in classification units. In particular, E. Begmatov considers that toponyms in the Uzbek language can be generally divided into two large groups and divides them into natural, i.e. international toponyms and official, ie artificial toponyms [14]. Also linguists Abdurahmonov D. (1964), Dusimov Z. (1978), Khadyrova SH. (1966), Nafasov T. (1968), Ahunov N. (1989), Ulugov N. (2008), Enazarov T. (1995, 2013) and others in the



research work of several scholars, toponyms are classified lexically-semantically.

The main results and their discussion. Kashkadarya region has many types of place names, different functional functions, different origins and conditions, which complicates the process of classifying toponyms of the region. Due to the lack of a unified systematic classification of place names, suitable for all regions and a classification principle that satisfies all researchers, a number of geographically most convenient classification works were used to classify regional toponyms. In particular, the classification works of E.Murzaev, J.Stewart, H.Hasanov, P.Gulyamov, M.Mirakmalov, Y.Ahmadaliyev and T.Nafasov served as the basis for the division of regional toponymy into species.

Regional toponymy is divided into the following classification units based on the general laws of formation of regional toponymy.

The toponymy of Kashkadarya region was classified on two different principles. The **first principle is based on the type of geographical objects** and is divided into two types:

I. Names of natural geographical objects. There are two major types of toponyms belonging to the first group;

1. Oronyms are the names of all types of relief forms, i.e., mountain, hill, ridge, hill, intermountain valley, cliff, ravine, rock, peak, mountain slope, plain, stream, batik and so on.

2. Hydronyms - this type includes the names of all types of water bodies (rivers, canals, ditches, lakes, reservoirs, springs, wells, ditches, etc.).

II. Names of socio-economic geographical objects. The largest type of toponyms belonging to this group are oykonims. This group can also include various microtoponyms, such as urban names, enterprise and organization names, factory names, shrine names, dramonyms (road names), necronyms (cemetery names), and so on.

The **second principle** of geographical classification of regional toponymy is **based on the geographical features** of the nomenclature. According to this principle, regional toponyms are divided into two main groups;

I. Toponyms formed in connection with the natural geographical features of the place.

II. Toponyms formed in connection with the socio-economic characteristics of the place.

I. Toponyms formed in connection with the natural geographical features of the place are further divided into several groups:

1. Toponyms that appear depending on the natural geographical location of the place. These types of names refer to their microgeographic

location by their name. For example, Yukorikoram (place above), Kunchikardarvoza (the gate on the sunrise side), (height, town, Shahrisabz district¹), Bulakovul (part of the village), (Chirakchi d.), Adokbatosh (village, Guzar d.), Etakovul, (bottom side), Icharik (Kasan d.), Beshkent (the city below) are toponyms that are formed in this form and indicate their location.

2. Toponyms reflecting the relief features of the place. Most of the region's oronyms express their relief feature by their name. It is also not uncommon for place names to be changed from oronyms to comonyms, and sometimes to hydronyms. The names formed on the basis of the relief features of the place served as the basis for the creation of the names of many types of objects. Orkavul (in the back), (height, Shahrisabz d.), Dongkishlak (hill village), Askartepa (height), Tukimkisi (Yakkabog d.), Hovarkishlak (plain village), Galajar, Govdara (village, Kamashi d.), Akbosh, Sarigorim, Karakamar (mountain, height, Dehkanabad d.), Jorma (cliff), (hill, Guzar d.), the names of many species, which express their relief features, are different, the natural and social function they perform is different.

3. Toponyms named according to the object of water and the nature of water make up the majority in the toponymy of the region. Hydronyms, which refer to a feature of water, are often used to refer to nearby settlements. If names such as Bolsharrak (waterfall), (valley, Kamashi d.), Achin (bitter), (lake, Mirishkor d.), Aksuv (clear water), Jinnidarya (a river whose water flows unevenly), Tankhoz (less watery), Katta Uradarya (left tributary of Kashkadarya), Turnadarya (left tributary of Yakkabogdarya) are named according to the nature of the water, although the names Duob (the place where two waters meet), Chuchukkuduk (fresh water well), (village, Dehkanabad d.), Obigarm (hot water), (village, Guzar d.), Jilisuv (warm water), (village, Kitab d.), Sharshar (waterfall), (village, Yakkabog d.) were originally formed as the names of water bodies, they later served as the basis for the names of the surrounding settlements.

4. Toponyms related to local climate. These names have little place in regional toponymy. Nurkay (a place where light falls), (mountain, Dehkanabad d.), Oytiymas (a place where the moonlight does not fall), (canyon, Dehkanabad, Kamashi d.), Terskay (opposite to the sun), (hill, Dehkanabad d.), Oftobroy (facing the sun), (village, Kasan d.), Bogishamol (windy garden), (neighborhood, Karshi city) such names express the microclimatic indicators of the place by their name.

¹ The word "district" is then given the letter "d." in such sentences.



5. Toponyms related to geological structure and minerals. The names denoting the geological structure and structures of the territory of Kashkadarya region, the presence of certain types of minerals and rocks are Davtash (large stone), (village, Chirakchi d.), Sangkalak (stone wall), (hill, Dehkanabad d.), Aktash, Harsangsay (height, river, Kamashi d.), Oltintepa (golden hill), Komirchi (coal miner), (village, Kamashi d.), Ahalli (chalky), Mumlaychi (mummy), (hill, mountain, Kitab d.) can be cited as examples.

6. Phytotonyms associated with a particular plant species. Plant-related toponyms can be divided into 3 types: phytotonyms based on the names of grasses, shrubs and trees. Toponyms related to certain types of grasses in Kashkadarya region include Abrikli (hill, Chirakchi d.), Bedak (field, Kitab d.), Luxlikul (Kamashi d.), names associated with shrubs include Zarangli (height, Yakkabog d.), Irgayli (hill, Kamashi d.), Sazoqli (desert, Mirishkor d.), toponyms based on the names of certain types of trees include Darayitut (canyon, Yakkabog d.), Mingchinor (village, Kitab d.), Yangakli, Terakli (village, Dehkanabad d.) and other similar names.

Phytotonyms refer to the presence or absence of a particular species of plant in the area, which is a distinctive feature of other geographical features.

7. Zootonyms associated with the names of representatives of the fauna. In Kashkadarya region, zootonyms are based on the names of domestic animals, wild animals, birds and poultry. Zootonyms based on the names of domestic animals include Biyasigmas (canyon, Dehkanabad d.), Tuyakisildi (canyon, Chirakchi, Shahrizabz d.), Otkuduk (well, neighborhood, Nishan d.), zootonyms based on the names of wild animals include Jayrali (village, Kitab d.), Sugurli, Tulkikazgan (mountain, river, Kamashi d.), Ilondara (Guzar d.), zootonyms created on the basis of the names of birds and poultry Karalochin (village, Dehkanabad d.), Jo'jali (canyon, Dehkanabad d.), Kaptarli (village, Nishan d.), Burgutlik (village, Shahrizabz d.) and beetles named after a certain type of insect, Gobalak (mountain, Kamashi r.), Kungizbulak (hill, Guzar r.).

8. Toponyms formed according to soil properties. This group includes Bozarik (in all districts), Loyli, Loyka (area, village, Kamashi d.), Olashor, Akpaykal (village, Guzar d.), Takir, Karilalmi (height, hill, Dehkanabad d.), Shurtan (village, mining, enterprise, field, Guzar d.) and other similar toponyms.

9. Toponyms based on the appearance of the object. Kengsoy (Dehkanabad d.), Loppitepa, Kayki (hill, village, Yakkabog d.), Londacha (village,

Karshi d.), Dumalak (village, Chirakchi d.), Ingichka (village, Kamashi, Dehkanabad d.), Belassirt (height, Dehkanabad d.).

10. Toponyms based on simulations. Toponyms belonging to this group are based on the resemblance of the appearance or properties of an object to another object, thing or thing. Such names are Dastartash (height, Chirakchi d.), Beshiktepa (hill, Dehkanabad d.), Boynak, Adamtash (mountain, Dehkanabad d.), Kelitosh (area, Dehkanabad d.), Tuyatosh (rock, Shahrizabz d.), Such as Kindiklitepa (Kasbi d.) can be cited as an example.

11. Toponyms that appear according to the size, number and quantity of the object. The meaning of these types of names is that the size of a particular type of geographical object or thing and object in that area, i.e. large or small, quantity (scarcity, single i.e. means single or double, many or many). In Kashkadarya region, such names are Yakkatut (village, Kitab d.), Birotar (village, Kamashi d.), Koshkul (village, Kamashi d.), Mingchukur (pass, square, Kamashi d.), as' Gaybartosh (hill, Dehkanabad d.) many names can be mentioned, such.

12. Names that depend on the color of the object and a specific color index. In toponymy, color is often used interchangeably. However, sometimes color codes in geographical names also indicate the color of the object. In the region, such names are Akkum, Boztepa, Kokjar (village, Dehkanabad d.), Yetimak (height, Dehkanabad d.), Alashor (village, Guzar d.), Mallavosh (village, Shahrizabz, Karshi d.), Kyzyltepa (village, Kamashi d.).

13. Toponyms based on geographical terms. Sometimes a geographical term specific to a region serves as a basis for choosing more names than others, and a geographical term is used without adding any other words or suffixes, becomes a direct geographical name. Gaza, Dara (village, Kamashi d.), Dasht (village, Karshi d.), Dahna, Dahana (village, Dehkanabad d.), Shiram (height, Dehkanabad d.), Daryo (village, Yakkabog d.), Jar (village, Chirakchi, Yakkabog d.) and others are toponyms formed in this form.

II. Toponyms formed in connection with the socio-economic and geographical features of the place are divided into the following types;

1. Occupational toponyms of the population. Occupationally related toponyms are characterized by komonim and urbonim in the region: Boyraposh (weaver), Govjallob (cow seller), (village, Shahrizabz d.), Dukonkhona (show), Tuyachi (village, Kamashi d.), Degrez (boiler maker), Chilangar (blacksmith), Neftchilar (oilmen),



(neighborhood, Karshi city) and many other microtoponyms.

2. Toponyms of people with their names and nicknames. These types of toponyms are common in all districts of the region. Avazmalik, Khojmaydon, Burkhanariq (village, channel, Shahrisabz d.), Boronjuz, Pirimhovuz (village, Chirakchi d.), Odildogma (pasture, Mirishkor d.), Muratovul (village, Karshi d.), Hayitkarga (neighborhood, Kamashi d.), Malla (neighborhood, Mirishkor d.) and many similar names form anthropotonyms.

3. Ethnotonyms formed on the basis of the name of ethnic units. In Kashkadarya region, toponyms based on the names of ethnic groups, tribes and clans are the most toponymic species in the regional toponymy. The size of ethnotonyms in the region's toponymy has been influenced by factors such as the presence of many tribes and clans in the region since ancient times, the diversity of ethnic networks and the strong attitude of the local population to ethnic units. Although ethnotonyms are found in all types of geographical objects in the region, their share is greater in microtoponyms such as comonyms and urbonyms. Toponyms created on the basis of ethnic units include Jaloyir (hill, Shahrisabz d.), Makrit (village, Kitab d.), Polati (town, Kasan d.), Bolmas (village, Kasan d.), Uyrat (village, Kasbi, Kasan d.), Kamay, Kaltatay (village, Kamashi d.), Kiyikchi (village, Kasbi d.), Mangit (village, Karshi, Kamashi, Chirakchi d.), Balkharik, Balkhiyak (village, Chirakchi, Nishan d.) and many other names, as well as district names such as Kasan, Kamashi, are also original entotonyms.

4. Names associated with historical events. Toponyms arise because of social need. Some of the most important events in the history of the people have become geographical names, these events, which have long been remembered by the people, have been given specific names, and over time, they gradually became the geographical name of the place. Beklik (fortress, Yakkabog d.), Khanariq (Dehkanabad d.), Kala (height, Kasan d.), Ituldi (pasture, Chirakchi d.), Kelinoshdi (hill, Guzar d.) to name historical events of a particular period.

5. Toponyms created in relation to social objects. These types of names are toponyms based on the name of a particular social object. Such names include Bozorjoy, Mozorli (height, village, Chirakchi d.), Beshochok, Bozortepa (village, Dehkanabad d.), Vatkana, Jumabozor (village, Kitab d.), Koriz (hill, Kitab d.), Vori (village, Yakkabog, Mirishkor d.), Kapali (steppe, Guzar, Mubarek d.), Mahallot (neighborhood, Karshi city) and many others.

6. Religious names. Religious beliefs and customs, religious scholars, and propagandists are predominant in Kashkadarya Province. Oktepa (village, Kasbi, Kasan d.), Kofirtepa (Kamashi d.), Khojaabad (village, Chirakchi d.), Langar (village, river, reservoir, Kamashi, Chirakchi d.), Namazgoh (neighborhood, Shahrisabz city) are religious toponyms.

7. Legendary and strange names. Sometimes the names are based on various folklore, fairy tales and legends, the names of legendary heroes. Such names include Zangibobo (village, Guzar d.), Zulfiqorota (village, Kasan d.), Kyrgyz (village, Kamashi d., height in almost all districts, hills) and others. Some of the names in the region have strange names and meanings that seem strange and ridiculous. When one hears their name, one wonders why it is so named. Kosa (glabrous), (neighborhood, Chirakchi d.), Kaldarya (hairless river), (village), Kharomkul (dirty lake), (lake), Laqqi (neighborhood, Kasan d.), Lolimurda, Goshkurgan (meat castle), (hill, village, Shahrisabz d.), Maraztepa (bad hill), (Guzar d.), Jahannam (hell), (ancient stream, Karshi) and many other names are distinguished by their strange unusual name. However, each of these names has its own history and meaning. These names are a legacy of language that is no longer used, they have become obscure, and sometimes the name has changed its form over the course of history and moved away from its original meaning.

8. Modern names. These names are the product of a new era, a modern mentality and people's life, a new geopolitical process. These names refer to geographical objects that were created in the recent past, rebuilt, and sometimes renamed under different historical periods. Istiqlol (freedom), Mustaqillik (independence), Mustaqilobod (independent), Nuristan (light flourishing), Gulistan (town, Nishan d.), Dustlik (friendship), (town, Kasbi d.), Madaniyat (culture) (town, Yakkabog d.), Maktababad (village, Shahrisabz d.), Nurafshan (light flourishing), (village, Kitab d.) in Kashkadarya region many microtoponyms are interpreted as modern names, and the people of the past witnessed the period of creation of these names.

Conclusions. There are many types of toponyms in Kashkadarya region and there are also names that do not correspond to any of the groups of geographical place names we have classified. However, the study of the basis of regional toponyms on the basis of the system we have classified will help to fully reveal their general and specific geographical aspects.

Based on the results of the research, the following main conclusions can be noted:



1. The need for classification of geographical names and their geographical basis were systematically analyzed;

2. Classification units of toponyms have been studied at the international and regional levels, and general and specific geographical aspects of classification units have been considered;

3. Divided into groups on the basis of more than 3000 different toponyms of Kashkadarya region on the basis of criteria for classification of place names;

4. Based on the classification of regional toponyms, the geographical features of the toponyms belonging to each group are described.

13. Nizamov A. *Toponymy. Study guide.* – Tashkent. 2012, - p.19-30.

14. Begmatov E. *Place names are a rare heritage of folk language and spirituality. Materials of the Republican scientific-practical conference.* Navoi, Uzbekistan. 1998. – p.6.

REFERENCES

1. Chu Yapin, In *Tszyunke, Sun Dunxu. Basic toponymy textbook.* Cartographic publishing house. 2009. – p.63.
2. Nikonov V.A. *Introduction to toponymy.* publishing house, Moscow. 2011.- p.184.
3. Juchkevich V.A. *General toponymy. Textbook. Allowance.* Minsk. High school, 1968.- p.432.
4. Murzaev E.M. 1996. *Geography in the names.* Moscow. ISBN 5-02-016806-8.
5. Murzaev E.M. *Geography in titles.* Moscow. The science, 1979. – p.168.
6. Stewart G.R. 1970. *A Concise and Selective Dictionary for the Continental United States of America.* New York, Oxford: Oxford University Press. ISBN: 0195001214, ISBN13: 9780195001211.
7. Superanskaya A.V. *What is the current toponymy?* Moscow. The science, 1985. – 176 c.
8. Gulyamov P.N. *Comments on the types of toponyms and zoning of place names.* Information of the Geographical Society of Uzbekistan. – Tashkent. 2013, p.8-10.
9. Seytniyazov K.M. *Place names of the northern regions of the right bank of Karakalpakstan.* Abstract of Ph.D. – Tashkent. 1998. p.9-13.
10. Mirakmalov M.T. *Issues of classification of geographical place names.* Information of the Geographical Society of Uzbekistan. Volume 48. – Tashkent. 2016, p.106-107.
11. Ahmadaliev Y.I. *Toponymy and geographical terminology.* Study guide. Fergana. 2018. p.37-41.
12. Hakimov K.M. *Socio-economic geographical features of the region in the formation of place names. (On the example of Jizzakh region).* Abstract of the dissertation for the degree of Candidate of Geographical Sciences.– Tashkent. 2010, - p.12.



THE RATE OF A CHEMICAL REACTION AND FACTORS AFFECTING IT

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ABSTRACT

The following article gives intro to the rate of a chemical reaction as well as states several factors which include the speed of reactions. The movement of electrons plays a key role in chemical reactions. Substances that react chemically are called reagents. The substances formed as a result of a reaction are the products of a chemical reaction. Chemical reactions are expressed by chemical formulas. Several sequences of reactions may be required to obtain the desired product, a process called chemical synthesis.

KEYWORDS: *reaction, reaction rate, concentration, collapse theory, temperature, catalyst effect, phase and surface, collision, reagents, reactants.*

INTRODUCTION

Although a balanced chemical equation for a reaction describes the quantitative relationships between the amounts of reactants present and the amounts of products that can be formed, it gives us no information about whether or how fast a given reaction will occur. This information is obtained by studying the chemical kinetics of a reaction, which depend on various factors: reactant concentrations, temperature, physical states and surface areas of reactants, and solvent and catalyst properties if either are present. By studying the kinetics of a reaction, chemists gain insights into how to control reaction conditions to achieve a desired outcome.

A chemical reaction is the process of converting one set of chemicals into another. Chemical reactions can be spontaneous or spontaneous. In the second case, some external energy (heat, light, electricity) is required to carry out the chemical reaction. The movement of electrons plays a key role in chemical reactions. Substances that react chemically are called reagents. The substances formed as a result of a reaction are the products of a chemical reaction. Chemical reactions are expressed by chemical formulas. Several sequences of reactions may be required to obtain the desired product, a process called chemical synthesis.

The rate of a reaction is the speed at which a chemical reaction happens. If a reaction has a low rate, that means the molecules combine at a slower speed than a reaction with a high rate. Some reactions take hundreds, maybe even thousands, of years while others can happen in less than one second. If you want to think of a very slow reaction, think about how long it takes plants and ancient fish to become fossils (carbonization). The rate of reaction also depends on the type of molecules that are combining. If there are low concentrations of an essential element or compound, the reaction will be slower.

There is another big idea for rates of reaction called collision theory. Collision theory, theory used to predict the rates of chemical reactions, particularly for gases. The collision theory is based on the assumption that for a reaction to occur it is necessary for the reacting species (atoms or molecules) to come together or collide with one another. Not all collisions, however, bring about chemical change. A collision will be effective in producing chemical change only if the species brought together possess a certain minimum value of internal energy, equal to the activation energy of the reaction. Furthermore, the colliding species must be oriented in a manner favourable to the necessary rearrangement of atoms and electrons. Thus,



according to the collision theory, the rate at which a chemical reaction proceeds is equal to the frequency of effective collisions. Because atomic or molecular frequencies of collisions can be calculated with some degree of accuracy only for gases (by application of the kinetic theory), the application of the collision theory is limited to gas-phase reactions.

The collision theory says that as more collisions in a system occur, there will be more combinations of molecules bouncing into each other. If you have more possible combinations there is a higher chance that the molecules will complete the reaction. The reaction will happen faster which means the rate of that reaction will increase. Think about how slowly molecules move in honey when compared to your soda even though they are both liquids. There are a lower number of collisions in the honey because of stronger intermolecular forces (forces between molecules). The greater forces mean that honey has a higher viscosity than the soda water.

Factors affecting the rate of a chemical reaction concentration of reagents. High concentrations of reagents lead to more efficient collisions per unit time, leading to increased reaction rates (excluding zero-level reactions). Similarly, high concentrations of products are associated with low reaction rates. Use the partial pressure of the reagents as a concentration measure in the gaseous state.

Concentration Effects. Two substances cannot possibly react with each other unless their constituent particles (molecules, atoms, or ions) come into contact. If there is no contact, the reaction rate will be zero. Conversely, the more reactant particles that collide per unit time, the more often a reaction between them can occur. Consequently, the reaction rate usually increases as the concentration of the reactants increases.

Temperature. Typically, an increase in temperature increases the reaction rate. Temperature is a measure of the kinetic energy of a system, so high temperature means the average kinetic energy of molecules and more collisions per unit time. The general general rule for most (all) chemical reactions is that the reaction rate should be approximately doubled for every 10 ° C increase in temperature. When the temperature reaches a certain point, some chemical species can be changed (e.g., denaturation of proteins) and the chemical reaction slows down or stops.

MATERIALS AND METHODS

A catalyst is a substance that participates in a chemical reaction and increases the reaction rate without undergoing a net chemical change itself. Consider, for example, the decomposition of

hydrogen peroxide in the presence and absence of different catalysts. Because most catalysts are highly selective, they often determine the product of a reaction by accelerating only one of several possible reactions that could occur. Most of the bulk chemicals produced in industry are formed with catalyzed reactions. Recent estimates indicate that about 30% of the gross national product of the United States and other industrialized nations relies either directly or indirectly on the use of catalysts.

Catalysts (e.g., enzymes) reduce the energy of chemical reaction activation and increase the rate of the chemical reaction without being consumed in the process. Catalysts increase the frequency of collisions between reagents, change the direction of the reactants, increase the efficiency of further collisions, reduce the intermolecular bonding within the reactant molecules, or provide electron density to the reactants. The presence of a catalyst helps the reaction to transition to equilibrium faster. In addition to catalysts, other chemical species can affect the reaction. The amount of hydrogen ions (pH of aqueous solutions) can change the reaction rate. Other chemical species can react for the reaction or compete for the direction of exchange, bonding, electron density, etc., thereby reducing the reaction rate.

Pressure affects the rate of reaction, especially when you look at gases. When you increase the pressure, the molecules have less space in which they can move. That greater density of molecules increases the number of collisions. When you decrease the pressure, molecules don't hit each other as often and the rate of reaction decreases. Pressure is also related to concentration and volume. By decreasing the volume available to the molecules of gas, you are increasing the concentration of molecules in a specific space. You should also remember that changing the pressure of a system only works well for gases. Generally, reaction rates for solids and liquids remain unaffected by increases in pressure.

RESULTS AND DISCUSSION

When two reactants are in the same fluid phase, their particles collide more frequently than when one or both reactants are solids (or when they are in different fluids that do not mix). If the reactants are uniformly dispersed in a single homogeneous solution, then the number of collisions per unit time depends on concentration and temperature, as we have just seen. If the reaction is heterogeneous, however, the reactants are in two different phases, and collisions between the reactants can occur only at interfaces between phases. The number of collisions between reactants per unit time



is substantially reduced relative to the homogeneous case, and, hence, so is the reaction rate. The reaction rate of heterogeneous reaction depends on the surface area of the more condensed phase. Automobile engines use surface area effects to increase reaction rates. Gasoline is injected into each cylinder, where it combusts on ignition by a spark from the spark plug. The gasoline is injected in the form of microscopic droplets because in that form it has a much larger surface area and can burn much more rapidly than if it were fed into the cylinder as a stream. Similarly, a pile of finely divided flour burns slowly (or not at all), but spraying finely divided flour into a flame produces a vigorous reaction.

CONCLUSION

In conclusion, simply saying, the reaction rate is generally highest at the beginning of a reaction, when the concentration of the substances reacting is highest. We can identify 5 different factors affecting the speed of chemical reactions, namely temperature, pressure, catalyst effects, phase and surface effects as well as the concentration of reagents. Reaction rate increases when temperature increases, when concentration increases, and when solid reactants have more surface area available (e.g., when the reactants are in smaller pieces). Catalysts are chemicals that raise reaction rates without being consumed in the reaction.

REFERENCE

1. Isaacs, Neil S. (1995). "Section 2.8.3". *Physical Organic Chemistry* (2nd ed.). Harlow: Addison Wesley Longman.
2. *Kinetics and catalysis*. Kochkarov M.A. 2005
3. Connors, Kenneth (1990). *Chemical Kinetics: The Study of Reaction Rates in Solution*. VCH Publishers. p. 14.



GROWTH AND INSTABILITY IN AGRICULTURE (A study of Andhra Pradesh)

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ABSTRACT

Andhra Pradesh State popularly known as the “rice bowl of India” has huge potential to agriculture. In the state, while majority of the population (62%) for their livelihood depend on agriculture related activities, it contributes only 27.84% to the state Gross Domestic Product and is growing at 6.2% (2018-2019). Andhra Pradesh has been continuing to be significantly influenced by the face of its agricultural development. The study aims to found the growth and instability in Area, Production and Productivity of paddy with time series data of paddy. The study reveals that the area, production and yield of paddy is in decreasing trend in Andhra Pradesh year by year. The instability analysis clearly shows that there is high instability in area, production and yield of paddy.

KEY WORDS: *Agriculture Development, Growth, Instability, Paddy, Yield.*

1. INTRODUCTION

The newly formed Andhra Pradesh State in 2014, lies between 12°41' and 19.07°N latitude and 77° and 84°40'E longitude, and is bordered by Telangana, Chhattisgarh, and Orissa in the north, the Bay of Bengal in the East, Tamil Nadu to the south and Karnataka to the west. Among the other states, which are situated on the country's coastal area, Andhra Pradesh has got a coastline of around 974 km, which gives it the 2nd longest coastline in the nation. Two major rivers, the Godavari and the Krishna run across the state. A small enclave 12 sq mi (30 km²) the Yanam district of Puducherry, lies in the Godavari Delta in the north east of the state. The state includes the eastern part of Deccan plateau as well as a considerable part of the Eastern Ghats. Andhra Pradesh can be divided into two regions, namely Coastal Andhra and Rayalaseema.

Andhra Pradesh State popularly known as the “rice bowl of India” has huge potential to develop. In the state, while majority of the population (62%) for their livelihood depend on agriculture related activities, it contributes only 27.84% to the state Gross Domestic

Product (Andhra GSDP) and is growing at 6.2% (2018-2019). Andhra Pradesh has been continuing to be significantly influenced by the face of its agricultural development. The growing of area however had not being uniform or study there had been considerable fluctuations in both area and production that led to the fluctuation in yield. Fluctuations in area of crops were caused by variation in price, whether conditions, availability of irrigation facilities, marketing etc. It is the fact that area of individual crops varying systematically in response to inter-crop price movement widely accepted on the basis of area response studies.

2. REVIEW OF LITERATURE

Pichad et al. (2014) made an attempt to studied the growth and instability in area, production and productivity of Chickpea in Amravati district. Compound Annual Growth Rate and Coefficient of Variation were used for the analysis. The results revealed that compound growth rates for area, production and productivity were found positive and significant. Ayalew and Sekar (2016) studied the



trends and regional disparity of maize production in India. Compound Annual Growth Rate, Cuddy Della Valle Index and decomposition analysis were used to examine the data. The study found an increase in the area and production of maize during their study period. Harshita Tewari et al. (2017) study reveals that the area, production and productivity of wheat production have shown the positive growth during 1990-91 to 2013-14 in their study area. Shabana Anjum and Madhulika (2018) were conducted a study on the growth and instability in the major crops of India. Cuddy Della Valle Index and Coppock's instability index has been calculated for all the crops. The entire study period is divided into three sub-periods: 1990-91 to 1999-2000, 2000-01 to 2009-10 and 2009-10 to 2016-17. Several fluctuations in the growth pattern of area, production and productivity of the crops were also observed in the study. Swain, Mrutyunjay, (2014) study analyzes the nature and sources of agricultural instability in the Bolangir district of Western Odisha, India. The nature of instability in agricultural production is examined by determining the Agricultural Instability Index (AII) of variables such as area, production and yield of food grains and paddy, irrigation coverage, and annual rainfall.

Asis Kumar Senapatia and Phanindra Goyari (2019) study has analysed the growth and instability in the productivity of major crops grown across the districts of Odisha, and examines its sensitivity to weather conditions during different phases of technological change. The study found that except gram, the rate of growth in yield of other crops in the state is dismal. Productivity of rice, potato, maize, groundnut, and sugarcane has not only experienced deceleration but also witnessed instability over time. Sunita et al. (2017) study has made an attempt to examine the instability in the area, production and productivity of barley crop in India and Haryana during three phases i.e. pre-green revolution, green revolution and post green revolution period. The results showed that in case of area, the instability is more in the post-green revolution than pre-green revolution period as the focus of the green revolution was mainly on other crops like rice and wheat.

Most of the previous studies, implicitly or explicitly assumed a close and direct relationship between area and output. An increase or decrease in area was regarded as a proxy for an increase or decrease in output of food crops. Although such assumption was generally valid it is worth pointing out that in subsistence agriculture, where yield could fall, an increasing area did not guarantee a raise in output. The present study aims to find growth and instability of paddy, which is the prominent crop in Andhra Pradesh.

3. OBJECTIVE OF THE STUDY

To study the growth and instability in Area, Production and Productivity of Paddy in Andhra Pradesh.

4. HYPOTHESIS OF THE STUDY

Null Hypothesis H₀: There is **instability** in the area, production and yield of paddy over the years in Andhra Pradesh.

Alternative hypothesis: There is **instability** in the area, production and yield of Paddy over the years in Andhra Pradesh.

5. SOURCE OF DATA

For this study, the time series data on area, production and yield for selected crops were obtained from secondary sources of various issues of Season and Crop Reports of Andhra Pradesh, Farm Statistical Abstracts of Andhra Pradesh for the period of 24 years i.e. 1995-2019.

6. TOOL OF ANALYSIS

Simple Regression Model:

To fulfill the objective of the study the following simple linear regression model was used to calculate growth rates for Area, Production and Yield of Paddy, Groundnut in Rayalaseema, Coastal regions and entire Andhra Pradesh.

$$Y = a + bt$$

where

Y = area / production / yield.

a, b are the constants to be determined.

t = time point

The percentage of linear growth rate is calculated by the formula

$$L. G. R = \frac{\hat{b}}{\bar{Y}} * 100$$

\hat{b} is tested by 't'-test statistic

$$t = \frac{\hat{b}}{S.E(\hat{b})}$$

Where,

$$S.E(\hat{b}) = \sqrt{\frac{\epsilon(Y - \bar{Y})^2}{N}}$$

Co-efficient of Variation:

To determine the Instability in area, output and yield of the selected crops, the co-efficient of variation to be calculated by the formula

$$CV = \frac{\sigma}{\bar{Y}} * 100$$

Where:

σ = standard deviation

\bar{Y} = mean of area / production / productivity.

**Instability Index:**

The use of coefficient of variation as a measure to show the Instability in time series data has some limitation. If the time series data exhibit any trend, the variation measured by CV can be over-estimated, i.e. the region which has growing production are at constant rate will score high in instability of production if CV is applied for measuring instability. To overcome this limitation Cuddy Della Valle Index(1978) has introduced the Instability Index for time series data that is characterized by trend. To test the Instability the following (CDV Index) measure has incorporated for this study.

$$CDV \text{ Index} = CV \sqrt{1 - R^2}$$

Where, CV is the Coefficient of Variation in percent, and R^2 is the coefficient of determination from time trend regression adjusted by the number of degree of freedom. The value of CDV Index has a range of 0-15 is categorized as low instability, 15-30

as moderate instability and above 30 as high instability.

7. RESULTS AND DISCUSSIONS**Fitted Trend Equations Analysis:**

The fitted trend equations for area, production and yield for Paddy are shown in the Table.1.

Royalaseema Region:

The estimated trend equations of paddy for Royalaseema region, Coastal region and entire Andhra Pradesh. The trend value(-3369.84) of area in Royalaseema shows negative and statistically significant, it indicates the area of paddy is decreases by 3369.82 hectares in every year of the study period. In case of production (29248.68) and yield (342.22) are positive and statistically significant, it revealed that the production increases by 29248.68 tonnes and Yield increases 342.22 kg by in every year of study period.

Table-1: Estimated Regression Equations for Paddy

Region	Area	Production	Yield
Royalaseema	$Y = 287422.62 - 3369.84 * t$	$Y = -17221.05 + 29248.68 * t$	$Y = 307.20 + 342.22 * t$
Coastal Andhra	$Y = 2793531.31 - 28651.06 * t$	$Y = 2793531.31 - 24561.06 * t$	$Y = 4122.014 - 12.18 * t$
Andhra Pradesh	$Y = 4719974.04 - 101686.74 * t$	$Y = 1552507.65 - 5805.58 * t$	$Y = 6260.75 - 106.82 * t$

*Shows significant at 5% probability level.

Costal Andhra Region:

The trend value of area (- 28651.06), production (- 24561.06) and (-12.18) yield in Coastal Andhra are negative and statistically significant, indicates the area of paddy is decreases by 28651.06 hectares, 24561.06 tonnes of production and 12.18 kg. of yield is decreasing in every year of the study period.

Entire Andhra Pradesh:

The trend value of area (-101686.74), production (-5805.58) and (-106.82) in entire Andhra

are negative and statistically significant, indicates the area of paddy is decreases by 101686,74 hectares, 5805.58 tonnes of production and 106.82 kg. of yield is decreasing in every year of the study period.

With the analysis of trend the study reveals that the area, production and yield of paddy is in decreasing in Andhra Pradesh year by year.

Growth and Instability Analysis:

The estimated linear growth rates for Area, Production and Yield for Paddy in Royalaseema, Coastal and entire Andhra Pradesh along with CV and CVD Index of Instability has shown in the Table-2.

Table - 2: Linear Growth Rates, CV and CDV Index for Paddy

Region	Linear Growth Rates			Co-efficient of Variation			CVD Index		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Royalaseema	- 13.73	8.40	7.47	21.71	101.06	101.98	19.43	81.79	87.25
Coastal Andhra	- 1.01	- 0.74	- 0.31	29.24	101.63	34.51	28.03	58.03	34.49
Andhra Pradesh	- 2.90	10.23	0.03	32.51	95.31	53.02	24.95	62.50	5074

Source: Authors calculations

**Royalaseema Region:**

The estimated Linear Growth Rate of area (- 13.73) is negative and growth rates of production (8.40) and yield (7.47) are positive, indicates the area of paddy is decreases by 13.73 hectares, production increased by 8.40 tonnes for every 1000 hectares and yield increased by 7.47 kg. of per hectare of paddy in every year of the study period. The Co-efficient of variation for area, production and yield are 21.71, 101.98 and 101.06 respectively. The calculated CVD Index is 19.43, shows moderate Instability in case of area under paddy in the study period. The calculated CVD Index is 81.79 for production and is 87.25 for yield of paddy, indicates the high Instability in case of production and yield in the study period

Coastal Andhra Region

The estimated linear growth rate of area (- 1.01) is negative and growth rates of production (- 0.74) and yield (- 0.31) are negative, indicates the area of paddy is decreases by 0.74 hectares, production decreased by 0.74 tonnes for every 1000 hectares and yield decreased by 0.31 kg. of per hectare of paddy in every year of the study period. The Co-efficient of variation for area production and yield are 29.24, 101.63 and 34.51 respectively. The calculated CVD Index is 28.03, shows moderate Instability in case of area under paddy in the study period. The calculated CVD Index is 58.03 for production and is 34.49 for yield of paddy, indicates the high Instability in case of production and yield in the study period.

Entire Andhra Pradesh:

The estimated linear growth rate of area (- 2.90) is negative and growth rates of production (10.23) and yield (0.03) are positive, indicates the area of paddy is decreases by 2.90 hectares, production increased by 10.23 tonnes for every 1000 hectares and yield increased by 0.03 kg. of per hectare of paddy in every year of the study period. The Co-efficient of variation for area production and yield are 23.51, 95.31 and 53.02 respectively. The calculated CVD Index is 24.9, shows moderate Instability in case of area under paddy in the study period. The calculated CVD Index is 58.03 for production and is 34.49 for yield of paddy, indicates the high Instability in case of production and yield in the study period.

8. CONCLUSIONS

The study has analysed the Growth and the Instability of paddy crop with time series data in Andhra Pradesh. There were several fluctuations in the growth pattern of area, production and productivity of paddy in Royalaseema region, Coastal Andhra and entire Andhra Pradesh. The study reveals that the area, production and yield of paddy is in decreasing trend in Andhra Pradesh year by year. The

Instability analysis clearly shows that there is high Instability in area, production and yield of paddy in region-wise and in entire Andhra Pradesh.

9. REFERENCES

1. Asis Kumar Senapatia and Phanindra Goyari (2019), "Growth and instability in agricultural productivity in Odisha", *Agricultural Economics Research Review*, 32 (1), 55-65.
2. Birhanu Ayalew and Sekar (2016), "Trends and regional disparity of maize production in India", *Journal of Development and Agricultural Economics*, Vol. 8(9), pp. 193-199.
3. Cuddy, J. D. A. and Della Valle, P.A. (1978), "Measuring the instability in time series data". *Oxford B. Econ. Stat.*, 40(1):79- 85.
4. Harshita Tewari, H.P. Singh and Usha Tripathi (2017), "A Region Wise Analysis of Uttar Pradesh, India" *International Journal of Current Microbiology and Applied Sciences*, ISSN: 2319-7706, Volume 6 Number 9 (2017) pp. 2537-2544.
5. Pichad SP, Wagh HJ, Kadam MM. (2014), "Growth in area, production and productivity of chickpea in Amravati", *Eco. and Statics*, 5(2):289-292.
6. Shabana Anjum and Madhulika (2018), "Growth and instability analysis in Indian agriculture", *International Journal of Multidisciplinary Research and Development*, ISSN: 2349-4182, Volume 5; Issue 11; November 2018; Page No. 119-125.
7. Sunita, Jitender Kumar Bhatia and Heena (2017), "Growth and Instability in Area, Production and Productivity of Barley in Haryana", *Current Journal of Applied Science and Technology*, vol; 5, pp 255-257.
8. Swain, Mrutyunjay (2014), "Sources of Growth and Instability in Agricultural Production in Western Orissa", *India, Asian Journal of Agriculture and Development*, vol. 11(2), pages 1-20.



ANALYSIS OF SOME EMBRYOGENETIC TRAITS OF THE INTRASPECIFIC AND INTERSPECIFIC F₁ HYBRID PLANTS *G.HERBACEUM* L. AND *G.ARBOREUM* L

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Article DOI: <https://doi.org/10.36713/epra4190>

ABSTRACT

In this article was given that number of anthers in intraspecific and interspecific F₁ hybrid plants obtained from crossing intraspecific varieties of the species *G.herbaceum* L. and *G.arboreum* L. were observed that was intermediate (*f.harga* x *subsp.africanum*, *subsp.obtusifolium* x *subsp.nanking*) and strong negative (*subsp.obtusifolium* x *subsp.perenne*, *f.harga* x *subsp.perenne*) than the selection material were observed and the number of pollen grains in one anther in groups obtained with the involvement of ruderal and ruderal (*subsp.pseudoarboreum* x *f.harga*, *f.harga* x *subsp.pseudoarboreum*, *f.harga* x *subsp.perenne*, *subsp.perenne* x *f.harga*) and (*subsp.nanking* (brown fiber) x variety «VIR 1372, variety «VIR 1372 x *subsp.nanking* (brown fiber)) form with the positive heterosis. The obtained data have a kind of versatility and were defined to correspond to the data of literary sources.

KEY WORDS: species, intraspecific, interspecific, variety, form, wild, ruderal, sympodial tropical, sympodial subtropical, flower, anther, pollen, pieces.

INTRODUCTION

Cotton fiber is one of the most important unique raw materials in agriculture. Therefore, the demand for the quality of cotton fiber in our country is growing every day. Especially in recent years, our government is conducting research on the creation of precocious, high-yield, machine-harvesting, resistant to environmental stress factors, including salt-resistant, drought-resistant, disease-resistant and pest-resistant varieties of cotton. A set of these features is present in polymorphic species of the *Gossypium* L. family. So, now, the transfer of useful traits from (from) wild species to cultivated varieties using genetic selection and other modern methods remains one of the most urgent tasks of cotton growing.

One of the oldest species of the family of the genus *Gossypium* L. *G.herbaceum* L. in terms of origin and geographical distribution has a wide polymorphism. Its difference from other polymorphic species is manifested by intraspecific varieties (wild, ruderal, tropical, subtropical and cultural) with morphobiological and uniquely useful economic and valuable features.

In this regard, many scientists conducted research in various fields. In particular, several scientists emphasized that the main factors determining the genetic relationship and belonging to a separate type of cotton can be identified by determining the number of anthers and pollen grains in one anther [1, 2, 4, 6, 8, 11].

In scientific research by V.G.Meyer [9-10], data on the difference in the average number of anthers in one flower of the new World species *G.hirsutum* L., *G.harknessi* Brandg are given and among the old World cottons this feature is prosmoren in the species *G.arboreum* L., *G.anomalum* Wawra et Peyr, *G.herbaceum* L., and differences between tetraploid and diploid species in the number of anthers are also determined. It was found that in the species *G.hirsutum* L. the average number of anthers in one flower was 121,6 and in *G.arboreum* it is equal to 78,6 pieces.

Z.B.Kuryazov [2] found that cotton species belonging to different genomes (A₁, A₂, B₁, B₂, E₁, E₄, F₁, D₅) and their interspecific hybrids differ significantly from each other in the number of



anthers in a flower. As a result, he noted the uniqueness of the each studied cotton species and this feature as one of the factors of belonging to a specific taxonomic unit.

According to the results of scientific research by B.H.Amanov [1], initial materials, intraspecific and interspecific hybrids differ in the number of anthers in a flower. In the course of the study, the number of anthers in one flower in the varieties «Ash-8» and «Karshi-8» was significantly lower than in the studied species and forms. He found that the number of anthers in intraspecific and interspecific F₁ plants were intermediate or relatively high compared to the parent forms. It is also noted that in hybrid plants obtained as a result of hybridization of varieties *G.darwinii* Watt and *G.barbadense* L. the data was significantly higher on this sign.

D.V.Ter-Avanesyan [5] in his research notes that the number of anther grains in the species *G.hirsutum* L. can reach from 100 to 150 pieces.

SOURCES AND METHODS OF EXPERIENCE

The materials were used for the experiment as the following forms the species *G.herbaceum* L.: wild - subsp.*africanum* (Watt) Mauer, ruderal - subsp.*pseudoarboreum* Mauer, subsp.*pseudoarboreum* f.*harga*, cultural - subsp.*euherbaceum* Mauer (variety «377»); *G.arboreum* L.: wild - subsp.*obtusifolium* (Roxb.) Mauer, subsp.*obtusifolium* var.*indicum*, ruderal - subsp.*perenne* (Blanco) Mauer, sympodial tropical - subsp.*neglectum* (Tod.) Mauer, subsp.*neglectum* f.*sanguineum*, sympodial subtropical - subsp.*nanking* (brown fiber) (Meyen) Mauer, cultural - (variety «VIR 1372») available in the gene pool of the laboratory «Experimental polyploidy and phylogeny of cotton» Institute of genetics and experimental biology of the Academy of Sciences of the Republic of Uzbekistan, data on these forms are given in the monograph published by F.M.Mauer [3].

Methods such as comparative morphology, intraspecific and interspecific hybridization, statistical and embryogenetic analysis were applied [7].

RESULTS OF THE EXPERIMENTS

It was determined that the number of anthers in one flower and the number of pollen grains in one anther in the species diversity of *G.herbaceum* L. and *G.arboreum* L. almost do not differ from each other. The number of pollen grains in the species *G.herbaceum* L. ranges from 55,0 to 88,8, with the

highest indicator observed in wild subspecies of this species subsp.*africanum* (88,8 ± 2,48). The lowest indicator was viewed in the cultural subsp.*euherbaceum* (variety «377»), where the number was 55,0 ± 1,54, which indicates equal values compared to other forms.

It was noticed that the number pollen grains in one anther are from 227,3 to 331,1. If the highest indicator was noted in the ruderal subspecies subsp.*pseudoarboreum* (331,1 ± 9,23 pieces), the lowest was in the wild subspecies subsp.*africanum* (227,3 ± 7,56 pieces), in the ruderal and cultural forms (229,2-270,8 pieces) (table).

The number of anthers in intraspecies in the diversity of the species *G.arboreum* L. is equal to 30,0-101,8 pieces, which shows the predominance than the forms of the species *G.herbaceum* L. by this indicator. The highest indicator for the studied by the trait was found in the wild subspecies subsp.*obtusifolium* var.*indicum* (101,8 ± 2,76), and the lowest was found in the cultural subspecies subsp.*nanking* (brown fiber) (30,3 ± 1,24) and other forms have relatively equal indicators (63,5-77,3) for the studied feature. According to the number of pollen grains in one anther, *G.arboreum* L. is expressed in the range of 211,3-281,1 pieces, and among the intraspecific varieties of the species were found than *G.herbaceum* L. If the highest indicator was observed in the tropical subspecies subsp.*neglectum* (281,1 ± 3,94 pieces), the lowest was expressed in the cultural form of the variety «VIR 1372» (211,3 ± 15,2 pieces). When analyzing other forms, this indicator was 212,4-273,7 pieces and nearly equal.

For analysis intraspecific F₁ hybrid plants of the species *G.herbaceum* L. were divided into 4 groups, where the number of anthers was 46,1-103,1 and the number of pollen grains in one anther was 190,5 - 396,4. It was noted that the highest indicator of anthers was found in a hybrid combination F₁ obtained by crossing wild and ruderal subspecies (subsp.*africanum* x subsp.*pseudoarboreum*), the value of which was 103,1 ± 0,89 pieces. The lowest indicator was obtained in a reciprocal combination when crossing wild and cultivated subspecies F₁ (subsp.*africanum* x



Table
The number of anthers in one flower and pollen grains in one anther in intraspecific and interspecific F₁ hybrids and their parent forms

Hybrid combinations and their parent forms	Number of studied flowers	Number of anthers pieces		Number of pollen grains in one anther, pieces	
		$\bar{x} \pm S\bar{x}$	S	$\bar{x} \pm S\bar{x}$	S
Parent form					
<i>G. herbaceum</i> subsp. <i>africanum</i>	10	88,8 ± 2,48	7,84	227,3 ± 7,56	23,8
<i>G. herbaceum</i> subsp. <i>pseudoarboreum</i>	10	78,1 ± 2,31	7,31	331,1 ± 9,23	29,1
<i>G. herbaceum</i> subsp. <i>pseudoarboreum</i> f. <i>harga</i>	10	65,5 ± 2,98	9,43	229,2 ± 6,44	20,3
<i>G. herbaceum</i> subsp. <i>euherbaceum</i> (variety «377»)	10	55,0 ± 1,54	4,85	270,8 ± 10,0	31,6
<i>G. arboreum</i> subsp. <i>obtusifolium</i>	10	77,0 ± 2,00	6,32	235,7 ± 5,53	17,4
<i>G. arboreum</i> subsp. <i>obtusifolium</i> var. <i>indicum</i>	10	101,8 ± 2,76	8,72	273,7 ± 6,67	21,0
<i>G. arboreum</i> subsp. <i>neglectum</i>	10	75,9 ± 1,48	4,68	281,1 ± 3,94	12,4
<i>G. arboreum</i> subsp. <i>neglectum</i> f. <i>sanguineum</i>	10	63,5 ± 1,99	6,28	233,2 ± 9,71	30,6
<i>G. arboreum</i> subsp. <i>perenne</i>	10	77,3 ± 2,00	6,33	271,4 ± 7,02	22,1
<i>G. arboreum</i> subsp. <i>nanking</i> (brown fiber)	10	30,3 ± 1,24	3,92	212,4 ± 12,9	40,8
<i>G. arboreum</i> (variety «VIR 1372»)	10	71,9 ± 1,43	4,51	211,3 ± 15,2	48,2
F1 intraspecific hybrids (G. herbaceum L.)					
subsp. <i>africanum</i> x subsp. <i>pseudoarboreum</i>	10	103,1 ± 0,89	2,81	204,8 ± 1,12	3,55
subsp. <i>pseudoarboreum</i> x subsp. <i>africanum</i>	10	73,7 ± 0,82	2,58	190,5 ± 0,98	3,10
f. <i>harga</i> x subsp. <i>africanum</i>	10	72,2 ± 0,94	2,97	225,2 ± 1,08	3,43
subsp. <i>africanum</i> x subsp. <i>euherbaceum</i>	10	46,1 ± 1,01	3,18	232,3 ± 1,78	5,62
subsp. <i>euherbaceum</i> x subsp. <i>africanum</i>	10	46,8 ± 0,33	1,03	295,5 ± 0,43	1,35
subsp. <i>pseudoarboreum</i> x f. <i>harga</i>	10	55,7 ± 0,94	2,98	367,3 ± 2,90	9,15
f. <i>harga</i> x subsp. <i>pseudoarboreum</i>	10	55,4 ± 0,54	1,70	372,4 ± 0,58	1,84
subsp. <i>pseudoarboreum</i> x subsp. <i>euherbaceum</i>	10	60,4 ± 0,91	2,88	396,4 ± 0,82	2,59
subsp. <i>euherbaceum</i> x subsp. <i>pseudoarboreum</i>	10	62,2 ± 0,33	1,03	304,5 ± 0,54	1,72
f. <i>harga</i> x subsp. <i>euherbaceum</i>	10	47,6 ± 0,40	1,26	274,8 ± 0,42	1,32
subsp. <i>euherbaceum</i> x f. <i>harga</i>	10	46,7 ± 0,72	2,26	294,3 ± 0,70	2,21
F1 intraspecific hybrids (G. arboreum L.)					
subsp. <i>obtusifolium</i> x subsp. <i>perenne</i>	10	54,7 ± 1,19	3,77	264,7 ± 1,05	3,34
subsp. <i>perenne</i> x subsp. <i>obtusifolium</i>	10	56,0 ± 1,05	3,33	270,0 ± 0,87	2,75
var. <i>indicum</i> x subsp. <i>perenne</i>	10	73,6 ± 0,37	1,17	194,3 ± 0,34	1,06
subsp. <i>perenne</i> x var. <i>indicum</i>	10	83,6 ± 1,01	3,20	278,5 ± 1,57	4,97
subsp. <i>neglectum</i> x subsp. <i>obtusifolium</i>	10	56,9 ± 1,15	3,65	229,1 ± 0,68	2,72
subsp. <i>obtusifolium</i> x f. <i>sanguineum</i>	10	59,6 ± 0,48	0,51	239,4 ± 0,50	1,58
f. <i>sanguineum</i> x subsp. <i>obtusifolium</i>	10	84,1 ± 0,46	1,45	262,9 ± 0,64	2,02
var. <i>indicum</i> x subsp. <i>neglectum</i>	10	68,1 ± 0,50	1,60	328,5 ± 0,40	1,27
f. <i>sanguineum</i> x var. <i>indicum</i>	10	72,8 ± 0,74	2,35	311,4 ± 0,64	2,01
var. <i>indicum</i> x f. <i>sanguineum</i>	10	70,6 ± 0,86	2,75	300,2 ± 1,07	3,40
subsp. <i>obtusifolium</i> x subsp. <i>nanking</i>	10	50,7 ± 0,42	1,34	249,2 ± 0,53	1,69
subsp. <i>nanking</i> x subsp. <i>obtusifolium</i>	10	42,3 ± 0,76	2,41	247,3 ± 0,78	2,45
subsp. <i>obtusifolium</i> x variety «VIR 1372»	10	74,6 ± 0,96	3,03	312,4 ± 0,86	2,72
variety «VIR 1372» x subsp. <i>obtusifolium</i>	10	78,6 ± 0,45	1,43	236,4 ± 0,45	1,43
var. <i>indicum</i> x subsp. <i>nanking</i>	10	68,8 ± 0,39	1,23	239,7 ± 0,54	1,70
subsp. <i>nanking</i> x var. <i>indicum</i>	10	60,3 ± 0,45	1,42	319,0 ± 0,39	1,25
var. <i>indicum</i> x variety «VIR 1372»	10	98,9 ± 0,55	1,73	281,9 ± 0,48	1,52



variety «VIR 1372» x var. <i>indicum</i>	10	78,6 ± 0,54	1,71	356,3 ± 0,40	1,25
subsp. <i>neglectum</i> x subsp. <i>perenne</i>	10	83,5 ± 0,40	1,27	322,1 ± 0,55	1,73
subsp. <i>perenne</i> x f. <i>sanguineum</i>	10	76,6 ± 0,64	2,01	293,2 ± 1,83	5,79
f. <i>sanguineum</i> x subsp. <i>perenne</i>	10	69,6 ± 0,67	2,12	298,7 ± 1,01	3,20
subsp. <i>perenne</i> x subsp. <i>nanking</i>	10	54,4 ± 0,40	1,26	221,4 ± 0,40	1,26
subsp. <i>nanking</i> x subsp. <i>perenne</i>	10	56,4 ± 0,56	1,78	299,5 ± 0,65	2,07
subsp. <i>perenne</i> x variety «VIR 1372»	10	77,7 ± 0,80	2,54	328,3 ± 0,40	1,25
variety «VIR 1372» x subsp. <i>perenne</i>	10	90,9 ± 0,53	1,66	235,9 ± 0,53	1,66
subsp. <i>neglectum</i> x f. <i>sanguineum</i>	10	64,3 ± 0,42	1,34	358,5 ± 0,67	2,12
f. <i>sanguineum</i> x subsp. <i>neglectum</i>	10	62,5 ± 0,40	1,27	225,2 ± 0,55	1,75
subsp. <i>neglectum</i> x subsp. <i>nanking</i>	10	59,9 ± 0,46	1,45	223,3 ± 0,37	1,16
subsp. <i>neglectum</i> x variety «VIR 1372»	10	81,3 ± 1,91	6,04	293,7 ± 0,87	2,75
variety «VIR 1372» x subsp. <i>neglectum</i>	10	70,8 ± 0,71	2,25	277,8 ± 0,51	1,62
subsp. <i>nanking</i> x f. <i>sanguineum</i>	10	47,4 ± 0,60	1,90	218,4 ± 0,60	1,90
f. <i>sanguineum</i> x subsp. <i>nanking</i>	10	49,0 ± 0,47	1,49	208,0 ± 0,52	1,63
f. <i>sanguineum</i> x variety «VIR 1372»	10	71,1 ± 0,43	1,37	271,5 ± 0,40	1,27
variety «VIR 1372» x f. <i>sanguineum</i>	10	55,8 ± 0,39	1,23	212,8 ± 0,39	1,23
subsp. <i>nanking</i> x variety «VIR 1372»	10	68,0 ± 0,83	2,62	233,8 ± 0,61	1,93
variety «VIR 1372» x subsp. <i>nanking</i>	10	48,5 ± 0,40	1,27	312,5 ± 0,43	1,35
F1 interspecific hybrids (G. herbaceum L. x G. arboreum L. / G. arboreum L. x G. herbaceum L.)					
subsp. <i>africanum</i> x subsp. <i>obtusifolium</i>	10	57,2 ± 1,56	4,92	261,6 ± 0,75	2,37
subsp. <i>africanum</i> x var. <i>indicum</i>	10	71,5 ± 1,10	3,50	229,6 ± 1,86	5,91
subsp. <i>africanum</i> x subsp. <i>perenne</i>	10	75,4 ± 0,64	2,01	237,9 ± 0,59	1,85
subsp. <i>perenne</i> x subsp. <i>africanum</i>	10	65,8 ± 1,23	3,88	276,8 ± 0,77	2,44
subsp. <i>pseudoarboreum</i> x subsp. <i>obtusifolium</i>	10	70,9 ± 1,34	4,23	314,9 ± 0,80	2,51
subsp. <i>obtusifolium</i> x subsp. <i>pseudoarboreum</i>	10	74,4 ± 0,91	2,88	260,0 ± 1,05	3,33
var. <i>indicum</i> x subsp. <i>pseudoarboreum</i>	10	88,2 ± 0,51	1,62	247,4 ± 0,62	1,96
subsp. <i>pseudoarboreum</i> x var. <i>indicum</i>	10	85,6 ± 1,16	3,68	243,6 ± 1,54	4,88
f. <i>harga</i> x subsp. <i>obtusifolium</i>	10	71,3 ± 2,30	7,30	231,3 ± 1,83	5,81
subsp. <i>neglectum</i> x subsp. <i>africanum</i>	10	90,3 ± 1,00	3,16	277,2 ± 0,76	2,39
subsp. <i>africanum</i> x f. <i>sanguineum</i>	10	70,0 ± 1,02	3,23	230,4 ± 1,12	3,53
f. <i>sanguineum</i> x subsp. <i>africanum</i>	10	82,2 ± 0,84	2,66	235,0 ± 1,03	3,27
subsp. <i>africanum</i> x subsp. <i>nanking</i>	10	56,7 ± 0,45	1,42	274,7 ± 0,50	1,57
subsp. <i>nanking</i> x subsp. <i>africanum</i>	10	62,1 ± 0,53	1,66	254,2 ± 0,61	1,93
subsp. <i>pseudoarboreum</i> x subsp. <i>perenne</i>	10	87,0 ± 1,51	4,78	284,7 ± 2,63	8,31
subsp. <i>perenne</i> x subsp. <i>pseudoarboreum</i>	10	79,9 ± 1,10	3,48	254,1 ± 1,96	6,19
f. <i>harga</i> x subsp. <i>perenne</i>	10	48,0 ± 0,47	1,49	324,0 ± 0,49	1,56
subsp. <i>perenne</i> x f. <i>harga</i>	10	44,7 ± 1,26	3,99	322,0 ± 1,57	4,98
subsp. <i>neglectum</i> x subsp. <i>pseudoarboreum</i>	10	88,2 ± 1,26	3,97	324,8 ± 1,54	4,87
subsp. <i>pseudoarboreum</i> x f. <i>sanguineum</i>	10	87,0 ± 0,47	1,49	344,0 ± 0,56	1,76
f. <i>sanguineum</i> x subsp. <i>pseudoarboreum</i>	10	85,0 ± 0,47	1,49	339,0 ± 0,52	1,63
f. <i>harga</i> x subsp. <i>neglectum</i>	10	63,0 ± 0,47	1,49	335,0 ± 0,49	1,56
subsp. <i>neglectum</i> x f. <i>harga</i>	10	74,0 ± 0,47	1,49	277,1 ± 0,50	1,60
f. <i>harga</i> x f. <i>sanguineum</i>	10	70,0 ± 0,47	1,49	243,0 ± 0,49	1,56
f. <i>sanguineum</i> x f. <i>harga</i>	10	52,4 ± 0,45	1,43	325,4 ± 0,45	1,43
subsp. <i>pseudoarboreum</i> x subsp. <i>nanking</i>	10	56,8 ± 1,32	4,18	331,0 ± 2,87	9,07
subsp. <i>nanking</i> x subsp. <i>pseudoarboreum</i>	10	57,4 ± 0,92	2,91	313,3 ± 1,42	4,50
f. <i>harga</i> x subsp. <i>nanking</i>	10	68,0 ± 0,47	1,49	267,8 ± 0,39	1,23
subsp. <i>nanking</i> x f. <i>harga</i>	10	54,5 ± 0,50	1,58	238,4 ± 0,48	1,51



subsp. *euherbaceum* (variety «377»)) (46,1-46,8 pieces), in which the amplitude of variability averaged 42-50 and 45-48 pieces, and the coefficient of variation was 2.2% and 6.8%, respectively.

In reciprocal hybrid combinations involving other groups, the indicators were relatively equal in the number of anthers per flower (47,4-90,9 pieces). The amplitude of variation average 45-50 pieces and 88-93 pieces respectively and the coefficient of variation was 4.0% and 1.8% respectively. The highest indicator of pollen grains in anther (358,5 pieces) was observed in a hybrid combination F₁ (subsp. *neglectum* x subsp. *neglectum* f. *sanguineum*) with the participation of tropical subspecies and forms, where the amplitude of variability averaged 365-361 pieces, and the coefficient of variation - 0.59%.

This showed that F₁ hybrids of the species *G. herbaceum* L. were predominate by the number of pollen grains in one anther. In the hybrid combination F₁ (subsp. *obtusifolium* var. *indicum* x subsp. *perenne*) with the participation of wild and ruderal subspecies and forms, the lowest indicator of pollen grains in one anther was observed (194,3 ± 0,34) with the average amplitude of 193-196 pieces, and the coefficient of variation was 0.55%.

In reciprocal hybrid combinations of F₁ hybrids with other studied forms, the number of pollen grains in one anther was almost equal (208,0-356,3 pieces), the amplitude of variability average 206-210 and 355-358 pieces respectively with the coefficient of variation equal to 0,79% and 0,35% respectively.

When we analyzed interspecific F₁ hybrids of the species *G. herbaceum* L. and *G. arboreum* L. divided into 7 groups, number of anthers was 44,7-90,3 pieces, and the number of pollen grains in one anther - 229,6-344,0 pieces and intraspecific F₁ hybrids of the species *G. herbaceum* L., *G. arboreum* L. showed relatively low indicator on the studied characteristics. If the largest number of anthers is observed in F₁ hybrids obtained with the participation of subspecies and forms of the species *G. herbaceum* L. and *G. arboreum* L. in a combination of wild and tropical forms of F₁ (subsp. *neglectum* x subsp. *africanum*), where the number of pollen grains is 90,3 ± 1,00 pieces, the smallest number of anthers was determined in the hybrid combination of the ruderal form F₁ (subsp. *pseudoarboreum* f. *harga* x subsp. *perenne*) and was 44,7-48,0 pieces. At the same time, the amplitude of variability was on average 40-52 and 46-50 pieces, and the coefficient of variation - 8.9% and 3.1% respectively. Reciprocal hybrid combinations involving other forms were relatively equal (52,4-88,2 pieces), with an average variation amplitude of 50-54 and 83-94 pieces, with the coefficient variation of 2,7% and 4,5% respectively.

The largest number of pollen grains in the anther (339-344 pieces) was observed in a combination of reciprocal F₁ hybrid plants attracted by crossing ruderal and tropical subspecies (subsp. *pseudoarboreum* x subsp. *neglectum* f. *sanguineum*). The amplitude of variation average 337-341 and 342-346 and the coefficient of variation was 0,51% and 1,5%, respectively. According to the studied trait, the lowest indicator was observed in F₁ plants in a hybrid combination (subsp. *africanum* x subsp. *obtusifolium* var. *indicum*) (229,6 ± 1,86 pieces), where the average amplitude of variability is 220-237 pieces, and the coefficient of variation is 2,5%. In reciprocal hybrid combinations obtained by crossing other groups, the number of pollen grains in one anther is relatively equal (231,3-339,0) with an average amplitude of 225-240 and 337-341 respectively and the coefficient of variation 2,5% and 0,48%, respectively.

The indicators of the studied traits was showed that the difference both in the parent forms and in intraspecific and interspecific hybrids. The number of anthers in the studied cultural subspecies subsp. *euherbaceum* (variety «377») and subsp. *nanking* (brown fiber) was significantly less than in other studied subspecies and forms, including wild subsp. *africanum* 227,3 ± 7,56, as well as in the subspecies subsp. *nanking* (brown fiber) belonging to the species and *G. arboreum* L. and in the form (variety «VIR 1372»), where this indicator was 212,4-211,3 pieces.

CONCLUSIONS

The number of anthers in intraspecific and interspecific F₁ hybrid plants obtained from crossing intraspecific varieties of the species *G. herbaceum* L. and *G. arboreum* L. were observed that was intermediate (f. *harga* x subsp. *africanum*, subsp. *obtusifolium* x subsp. *nanking*) and strong negative (subsp. *obtusifolium* x subsp. *perenne*, f. *harga* x subsp. *perenne*) than the selection material were observed and the number of pollen grains in one anther in groups obtained with the involvement of ruderal and ruderal (subsp. *pseudoarboreum* x f. *harga*, f. *harga* x subsp. *pseudoarboreum*, f. *harga* x subsp. *perenne*, subsp. *perenne* x f. *harga*) and (subsp. *nanking* (brown fiber) x variety «VIR 1372, variety «VIR 1372 x subsp. *nanking* (brown fiber)) form with the positive heterosis. The obtained data have a kind of versatility and correspond to the data of literary sources.

REFERENCE

1. Amanov B.H. Inheritance of genetic diversity and morpho-economic characteristics of Peruvian cotton.: Doctor of Philosophy (PhD) of Biological Sciences.- 2010. - P. 34-42.



2. Kuryazov Z.B. *Intergenetic relatedness of African-Asian cotton species and phylogenetic relationship with American cotton G.raimondi Ulbr.: author... Doctor of Philosophy (PhD) of Biological Sciences.- 2002. - P. 12-13.*
3. Mauer F.M. *Origin and systematics of cotton. // in the book: cotton.- Tashkent: Fan, 1954. - Vol. 1. - 384 p.*
4. Rizaeva S.M. *Distant hybridization of cotton and obtaining new donors (using the example of the New World species): Diss. ... doc biol. Science.- Tashkent: R&D "Biolog", Academy of Sciences of the Republic of Uzbekistan, 1996.- 289 p.*
5. Ter-Avanesyan D.V. *Cotton Blend // Leningrad: Kolos, 1973. - 483 p.*
6. Ernazarova Z.A. *Interspecific relationship of C-genomic cottons and their phylogenetic relationships with D-genomic species: author. Doctor of Philosophy (PhD) of Biological Sciences.- 1998. - B. 16-17.*
7. Abdurakhmonov I.Y., Abdullaev A., Buriev Z., Shermatov Sh., Kushanov F.N., Makamov A., Shapulatov U., Egamberdiev Sh.S., Salakhutdinov I.B., Auybov M., Darmanov M., Rizaeva S.M., Abdullaev F., Nomofov Sh., Khalikova M., Saydaliev H., Avtonomov V.A., Snamyay M., Duiesenov T.K., Musaev J., Abdullaev A.A., Abdukarimov A. *Cotton germplasm collection of Uzbekistan.//In book: World Cotton Germplasm Collection.- Chapter 11.- Ed. Abdurakhmanov I.Y.- Intech, 2014.- P. 289-309.*
8. Bajaj Y.P.S., Gill M.S. (1989) *Pollen-embryogenesis and chromosomal variation in anther culture of a diploid cotton (Gossypium arboreum L.). SABRAO J 21:57-63*
9. Meyer V.G. *Cytoplasmic effects on anther numbers in interspecific hybrids of cotton. II. G.herbaceum and G.harknessi.//J.: Heredity, 1971.- Vol. 62.- № 2.- P. 77-78.*
10. Meyer V.G. *Cytoplasmic effects on anther numbers in interspecific hybrids of cotton. III. G.longicalyx.//J.: Heredity.- 1972.- Vol. 63.- № 1.- P. 33-34.*
11. Omran A., Asadollah A., Saiid N. *Intragenomic diversity and geographical adaptability of diploid cotton species revealed by cytogenetic studies.//African Journal of Biotechnology.- 2007.- Vol. 6.- № 12.- P. 1387-1392.*



IMPACT OF COVID-19 ON AGRICULTURE: A CASE STUDY OF OKRA IN SOUTH GUJARAT

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ABSTRACT

The Coronavirus brought health crisis in the world and large number of countries affected by this pandemic and India is also one of them. The coronavirus has affected to almost all industries. The agriculture is considered as backbone of Indian economy and the COVID-19 has affected that also. The lockdown has stopped the transportation especially intra state movement. The present study tries to study impact of COVID-19 on agriculture with a case study of Okra in south Gujarat. For the study the data on business days, price and arrivals were collected from the government agriculture market data portal for the period of April and May for the year 2019 and 2020 and compared. The study found that in April and May 2020 there are less number of traded days (business days) compared to April and May 2019 further the farmers received less average price compare to previous year in April and May. The average arrival were also less disturbed compared to previous year.

KEYWORDS: Covid-19, business days, lockdown, Agri-supply chain, price realization

1. INTRODUCTION

In January 2020, China saw an outbreak of a new coronavirus strain now named SARS-CoV-2. Later on it spread in various countries including India. The first case of corona virus was reported in Kerala on 30th January, 2020. The Indian Government announced complete lock down on 24th March 2020. The lock down was implemented for 68 days in four phases (25th March 2020 to 31st May, 2020).

Impact of COVID 19 on Food Supply Chain

The lockdown in COVID 19 situation has impacted in all the dimensions of business. The most affected part is supply chain of the products. The transportation was affected and hence the supply chain has heavy impact of that. The consumer behaviour is also changes in such situation which also affected at end level of supply chain – retailer behaviour like stocking of items in uncertain times. In case of perishable products the transportation played instrumental role.

Indian Agriculture

Agriculture is the primary source of livelihood for about 58 percent of India's population, the Gross Value Added (GAV) by agriculture, forestry and fishing was estimated at Rs. 19.48 lakh crore (US\$ 276.37 billion) in FY 20 (IBEF report). According to World Bank, due to COVID-19 impact the India's economy to shrink by 3.2 percent in financial year 2020-2021. During lockdown, closing out the borders, quarantine measures and market supply chain being along with trade disruptions are restricting the people's access to nutritious sources of food, further the intra state transport affected largely (Marwah, 2020). The lockdown was called in harvesting season the agriculture produce is mostly perishable in nature, so farmers are required to sold out at lower prices or hold their unsold produce for a longer time and in both cases farmers incurred losses.

Okra Area and Production in South Gujarat

Okra is one of the major crop in south Gujarat, the major okra producing districts are Surat, Tapi, Navsari, Bharuch and Valsad. The following



table shows District wise (south Gujarat) Estimated Area & Production of Okra Crops Year 2018-19.

Table 1 District wise Estimated Area & Production of Okra Crop Year 2018-19

Region	Area	Production
Surat	13207	187275
Narmada	809	7443
Bharuch	2837	28654
Dang	1300	18954
Navsari	6500	82225
Valsad	2127	20185
Tapi	9960	135954
Sub - Total	36740	480690
Middle Gujarat Total	20421	223013
North Gujarat Total	9837	121057
Suurasthra - Kutch Total	8830	99880
Total	75828	924640
Percentage Contribution from South Gujarat	48.45	51.99

<https://doh.gujarat.gov.in/Images/directorofhorticulture/pdf/statistics/Area-Production-horticulture-2018-19.pdf>

As above table shows the 7 districts of south Gujarat had 48.45 percent of total area under cultivation for Okra and 52 percent of total estimated production were belong to the above 7 districts. Thus, in the present study it was tried to investigate the impact of COVID-19 situation in agriculture with special reference to okra in south Gujarat market.

2. METHODOLOGY

The present study focuses on the impact of Covid-19 situation on vegetable markets of South Gujarat. For present study the seven major markets of south Gujarat were selected namely Ankleshwar, Bharuch, S.manvi, Songadh, Surat, Valod and Vyara. To compare on the criteria one single vegetable – Okra (lady finger) was selected. The 46.44 percent of the Net Area sown under Okra cultivation were from south Gujarat in 2016-17 and as per estimated the 7 district of Gujarat will produce 50.38 percent of total okra in Gujarat. The data on business days, price and arrivals were collected from the government agriculture market data portal (agmark.gov.in) for the period of April and May for the year 2019 and 2020. The comparison of the seven market on business days, price and arrival quantities were carried out for the month April and May for 2019 and 2020. The collected data were analyzed with the percentages and presented in tabular form.

3. RESULT AND DISCUSSION

The data obtained from Agmark.net for the Gujarat state specifically for okra month April & May, 2019 and April & May 2020. The selected districts data were separated and the data of April and May months compared for the years 2019 and 2020.

The table 2 shows the data on total arrival, Number of Days Worked/traded, average arrival and average price per quintal of okra for the month of April and May, 2019 and 2020 respectively. As table depicts in the month of April 2019 the highest arrival of okra reported in surat (1738 t) followed by vyara (1214.7 t) which is 94 percent of total arrival of seven market of south Gujarat whereas in April 2020 highest arrival observed in Surat (878 t) followed by valod (701.2 t). In May 2019 the highest arrival of okra reported in surat (1825 t) followed by vyara (565.7 t) which is 86.88 percent of total arrival of seven market of south.

The diversification of arrivals was observed due restriction on transportation in inter and intra district of Gujarat, in songadh market 205.4 t higher arrival of okra in April 2020 compare to April 2019 which was around 5 times higher as compared to previous year, whereas



Table: 2 Comparison between April- May 2019 and April- May 2020 for Okra

Market	Apr-19				May-19				Apr-20				May-20			
	Total Arrival	No. of Days Worked	Average Arrival	Average Price	Total Arrival	No. of Days Worked	Average Arrival	Average Price	Total Arrival	No. of Days Worked	Average Arrival	Average Price	Total Arrival	No. of Days Worked	Average Arrival	Average Price
Ankleshwar	20.71	29	0.71	4083.6	27.73	31	1.79	1533	31.57	26	1.21	2310.57	37.1	27	1.37	1109
Bharuch	18.48	24	0.77	2139.1	27.04	25	1.08	1748	78.8	26	3.03	1538.46	70.9	27	2.62	961.1
S.Mandvi	1.61	28	0.05	3409.9	2.46	27	0.09	1682	1.97	21	0.09	1351.3	2.56	25	0.1	1056
Sonagadh	44.3	24	1.84	3816.3	17.1	27	0.63	1957	249.7	27	9.6	1534.97	2.5	24	0.1	1471
Surat	1738	30	57.93	3366.7	1825	31	58.9	1151	878	26	33.77	1548.96	1016	26	39.07	980.4
Valod	103	30	3.43	4075	286.6	31	9.88	1751	701.2	26	26.97	1418	794	26	30.54	921.2
Vyara	1214.7	26	46.71	4747.8	565.7	30	18.9	2253	7.3	16	0.456	1092.85	13.1	25	0.52	1023

Total Arrival and Average arrivals - (In tons) Average Price- Rs/Quintal

Source: AGMARK

In valod market it was also observed around 7 times higher arrivals in April 2020 (difference-598.2) and 2.5 times higher in May 2020 (difference-507.5) compare to previous years April and May months. It shows that due pandemic protocol the breakdown in supply chain of fresh Agricultural produce was observed. As the farmers are not able to sale their produce to towards the surat market, high loss of total 860 t arrivals in April 2020 and 809 t in

May 2020 compare to previous years april and may month. These situations may arise due to lockdown and transportation was affected largely so farmers may choose to sale their product in nearby place. The COVID-19 situation created uncertain environment where the farmers avoid travelling to other market for selling their produce.

Table:-3 Impact of lockdown on Business Days, Average Price and Average Arrivals for Okra

Market	Business Days		Average Price		Average Arrival	
	April	May	April	May	April	May
Ankleshwar	-3	-4	-1773.05	-424.08	0.5	-0.42
Bharuch	2	2	-600.67	-786.89	2.26	1.54
S.Mandvi	-7	-2	-2058.6	-626.24	0.04	0.01
Sonagadh	3	-3	-2281.3	-485.79	7.76	-0.53
Surat	-4	-5	-1817.7	-170.37	-24.16	-19.8
Valod	-4	-5	-2657	-829.57	23.54	20.66
Vyara	-10	-5	-3654.95	-1229.85	-46.25	-18.34

The above table shows the comparison between April month and may month for 2019 and 2020 for seven market of south Gujarat. As table

shows in case of business days / trading days were affected in april and may both the months of 2020. In case of month of April 2020 vyara market losses 10



business days followed by S.Mandvi (7 days), surat and valod 4 days each, and Ankleshwar losses 3 days compare to 2019. In month May, 2020 Except Bharuch market all other market losses business days such as Ankleshwar (4 days), S.mandvi (2 days), Songadh (3 days). Surat, Valod and Vyare 5 days loss each market.

An attempt was also made to compare the average price for both the month with last year and it was found that in month of April 2020 the vyara market has low price realisation compare to april 2019 by Rs. 3654.95 per quintal followed by valod (Rs.2657 per quintal), Songadh (Rs. 2281.3 per quintal), S. Mandvi (Rs. 2058.6 per quintal), Surat (Rs. 1817.7 per quintal), Ankleshwar (1773.05 Rs. Per quintal) and Bharuch (Rs.600.67 per quintal). In month of May 2020 the low price realization was observed in all markets. The highest loss observed in vyara market by Rs. 1229.85 per quintal followed by Valod (Rs. 829.57), Bharuch (Rs.786.89), S.Mandvi (Rs. 626.24), Songadh (Rs. 485.79), Ankleshwar (Rs.424.08) and surat (Rs.170.37) markets.

The researcher had also compared the average arrival of quantity per day for the month April and May between 2019 and 2020. It was found that for the month of April 2020 the vyara market affected with less average by 46.25 tons followed by surat by 24.16 tons. Which may be due to less number of traded days and also due to low price realization in that month. However in valod market it is increased by 23.54 tonnes and songadh market 7.76 tones per day. For the month of May 2020 the Surat market affected with less average arrival by 19.8 tons followed by vyara by 18.34 tons. Which may be due to less number of traded days and also due to low price realization in that month. However in valod market it was increased by 20.66 tonnes which shows restriction of inter district and interstate transportation effects and uncertainty, and also health safety, due to that farmers avoid travelling to faraway place to sell their produce for better price realization.

CONCLUSION

The present study was conducted to access the impact of COVID-19 situation on agriculture especially selling of produce, for that purpose okra which is one of the major vegetable crop of south Gujarat was selected and data on business days, price and arrivals were collected from the government agriculture market data portal. The study found that in April and May 2020 there are less number of traded days (business days) compared to April and May 2019 further the farmers received less average price compare to previous year in April and May. The average arrival were also disturbed compared to previous year and the diversion in case of selling of okra was also observed during the period.

REFERENCES

1. IBEF. (June, 2020). *Agriculture in India: Information About Indian Agriculture & Its Importance*. India Brand Equity Foundation, retrieved from <https://www.ibef.org/industry/agriculture-india.aspx>.
2. Marwah, N. (2020. june 13). *Impact of COVID-19 on the Agriculture Sector*. Inventiva, Retrived from <https://www.inventiva.co.in/trends/nandini/impact-of-covid-19-on-the-agriculture-sector/>.

Websites

3. <https://agmarknet.gov.in/>
4. <https://agmarknet.gov.in/PriceAndArrivals/CommodityDailyStateWise.aspx>
5. <https://www.microbiologyresearch.org/content/coronaviruses>
6. <https://www.mygov.in/covid-19>
7. <https://www.civildaily.com/burning-issue-covid-19-and-its-impact-on-agriculture/>
8. <https://doh.gujarat.gov.in/Images/directorofhorticulture/pdf/statistics/Area-Production-horticulture-2018-19.pdf>
9. <https://www.icrisat.org/containing-covid19-impacts-on-indian-agriculture/>
10. <https://www.who.int/>
11. <https://www.agritecture.com/blog/2020/3/23/6-impacts-of-covid-19-on-agriculture>
12. <https://www.inventiva.co.in/trends/nandini/impact-of-covid-19-on-the-agriculture-sector/>
13. <https://www.ibef.org/industry/agriculture-india.aspx>



PROSPECTS FOR THE PRODUCTION OF HIGH-QUALITY RAW SILK FROM LOCAL SILKWORM GRAINS

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ANNOTATION

This article presents the results of research carried out in the field of improving the quality of silkworm cocoons, increasing the yield and improving the quality of raw silk that meets the requirements of quality class 4A and 3A according to the criteria of international standards. New methods of preparing cocoons for unwinding are also presented, which ensure high quality of raw silk and reduce the specific consumption of cocoons during their production.

KYE WORDS: *agrotechnology, cocoons, cocoon thread, zaparka, sericin, silk, fibroin, unwinding, cocoon winding, raw silk, quality, vacuum, technology, filling, tension.*

INTRODUCTION

Natural silk is the most expensive and valuable raw material in the textile industry. The Republic of Uzbekistan is one of the leading countries in the world producing and processing natural silk. At present, it occupies a quarter of the place in the world. In recent years, the silk industry has been further developed, especially in the light of recent decisions of the top leadership of our state.

In a number of Decrees and Resolutions of the President of the Republic of Uzbekistan, the tasks of improving and strengthening the silk industry are defined. For this purpose, it is planned to expand the silkworm feed base by planting additional linear plantings and mulberry plantations, organizing the production and procurement of high-quality silkworm cocoons. It is necessary to improve the primary processing and processing of cocoons,

modernize existing and create new capacities for the production of raw silk and silk yarn, and organize deep processing of silkworm cocoons. It is necessary to improve the effective organization of work to increase the volume of production and improve the quality of finished silk fabrics, develop its most popular ranges, increase the export potential of the industry, and ensure standardization that meets international requirements.

Today on the territory of the Republic in the system of the Association "Uzbekinprint" there are more than 40 salamatullah enterprises, and mounted and put into operation about 100 series (400 catches) high-performance reeling machines type of FEIYU 2000 EX, FEIYU 2008 NT production of China. The total capacity of silk-winding enterprises equipped with imported equipment is 38,800 catchers. There is a relatively large specific consumption of cocoons,



despite the high level of mechanization and automation of technological processes, raw silk quality of CL. 4A and 3A is lower than expected. Therefore, improving the quality of raw silk produced and reducing the specific consumption of cocoons is a very urgent task facing the industry.

PURPOSE OF RESEARCH

The aim of the work is to produce raw silk 4A, 3A, which meets the norms and requirements of international standards, ensuring the production of high-quality raw silk at a minimum cost of energy and labor resources. This goal is achieved by introducing a new agricultural technology created for growing mulberries and cocoons, creating a new type of steaming device based on pre-forced filling of the inner cavity of cocoons with water of a certain temperature and holding these cocoons in a barge with water of the required temperature to the state of softening sericin.

METHOD OF RESEARCH

The paper uses theoretical and experimental research methods. The methodological basis of

research is the work of scientists in this field and methods of mathematical analysis. The results of experimental studies are processed using mathematical statistics.

MAIN PART

The quality of raw silk depends primarily on the technological and quality indicators of the cocoons used. It is no secret that the technological and quality indicators of cocoons from imported grain (Chinese, Japanese, Korean) significantly exceed the same indicators of cocoons from local grain. Therefore, scientists-breeders of our Republic create new breeds and hybrids of local cocoons, some of them even higher in quality than imported analogues. In the experimental section of Uzniinv, trial feeding of some new hybrids created in Uzniinv was performed, using the created new agricultural technology of Uzniinv, mulberry growing and silkworm feeding [1,2]. Technological indicators of cocoons grown from newly created hybrids of local silkworm breeds, fed using the new agricultural technology of Uzniinv are shown in table 1.

Table 1

№ p/p	Name of indicators	Hybrids of silkworm cocoons					
		Oltin vodi y 2	Zarafsh on	Istiqbol	Line 2m x Line 3m	Marvarid x Line 41	Line 65 x Guzal
1	Average weight of cocoons, g	1,007	0.934	0,972	0,884	0,915	0,892
2	Silkiness of cocoons, %	53,14	51,60	52,28	52,29	50,73	53,00
3	The output of raw silk, %	44,14	44,45	44,75	47,22	44,65	43,87
4	Unwinding of the shell, %	84,4	87,4	84,6	89,2	86,7	86,8
5	Linear density of cocoon threads, Tex	0,308	0,321	0,333	0,318	0,306	0,308
6	Metric number of cocoon threads	3246	3121	3006	3146	3278	3253
7	Length of continuous-forming threads, m	1345	1295	1287	1205	1200	1215
8	The total length of the cocoon thread, m	1522	1402	1366	1330	1352	1346
9	Specific consumption of cocoons, kg/kg	2,27	2,25	2,23	2,12	2,24	2,28

Analysis of the data shown in table. 1 it is clear that the technological indicators of cocoons of painted hybrids are very good, they are not inferior to imported analogues in all indicators. Zoning these hybrids in sericulture will improve the quality of raw silk produced and significantly reduce the specific consumption of cocoons.

The quality of raw silk produced depends largely on the technological parameters of cocoon processing at silk-winding enterprises. It is therefore necessary to scrutinize the entire process chain of production of raw silk, since passportization cocoons and their selection in the batch and ending with the

removal of raw silk from the reel, their testing in the production lab and baling, using all the new technology in the production of raw silk. Here, special attention should be paid to the process of steaming cocoons, since all the quality indicators of the raw silk produced depend on this technological operation. The purpose of sealing the cocoons is to fill the inner cavity of the cocoons with process water and to soften the sericin to relax the adhesion force of the sericin. Without performing this operation, it is impossible to unwind the cocoons. Cocoon steaming is performed on various types of steaming units with automatic cocoon winding.



When the cocoons are steamed, the inner cavity of the cocoons is filled in a vapor-water environment, due to a large pressure drop inside the cocoon shell. Currently, many enterprises use a vacuum method for filling cocoons with water, and softening sericin in the cocoon shell is performed directly by searching the ends of the cocoon threads on a cocoon-shaking machine. The degree of filling of the cavity of the cocoons depends on the method of unwinding cocoons, there are three ways of unwinding of the cocoons: the first method of unwinding cocoons in a floating state, used when unwinding the cocoons of the mechanical reeling machine, with the cocoons filled with water to 75% of the inner cavity of the cocoon; second, a way of unwinding the cocoons in half-sunk condition, is used in the unwinding of the cocoons to the reeling machines of the type SKE-4-WU, SK-5, etc., with the cocoons filled with water to 92% of the internal cavity of the cocoon; the third way of unwinding in the submerged condition, used for

Cocoon steaming is a preparatory process that facilitates the separation of the silkworm (fibroin) of the cocoon shell to produce a silk thread, and for gluing together the individual silkworms that form the raw silk thread. The mulberry that makes up the shell of the cocoon is glued together with sericin and in order to separate it from the shell in order to frame it, it is necessary to soften this sericin. Moreover, sericin must be softened to such an extent that the silk can easily come off the cocoon shell when it is unwound. The complementary thread of raw silk is obtained by co-unwinding several cocoon threads into one thread, so it is necessary to ensure a tight bonding between the silks that descend from the separate cocoons. To soften sericin, there are various methods of processing cocoons, the most common of

which is the method of processing cocoons in a vapor-water environment at high temperatures. The steaming of the cocoons before the unwinding and this is why this

The essence of the vacuum method of processing cocoons is that the cocoons are placed in a chamber, from which air is then pumped out by a vacuum pump. As the air in the chamber is rarefied, water begins to flow inside the cocoons. However, when using this method, the filling capacity of cocoons with water varies widely, since the filling capacity of cocoons is influenced by some technological indicators, such as the geometric dimensions of cocoons, the density of the shell, the linear density of cocoon threads, etc. Our experiments to determine the degree of filling of cocoons with process water show that the cocoons are filled gradually. After 2 minutes, the process of filling with water slows down, despite the fact that the vacuum pump continues to work, it takes at least 20 minutes for the cocoons to fill with water up to 97% of the internal volume.

In order to eliminate this disadvantage of the method, we have proposed a new method for filling cocoons with process water. The essence of the new method is that after the start of pumping air for 2 minutes, the camera cover opens, pulls out the cassettes with cocoons and leaves them in the air for 1.0 minutes. During this time, the air penetrates into the shell and the pressure inside the cocoon becomes equal to atmospheric pressure. After that, the cassettes with cocoons are placed in the chamber, the chamber cover is tightly closed and the air is pumped out of the chamber for 1.5-2.0 minutes. Indicators of the production capacity of the proposed method are shown in table 2.

Table 2

№ p/p	The parameters of the unwinding of the cocoons	Research options	
		Experienced	Tested
1	Water-filled cocoons, %	95-97	55-57
2	The output of raw silk, %	36,55	33,25
3	Length of continuously unwinding cocoon thread, m	1100	850
4	Specific consumption of cocoons, kg/kg	2,80	3,10
5	The number of unwound cocoons,kg	25,0	25,0

Analysis of the data shown in table. 2 shows that the unwinding of cocoons processed according to the proposed method gives better results for all major technological indicators due to the better filling capacity of cocoons with process water.

However, currently there are no instrumental methods for determining the quality of vaporization of the cocoon shell. In practice, for this purpose, use indirect prisms, the output of cocoons with hooked ends of cocoon threads and the

multiplicity of their processing with a brush. The output of cocoons with hooked ends of threads does not give an objective assessment of the quality of vaporization of the cocoon shell. Even with a 100 % probability of cocoons with hooked ends coming out, a high breakage can be observed during the unwinding process, due to the unevenness of the vaporization along the layers of the shell. Therefore, it is necessary to propose criteria for evaluating the vaporization of cocoons. As such a criterion, you can

use the forces of the silk thread when unwinding cocoons. It can be assumed that by determining the current value of the usulium of the cocoon thread of the shell, it is possible to judge the degree of vaporization of cocoons [5,6]. To measure the tension of a silk thread, we have developed an experimental setup (see Fig. 1).

The experimental setup consists of a winding basin-1 with a cocoon -2, a roller system -3,4,5, a hexagon motavila -6, the received movement from an electric motor -8 through a belt transmission -7. Technological testing of this installation was performed in production conditions by unwinding

cocoons steamed (processed) by vacuum method for unwinding on mechanical machines KMS-10. In the experiment, the unwinding speed was assumed to be 100 m / min., as the unwinding speed on mechanical machines KMS-10. At the experimental installation, the measurement of the tension force of the cocoon thread is drained by a strain gauge method, a sensitive element made in the form of a plate-9 with a strain Converter with an oil bath-10. To convert the signal from the strain Converter-11, an amplifier-12 and an analog-to-digital Converter-13 are used. the Digital signal is processed by a computer-14.

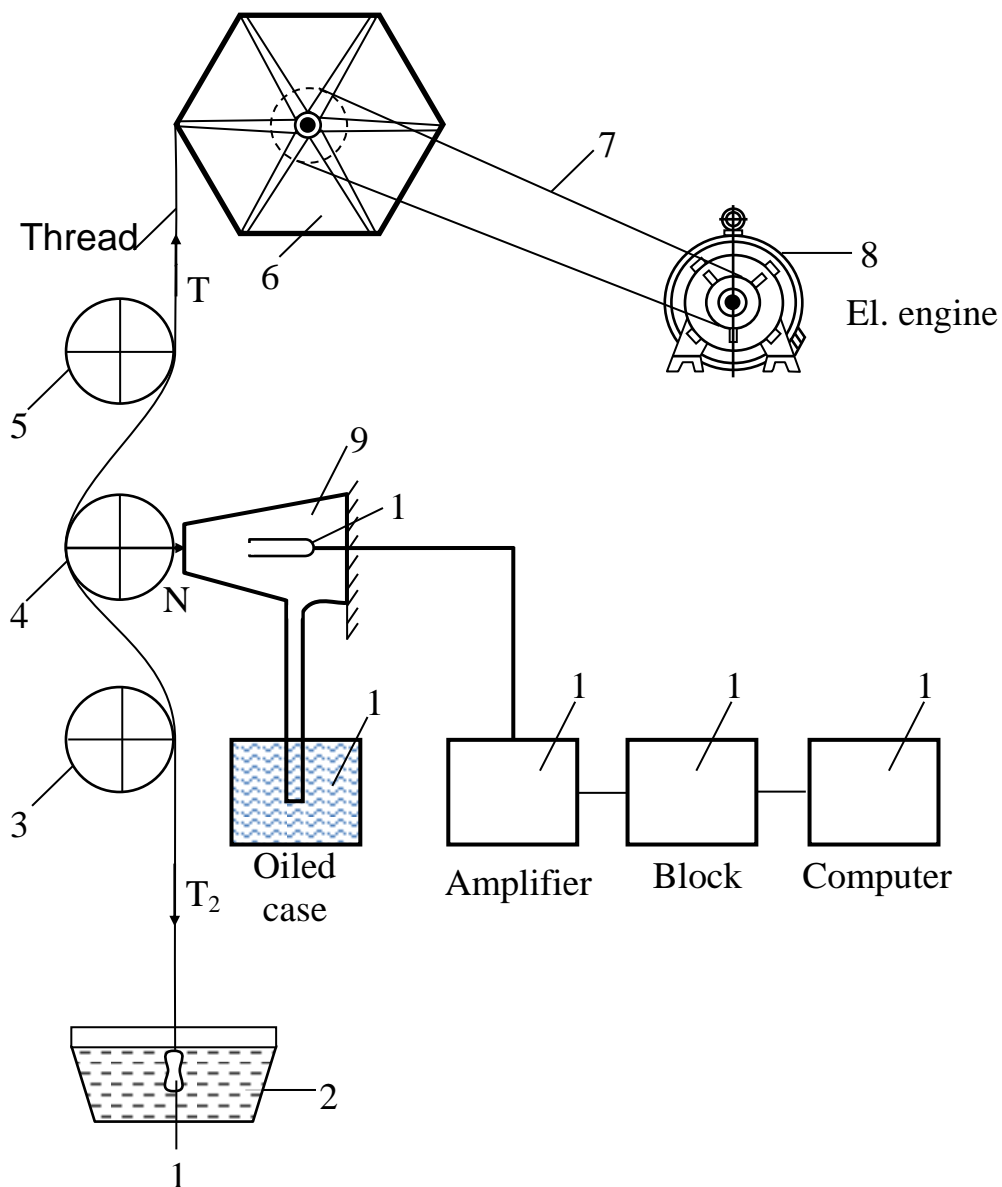


Fig. 1. Diagram of an experimental setup for determining the dynamic force of the thread escaping from the cocoon shell.



The thread tension is measured as follows. The thread being wound from the cocoon shell passes through the guide rollers as shown in Fig.1. the cocoon thread Moving in the roller-4 zone acts on the plate with a force of N , the value of Which depends on the tension of the cocoon thread T_1 and T_2 . To reduce the effect of the friction force in the guide roller supports on the thread tension, the rollers are mounted on rolling bearings.

It is known that the force of the thread escaping from the cocoon shell varies depending on the location of the thread in the layers of the cocoon shell [3,4]. In the upper layers of the shell, the winding force is the smallest, it gradually increases, and in the inner layers it falls again. Therefore, to

assess the quality of cocoon steaming, it is necessary to study the dynamics of changes in the thread escapement force when unwinding the middle layers of the cocoon shell, for example, after unwinding the first 100 meters of the thread. Proceeding from this consideration, when conducting experimental research, cocoons steamed in different ways were unwound for 1 minute on a single unwinding machine, then the unwinding was continued on an experimental setup [5,6]. As a result of the experiments, numerical values of the cocoon thread escapement force are obtained, shown in table.3 and graphs showing the nature of the change in the forces of the cocoon thread escaping from the shell, shown in Fig. 2.

Table 3

The method of steaming the cocoons	Moisture absorption of the cocoon, %	Thread tension (vanishing force), SN	
		Max. when unwinding. with a speed of 100 m / min	Max. when static. measurement
Swimmed	72-75	2,55	0,44
Steeped	95-97	0,72	0,06
Vacuum	100	0,60	0,04

Analysis of the research results shown in table.3 and in the graphs (see Fig.2) show. That the character of changes in the usuli of the cocoon threads coming off the shell is most uniform in cocoons steamed by submerged and vacuum methods. In cocoons steamed on mechanical cocoon-winding machines KMS-10, the thread escaping

force changes with a greater ampletude, which indicates that the steaming of the cocoon shell is uneven. This once again confirms the imperfection of the method of preparing cocoons for unwinding on mechanical machines and opens up prospects for creating new types of equipment for sealing.

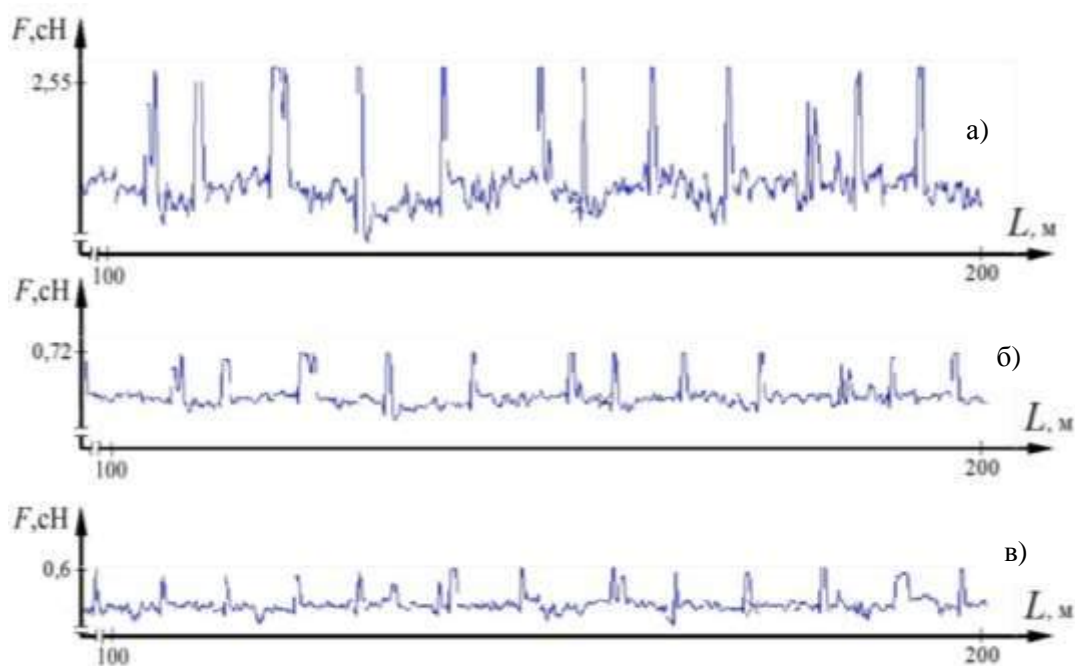


Fig. 2 the Nature of changes in the forces of the thread escaping from cocoons steamed in various ways.

- a) - steamed on mechanical machines KMS-10;
b) - steamed by submerged method;
c) - vacuum-vaporized.

Thus, the new agrotechnology of mulberry growing and silkworm rearing, as well as new methods of preparing cocoons for unwinding, allow a sharp improvement in the quality of raw silk produced, while reducing the specific consumption of cocoons.

ВЫВОДЫ

1. Has been created a new agrotechnology of mulberry growing and silkworm rearing, which allows the production of high-quality cocoons, which are introduced on farms when drawing silkworm cocoons.

2. New methods of preparing cocoons for unwinding have been Created and tested in the production conditions of cocoon-winding factories, ensuring high quality of the raw silk produced, reducing the specific consumption of cocoons.

3. A new instrumental method for determining the quality of cocoon vaporization has been Developed and a device for measuring the strength of cocoon threads has been created to assess the degree of cocoon vaporization.

REFERENCES

1. Patent UZ no. IAP 05222. Method of planting mulberry seedlings. / Akhunbabaev O. A., Valiev G. N., Akhunbabaev U. O., Mukhamdrasulov sh. Kh. // Rasmiy akhboratnoma, 2016, no. 6, p. 44.
2. Patent UZ no. FAP 00754. Multi-tiered device for feeding silkworm caterpillars./ Mirzaxanov M. M., H. V. R. Peter, Valiev G. N., Akhunbabaev U. O. // Rasmiy akhborotnoma, 2012, no. 9, pp. 48-49.
3. Rubinov E. B.-silk Technology (cocoon winding): Textbook for Universities // M., Light and food industry, 1981, 392 p.
4. Rubinov E. B., Usenko V. A., Ibragimov S. S.-the Doctrine of silk and cocooning (Part 1) // Moscow, Light industry, 1966, 368 p.
5. Akhunbabaev U. O., Asrorov G. G., Karabelnikov A.V., Tuichiev I. I. Development of a method for evaluating the quality of vaporization of cocoon shells. // Collection of materials of the XXI international NTF "SMARTEX -2015", Ivanovo, 2015, pp. 244-247.
6. Asrorov G. G., Islambekova N. M., Korabelnikov A.V., Akhunbabaev U. O. Evaluation of the quality of vaporization of the cocoon shell. // Bulletin of Kostroma state University. 2015, No. 2(35), pp. 6-9.



COMPARISON OF SELECTED DOMAINS OF QUALITY LIFESTYLE BETWEEN INDIANS AND INDIAN CANADIANS

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Article DOI: <https://doi.org/10.36713/epra4983>

ABSTRACT

The quality of various domains in life leads to life satisfaction which is essential for a balanced existence. From the perspective of physical and mental health, family, education, employment, wealth, safety & security to freedom, religious beliefs and the environment –all entities of a human life are involved to it. Attempt has been made to consider three major aspects of a quality life namely, mindful eating, physical activity and sleep hygiene to denote the status of behavioural habits of people living in India and Canada. 373 subjects, 234 from India and 139 from Canada, were selected conveniently for this study. It is observed that Canadian community is significantly superior in habits of mindful eating and physical activities in comparison to Indian subjects. However, no significant difference was found in sleep hygiene between the subjects living in India and Canada.

KEY WORDS: *Mindful eating, Physical Activity, Sleep Hygiene*

INTRODUCTION

The quality of life is a multidimensional concept that defines a standard level for emotional, physical, mental, social and spiritual wellbeing. It is associated with the goals, expectations, standards, and concerns of each individual living in different cultural systems (WHO, 1993) to lead a good life. Lifestyle is a key factor to enhance the quality of life. Thus, the quality of various components in life including physical, mental and spiritual health, family, education, employment, wealth, safety & security, freedom, beliefs and the environment all encompass the quality of life. Physical activity is a behaviour that is bodily movement produced by contraction of skeletal muscles that require energy

expenditure (ACSM, 2010) while sleep hygiene is vital for stress management. The quality of life, as a new health indicator, is not worried about how long people can live, but more concerned about how well they live. It is the exactness of negative and positive features of life.

Research shows that developing countries are at high risk of chronic diseases due to lifestyle habits. In a study, Jepson, R., et al (2012) indicated a twofold increased heart disease and fivefold increased risk of diabetes of South Asian people. With this background to focus on regular exercise, adequate sleep, and balanced demand of work and relaxation and over all positive health lifestyle habits for well-being of Indian-origin people, this study was undertaken.

**Objectives**

The objectives of the study were to

- i) assess the status of quality lifestyle of Indians and Indian Canadians
- ii) compare quality of lifestyle between Indians living in India and Indian Canadians living in Canada

METHODOLOGY

Subjects: 373 people served as subjects for this study, out of which 234 (Male=128, Female=106) were selected from India and 139 (Male = 67, Female=72) from Canada. The age group of the subjects ranged between 30 and 60 years.

Inclusion and Exclusion criteria: Two mixed groups of male and female subjects from two different countries were involved in the study. As the study deals with behavioural patterns and habits of the citizens, sex differentiation or age category were not considered separately.

Location: The data were collected using standard questionnaires from the states of Punjab and West Bengal in India and British Columbia in Canada.

Design: The sampling technique was convenient group design and two-group comparison method was adapted to the study.

Ethics: The process of approval of the study was initiated systematically to meet the requirements of regulated protocol and guidelines of the prestigious university of Visva-Bharati, India.

Criterion Measures: To achieve the objectives of the study, quality of life style was considered as the parameter, while three different variables such as Mindful Eating Habits, Physical Activities and Sleep Hygiene designated it. Mindful Eating Habit was characterised by five domains such as Awareness, Distraction, Dis-inhibition, Emotional Responses and External Cues. It was assessed by standardized 'Mindful Eating Questionnaire' with standard scoring tool, Physical Activity was assessed by International Physical Activity Questionnaire and the Sleep Hygiene was assessed by the Epworth Sleepiness Scale with standard scoring tools.

Statistical Procedure: To assess the status of two groups on lifestyle and compare between the groups on selected variables, the data were analysed by descriptive statistics and Independent 't' test was computed using Microsoft excel and SPSS Software version 25. The level of significance was set at 0.05.

FINDINGS & INTERPRETATION

The descriptive statistics of all the selected variables are presented in Table 1.

Variables	Domains	Country Group	N	Mean	±SD	±SEM	
Mindful Eating Habits (Score)	Awareness	India	234	2.24	0.46	0.03	
		Canada	139	2.35	0.46	0.04	
	Distraction	India	234	2.84	0.44	0.03	
		Canada	139	2.91	0.46	0.04	
	Dis-inhibition	India	234	2.69	0.39	0.03	
		Canada	139	2.80	0.33	0.03	
	Emotional Response	India	234	2.01	0.50	0.03	
		Canada	139	2.15	0.53	0.04	
	External cue	India	234	2.08	0.53	0.03	
		Canada	139	2.16	0.51	0.04	
	Mindful Eating Habits (composite score)		India	234	2.37	0.23	0.02
			Canada	139	2.47	0.21	0.02
Physical Activities (MET-hr/day)		India	234	16.25	19.63	1.28	
		Canada	139	26.80	69.21	5.87	
Sleep Hygiene (hrs/day)		India	234	8.64	4.54	0.30	
		Canada	139	7.82	4.31	0.37	

Abbreviation: SD = Standard Deviation, SEM = Standard Error of Mean

The graphical representation of Mindful Eating Habit, Physical Activity, Sleep Hygiene and five domains of Mindful Eating Habits between

subjects living India and Canada was presented in Figure 1, Figure 2, Figure 3 and Figure 4 respectively.

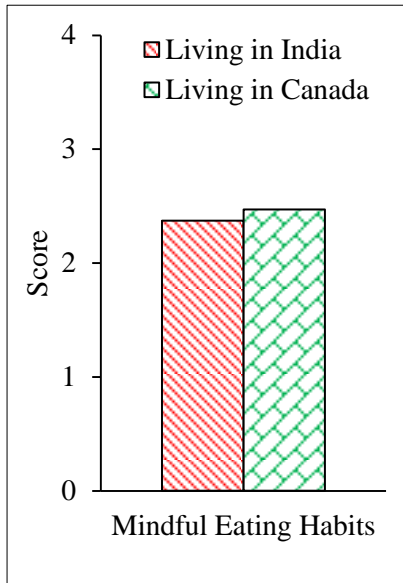


Figure 1: Graphical Representation of Mindful Eating Habit

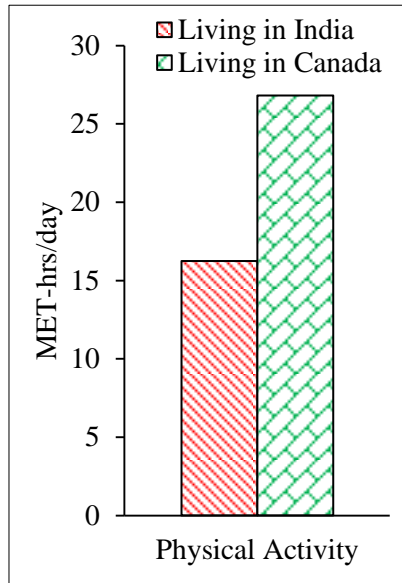


Figure 2: Graphical Representation of Physical Activity

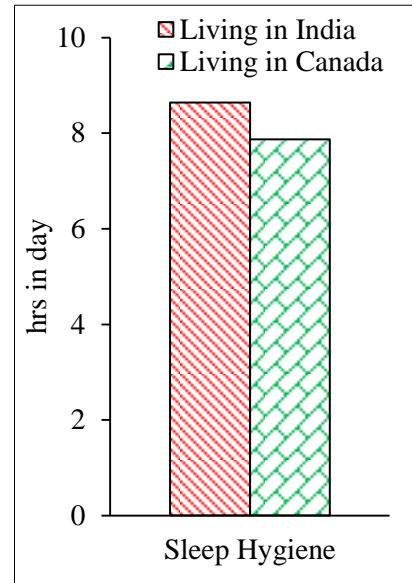


Figure 3: Graphical Representation of Sleep Hygiene

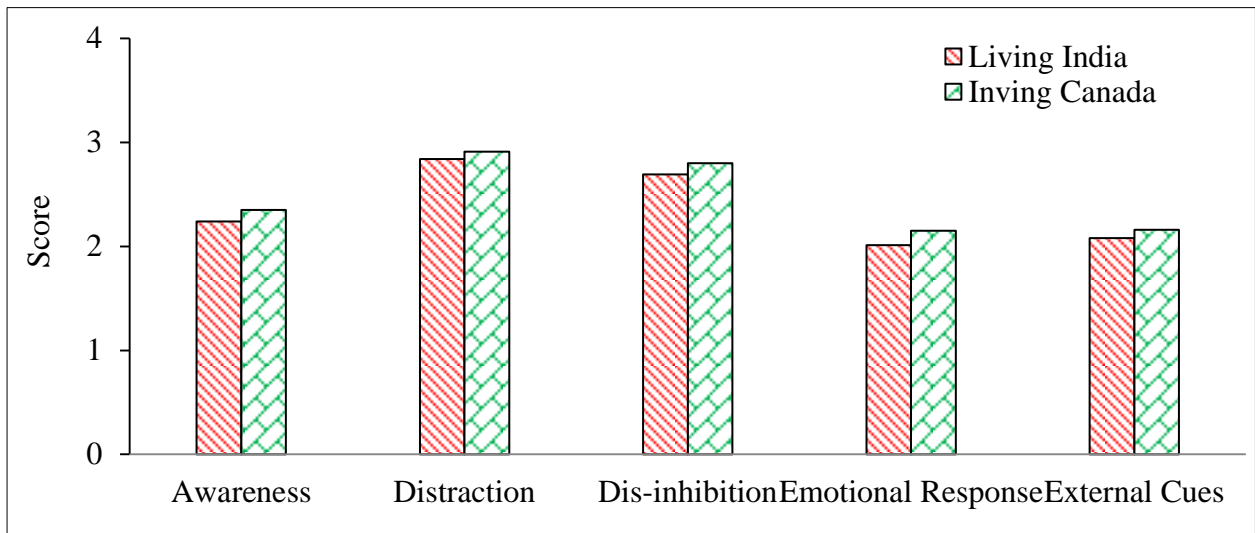


Figure 4: Graphical Representation of Five Domains of Mindful Eating Habit

**Table 2: Mean Difference between Subjects Living in India and Canada on Quality Life Style**

Variables	Domains	Country	Mean Difference	Std. Error Difference	t-ratio	Sig. Level (2-tailed)
Mindful Eating Habits(score)	Awareness (Higher score better)	India	0.11	0.05	2.24*	0.026
		Canada				
	Distraction (Reversed score)	India	0.07	0.05	1.49	0.138
		Canada				
	Dis-inhibition (Reversed score)	India	0.11	0.04	2.88*	0.004
		Canada				
	Emotional Response (Reversed score)	India	0.14	0.05	2.49*	0.013
		Canada				
	External Cue (Reverse d score)	India	0.08	0.06	1.39	0.165
		Canada				
Mindful Eating Habits (composite score)	India	4.23	0.02	4.23*	0.000 (2.95x10 ⁻⁵)	
	Canada					
Physical Activities (MET-hrs/day)	India	2.19	4.82	2.19*	0.029	
	Canada					
Sleep Hygiene (hrs/day)	India	0.82	0.48	1.71	0.088	
	Canada					

*. **Significant at 0.05 level**

Table 2 indicates that significant difference exists between the Indian and Canadian people in lifestyle so far as Mindful Eating Habits and Physical Activities are concerned. Subjects belonging to Canada were more aware, less inhibited and fairly emotional about mindful eating and they had significantly better Mindful Eating Habits in comparison to subjects living in India. Besides, the subjects living in Canada were found leading more physically active lifestyle in comparison to subjects living in India. However, no significant difference was found in sleep hygiene between subjects living in Canada and India.

The result might be due to the fact that the Government of developed countries like Canada provides ample health services to every citizen at par with their Health Policy, while over-populated India and its health policy failed to do so. In domains of Mindful eating habits like awareness, dis-inhibition, emotional response, Canadians were found superior to the Indians. Further, the reason for Canadian subjects to have better physical activity habits might be due to awareness and opportunity of physical activity followed by their mind-set.

Cho J., et al. (2019) suggested in their research that subjective health acts as a moderator in between psychological well-being and existing objective health of participants' experiences. Hall W., et al (2018) in their research revealed that sleep quality may be enhanced and behavioural eating habits may be improved through advice and diet controlling sugar.

CONCLUSION

On the basis of results of this study, it may be concluded that

- In Mindful eating habits targeted population of Indian Canadians are significantly superior to their counterparts living in India. Their awareness, dis-inhibition and emotional responses were significantly better than Indians.
- In Physical Activity habits, Canadian subjects showed significant supremacy.
- However, in sleep hygiene score, subjects of both the countries are found balanced.
- Thus, it might be assessed that Indian-Canadians living in Canada have better life style as compared to subjects living in India.

REFERENCES

1. *ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription*, Wolters Kluwer, Lippincott Williams & Wilkins, Sixth Edition
2. Banks S, Dinges DF. Behavioural and physiological consequences of sleep restriction. *J Clin Sleep Med*. 2007; 3: 519-28
3. Bear RA, Smith GT, Allen KB, Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 2004; 11: 191-206.
4. Bonnet MH, Alter J. Effects of irregular versus regular sleep schedules on performance, mood and body temperature. *Biol Psychol*. 1982; 14: 287-96.



5. Boon RM, Hamlin MJ, Steel GD, Ross JJ: Validation of the New Zealand physical activity questionnaire (NZPAQ-LF) and the International Physical Activity Questionnaire (IPAQ-LF) with accelerometry. *British Journal of Sports Medicine*. 2010, 44: 741-746. 10.1136/bjism.2008.052167.
6. Brand S, Holsboer-Trachsler E, Naranjo JR, Schmid S. Influence of mindfulness practice on cortisol and sleep in long-term and short-term mediators, *Neuropsychobiology*, 2012; 65: 109-18.
7. Brown KW, Ryan RM. The benefits of being present; Mindfulness and its role in psychological well-being. *J Pers Soc Psychol*. 2003; 84: 822-848.
8. Buysse DJ, Cheng Y, Germain A, Moul DE, Franzen PL, Fletcher M, et al. Night-to-night-sleep variability in older adults with and without chronic insomnia. *Sleep Med*. 2010; 11: 56-64.
9. Chen PH, Kuo HY, Chueh KH. Sleep hygiene education: efficacy on sleep quality in working women. *J Nurs Res*. 2010; 18: 283-9
10. Chinapaw MJM, Mokkink LB, van Poppel MNM, van Mechelen W, Terwee CB: Physical Activity questionnaires for youth: A systematic review of measurement properties. *Sports Medicine*. 2010, 40: 539-563. 10.2165/11530770-000000000-00000.
11. Davidson RJ, Kabat-Zinn J, Schumacher J, Rosenkranz M, Muller D, Santorelli SF, Urbanowski F, Harrington A, Bonus K, Sheridan JF. Alteration in brain and immune function produced by mindfulness meditation. *Psychosom Med*, 2003; 65: 564-570.
12. Dhand R, Sohal H. Good sleep, bad sleep! The role of daytime nap in healthy adults. *Curr Opin Pulm Med*. 2006; 12: 379-82.
13. Dinger MK, Behrens TK, Han JL: Validity and reliability of the International Physical Activity Questionnaire in college students. *American Journal of Health Education*. 2006, 37: 337-343.
14. Drake C, Roehrs T, Shambroom J, Roth T. Caffeine effects on sleep taken 0, 3, or 6 hours before going to bed. *J Clin Sleep Med*. 2013; 11: 905-200.
15. Dzierzewski JM, Buman MP, Giacobbi PR, Jr, Roberts BL, Aiken-Morgan AT, Marsisk M, et al. Exercise and sleep in community-dwelling older adults: evidence of a reciprocal relationship. *J*
16. Ekelund U, Sepp H, Brage S, Becker W, Jakes R, Hennings M, Wareham NJ: Criterion-related validity of the last-day short term of the International Physical Activity Questionnaire in Swedish adults. *Public Health Nutrition*. 2006, 9: 258-266.
17. Freedson PS, Miller K: Objective monitoring of physical activity using motion sensors and heart rate. *Research Quarterly for Exercise and Sport*. 2000, 71: S21-S30.
18. Friedman L, Zeitzer JM, Mumenthaler MS. Role of healthy sleep practices: Alcohol/caffeine/exercise/scheduling. In: Sateia MJ, Buysse DJ, editors. *Insomnia: Diagnosis and Treatment*. Informa; London: 2010: 260-7.
19. Goldman SE, Hall M, Boudreau R, Matthews KA, Cauley JA, Ancoli-Israel S, et al. Association between nighttime sleep and napping in older adults. *Sleep*. 2008; 31: 733-40.
20. Griefahn B, Brode P, Marks A, Basner M. Autonomic arousals related to traffic noise during sleep. *Sleep*. 2008; 31: 569-77.
21. Hauri P. Sleep hygiene. In: Hauri P, editor. *Current Concepts: The Sleep Disorders*. The Upjohn Company; Kalamazoo, MI: 1977; 21-35
22. Hu FB, Li TY, Colditz GA, Willett WC, Manson JE: Television watching and other sedentary behaviours in relation to risk of obesity and type 2 diabetes mellitus in women, *Journal of American Medical Association*. 2003, 289: 1785-1791. 10.1001/jama.289.14.1785.
23. Kabat-Zinn J, Lipworth L, Burney R. The clinical use of mindfulness meditation for the self-regulation of chronic pain. *J Behav Med*, 1985; 8: 163-190.
24. Kabat-Zinn J. Mindfulness-based interventions in context: past, present and future. *Clin Psychol Sci Pract*. 2003; 10: 144-56.
25. Kabat-Zinn J, Massion A, Kristeller J, Peterson LG, Fletcher K, Pbert L, Lenderking W, Santorelli S. Effectiveness of meditation based stress reduction program. *Am J Psychiatry*. 1992; 149: 936-943.
26. Kaleth As, Ang DC, Chakr R, Tong Y: Validity and reliability of community health activities model program for seniors and short-form international physical activity questionnaire as physical activity assessment tools in patients with fibromyalgia. *Diasability and Rehabilitation*. 2010, 32: 353-359.
27. Kenneth. Shulman. *Journal of Affective Disorders*, Volume 46, issue 3. 1997; 175-182.
28. Knuth AG, Bacchieri G, Victoria CG, Hallal PC: Changes in physical activity among Brazilian adults over a 5-year period. *Journal of Epidemiology and Community Health*. 2010, 64: 591-595. 10.1136/jech.2009.088526
29. Kristal AR, Littman AJ, Benitez, D, White E. Yoga practice is associated with attenuated weight gain in healthy, middle-aged men and women. *Altern The Health Med*. 2005; 11: 28:33.
30. Macfarlane DJ, Lee CCY, Ho EyK, Chan KL, Chan DTS: Reliability and validity of the Chinese version of IPAQ (short last 7 days). *Journal of Science and Medicine in Sport*. 2007, 10: 45-51.
31. Melbourne Academic Mindfulness Interest Group, *Mindfulness-based psychotherapies: A review of conceptual foundations, empirical evidence and practical considerations*. *Aust N Z J Psychiatry*. 2006; 40: 285-294.
32. Moore HJ, ELLS LJ, McLure SA, Crooks S, Cumber D, Summerbell CD, Betterham AM: The development and evaluation of a novel computer program to assess previous-day dietary and physical activity behaviours in school children: *The Synchronised Nutrition and Activity program*



- (SNAP). *British Journal of Nutrition*. 2008, 99: 1266-1274.
33. Morita E, Miyazaki S, Okawa M. Pilot study on the effects of a 1-day sleep education program: influence on sleep of stopping alcohol intake at bedtime. *Nagoya J Med Sci*. 2012; 74: 359-65
34. Myllymaki T, Kyrolainen H, Savolainen K, Hokka L, Jakonen R, Juuti T, et al. Effects of vigorous late night exercise on sleep quality and cardiac autonomic activity. *J Sleep Res*. 2011; 20: 146-53
35. Pereira MA, FitzGerald SJ, Gregg EW, Joswiak ML, Ryan WJ, Suminski RR, Utter AC, Zmuda JM: A collection of Physical Activity Questionnaires for health-related research. *Medicine and Science in Sports and Exercise*. 1997, 29: S1-205
36. Rangul V, Holmaen TL, Kurtze N, Cuypers K, Midthjell K: Reliability and validity of two frequently used self-administered physical activity questionnaires in adolescents. *BMC Medical Research Methodology*. 2008, 8:47-10.1186/1471-2288-8-47.
37. Roehrs T, Roth T. Caffeine: sleep and daytime sleepiness. *Sleep Med Rev*, 2008; 12: 53-62
38. Shapiro SL, Carlson LE, Freedman B. Mechanism of mindfulness. *J Clin Psychol*, 2006; 62: 373-386.
39. Shawn N. Katterman, Joyce A. Corsica, Brigid M. Kleinman, Megan M. Hood, Lisa M. Neckers, *Eating Behaviours*, volume 15, issue 2. 2014; 197-204.
40. Singh NA, Stavrinou TM, Scarbek Y, Galambos G, Liber C, Fiatarone Singh MA. A randomized controlled trial of high versus low intensity weight training versus general practitioner care for clinical depression in older adults. *J Gerontol A Biol Sci Med Sci*. 2005; 60: 768-76
41. Vandelanotte C, De Bourdeaudhuij IM, Philippaerts RM, Sjostrom M, Sallis JF: Reliability and validity of a computerized and Dutch version of the International Physical Activity Questionnaire (IPAQ). *Journal of Physical Activity and Health*. 2005, 2: 63-75.
42. Wansink B. Environmental factors that increase the food intake and consumption volume of unknowing consumers. *Annu Rev Nutr*. 2004; 24: 455-479.
43. Wansink B, Painter JE, North J. Bottomless bowls: why visual cues of portion size may influence intake. *Obes Res*. 2005; 13: 93-100.
44. Warren TY, Barry V, Hooker SP, Sui X, Church TS, Blair SN: sedentary behaviours increase risk of cardiovascular disease mortality in men. *Medicine and Science in Sports and Exercise*. 2010, 42: 879-885. 10.1249/MSS.0b013e3181c3aa7e.
45. Yang PY, Ho KH, Chen HC, Chien MY. Exercise training on patients with chronic primary insomnia. *J Clin Sleep Med*. 2010; 6: 270-5.
46. Youngstedt SD, O'Conner PJ, Dishman RK. The effects of acute exercise on sleep: a quantitative synthesis. *Sleep*. 1997; 20: 203-14
47. Youngstedt SD. Effects of exercise on Sleep. *Clin Sport Med*. 2005; 24: 355-65.



EXPERIMENTAL INVESTIGATION OF PROPERTIES OF NATURAL FIBER REINFORCED CONCRETE WITH PARTIAL REPLACEMENT OF SEASHELL AS FINE AGGREGATE

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ABSTRACT

Seashells are exo-skeleton with hard layered material and so can be molded into solid objects. Seashells are moderately used in concretes as replacement by either coarse or partial replacement. From the various types of seashells, Molluscus are commonly available shell that can be crushed and applicable in construction purposes. Generally sea shells contains calcium carbonate. Seashells are freely and plentifully available in coastal areas. The proposed cubes, cylinders and reinforced beams are made up of replacing a fine aggregate by crushed seashells as powder material at varying percentages of 10%, 15%, 20%, 25% were tested for compressive strength, flexural strength and split tensile strength. To compare the strength and durability of the proposed concrete and the nominal concrete of M40 grade.

KEY WORDS: natural fiber reinforced concrete, sea shell, flexural compressive tensile strength

INTRODUCTION

In this research work properties of structural concrete when seashells are used as fine aggregate replacement were studied. Most of the waste materials are non-bio degradable and may remain on the environment for hundreds or even thousands of years. Utilizing seashells reduces the storage of marine waste, also reducing exploitation of quarried aggregates and has benefits in adding different materials to a concrete mix design for improved performance (Richardson & Fuller, 2013). Due to the continuous usage of natural resources such as river sand, the demand increases inevitably regardless of usage. The increasing demand will continue in future also. Marine mollusk shells that are familiar to beachcombers and thus most likely to be called

“seashells” are the shells of marine species of bivalves (or clams), gastropods (or snails), scaphopods (or tusk shells), polyplacophorans (or chitons) and cephalopods (such as nautilus and spirula). The shells of marine species also often have more sculpture and more color, although this is by no means always the case.

LITERATURE REVIEW

- Monita Olivia, Revina Oktaviani, Ismeddiyanto, “Properties of concrete containing ground waste cockle and clam seashells” *Procedia Engineering* 171(2017) 658 – 663.

Blood clam or cockle (*Anadara granosa*) shell is a type of marine by-product that can be used to replace aggregate



or cement partially in concrete. In this research, the ground cockle seashell was used as a partial cement replacement.

The ground seashells were prepared by burning, crushing, grinding and filtering the cockle using no #200 sieve. The mechanical properties studied were compressive strength, splitting tensile strength, flexural strength and modulus of elasticity of seashell concrete. These properties were compared with those of a control Ordinary Portland Cement (OPC) concrete. Based on the trial mixes using the ground seashell with proportion of 2, 4, 6 and 8% by weight of cement, the optimum compressive strength was achieved for the mix that replaced cement by 4%.

The seashell concrete yielded less compressive strength and modulus elasticity compared to the OPC concrete. It is noted that the tensile strength and flexural strength were higher than those of the OPC concrete, which is advantageous to increase concrete tension properties.

- **N.Devendran – IJCER -ISSN (e): 2250-3005, Volume,07“Experimental study on strengthening of concrete by replacing seashell and fly ash”.**

This paper reports the exploratory study on the suitability of the cockle shells as partial replacement for in concrete. In developing countries where concrete is widely used, the high and steadily increasing cost of concrete has made construction very expensive. The high cost of conventional building materials is a major factor affecting housing delivery in world. This has necessitated research into alternative materials of construction and analyzing tensile and compressive strength characteristics of concrete produced using by sea shells as substitutes for conventional coarse

aggregate with partial replacement using M30 grade concrete. The main objective is to encourage the use of these products as construction materials in low-cost building.

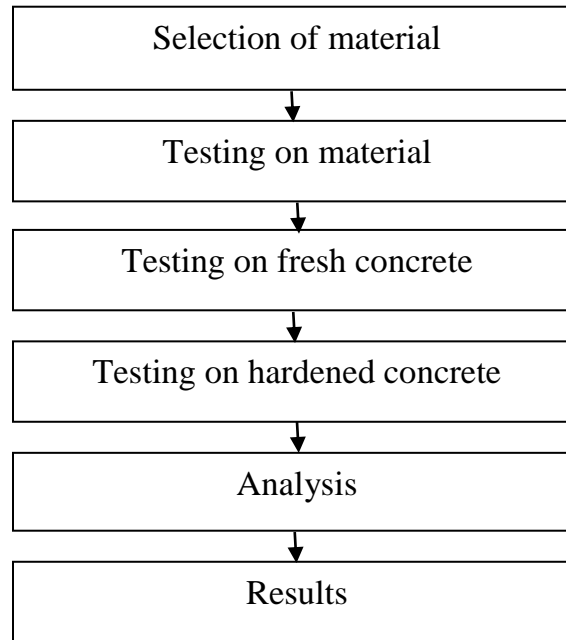
In this project, cement is partial replacement with Fly ash of about 5%, 10%, 15%. The coarse aggregate is partial replacement with 5%, 10%, and 15% by sea shell. Hardened concrete properties such as compressive strength of the concrete on 7, 14, & 28 days has been achieved. A comparative study was also done based on the obtained results and the variations were plotted.

OBJECTIVES

1. To compare the compressive strength of normal concrete with partial replacement of crushed seashell material.
2. To compare the compressive strength of partial replacement of fine aggregate with crushed seashell material.
3. To compare the split tensile strength of partial replacement of fine aggregate with crushed seashell material.
4. To compare the flexural strength of partial replacement of fine aggregate in RC structure with crushed seashell material.
5. To compare the durability of the normal concrete with partial replacement of crushed seashell material.



METHODOLOGY



MIX DESIGN

MIX PROPORTIONS

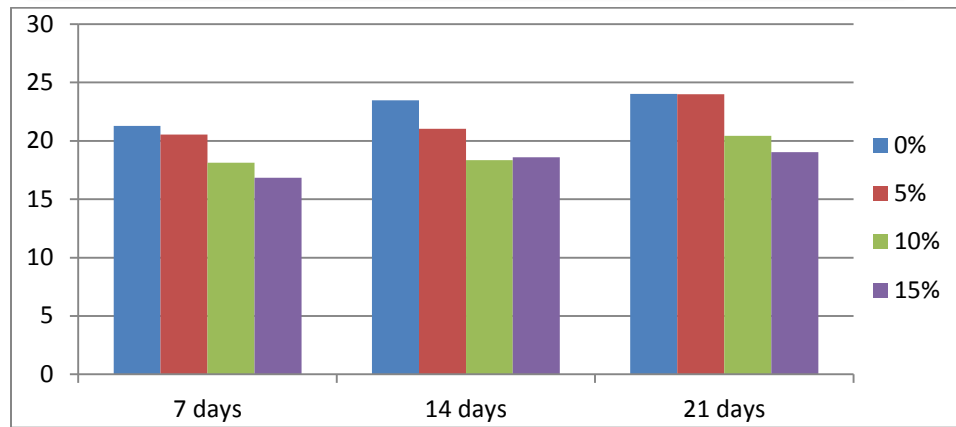
Cement	=	425 Kg/ m ³ .
Water	=	197 litre
Fine Aggregate	=	619.63 Kg/ m ³ .
Coarse Aggregate	=	1,122.75 Kg/ m ³ .
Water-cement ratio=		0.4

Ratio for M40 grade is **1:1.46:2.64**

RESULTS

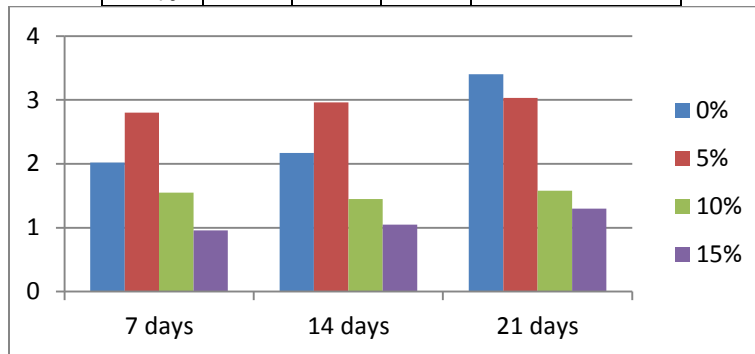
1.Cube: The cube moulds of size 150mm×150mm×150mm.

	Compressive strength(mpa)			Average Compressive Strength(mpa)
	7 days	14 days	21 days	
0%	21.28	23.46	24.02	22.92
5%	20.53	21.02	24.00	21.85
10%	18.14	18.36	20.42	18.97
15%	16.83	18.60	19.02	18.15



2.Cylinder: The cylinder moulds of size 150mm diameter and 300mm height.

	Split tensile strength(mpa)			Average Split tensile Strength(mpa)
	7 days	14 days	21 days	
0%	2.02	2.17	3.40	2.53
5%	2.80	2.96	3.03	2.93
10%	1.55	1.45	1.58	1.52
15%	0.96	1.05	1.30	1.10



3.RC Beam: The beam moulds of size 150mm×150mm×750mm.

% of sea shell replaced	28days
0%	5.74
5%	4.78
10%	6.39
15%	4.53

CONCLUSION

1. The addition of sea shell powder increases as decrease the workability.
2. The compressive strength of cube reached highest strength is 22.92mpa at 0% of sea shell replacement and the lowest strength is 18.15mpa at

15% of sea shell replacement.The split tensile strength of cylinder reached highest strength is 2.93mpa at 5% of sea shell replacement and the lowest strength is1.10mpa at 15% of sea shell replacement.The flexural strength of RC beam



reached highest strength is 6.39mpa at 10% of sea shell replacement and lowest strength is 4.53mpa at 15% of sea shell replacement.

3. As the percent of sea shell increased from 0%

to 15%, it was observed that minimum strength was observed at 15% replacement in all compressive, split tensile and flexural tests.

REFERENCE

1. Monita Olivia, RevinaOktaviani, Ismeddiyanto, "Properties of concrete containing ground waste cockle and calm seashells" *ProcediaEngineering* 171(2017) 658 – 663.
2. N.Devendran – *IJCER* -ISSN (e): 2250-3005, Voume,07 "Experimental study on strengthening of concrete by replacing seashell and fly ash".
3. Ms.V.Mohanalakshimi – *IJRST* – ISSN (online): 2349-6010, Volume 3, Issue 10, March 2017. "Developing concrete using sea shell as a fine aggregate".
4. Vishal Gadgihalli – *International Journal of Research, Granthaalayah* – ISSN – 2350-0530(O), ISSN – 2394-3629(P) – Volume 5, November 2017. "Analysis of Properties of Concrete using Seashells Crushed Powder as Admixtures".
5. IS 456 : 2000 – *Indian Standard Plain and Reinforced Concrete Code of Practice*.
6. *Environment and Technology* 1(2012): 260-267. IS 10262 : 2009 – *Indian Standard Concrete Mix Proportioning Guidelines*.
7. Wen-Ten Kuo, Her-Yung Wang, Chun-YaShu, De-Sin Su, "Engineering properties of controlled low-strength materials containing waste oyster shells" *Construction and Building Materials* 46 (2013) 128–133.
8. N.Devendran – *IJCER* -ISSN (e): 2250-3005, Volume,07 "Experimental study on strengthening of concrete by replacing seashell and fly ash".



PERFORMANCE ANALYSIS OF BAND PASS FILTER DESIGN TECHNOLOGIES

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ABSTRACT

This research work focuses on different design techniques of bandpass filter and their results are compared. Improvement of filter performance and reduction in components size is became prime concern with rapid advancement of technologies. In this paper, Symmetrically Triangular Open Loop Resonator, Self-Coupled Folded-Line Resonator, Dual-Stub-Loaded Spiral Resonators and Stepped Impedance Resonators.

INTRODUCTION

Band Pass Filters can be used to isolate or filter out certain frequencies that lie within a particular band or range of frequencies. The cut-off frequency or f_c point in a simple RC passive filter can be accurately controlled using just a single resistor in series with a non-polarized capacitor, and depending upon which way around they are connected, a simple frequency selective filter that allows a selective range of frequencies are Bandpass filter (BPF).

Microwave filters with good frequency selectivity, wide stop-band, compact size, and low insertion loss are very much desirable in the radar and communication field. Bandpass filters are compact with various filters to allow sort of desirable outcomes to perform inline communication. In order to achieve the performance criterion various methods have been proposed. Some methods are used for better communication and channel forecasting, a widely useable mode of communication is based on Pass-Band and stop-band. Placement of finite transmission zeros (FTZ) plays an important role in the designing of filter, and frequency response is also affected by the FTZs locations. FTZs located symmetrically on the real axis on the complex frequency plane give better out of band frequency selectivity. FTZs on the real axis the used for linear phase response in pass-band while an imaginary axis

is used for better stop-band performance. Bandpass filter has a center frequency of passband with half wavelength and its frequency of resonant is differing with three-time of the fundamental frequency. The suppression of the frequency cause more noise with the signal communication with satellite communication mode and channel. In this paper we studied some of known and useful techniques that give a concern of the techniques that are already established and well known with implemented filters

LITERATURE SURVEY

Cheng-Guang Sun [1], Microstrip bandpass channel is a significant part in present day remote correspondence frameworks. The advancement of channels created in the printed circuit board has been given a lot of consideration to miniaturization. To fulfill the prerequisites, an assortment of minimal bandpass channels has been considered [2-4]. Famously, a half-wavelength open loop resonator, and in excess of two resonator units are embraced [5]. To acquire high-recurrence selectivity or harmonic suppression, a square open circle resonator is utilized in the bandpass channel structure [6]. This channel is likewise with little in size. Utilizing triangular open circle resonator, a microstrip bandpass channel have been created, it is displayed great separating exhibitions. Be that as it may, the littler



size and sharp dismissal are quite required for the bandpass channel structure.

Zhang JuHou [7], The structure of BPFs is one of the most troublesome difficulties with some trade-offs, for example, insertion misfortune, operation bandwidth, stopband suppression and chip size. Regarding on-chip inactive gadget plans, there are a few plan approaches including altered transmission lines [9], hybrid lumped and conveyed parts [10], edge-coupled [11] and broadside-coupled structures [8] to lessen the chip size of BPFs while maintaining a general required exhibition. To further minimize the chip size, a progression of works have been accounted for by methods for in-band flatness improvement [9], stopband suppression upgrade [12] and chip size miniaturization [8]. In spite of the fact that the BPF based edge-coupled resonator [11] has a low insertion misfortune, its chip size is enormous because of the planar nature of the edge-coupled resonator. Along these lines, it is attractive that both chip size and insertion misfortune are considered, at the same time, for best execution.

Kai-da XU [13], A harmonic-stifled BPF dependent on a triple-mode stub-stacked resonator is proposed in [14], which has the preferred position that the even-mode frequencies can be deftly controlled though the odd-mode frequencies are fixed. Be that as it may, it involves complex structure in the plan procedure. In [15], a triple-mode BPF using a changed roundabout fix resonator is introduced, however the terrible dismissal in the stop-band happens. Reference [16] presents a wideband BPF with controllable bandwidth and suppression of the harmonic band, wherein four same open circle resonators are received. Be that as it may, the recurrence selectivity still should be improved. In [17], a novel deserted open-circle resonator as the slot-line configuration is applied to structure a minimal triple-mode surrendered ground waveguide resonator-based BPF, which is smaller and simple for integration with planar innovation. In addition, a novel triple-mode hexagonal BPF with capacitive loading stubs is introduced in [18], which is created from an ordinary hexagonal circle double mode resonator. In [19], a triple mode channel using a winding resonator stacked with two short-stubs and an open-stub is displayed.

J. Martel [20] A new type of miniaturized stepped impedance resonator (SIR) for bandpass filter applications is proposed in this paper. The new resonator incorporates a ground plane window with a floating conductor in the backside of the substrate. The ground plane window increase the characteristic

impedance of the lines used to implement the inductive region of the quasi-lumped resonator, thus allowing some size reduction. Moreover, the presence of a floating conducting patch printed below the capacitive region of the resonator pushes up the first spurious band of the filter. A meaningful improvement of its out-of-band rejection level is then achieved. The coupling between adjacent resonators is also enhanced thus leading to wider achievable.

BANDPASS FILTER DESIGNING TECHNIQUES

A triangular open loop resonator, as shown in Fig. 1, consists of an isosceles righttriangular open loop with connecting to two feed lines directly, and it is with a small size usefully. It resonates around 1.64GHz in frequency as given size in the figure. In order to obtain the lower frequency while holding the smaller in size above, the resonator must be improved. From the figure, we found some space inside the loop can be used. Therefore, an additional open loop is embedded into the space.

The capacitive loaded lossless transmission line resonator can be described as in Fig. 3, where C_L is the loaded capacitance; Z_a, β_a , and d are the characteristic impedance, the propagation constant, and the length of the unloaded line, respectively. The equations are as follows [5]:

$$\theta_{a0} = 2 \tan^{-1} \left(\frac{1}{\pi f_0 Z_a C_L} \right) \quad (1)$$

$$\theta_{a1} = 2\pi - 2 \tan^{-1} (\pi f_1 Z_a C_L) \quad (2)$$

From equations above, $\theta_{a0} = \pi$ and $1\theta_{a0} = 2\pi$ when $CL = 0$. This is for the unloaded half-wavelength resonator. If $C_L = 0$, the resonant frequency reduces as the loading capacitance increases.



Fig. 1 A triangular open loop resonator

The ratio of the first spurious resonant frequency to the fundamental frequency, f_1/f_0 increases with the loading capacitance, resulting in wide stop-band. At the same time, size reduction has been obtained.

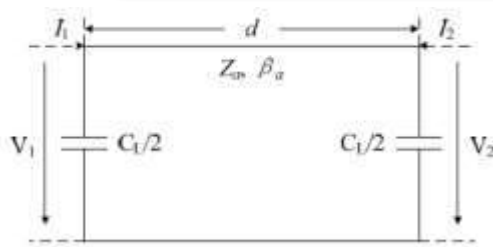


Fig. 2 Capacitive loaded transmission line resonator equivalent circuit

compact and low-loss BPF using a self-coupled folded-line resonator (SCFLR) provides not only flexible self-resonant-frequency (SRF) to determine the transmission zero (TZ) but also relatively low insertion loss with an ultra-compact size. SCFLR in different layers, as well as in a 3-D view, is shown in Figs. 3(a) and (b), respectively.

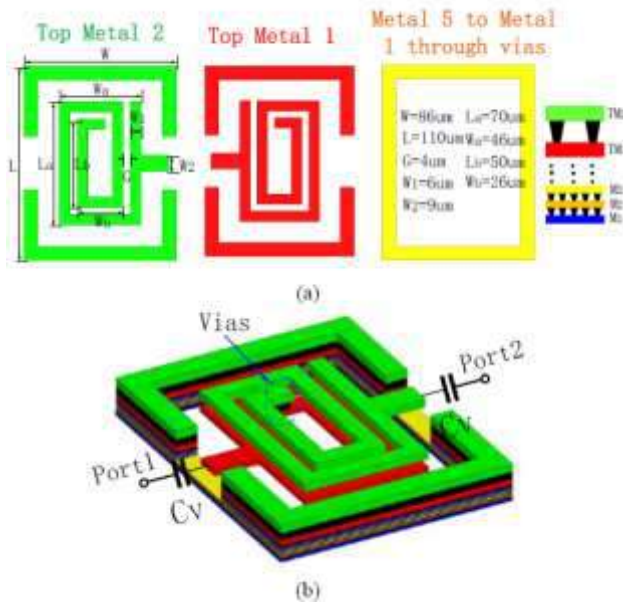


Fig.3 (a) Different layers of the SCFLR (b) 3D view BPF

In this design, a standard 0.13- μm (Bi)-CMOS technology is utilized to implement the BPF by 7 metal layers including two top metal layers with high conductivity. The process-design-kit (PDK) offers metal-insulator-metal (MIM) capacitors, which are sandwiched between Top-Metal 1 (TM_1) and Metal 5 (M_5). Moreover, the dielectric constant of SiO_2 is 4.1 and the loss tangent is 0.01. The height of the silicon substrate is 200 μm . As illustrated in Fig. 1(a), the

Top-Metal 2 (TM_2) and TM_1 layers are mainly used to implement the top and bottom spiral inductors.

To investigate the insight of the presented SCFLR in Fig. 3(a), an L - C equivalent model is presented in Fig. 4(a). The TM_2 inductor L_{TM_2} is connected to TM_1 inductor L_{TM_1} by vias. To analyze the SCFLR, the equivalent L - C model is simplified with a pair of inverse-coupled inductors LC and a parasitic capacitor CP as shown in Fig. 4(b).

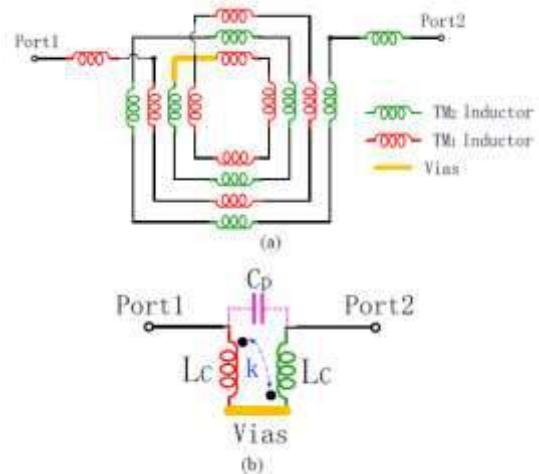


Fig. 4 SCFLR model (a) L - C equivalent circuit (b) simplified circuit

Equivalent inductor L_E of the inverse-coupled inductors could be expressed as follows:

$$L_E = 2(1 + k)L_C \quad (3)$$

Here, the equivalent inductor L_E and the parasitic capacitor C_P illustrate a simplified L - C equivalent circuit of the SCFLR, which could determine the transmission zero by means of a tunable SRF.

The transmission zero is found to satisfy the following equation:

$$f_{tz} = \frac{1}{2\pi\sqrt{2(1+k)L_C L_P}} \quad (4)$$

The schematic layouts of dual-T-stub loaded spiral resonators are shown in Fig. 5, which share the same equivalent structure. Because of the spiral structures, when the electrical lengths are fixed, the sizes of these two proposed resonators can be reduced greatly.

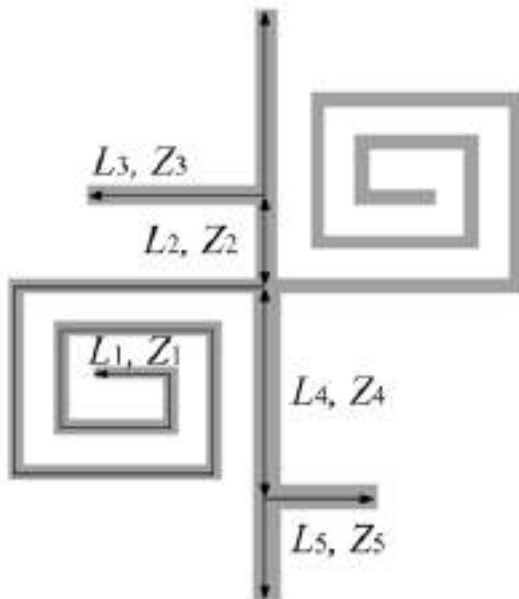


Fig. 5 Centrally Symmetrical Spiral Resonator

Fig. 6(a) illustrates the equivalent configuration of the spiral resonators, which is composed of a uniform microstrip half-wavelength resonator and a pair of T-shaped stubs with different lengths. θ_i refers to the electrical length of L_i , and Z_i denotes the characteristic impedance of the corresponding strips ($i = 1, 2, 3, 4$ and 5). As the equivalent configuration is symmetrical in structure, apparently, we could utilize the odd- and even-mode method to further analyze this configuration. For the even-mode excitation, an approximately equivalent circuit is depicted in Fig. 6(b). We simplify the analysis by setting $Z_1 = Z_3 = 2Z_2 = 2Z_4 = Z_5$, therefore, the input impedances of the two even-mode equivalent circuits $Z_{in_even_1}$ and $Z_{in_even_2}$ can be deduced as follows:

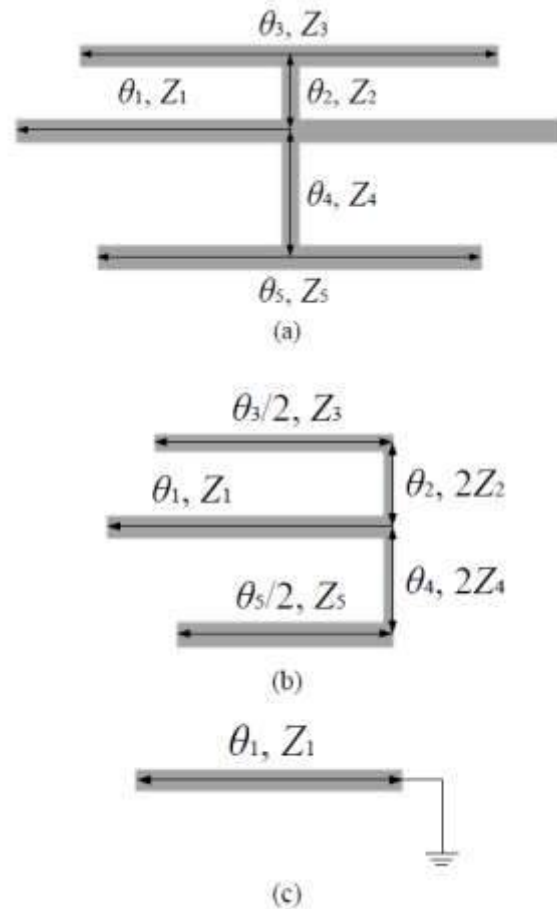


Fig. 6. Equivalent configuration and equivalent circuits of the proposed spiral resonators: (a) Equivalent configuration. (b) Even-mode equivalent circuit. (c) Odd-mode equivalent circuit.

$$Z_{in_even_1} = \frac{Z_1}{j \tan(\theta_1 + \theta_2 + \theta_3 / 2)}$$

$$Z_{in_even_2} = \frac{Z_1}{j \tan(\theta_1 + \theta_4 + \theta_5 / 2)}$$

Because of the resonance conditions that $\text{Im}(Z_{in_even_1}) = 0$ and $\text{Im}(Z_{in_even_2}) = 0$, we can derive the following results:



$$f_{\text{even}_1} = \frac{nc}{2(L_1 + L_2 + L_3/2)\sqrt{\epsilon_{\text{eff}}}}$$

$$f_{\text{even}_2} = \frac{nc}{2(L_1 + L_4 + L_5/2)\sqrt{\epsilon_{\text{eff}}}}$$

where $n = 1, 2, 3, \dots$, c is the velocity of light in free space, and ϵ_{eff} denotes the effective dielectric constant of the substrate. For the odd-mode excitation, its equivalent circuit is depicted in Fig. 4(c). The input impedance of the odd-mode circuit $Z_{\text{in_odd}}$ can be obtained as follows:

$$Z_{\text{in_odd}} = jZ_1 \tan \theta_1$$

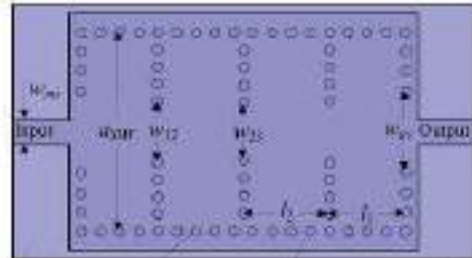
The resonance condition is $\text{Im}(Z_{\text{in_odd}}) = 0$. Therefore, when the odd mode is excited, the resonant frequency can be deduced as:

$$f_{\text{odd}} = \frac{(2n-1)c}{4L_1\sqrt{\epsilon_{\text{eff}}}}$$

When $L_2 + L_3/2 < L_1 < L_4 + L_5/2$, it can be derived that $f_{\text{even}_2} < f_{\text{odd}} < f_{\text{even}_1}$. Following this analysis, a triple-mode resonator is presented. The above analysis shows that the resonant frequencies of two proposed triple-mode resonators could be changed by tuning the lengths of L_1 , L_2 , L_3 , L_4 , and L_5 .

A substrate integrated waveguide (SIW) filter for satellite ground terminal is proposed which also shows improvement in the stop band performance. Waveguide components are used widely in the microwave frequency range due to their high Q values and high power capability but they are bulky, costly and not suited for high density integration. Here substrate integrated waveguide overcome all these difficulties arises with waveguide. Substrate integrated waveguide provides low weight, low cost, low profile with high performance maintenance. Substrate integrated waveguide is a dielectric filled waveguide consist of metallic cylinders also called vias used to connect or unite upper metallic plate with ground. Another advantage of SIW is that it can be fabricated on the PCB by using standard printed circuit board fabrication technique and system-on package [21]. SIW is a potential as well as promising technology for microwave designing. Planar technology (such as microstrip, strip line and coplanar waveguide) of microwave component

designing having high transmission losses while SIW provides better electrical shielding apart from that SIW has viability to incorporate active and passive components on same substrate.



Substrate Metalized via holes Metal on the top Metal on the bottom

Fig. 7 SIW Filter for satellite ground terminal [21]

CONCLUSION

There are several methods are available to design a filter, In this paper some of methods are discussed and compared along with the results and advantages. Compatibility of methods may differ according to the desired filter specification required for the particular use. Discussed filtering techniques led the evolution of number of filters. These filters have been used in wide range of applications.

REFERENCES

1. Cheng-Guang Sun, Hong-Xing Zheng, Li-Ying Feng, "A Compact Bandpass Filter Design Using Symmetrically Triangular Open Loop Resonator", 2012 2nd International Conference on Consumer Electronics, Communications and Networks (CECNet).
2. D. Cheng, H. -X. Zheng, L. -Y. Feng, and F. -Y. Gao, "Investigation of compact second-order microstrip bandpass filter," *Microwave and Optical Technology Letters*, vol. 52, 2010, pp. 1970-1973.
3. L. -Y. Feng, H. -X. Zheng, C. -G. Sun, and F. -Y. Gao, "Miniature bandpass filter with wide stopband using open-loop resonators," *Microwave and Optical Technology Letters*, vol. 53, 2011, pp. 748-751.
4. L.-Y. Feng, H. -X. Zheng, C. -G. Sun, and D. Cheng, "Dual-band bandpass filter with tunable upper passband," *Microwave and Optical Technology Letters*, vol. 53, 2011, pp. 888-890.
5. J. S. Hong and M. J. Lancaster, "Theory and experiment of novel microstrip slow-wave open-loop resonator filters," *IEEE Trans Microwave Theory Tech*, vol. 45, 1997, pp. 2358-2365.
6. X.-H. Jiang and G.-H. Li, "Compact designs of a band-pass filter with novel open-loop



- resonators," *Microwave Opt Tech Lett*, vol. 49, 2007, pp. 2755-2757.
7. Zhang JuHou, Yang Yang, Xi Zhu, Yuan Chun Li, ErykDutkiewicz and QuanXue, "A Compact and Low-Loss Bandpass Filter Using Self-Coupled Folded-Line Resonator With Capacitive Feeding Technique", *IEEE Electron Device Letters*, Volume: 39, Issue: 10, Oct. 2018, p1584 - 1587.
 8. S. Chakraborty, et al., "A broadside-coupled meander-line resonator in 0.13- μm SiGe technology for millimeter-wave application," *IEEE Electron Device Lett.*, vol. 37, no. 3, pp. 329-331, Mar. 2016, doi: 10.1109/LED.2016.2520960.
 9. Y. Yang, H. Liu, Z. J. Hou, X. Zhu, E. Dutkiewicz, and Q. Xue, "Compact on-chip bandpass filter with improved in-band flatness and stopband attenuation in 0.13- μm (Bi)-CMOS technology," *IEEE Electron. Device Lett.*, vol.38, no.10, pp.1359-1362, Oct.2017, doi:10.1109/LED.2017.2739186.
 10. Y. Zhong, Y. Yang, X. Zhu, E. Dutkiewicz, K. M. Shum, and Q. Xue, "An on-chip bandpass filter using a broadside-coupled meander line resonator with a defected-ground structure," *IEEE Electron. Device Lett*, vol. 38, no. 5, pp. 626-629, May 2017, doi: 10.1109/LED.2017.2690283.
 11. Y. Yang, H. Zhu, X. Zhu and Q. Xue, "A low-loss bandpass filter using edge-coupled resonator with capacitive feeding in (Bi)-CMOS technology," *IEEE Electron Device Lett*, vol. 39, no. 6, pp. 787-790, June 2018, doi: 10.1109/LED.2018.2826782.
 12. K. Ma, S. Mou, and K. S. Yeo, "Miniaturized 60-GHz on chip multimode quasi-elliptical bandpass filter," *IEEE Electron. Devices Lett*, vol. 34, no. 8, pp. 945-947, Aug. 2013, doi:10.1109/LED.2013.2265165.
 13. Kai-da XU, Meng-ze LI, Yan-hui LIU*1, Jing AI, Ye-cheng BAI, "Compact Microstrip Triple-Mode Bandpass Filters Using Dual-Stub-Loaded Spiral Resonators", *RADIOENGINEERING*, VOL. 26, NO. 1, APRIL 2017, DOI: 10.13164/re.2017.0023.
 14. DAI, G. L., ZHANG, X. Y., CHAN, C.-H., et al. An investigation of open-and short-ended resonators and their applications to bandpass filters. *IEEE Transactions on Microwave Theory and Techniques*, 2009, vol. 57, no. 9, p. 2203–2210. DOI:10.1109/TMTT.2009.2027173
 15. SERRANO, L., CORRETA, F. S. A triple-mode bandpass filter using a modified circular patch resonator. *Microwave and Optical Technology Letters*, 2009, vol. 51, no. 1, p. 178–182. DOI:10.1002/mop.23950
 16. MA, X. B., JIANG, T. Compact wideband bandpass filter with controllable bandwidth and suppression of the second passband using a trimode resonator. *Microwave and Optical Technology Letters*, 2015, vol. 57, no. 12, p. 2939–2943. DOI:10.1002/mop.29475
 17. LIU, H. W., SHEN, L., JIANG, Y., et al. Triple-mode bandpass filter using defected ground waveguide. *Electronics Letters*, 2011, vol. 47, no. 6, p. 388–389. DOI: 10.1049/el.2011.0006
 18. MO, S. G., YU, Z. Y., ZHANG, L. Design of triple-mode bandpass filter using improved hexagonal loop resonator. *Progress in Electromagnetics Research*, 2009, vol. 96, no. 4, p. 117–125. DOI: 10.2528/PIER09080304
 19. XU, H., XU, K., LIU, Y., LIU, Q. H. Compact triple-mode bandpass filter using short-and open-stub loaded spiral resonator. In 2016 IEEE/ACES International Conference on Wireless Information Technology and Systems (ICWITS) and Applied Computational Electromagnetics (ACES). Honolulu (USA), 2016, 2 p. DOI: 10.1109/ROPACES.2016.7465476
 20. M. D. C. Velazquez-Ahumada, J. Martel, F. Medina & F. Mesa, "DESIGN OF A BAND-PASS FILTER USING STEPPED IMPEDANCE RESONATORS WITH FLOATING CONDUCTORS", *Electromagnetics Research*, Vol. 105, 31{48}, 2010.
 21. Xiao-Ping Chen, Ke Wu, Daniel Drolet, "Substrate Integrated Waveguide Filter with Improved Stopband Performance For satellite Ground Terminal," *IEEE Trans. On Microwave and Technique*, Vol.57, No.3, pp.674-683 March 2009.



HISTORY OF INDUSTRIAL ENTERPRISES IN CHIRCHIK

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ABSTRACT

This article discusses the implementation of the policy of industrialization in Uzbekistan in the 40-80s of the XX century, the dense and very close location of industrial enterprises in a particular city, which had a negative impact on its environment on the basis of historical sources. The negative impact of the work of the chemical industry, oil, construction products and cotton ginning enterprises with defective technical equipment in Chirchik city on drinking water, nature and Chirchik River has been shown. There are reports of the damage caused to the environment by waste, the outbreak of diseases in the health of the population as a result of neglect of the material and technical base of industrial enterprises, the rapid implementation of the obligations of the Soviet Union.

KEYWORDS: *industrial enterprises, environment, people, manufacturing, water, soil, health, atmospheric air, disease.*

DISCUSSION

Environmental security is one of the most important issues due to the urgency and importance of human society today and tomorrow. If these problems are solved in practice, in many ways it will be possible to determine the state and quality of life of the present and future generations [1].

Despite the fact that Chirchik is a small city, it is distinguished in the country by the location of large chemical and electrochemical plants in the city and the breadth of production processes. The name of the city of Chirchik is derived from the name of the river Chirchik, and this river Chirchik has been the main source of water for the population, the source of livelihood. The Chirchik River has been used not only by the residents of Chirchik, but also by the residents of Gazalkent and Chinaz.

Chirchik is the second largest economic center after Tashkent. Before the World War II, Chirchik had metal processing and industrial construction enterprises, but after the war, the construction of chemical, machine-building, light and food industries was accelerated. In 1941, 143 industrial enterprises producing industrial construction products were evacuated to Uzbekistan. Of these, the largest were the newly industrialized cities of Chirchik, Kuvasoy and Bekabad [2]. There is scientific research on the activities of industrial enterprises in Chirchik, work

processes, the activities of workers, socio-economic problems in industrial enterprises, which can be seen in the works of Sh. Askarov, O. Yuldashev [3].

In his research, O. Yuldashev noted that the level of pollution of the Chirchik River was high due to the Chirchik Chemical Plant built in Chirchik. He said that the wastewater from the Chirchik Chemical Plant was dumped into the Chirchik River uncontrolled, and that the use of the river's water by the environment has led to an increase in diseases among the population and in nature.

A.Usmanov and D.Mahmudova [4] have conducted a number of researches on the ecological situation in Chirchik and the damage caused by industrial enterprises to its environment. In their research, they have covered issues related to public health, water and soil protection. For example, According to A.Usmanov and D. Mahmudova, the Chirchik Chemical Plant, Maxam-Chirchik and Almalyk Mining and Metallurgical Enterprises in Chirchik polluted the water of the Chirchik River as a result of wastewater discharges.

During the Second World War, several industrial enterprises were built in Chirchik. In the 1940s, 12 industrial enterprises were established in Chirchik, and by 1950, the number of industrial enterprises had exceeded 20. Industrial enterprises



are located in the chemical, oil refining, mining, cotton ginning and coal industries.

Launched in 1940, the Chirchik Electrochemical Plant was the first industrial enterprise in Uzbekistan. The chemical plant produces nitrogen fertilizers, urea, carbon dioxide, dry ice, toxic chemical fertilizers, which are used in agriculture of the republic [5]. The Chirchik chemical industry, built in Chirchik, was launched in 1940, but by 1945 it was of poor quality and had low production volumes. Because the chemical industry was not equipped with new machinery, workers were working on the basis of manual labor with many chemical means, there was a shortage of specialists. However, by 1947, changes had taken place in production processes. The deployment of specialists from the center and the provision of workers with technical machines had a significant impact on the work process. As a result, the volume of production at the Chirchik chemical plant will increase by 60 compared to 1945 [6]. In addition, gas-generator systems were installed at the Chirchik Chemical Plant in 1950. The increase in the company's capacity has again led to an increase in production. In 1957, the construction of activation shops for the chemical plant began and the production of hydrogen sulfide was launched. In order to provide energy efficient, artificial water reservoirs Donetsk and Kuzbass were built in Chirchik. Chirchik's chemical industry was strengthened to such an extent that it was included in the list of the strongest and leading chemical plants of the Union.

The rapid start-up of the Chirchik chemical plant, the start of production processes with incomplete production, led to a number of errors and shortcomings, which in turn led to the production of poor quality products. The technical equipment of the chemical plant, which was launched before the production system was ready, was not up to standard. In 1949, an inspection of industrial enterprises in the Tashkent region showed that 23 out of 42 industrial enterprises were inadequate [7]. Out of 45 facilities of industrial enterprises, 12 facilities did not have wastewater treatment equipment at all. The reason for the rapid deterioration of existing wastewater treatment equipment from chemical alkalis was that it was not repaired in a timely manner. Pollution of groundwater in the city of Chirchik has affected the drinking water of the population. The consequences were seen in the fact that in 1949 the incidence of dysentery in the population increased by 11.8 per cent compared with 1948.

By 1950, only 3 out of 45 industrial enterprises were fully operational in wastewater treatment plants [8]. Surrounding districts has been suffering from toxic wastewater of Chirchik chemical plant. As early as 1950, there were changes in the

composition of water in canals and ditches in Kuybeshiv, Leninsky and Frunze districts. In the canals and ditches flowing from the villages of Chirchik, Varashilov, Tyulpansky, Kara-Suv, Kuznetskaya and Sallarsky, it was noted that there is an excessive amount of chemicals, unusable at all, and, most tragically, the content of chemical elements in drinking water has increased [9]. Excessive pollution of Chouli and Salar canals in Tashkent region by industrial wastes has contaminated drinking water. In 1950, an outbreak of acute intestinal diseases was observed among the population around the Chouli and Salar canals, and an increase in gastrointestinal, acute intestinal diseases was found in 60-65% of the population [10]. The environmental damage caused by the Chirchik chemical plant has increased over the years since its launch. The center did not pay attention to the technical support of chemical enterprises. The pursuit of income has caused economic, social and environmental problems in the areas where many chemical enterprises are located in Uzbekistan. The saddest part was when the morbidity rate among the population increased. The dynamics of the disease among the population of Tashkent region and Tashkent city was as follows [11].

Table 1.
The dynamics of the disease among the population of Tashkent region and Tashkent city

Regions	Years	Typhoid fever (acute intestinal)	Dysentery
Tashkent	1947 й	837	2615
	1948 й	733	7376
	1949 й	590	8239
	1950 й	580	8030

In 1949, 40% of the population, especially in the villages of Leninsky, Kuybeshiv and Oktyabrsky, were hospitalized with gastrointestinal poisoning. By 1950, compared with 1949, typhoid fever among the population had increased by 65 percent, and dysentery by 11.3 percent. Among the patients, the number of children aged 6-8 years was 12.2 percent.

The construction of many chemical enterprises in Chirchik has given the city the name of the town of chemists in Uzbekistan. In 1957, a number of industrial enterprises producing Chirchik Electrochemical Industry, Chirchik Hydro Nitrogen, Chirchik Hydrochemical Industry, Glass and Construction Products were established in Chirchik [13]. The Chirchik hydrolysis industrial enterprise has launched the production of technical alcohol used for washing metal products. After washing the metal,



the wastewater was treated as waste by technical treatment equipment and removed from the plant. Industrial wastewater is sent to the landfill through sewers. Industrial enterprises have been developed over the years, and new ones have been built. By 1960, Chirchik had more than 20 industrial enterprises engaged in agricultural development. These industrial enterprises did not meet the technical and sanitary requirements. Dust filters, air conditioners, and ventilation systems did not work, and the old ones did not work. Chirchik chemical and construction industry enterprises have repeatedly appealed to the center. In accordance with the Resolution of the Council of Ministers of the Uzbekistan SSR No. 840 of October 1960, work was carried out to improve the material and technical condition of heavy industrial enterprises in Tashkent on "Measures for the modernization of obsolete technical equipment of industrial enterprises." According to the resolution, the replacement of obsolete, obsolete technical equipment was launched. Execution of the decision is limited to the allocation of new technical equipment only to the Stalin Nova-Kramatorsky Machine-Building Industry Enterprise in Tashkent. Other heavy industry enterprises were not taken into account or the funds allocated were not enough to provide other enterprises with equipment. The decision was implemented with the support of a single industrial enterprise [14].

By 1969, the environmental damage caused by the Chirchik Chemical Industry Plant was increasing

due to the fact that the repair work at the industrial enterprise had not yet been completed and it was not provided with technical equipment [15]. The Chirchik Electrochemical Plant was in need of maintenance, lack of equipment for technical treatment of wastewater and chemical dust filters, and the existing ones were not working at all. The number of tooth decay, premature tooth loss, lung diseases and pancreatic diseases among the population of Chirchik city in 1969 increased by 3-10 times during the year compared to 1968 [16]. All industrial enterprises in the city of Chirchik dumped wastewater into the Chirchik River, Kara Kulduk canals. As a result of the inspection of Chirchik water, it was found that due to the large number of types of chemical elements in the river water, the wastewater of various industrial enterprises is discharged uncontrolled wastewater. In 1980, the commissioners of public control of the Uzbek SSR inspected the technical equipment of industrial enterprises operating in Chirchik during the inspection "Implementation of nature protection measures" and found that 22 water treatment plants and technical equipment were not working at the Chirchik chemical plant [17]. Although chemical wastewater has been discharged to the outskirts of the city through sewers, the combination of open-air wastewater with groundwater has had a negative impact on nature and surrounding wildlife.

Table 2.**The structure of production growth of enterprises of the oil and chemical industry in Uzbekistan**

No.	Industrial enterprises	Volume of manufactured products		
		1950 year	1960 year	1970 year
1	Chemical industry	97,3	97,4	94,9
2	Mining chemistry	8.7	5.7	1.9
3	Basic chemical means	64.5	56.4	70.9
4	Petrochemical	2.5	2.7	5.1

The table shows that the chemical industry in Uzbekistan has sharply increased the volume of production from year to year. The chemical industry has also been dispersing toxic waste during production. As the chemical dust rose into the air layer, the wastewater began to accumulate in the soil and nearby ditches using faulty technical equipment. Contamination of industrial wastewater in the city of Chirchik with the composition of open collector water was observed. The collected part of the collector water is dumped into the Chirchik river, canals. As a result, the waters of the Chirchik River did not meet sanitary and hygienic standards. In addition, the Chirchik River was dumped into the river by the Chinoz Construction Industrial

Enterprise, the Chirchik Chemical Plant, the Chirchik Maxam (formerly Elektroximprom), the Gazalkent Industrial Enterprise, the Oil Refinery, and the Charvak Resort. In 1983, during the inspection of the Chirchik River, it was noted that the level of pollution with petroleum products was high [19]. The Chirchik River flows into the Syrdarya. It is obvious that the discharge of polluted water from the Chirchik River into the Syrdarya River by industrial enterprises has begun to affect the flowing areas of the river. In particular, the current Chirchik Maxam (formerly Elektroximprom) industrial enterprise is the main source of acute pollution of the ecology of Chirchik. Built in Chirchik, this industrial enterprise is a chemical industry enterprise adapted for the



production of mineral fertilizers in agriculture. Chemical wastewater and dust emitted by the industrial enterprise have been polluting the atmosphere. In 1984, the Chirchik Electrochemical Plant was found to have a lack of technical equipment and technical failures. As a result, untreated wastewater treatment has also affected the surrounding drinking water. High levels of ammonia, nitrate, urea and ammonia were found in the waters of the Chirchik River [20]. In addition, it was noted that the water content of the Chirchik River exceeds the norm by oil products and heavy metals. All this indicates that the wastewater is well treated in industrial plant treatment filters and the wastewater treatment equipment is obsolete. In 1989, artificial dumps appeared along the Chirchik River. The accumulated rubbish piles consisted of chemical and construction materials: concrete, cement, brick products. There have been cases of dumping of wastes of industrial enterprises along the Chirchik River into the river. The chemical wastes in the Chirchik River have negatively affected the wildlife in the riverbed and the surrounding flora. SN Kuchkarov, a traumatologist at the Tashkent City Hospital for Infectious Diseases, reported an increase in oncological diseases in 1989 among the population of Tashkent city and region [21]. The reason for the increase in this disease is the increase in the element ammonia, one of the chemicals in the human body, as well as the excessive circulation of chemicals in the air and water. The main reason for the increase in chemical toxins in water, air and soil is the fact that the chemical, asphalt, cement, construction products built in Tashkent for many years are manufactured by industrial enterprises without maintenance. As a result, the amount of chemicals in the drinking water of the population of Chirchik increased by 4-6 times [22]. By the end of the 1980s, the content of drinking water in the population had also increased. These processes have led to the emergence of dangerous cancers in the population. In the 1980s, malignant tumors and cancers accounted for 70% of the population of the Republic of Uzbekistan.

The presence of Almalyk mining wastewater in the Chirchik River also indicated that there was a technical problem at the industrial enterprise. A mixture of metal waste, sernoic acid, and rock waste from the Almalyk Mining and Metallurgical Plant has been polluting the Chirchik River.

Another chemical industry enterprise, a machine-building plant, has also been operating in Chirchik. The plant was equipped with technical parts for agricultural machinery, and produced spare parts for the manufacture of machinery for chemical works.

In Chirchik, by 1989, the air purification and water treatment filters in the shops of the chemical

industry were obsolete. The untreated passage of chemical wastewater from the treatment plant has contaminated the surrounding water. Although the wastewater contains ammonium acid, nitrate and heavy metal alkalis, it has been dumped into the Kara Kulduk canal [23], which flows through the center of Chirchik. As a result, wastewater has led to the contamination of groundwater and surface water. As a result of the combination of groundwater with the population's drinking water, the population's drinking water was contaminated.

By the end of the 1980s, Uzbekistan began to study the composition of atmospheric air, harmful chemicals in water and soil, and waste products of construction products on a monthly basis in the field of nature protection. According to Uzbek newspapers *Uzhydromet* and *Goskompriroda*, monthly observations are organized in all regions and cities of the country. Reports on the damage caused by heavy industrial enterprises to nature and the population have been organized. Despite the criticism of many industrial enterprises in Uzbekistan that cause damage to nature and the environment, the condition of many chemical enterprises has not been studied and has been operating without technical cleaning equipment. There have also been cases of some heavy industrial enterprises demanding closure. But these appeals were made only on paper. Measures to prevent damage to nature have not been implemented in practice. In particular, the concentration of ammonia in the air of Chirchik increased from 2.2 to 3.8 times, formaldehyde from 0.3 to 0.7 times, phenol from 0.7 to 1.3 times, carbon monoxide from 0.3 to 0.7 times, carbon dioxide from 2.2 to 2.4 times [24]. It had doubled. In 1990, the amount of toxic chemical dust in the air of Chirchik increased, and the amount of nitrite nitrogen in the water of the Kalgan-Chirchik and Salar canals was found to be 11 times higher than the PDK [25]. No measures were taken to prevent these indicators. As a result, the environmental situation in Chirchik has worsened.

According to the data, in the late 1980s, the Chirchik chemical industry, the cement industry and the chemical industry in Tashkent were among the industrial enterprises that caused the most pollution of the Syrdarya River [26].

In short, the deterioration of the environmental situation in the city of Chirchik was caused by the fact that the chemical industry enterprises are operating without maintenance, in a state of disrepair. Uncontrolled dumping of chemically toxic water from the Chirchik chemical plant into nearby canals and ditches has led to water poisoning. Changes in the health of the population were not in the focus of the center. The development of the chemical industry was one of the first. The nature and water resources of Chirchik were not used wisely. On the contrary, in



addition to artificial reservoirs, Chirchik hydroelectric power stations were built. From its natural resources, coal deposits and oil reserves also served to support the chemical industry. The improvement of living conditions of the population, the technical repair of the industrial enterprise were covered by insignificant funds. Natural resources have suffered from water, atmospheric air, and soil chemical wastes.

TRANSLITERATION

1. Karimov I. *Uzbekistan for a great future. Tashkent. Uzbekistan. 1999. –p. 507.*
2. Ulmasbaev Sh. *Industrial development of Soviet Uzbekistan. Tashkent, 1958. – p. 132.; Khadzhaev S, Savchenko P. Mineral, fuel resources of Uzbekistan and economics of their use. Tashkent. Fan. 1972. –p. 121.*
3. Askarov Sh.M. *From the experience of solving social and economic problems at chemical enterprises in the 80s. The historical and party aspect of the problem (based on materials from the republics of Central Asia). Abstract., Candidate of Historical Sciences, -M. 1991.31 p .; Yuldashev O. State and problems of health improvement, preservation of the natural environment of Uzbekistan in the 80s. Author's abstract, dissertation, cand., History, sciences. Tashkent. 1993. –p. 32.*
4. Usmanov I, Makhmudova D, Khodzhaeva G, Musaeva A. *Ecological monitoring of the state of the Chirchik and Akhangaran rivers for the development of measures for their protection // Ecology and water management, No. 1 (01), 2019 - p. 30-45 .; Usmanov I. Improving environmental monitoring of water bodies in the middle reaches of the Syrdarya river // Ecology and construction, No. 1, 2017. –p. 10-15.*
5. Zotov A, Raimov T and others. *Cities of Uzbekistan. Tashkent. "Uzbekistan". 1965. –p. 63.*
6. *Chirchik is a city of great chemistry. Tashkent. State Publishing House of the Uzbek SSR. 1962. –p. 62*
7. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-33, work-6564, sheet-15.*
8. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-33, work-6564, sheet-12.*
9. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-33, work-6564, sheet-17.*
10. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-33, work-6564, sheet-16.*
11. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-33, work-6564, sheet-3.*
12. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-33, work-6564, sheet-13*
13. *History of new cities of Uzbekistan. Tashkent. Fan. 1976. –p. 52*
14. *Central State Archive of the Republic of Uzbekistan. Fund-837, list-39, work-43, sheet-212.*
15. *Central State Archive of the Republic of Uzbekistan. Fund-2742, list-1, case-87, sheet-15.*
16. *Central State Archive of the Republic of Uzbekistan. Fund-2742, list-1, case-87, sheet-16.*
17. *Central State Archive of the Republic of Uzbekistan. Fund-2742, list-1, work-330, sheet-90.*
18. *Ziyadullaev S. Industry of Uzbekistan and the main economic problems of its development. Tashkent Fan. 1982. –p. 183.*
19. *Central State Archive of the Republic of Uzbekistan. Fund-2742, list-1, case-204, sheet-154*
20. *Usmanov I, Makhmudova D, Khodzhaeva G, Musaeva G. Ecological monitoring of the state of the Chirchik and Akhangaran rivers for the development of measures for their protection // Ecology and water management, No. 1 (01), 2019 - p. 38*
21. *Vorina N. Our partner is nature. Truth of the East 1989 4 June.*
22. *Aral Sea region all-Union - hashar. True East 1989 yil 1 July.*
23. *Pravda Vostoka. 1989 yil 13 August.*
24. *Air and water in June. True East 1989 yil 26 June*
25. *Air and water in April. True East 1990 yil 26 April*
26. *Problems of development of the economy of Uzbekistan. Tashkent. Publishing house of the Academy of Sciences of the Uz SSR. 1990. –p. 156.*



SOLVING HIGHER-ORDER DIFFERENTIAL EQUATIONS USING THE METHOD OF ORDER REDUCTION

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ABSTRACT

The article provides a guide to solve differential equations that may be reduced in order, and shows three types of them. The methods have been proved by examples.

KEY WORDS: *a derivative, a differential, an integral, an equation, a general solution, a private solution*

INTRODUCTION

According to Alan Turing, "Science - a differential equation" [1]. In fact, many aspects of science lead to the discovery of an unknown function that represents an event or process under consideration. Differential equations play an important role in this. Hence, differential equations – a relation between arbitrary variables and unknown functions together with their derivatives or differentials [2,420]. This article discusses the types of differential equations that may be reduced in order, and the methods of solving them.

MAIN BODY

It is known that all differential equations of second and higher orders are called as differential equations with higher order.

General view of n-order equation:

$$F(x, y, y', y'', \dots, y^{(n-1)}) = 0 \quad (1)$$

Or it may be solved in relation to the higher derivative:

$$y^{(n)} = f(x, y, y', y'', \dots, y^{(n-1)}) \quad (2)$$

Let's look at how to integrate high-order differential equations. The main method of integration is to reduce the order. In this method, the order of the variables of the given equation is changed to another equation by substituting the order of the variables that are lower than they are. However, it is not always possible to reduce the order.

It is feasible with the following types of equations:

Type 1. Equation in the form of $y^{(n)} = f(x)$

The right-hand side of this equation depends only on x . If the right-hand side of the equation depends only on x , the order of the equation is reduced by the method of integration at the same time. Consequently, we get:

$$y^{(n-1)} = \int f(x)dx + C_1$$

On this way (in order) we integrate until required times and get general solutions of the equation.

1st example.



$$y^{(n-1)} = \int f(x)dx + C_1; \text{ initial requirements:}$$

Solve the equation if $x = 1, y = 2, y' = 1, y'' = 1$

Solution: $y''' = \frac{6}{x^3}$; we find a general solution of the equation.

To do this, we integrate 3 times and get the following:

$$y'' = \int \frac{6}{x^3} dx = 6 \int \frac{1}{x^3} dx = 6 \int x^{-3} dx =$$

$$y'' = 6 \frac{x^{-3+1}}{-3+1} \quad y'' = 6 \frac{x^{-2}}{-2} = -\frac{3}{x^2} + C_1$$

$$y'' = -\frac{3}{x^2} + C_1 \quad y' = -3 \int x^{-2} dx + C_1 \int dx$$

$$y' = \int \left(-\frac{3}{x^2} + C_1\right) dx \quad y' = -3 \frac{x^{-1}}{-1} + C_1 x + C_2$$

$$y' = \frac{3}{x} + C_1 x + C_2$$

$$y = \int \left(\frac{3}{x} + C_1 x + C_2\right) dx$$

A general solution is $y = 3 \ln x + C_1 \frac{x^2}{2} + C_2 x + C_3$

Now we find C_1, C_2, C_3 from the initial requirements:

$$1 = -\frac{3}{1^2} + C_1 \Rightarrow C_1 = 4$$

$$1 = \frac{3}{1} + 4 \cdot 1 + C_2 \Rightarrow C_2 = -6$$

$$2 = 3 \ln 1 + 4 \cdot \frac{1}{2} - 6 \cdot 1 + C_3 \Rightarrow C_3 = 6$$

So, a private solution will be $y = 3 \ln x + 2x^2 - 6x + 6$

2nd example.

Find a general solution of the equation:

$$y'' = \frac{1}{1+x^2}$$

Solution.

To do this, we integrate it twice and get the followings:

$$y' = \int \frac{1}{1+x^2} dx$$

Firstly, we integrate $\int \frac{1}{1+x^2} dx$

Let's integrate the 1st integral by peacemeal:

$$\int \frac{1}{1+x^2} dx = \arctg x + C_1 \quad y' = \arctg x + C$$

$$y = \int (\arctg x + C_1) dx = \int \arctg x dx + C_1 \int dx$$



$$\int \arctg x dx = \left| \begin{array}{l} U = \arctg x \quad dV = dx \\ dU = \frac{1}{1+x^2} dx \quad V = x \end{array} \right| = x \arctg x - \int x \cdot \frac{1}{1+x^2} dx =$$

$$= x \arctg x - \frac{1}{2} \int \frac{d(1+x^2)}{1+x^2} = x \arctg x - \frac{1}{2} \ln(1+x^2) =$$

$$= x \arctg x - \ln \sqrt{1+x^2} + C_1 x + C_2.$$

There will be a general solution: $y = x \arctg x - \ln \sqrt{1+x^2} + C_1 x + C_2.$

Type 2. The equation in the form of $y^{(n)} = f(x, y^{(k)}, y^{(k+1)}, \dots, y^{(n-1)})$

is substituted like $y^{(k)} = P(x)$, $p = p(x)$ and we will get the equation with order $p^{(n-k)} = f(x, p, p', p'', \dots, p^{(n-k)}).$

After integrating this equation $(n-k)$ times, we define the new function that we are looking for:

$$P = \varphi(x, C_1, C_2, \dots, C_{n-2}),$$

$$y^{(k)} = \varphi(x, C_1, C_2, \dots, C_{n-k})$$

We integrate the equation k times and get a general solution.

A private form of the equation is $y'' = f(x, y')$.

Here, the order is reduced to one unit by substitution for $y' = p(x)$

3rd example.

We use $y' x \ln x = y'$ as a substitute for $y' = p(x)$

$$p' x \ln x = p \quad p' = \frac{dp}{dx} \quad \int \frac{dp}{p} = \int \frac{dx}{x \ln x}$$

$$\ln |p| = \ln \ln(x) + \ln C_1 \Rightarrow p = C_1 \ln x$$

$$y' = C_1 x$$

$$y = \int C_1 x \ln x dx$$

$$y = C_1 x (\ln x - 1) + C_2 \quad - \text{ this will be a general solution.}$$

Type 3.

An equation in the form of $y^{(n)} = f(y, y', y'', \dots, y^{(n-1)})$

As it is seen the right-hand side of this equation does not include an arbitrary variable X . We use it as a substitute for $y' = p(y)$ and the order of the equation is reduced to one unit. Here, y will be an arbitrary variable, p function that is being looked for depends on Y . According to the rule of differentiation of a complex function:

$$y' = \frac{dy}{dx} = p$$

$$y'' = \frac{dy}{dx} = \frac{dp}{dy} \cdot \frac{dy}{dx} = p' \cdot p$$

$$y''' = \frac{d}{dx} = (p' \cdot p) = \frac{d}{dy} (p' \cdot p) \cdot \frac{dy}{dx} = \left(\frac{dp'}{dy} \cdot p + p' \cdot \frac{dp}{dy} \right) \cdot p =$$

and so on.

$$(p'' \cdot p + p' \cdot p') \cdot p' = p'' \cdot p^2 + (p')^2 \cdot p$$

By putting $y', y'', \dots, y^{(n)}$ to the equation, we get the equation of order $(n-1)$.



4th example.

$$y'' \operatorname{ctgy} = 2(y')^2$$

We do a substitution like $y' = p(y)$ $y'' = p \cdot p'$ and get $pp' \operatorname{ctgy} = 2p^2$.

Then, we integrate $\int \frac{p dx}{p^2} = 2 \int \frac{dy}{\operatorname{ctgy}}$.

$$\int \frac{dx}{p} = 2 \int \frac{\cos y}{\sin y} dy \quad p \frac{dp}{dy} \operatorname{ctgy} = 2p^2 \quad \frac{p dp}{p^2} = 2 \frac{dy}{\operatorname{ctgy}}$$

$$\ln p = 2 \ln(\sin y) + \ln C_1$$

$$p = C_1 \sin^2 y$$

The equation in the form of $pp' \operatorname{ctgy} = 2p^2$ came to the first-order differential equation in relation to the function that its variables may be separated.

Eventually, from $y' = C_1 \sin^2 y$ we integrate $\int \frac{dy}{\sin^2 y} = C_1 \int dx$ and get a general solution.

$$-\operatorname{ctgy} = C_1 x + C_2 \Rightarrow \operatorname{ctgy} = C_2 - C_1 x$$

Conclusion.

General forms and methods of solving high-order differential equations have been studied. Consequently, the following types and methods of solving high-order differential equations that their order may be reduced have been revealed:

1) The right-hand side of $y^{(n)} = f(x)$ equation is integrated n times. Each integration involves one optional invariable.

2) Equation in the form of $F(x, y', y'') = 0$ or $y'' = f(x, y')$ where y has participated as a disclosed one.

3) Equation in the form of $F(y, y', y'') = 0$ or $y'' = f(x, y')$ where x has participated as a disclosed one. By the method of substitution of the equation $y' = p$, $y'' = \frac{dp}{dx}$ we get $F(x, p, \frac{dp}{dx}) = 0$.

Above-mentioned methods may serve as a guide for students to solve differential equations that their order may be reduced.

REFERENCES

1. <https://guotc-citation.com> Retrieved in 3.08.2020
2. Soatov Yo.U. *Higher Mathematics (Volume I) - Tashkent: "O'qituvchi", 1992. P. 495*
3. Minorskiy B.P. *A set of problems in higher mathematics. - Tashkent: "O'qituvchi", 1997. P. 367.*
4. Numonjonov S. D. *Innovative methods of professional training //ISJ Theoretical & Applied Science, 01 (81). – 2020. – C. 747-750.*
5. Muminjon N., Dilshodjonugli N. S. *Improvement of transformer protection elements //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – T. 10. – №. 6. – C. 394-398.*



IMPROVING PHILOSOPHY IS AN IMPORTANT FACTOR IN THE DEVELOPMENT OF SOCIETY

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ABSTRACT

The science of philosophy is one of the components of spirituality. Through this science, a person studies the laws of self-awareness of the development of society. Will have the skills to use methods and tools that will benefit in solving problems in practice. the science of wisdom, that is, a person knows the secrets of the universe, interest in the past and the future of man is subject to wise thinking in any spiritually and physically healthy person.

KEY WORDS: *philosophy, education, development, society.*

DISCUSSION

Knowledge of the universe is a rare phenomenon that arises from human nature, wise, reasoning with the mind this is a characteristic feature of the nature of a person in order for everyone to contribute to the material and spiritual development of our society, it is necessarily necessary to be an expert of any profession, to have a deep knowledge of this profession. His fate will depend not only on business, entrepreneurship, scientific potential, but also on the spiritual moral environment. Wisdom will be needed in order to have the ability to realize this very connection and lead the direction of activity.

The first president of the Republic of Uzbekistan Islam Karimov assessed the specific place of philosophy and spirituality in the education of the younger generation: "No matter whether a person who does not know philosophy is a representative of the media or the field of education, art or culture, he does not understand well the meaning and meaning of his profession in life. For example, to analyze history, one must take a philosophical look at each event and process, summarize them, draw the necessary conclusions. Therefore, in order to become a historian, it is necessary to have the ability of philosophical thought. understanding the world, comprehensively perceiving the laws of life and society in order to know the worldview of different peoples and nations

on earth, the idea of professional provisions, it is also necessary to study philosophy extensively and comprehensively. In a word, arming our youth with philosophical contemplation is a period demand. When we say why, in today's time, in order to argue with any opponent, we need to know more about his views and ideas, his philosophy and, if necessary, to master them more carefully" [1], the contemplation of the younger generation was considered important because of the broadness of the thoughtful worldview.

In today's global environment, technical technology is rapidly developing. As a result of this, new problems also arise. If we do not eliminate these problems in time, they will have a negative impact on the development of our spirituality. The science of philosophy (ethics, aesthetics, logic) is taught in all directions of the faculties of higher education institutions. But, unfortunately, most training hours are conducted on the basis of the same program, despite the fact that they are in different directions. This means that the specific aspects of specialization in the University are not taught in depth. For example, "Fine Arts and engineering graphics", "Philosophy of values" in the field of "Philosophy of art", "Fundamentals of national idea and spirituality and legal education", which are part of philosophy in "Music education", are not taught at the level of modern requirements. Special branches of philosophy are not taught taking into account the specific aspects



of the specialty. As a result, the vast majority of specialists who are preparing for this do not have enough philosophical knowledge and a wide worldview. This can also be understood from the questionnaire and question answers passed together with the students. The right question arises: how to teach philosophy? We think that this science will be relevant if it is taught in accordance with each field. The teacher of "Applied Art" should teach the pedagogical students to analyze the laws and categories of philosophy in the example of applied decorative art. "Philosophy should be taught in inseparable connection with the direction of a representative of this field to each specialty. For him, he should be a specialist, an artist philosopher, a master of applied art philosopher, a linguist philosopher, a musician philosopher, a chemist philosopher." [2]

Improving the quality of teaching remains one of the most important tasks. This, of course, would be desirable if we focus on the creation of literature that meets modern requirements, independent thinking in these publications, the use of certain knowledge in the mastering of subjects. It is necessary to make extensive use of the wise thoughts, ideas of mature philosophers on the subject, in order to develop the philosophical mushy of the students.

During the years of independence in Uzbekistan, significant changes are taking place in the organization and management of the development of science and education by the state. In terms of the organization, development of activities related to science and education on a democratic basis, first of all, we are guided by the principles of historical heritage left from our ancestors, their preservation, restoration.

In fact, our ancestors still have an effective influence on the development of world science with their unique works and opinions related to various spheres of science and culture. After all, there is a very large scientific and literary heritage from our ancestors. One of the glorious nationalities, the younger generation should be proud of this and realize that it is their duty to patriotism to make a worthy contribution to the development of their traditions at the same time. After all, paying attention to the spiritual heritage is of further social and educational importance, the goal of young people, the opportunity to restore a beautiful life worthy of their dreams. It is our responsibility and duty not only to boast of the past or to surround ourselves with dreams about the future, but also to preserve our spiritual heritage, national values left to us by our ancestors, to learn from their qualities in the quality of Science self-sacrifice. Many works of Eastern philosophy are written in Arabic, Persian, Chinese and other languages, and we treat them through Western European and Russian sources. By turning

the most important works of Asian philosophers and thinkers into the Uzbek language and giving them as "chrestomatics of Eastern philosophy", students could educate the object attitude to the heritage of Eastern philosophy along with enriching the content of philosophical programs, manuals and textbooks. It is important to note that in the minds of some Western countries it is very important to understand that the ghoulish expression of being a citizen of a Muslim country does not have any logical grounds for supernatural interpretations in the tribe of "backwardness".

The millennial philosophy of the East cannot be ignored, since timely Islamic values have made an invaluable contribution to progress. At the same time, it cannot be ignored that the state of stagnation has taken place in many countries where the cases of following the ideas of Islamic fanaticism were observed, or when material self-interest was established, national culture and enlightenment did not receive sufficient attention, centralized statehood was established, and Islam, which was kept away from the glorious goals, was spread.

Consequently, the ideological emptiness will have to act diligently to eliminate its complications. It is impossible to imagine that the formation of a free person is neglected in science and education because of his right to recognition. Most importantly, in this regard, it should be borne in mind that science and education should formulate views and feelings about the belief in their power and opportunities in every citizen and serve for the further development of such power and opportunities. It is important for the younger generation to continue the glorious work of our ancestors and to be spiritually awake and spiritually healthy, as long as we intend to inherit a free and prosperous, free and prosperous life. Already, it is necessary to achieve the popularization of educational programs in the field of Social Sciences and absorption into the hearts of young people, ranging from the mass media, in order to further the education of the future generation of the people, taking into account the general spirit and spiritual need. We believe that, along with spirituality and enlightenment, cultural heritage, it is necessary to study more deeply, to illuminate the current renewed way of life and the spiritual life of our society, which is getting new.

If figuratively speaking, social development is the body of our society, then spirituality, enlightenment and political consciousness are mature, its soul, mind and soul. A great state, to build, and to rise to a glorious future, must educate wise, enlightened, at the same time harmonious people who will be proud of their past, glorious values, nation and who will sincerely believe in the future.



In order for Uzbekistan to become a modern progressive state, all the necessary conditions have been created for the new organization of education on the basis of national and global achievements, active participation of citizens in state affairs. Already, the main factor that will have a decisive impact on our future destiny in the policy of our state is the deep understanding of science, technology, spirituality, enlightenment, education, innovations and achievements in the field of socio-economic relations, the need for creative use of the experiences of the countries of the world, the introduction into practice of far-sighted strategic programs and, continuing consistently. Consequently, spirituality is the basis for its development that elevates the heights of any country and nation, a sense of confidence in people for the future to be bright. In a country where science attaches primary importance to education, it is not appropriate to issue various conflicts. Spirituality has preserved the world from ignorance, national and regional conflicts, from ideological contradictions, and will continue to be so.

The main task of Science and education in the development of society is that it gives a new impetus to the activities of humanity, and creativity, and serves for the further development of the country. Form, enrich and reflect personality in a certain direction. Restores the material and spiritual foundations necessary and important for the development of society. Therefore, the most important functions of science and education, one of the most important aspects for the development of society, are also manifested in its inseparable connection with spirituality. We are studying a lot of positive things from the developed countries of Western Europe in such areas as managing the state, the economy, developing techniques, creating cultural life (living comfort), harmonic formation of the educational system to the requirements of the ITU, and it is natural that this process will continue. However, this should not necessarily mean - imitating the West in all matters and blindly following it. In particular, national-mental thinking without adequate consideration of moral-cultural values, literary heritage, millennial experience in our spirituality, Western thinking and lifestyle cannot be blindly accepted.

Of course, studying the achievements of science in the West, mastering modern technologies are necessary for the development of any state. However, in this process, it is necessary to definitely take into account such factors as the country's modern values, spirituality, the level of development. Otherwise you will not turn a blind eye to the coming out in a problems to try to master the values of strangers blindly.

REFERENCES

1. Каримов И. А. Инсон, унинг ҳуқуқлари ва эркинликлари олий қадрият. 14 жилд Т.: Ўзбекистон. 2006 Б. 117 б.
2. С. Булатов, П. Худайбердиев Санъат фалсафаси, -Тошкент, 2004, ТДПУ 5- б.
3. Farxodjonova N. F. HISTORY MODERNIZATION AND INTEGRATION OF CULTURE //Теория и практика современной науки. – 2018. – №. 3. – С. 13-15.
4. Farxodjonova N. F. MODERNIZATION AND GLOBALIZATION AS HISTORICAL STAGES OF HUMAN INTEGRATION //Теория и практика современной науки. – 2018. – №. 3. – С. 16-19.
5. Ergashev I., Farxodjonova N. Integration of national culture in the process of globalization //Journal of Critical Reviews. – 2020. – Т. 7. – №. 2. – С. 477-479.



THE ROLE OF VERBAL ASSOCIATIONS IN TEXT FORMATION

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ANNOTATION

This article covers issues such as research on the development of associative linguistics, the role of verbal associations in text generation, the associative area of text.

KEY WORDS: *associative linguistics, verbal association, text, stimulus word, associative area of the text, reality, consciousness, language.*

DISCUSSION

At the present stage of development of world linguistics language the study of individual characteristics inherent in the human being of its user, the situation in which speech activity is carried out, the connection with external factors such as space, time, sociolinguistic environment, etc. with people's culture and mentality has become one of the central issues. Studies in this direction have radically changed some conclusions formed in traditional linguistic approaches. In particular, the reflection of reality in the language and its transfer to the language were not only an activity that was carried out in a manner, but also a multi— stage and complex set of analytical actions that were performed in the process of consciousness, a theoretical view was formed of the fact that at the last stage of this activity.

In Uzbek linguistics, too, serious attention is paid to the study of language units in connection with external factors such as linguistic consciousness and thinking, spirituality, sex, age characteristics, national-cultural views, professional curry, which are used by the user: by the 21st century, our teacher A.Nurmonov noted, the inclusion of the category "language personality" in the scientific paradigm of linguistics led to the assimilation of such concepts as personality, consciousness, thought, activity, behavior, situation, which were previously alienated from the point of view of linguistics, but were widely used in sciences close to linguistics, the concept of a "talking person" has become an unifying concept, which today confuses linguistic directions, such as psycholinguistics, ethnolinguistics, sociolinguistics, cognitalinguistics, pragmalinguistics, ontolinguistics.(2) Language the approach to the study

in this respect has paved the way for the development of associative linguistics among the noted areas of anthropocentric linguistics.

In the analysis of the linguistic landscape of the universe, it is important to study the psychological picture of a person about the external scientist and its reflection in the language. It is inevitable that the solution of this problem will enrich the theoretical views on the issue of the role of associative thinking in the verbal expression of the external world with new knowledge. The analysis of such issues as the reflection of the external world in the language, the role of the bunda associative thinking, the associative connection of language units, the Association of groups on the basis of the associative connection, the role of the smallest inclusion in the formation of large texts dictates the associative approach to the language. In linguistics it can be said that interest in studying the image of the external world in the human psychological imagination and its reflection in the language has arisen the need for research in the associative direction. Language learning in an associative direction is undoubtedly to give an interesting knowledge of the eye-catching activity of the mind in the process of the use of language by a person.(3)

It is known that the analysis of the verbal expression of the external world and the attitude of the present to the reality - consciousness - language trinity should also focus on the following important aspect. In the external world, realities are not reflected in the consciousness of Jesus, separated from factors such as space, time, reason, purpose, which are directly related to them. Such factors, walking side by side as a condition for the existence of an object of a



certain reality, together as companions of the image of reality in the human mind, form an associated “chain” with it.

Verbal associations N.V. Krushevsky will be of the following types: 1) direct forming associations; 2) indirect forming associations. Directly formed associations differ in two types: a) associative-connected on the basis of similarity; b) associative-based associations. N.V.Krushevsky believes that indirect-forming associations are realized through the interaction of imagination about things. He writes about it as follows: “the word is a sign of something. The imagination of the thing and the word that expresses it, unites with each other an inseparable couple on the basis of the law of association. Such an association is according to solidarity. In each language, not more than one group of imitation words is associated with an associative on the basis of similarity with what is in accordance with itself, for example, shushukat, etc... If the imagination of something is inseparable from the imagination of the word that expresses it, what conclusion does it come from? So, words should also be classified into those groups, as they express” (4).

Since verbal association is formed differently in each language owner, the associative meaning is also an individual trait. The associative meaning of the word is in the dynamic character. A change in the knowledge and comfort of a person about the external world, a re-perception of the universe leads to change in the verbal associations and the associative meaning associated with it. For example, if during the famine the imagination of black bread formed associations of famine, malnutrition, deprivation in the language owners of the same period, during today's calm and full – fledged life, black bread brought about health in the language owners, diet bread associations. This means that the re-perception of the universe has a serious impact on the verbal associations and the associative sense perceived through them. In addition to the associative meaning in the analysis of verbal associations, such concepts as the scale of associations, national – cultural, social, gender character in associations also play an important role. As is known, the scale of verbal associations differs in language owners. The scope of verbal associations depends on the reserve of lexical units of the language owner. The scale of the verbal associative meaning of children in adults, women and men, in different professions, its composition is varied.

According to N.O.Zolotova, the high-frequency units belonging to the core of the associative field will be 6-year-old child, taking place from the dictionary wealth. Such units are the names of a person and his body members used in everyday speech activity, names that express kinship, bodies of the universe, names that denote natural phenomena, words that denote some color, words that denote

movement and circumstance, etc. Of course, this conclusion does not mean that the scale of the verbal association in children and catytes is homogeneous.(5)

At this time, we conducted an experiment to determine the scale of the associative space in a 6 – year-old girl and selected the lexeme from a national-cultural point of view. We checked, from the girl, the wealth of the associative dictionary on bread lexeme. The girl had the same emotionality: wheat, flour, oven, mother, tub, jug – smoker, milk,salt, tableware, bread with the addition of edible legumes: honey, tea,sugar, nuts, raisins, food. It turns out that the association only collects concepts related to this word around, in this word.

In the formation of verbal associations, the scale, associative units, in particular lexical associations, different response reactions arise to the lexeme depending on the origin of the individual, his role in social life, profession, age and sex. In order to prove this sentence in the experiment, we conducted the bread lexeme in a person engaged in brewing. The following reaction was expressed: bread, obi bread, patir, black bread, lachira, varaqi, baton bread, roll bun, carp bread, oven, zuvala, dough, butter, leaven, flour, water, edge, bakery, sesame, pesh (zuvala place) suhoy, blessing, gazna (non-stick item), made of khomnon, basket, tandirkhavu, lotok (place name of bread maker), kaba (girgira – an instrument that limits smoking), scales, pumpkins (dough stick clean fixture), six (balls of chalk in the oven to the center of the pan hanging tool of fallen bread), parkash (bread maker). Apparently in the bakery there is a lot of wealth of associative dictionaries, since it is exactly his field in comparison with other professions. From the point of view of this profession. In the above 6-year-old girl, however, it was the result of an associative experiment collected on the basis of her observations in family circumstances. The associative field is a certain reality, which has a structural lexical nature, is reflected in the consciousness of a person in essence, the verbal expression of the image of his companions, the sum of the units in the semantic and grammatical relationship in which the language that demonstrates his imagination, knowledge is interrelated.

In the formation of any text, the verbal associations associated with the image object of the author occupy an important place. Verbal associations serve as the main base units that form the text, forming it semantically-syntactically. From this point of view, it will be known that no text can provide a truthful assessment of the linguistic nature without associative analysis. In particular, an associative approach to artistic text analysis will help to determine the semantic-syntactic composition of the text. Through the analysis of the units in the associative relationship used in the artistic text, it is



possible to gain valuable knowledge about the creativity's perception of reality and its reflections on it, lexical reserve, reserve scale and composition, creativity's word selection skills. This situation shows that in memory of a person on the basis of his psychological imagination, it is necessary to deeply study not only psychologists, but also linguists, who remember each other.

Below we will clarify our thoughts on the basis of the analysis of the associative field of the poem "Bezovta tun" by Usman Azim.

Ot jonsarak yer tepinar,
Uzar tizginni.

Tentak shamol olib kelar
Jondor isini.

Qaro tunda lovullaydi
Bo'ringin ko'zi.

Qichqirar-u shamol jarga
Tashlaydi o'zin.

Chaqmoq! Yomg'ir uriladi
Qoya betiga.

Qo'ylar hurkib g'uj bo'ladi
Qo'ton chetiga.

Emaklaydi bo'ri jim-jit,
O'ljaga intiq.

Tunga qarab itlar hurar...

Qarsillar miltiq!
O'tovda tun. **Cho'pon o'rnin**

Topar paypaslab.

O'g'ilchasi kirar titrab
O'rniga asta...

Kecha – uzun. Kecha – **cheksiz.**
Kecha – **g'alayon.**

Xavotirda farzandini

Quchoqlar cho'pon!

U to'lgonar tishlariga
Tishlab nolasin...

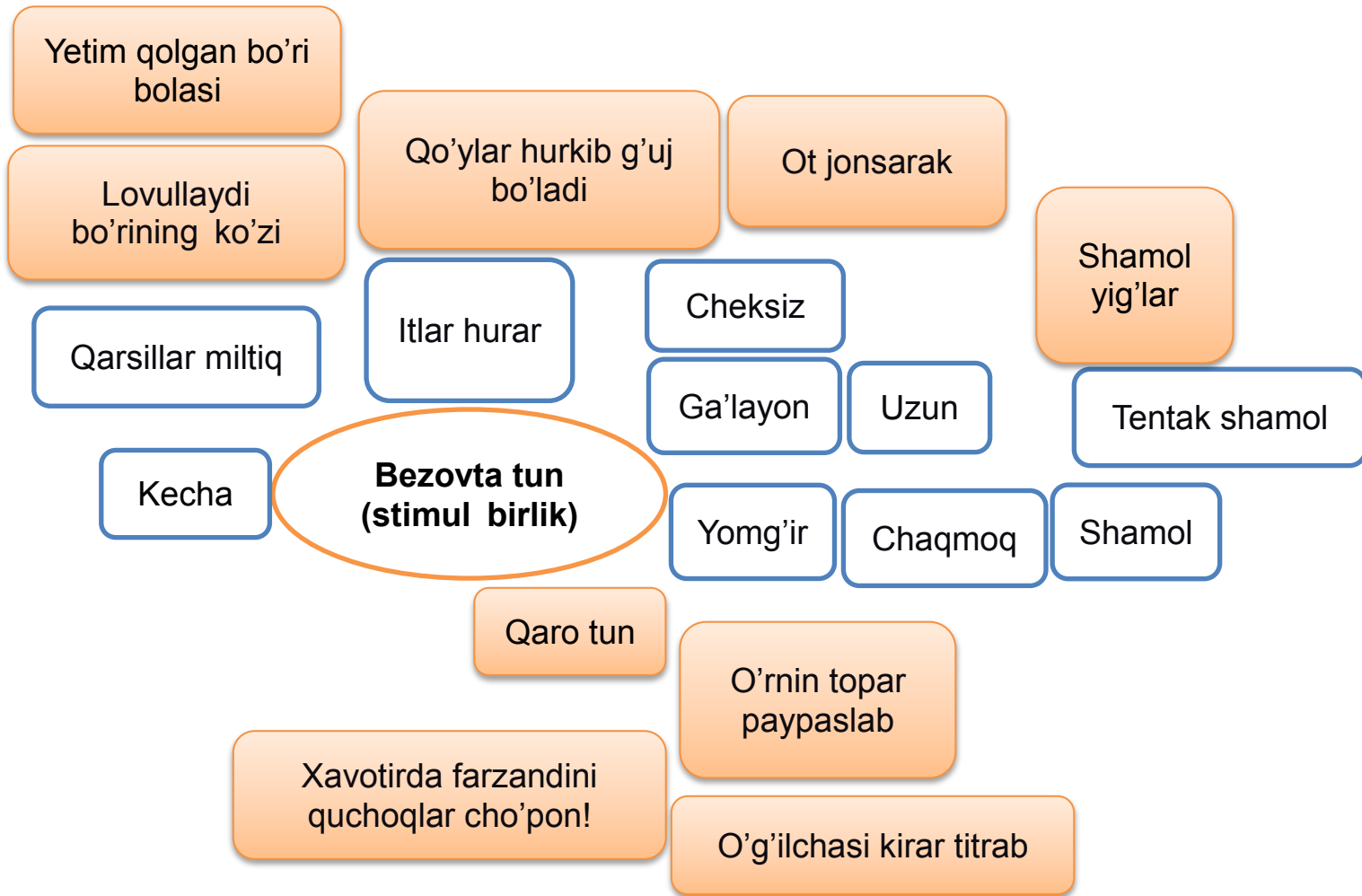
Shamol yig'lar – yetim qolgan
Bo'ri bolasi.

If you pay attention to the content of the poem, the poet imagines the night, in his memory comes a dark night, a crazy wind, a wolf's eye, lightning, rain, dogs bark, an evil rifle, a shepherd, a fiery night. The life of the shepherd and the imagination of the poet about a night in which his wolf made a move were the impetus for the creation of the poem. The imagination of Usman Azim about a night of shepherd's life in his contemplation reveals the area of associative connected units with each other.

In this poem it is possible to distinguish the following units, which are connected by an associative unit with the lexical unit of the disturbed night: the night of the blind, the wind of the stupid, the wolf's eye, the lightning, the rain, the dogs bark, the gypsy rifle, the shepherd, the night of the fiery, the wind of the weeping,. night-long, night-endless, night-teasing, orphaned wolf's boy. These units, which are associated with the associative with the restless night lexeme, are lexical (wind, lightning, rain, shepherd, long, endless, nagging) and are composed of syntactic units (dark night, crazy wind, wolf's eye, dogs bark, gypsy rifle, fiery night, wind tears, night – long, night – unlimited, night – endless, restless child hugs shepherd, orphaned wolf child), forming an associative area.

The phrase "wind tears - orphaned wolf boy", associated with the restless night lexeme, was formed on the basis of the poet's conception of the national and cultural values of the Uzbek people. The poet appreciates the forgiveness and mercy of the Uzbek people. Although wolves constantly hurt the shepherd, soir at the end of the poem concludes with pity that the wind is crying - the orphaned wolf's boy.

The associative area of the poem is occupied by a disturbing night lexeme from the core part. Blind night, stupid wind, wolf's eye, lightning, rain, dogs bark, crunchy rifle, shepherd, fiery night, wind tears, night – long, night – unlimited, night – endless, orphaned wolf's boy associative units are connected directly with the core unit. The relationship of the associative area units in the poem can be described in the drawing as follows:



Well, if the associative area of any text determines the base units in the formation of the text, then, in turn, the units of the field allow you to predict the object of the expression of the text.

REFERENCES

1. *Safarov Sh. Kognitiv tilshunoslik. - Jizzax: Sangzor, 2006. - B. 23.*
2. *Нурмонов А. Лингвистик таълимнинг янги босқичи. Танланган асарлар. III жилд. - Тошкент: Академнашр, 2012. - Б. 93.*
3. *Lutfullayeva D. Assotsiativ tilshunoslik nazariyasi. -Toshkent: Meriyus, 2017. -B. 7.*
4. *Крушевский Н. В. Очерк науки о языке. - Казань, 1883. -С. 65.*
5. *Lutfullayeva D. Assotsiativ tilshunoslik nazariyasi. - Toshkent.: Meriyus, 2017 - 26-b.*



THE USE OF INTERACTIVE METHODS IN THE STUDY OF GAZAL "NAVBAHOR" OF MUQIMIY

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ANNOTATION

This article focuses on the problems in the analysis of classical works in literature lessons of students of the academic lyceum. As support in solving these problems, the use of interactive methods in analyzing one of the Muqimiy's gazal given in the textbook complex of the academic lyceum "Literature" was recommended as a solution.

Kalit so'zlar: *Muqimiy, gazal, teaching interpretation, method, interactive method, table.*

DISCUSSION

At the 2nd stage of academic lyceums, the study of Muqimiy creativity is planned, and the program gives 3 hours to read and study these works. A textbook from the literature created on the basis of the program in the complex [7.371-386.] Muqimiy's "Tanobchilar" satirics, "Sayohatnoma" work, "Yakka bu Farg'onada", "Arzimni aytay", "Surating", "Ayrimasun", "Navbahor", "Axtaring" gazals, "Aroba", "Loy" and "Moskovchi boy ta'rifida" as well as samples of satirical poems and mentors. Since the study of these creative names of the Muqimiy given in the book is planned not only for students of academic lyceums, but also for students of schools of creativity, specialized in mother tongue and literature, it is also permissible to mention the breadth of the scope of works given in the textbook.

The program gives 3 hours to read and study these works. During the first hour of the distributed 3 hours, a conversation will be held with the students on the two works of the poet studied at the school and an introduction to the expressive reading and their analysis of gazals. 2-hour of the lesson is devoted to the analysis of the gazals of Muqimiy.

As in the first hour of the allotted time for the lesson, as we have already noted above, it is worth starting to read and learn the gazals of the poet.

In complex [7.372-375.] poet's "Yakka bu Farg'onada", "Arzimni aytay", "Surating", "Ayrimasun", "Navbahor", "Axtaring" gazals, "Aroba", "Loy" satirical gazals and "Moskovchi boy ta'rifida" the teacher, who assumes that the amount of time given for the study of poems and mentors

with light laughter is not enough, analyzes during the training, choosing from the gazals of Muqimiy, which are popular among the people. The rest of the gazal will serve as a task for independent reading of poetic works or plan to study her settled creativity in extracurricular classes.

One of the most popular gazals among the performance of the poem "Navbahor" in the style, which is heard by readers. When the song ends, gazal is read expressive by the teacher, and then the analysis of gazal "Navbahor" is performed. To do this, the purpose of the lesson is determined and the drill is carried out as follows.

I. The purpose of the lesson

1. Educational objective: to acquaint the students with the "Navbahor" gazal of the Muqimiy. Formation of reading skills in them, observing the requirements for the weight of gazals aruz. Improving the ability to analyze gazals.

2. Educational goal: to give the students the education of elegance, the formation of feelings of beauty in them.

3. The developing goal: to develop the oral speech skills of students, to expand the framework of logical thinking, to teach independent thinking. Lesson type: new cognitive, reinforcing and controlling.

Methods used in the lesson: "Ortiqchasini toping", "Tushun va bajar", "Uch bo'lakli matn", "Eslab ko'rchi, unutmadingmi?", "Teskari test".



Equipment used in the lesson: literature textbook, projector, A4 size paper, internet data, slides, markers, audio, incentive cards.

II. Continuation of lesson

The lesson is organized by the method of competitions. Students will be explained that in order to pass the test of the guards who were put on the roads of the "Bilimlar qasri", they must perform the tasks given below in mutual harmony and act diligently in order to enter the castle first. In order to enter the "Bilimlar qasri", a special mention is made of the condition for them to perform the following tasks:

- * "Ortiqchasini toping" method.
- * "Tushun va bajar" method.
- * "Uch bo'lakli matn" method.
- * "Matn muharriri" method.
- * "Eslab ko'rchi, unutmadingmi?" method.
- * "Teskari test" method.....

A full-fledged training analysis of gazals is conducted starting from the 8th and 9th grades. Methodist scientist V.Kadirov recommends that the analysis of gazals be carried out in the following order [3.153-154].

1. First of all, gazal is read and heard by the teacher (as far as possible by heart), finalizing it.
2. After listening to gazal, it is necessary to determine together on what subject it is written.
3. The rhyme gazal is determined.
4. The main characters involved in the gazal strip are marked.
5. Once the main images are identified, it is necessary to distinguish poetic images, which are grouped around each head image.
6. According to the description of reality by a figurative and factual way, it is determined which group belongs to the gazal under study.
7. After that, each byte is read separately, the contents are interpreted.
8. During the analysis of the bytes or after the complete analysis of gazals, the artistic arts used in them are also interpreted.
9. If the teacher gives the students insight about the weight of the plum before this, then this will be the task of finding the weight of the gazal.
10. When the analysis is completed, the literature teacher asks his students for the impression they have received from gazal.
11. If there is time, it is necessary to see gazal expressive reading to several readers. In the study, attention is paid to the fact that they comply with the requirements for the weight of the plum.

It is desirable that the gazal was first read by the teacher himself.

Navbahor...[7.375].

Navbahor. Ochildi gullar, sabza bo'ldi bog'lar,
Suhbat aylaylik kelinglar, jo'ralar, o'rtoq'lar.

Xush bu mahfilda tiriklik ulfat-u ahbob ila,
O'ynashib, gahe tabiatni qilaylik chog'lar.

Ruh ochib ko'zdin nihon bo'lsa paridek
naylayin,
Ayirilib hush-u aqlidin telba bo'lmay sog'lar.

Xayfkim ahli tamiz ushbu mahalda xor ekan,
Oldilar har yerda bulbul oshyonin zog'lar.

Marham istab kimsadin, zaxmi dil izhor
aylasang,
Choraye qilmoqdin o'zga, ustiga tirmog'lar.

Tobakay mundog' malomat kunjida doim
Muqim,
Bu zamon ko'z tutgin emdi senga bo'lsun tog'lar.

After the teacher read the gazal figuratively, he briefly talks about the meaning: among the settled gazelles there are also poems, which are attributed to the seasons of the year. In them, along with the image of nature, the image of social life is also embodied. The image in the poem is connected with life. In the gazals dedicated to the natural image of the resident, mainly the spring season, as well as its beauty, is expressed. In particular, in the gazal "Navbahor" the poet is very pleased that spring has come, with him the beauty of nature, peace in the land, joy in the hearts has taken over. But the fact that the time of the year does not consist only of spring, as it was his autumn and winter, also shows in the poem that life has its joys and hardships, joys and sorrows, pleasure and suffering.

After the delivery of similar information to the reader-youth and getting acquainted with the text of gazal and its content "Tushun va bajar?" method[1.92] using it strengthens their knowledge. Groups interactively identify the subject of the gazal, the rhyming words and images in it.

Naming each group also creates convenience in assessing students' knowledge. Groups can be called "Book-loving young people", "Creative young people", "Young literary people". Groups will be assigned assignments separately:

Group "Young people in the book": express an opinion on the subject of gazal;

Group "Creative young people": find rhyming words in gazal;

Group "Young literature": identify images in gazal.

The answer of the group "Young Readers of the book": landscape the main image in gazals is nature. It is taken as an object of the image of the seasons of a year (winter, spring, autumn, summer), a natural phenomenon (rain, wind), a tree, a fruit, etc. and serves as a tool for the expression of the lyrical



hero's senses (Ogahiy's "Navruz", "Qish" radif, Furqat's "Fasli navbahor o'ldi..."gazals). In most cases, the embodiment of nature should focus the attention of educators on the interpretation of romantic experiences or the alignment of them with the interpretation of the realities of society [4.90-95.], we agree with the opinions.

Group of "Creators" The following words in the text of gazals are determined to be rhymed words, as well as read by a reader:

bog'lar- chog'lar, sog'lar- zog'lar, tirnog'lar - tog'lar.

Group "Young literate". They find images in gazal: jo'ralar, o'rtoqlar, ulfat, ahhob, pari, ahli tamiz, bulbul, zog'lar, tog'lar.

The next job is to read and interpret the gazal in bytes. In analyzing their fixed gazals, students' experiences gained in the lower class come to hand to them. By the teacher, each group is given a two-byte text written on white paper with the size of A4. Students will make a presentation of the gazal that has fallen on them by following the prose description and commentary.

The answer of the group "Young people of the book": Gazals are six bytes, the image of spring begins with the contemplation of natural beauty, the splendor of spring.

Enjoying the arrival of a settled spring - he is greeted with enthusiasm. The poet, who enjoyed the opening of the gardens to the greenery, realizes that life, life is a great blessing, while enjoying such beauty. It turns out that there is a desire to live in it. Feels the need to spend life together with friends. Nature calls them sheep. Also calls his friends to enjoy the landscapes of nature, to enjoy the pleasures of life. In this uses the art in artistic literature.

Navbahor. Ochildi gullar, sabza bo'ldi bog'lar,

Suhbat aylaylik kelinglar, jo'ralar, o'rtoq'lar.

In the second verse of the gazal, the poet teaches to rejoice in the spring, to organize interesting gatherings with friends (meetings, conferences), to spread conversations, to realize that life is dear and gives joy and comfort to the soul. It is described as follows that such delights do not taste without friends:

**Xush bu mahfilda tiriklik ulfat-u ahhob ila,
O'ynashib, gahe tabiatni qilaylik chog'lar.**

Group "Creators": in the third verse of the gazal there is a change in the mind of the poet, the place of joy in the dream begins to be gloomy. The poet in search of loving "jo'ralar, o'rtoqlar" will face

injustice in life. Urges the sages not to lose consciousness mentally. We know that a person quickly disappears, although the wigs in the eyes appear to be full. This condition can be repeated several times. A person who has become a pari person loses his mind he hush from panic. Like the one who lost consciousness due to the fact that the settled fairies suddenly corrode into the eyes and again disappear, the sages will also be in favor of the fact that he will not lose consciousness. In verse, the poet skillfully uses the art by bringing his sentence like a pari.

**Ruh ochib ko'zdin nihon bo'lsa paridek
naylayin,**

Ayrib hush-u aqlin telba bo'lmay sog'lar.

And in the next verse, the settled nature, having completed the anthem, unexpectedly divides the thought into the life of society and expresses its attitude to it. If the times were fair, everyone should have been in a suitable place. However, this is not the case. Modern - ugly. Under the feet of the wise, wise men (ahli tamiz), the nightingale (ilm-ma'rifatli kishilar) was replaced by Crow (zog'lar), that is (xushomadgo'y va maddohlar) [5.434.], forms a contrasting artistic art with welcoming, supporting the words nightingale and crow in the sense of opposing each other.

**Xayfkim ahli tamiz ushbu mahalda xor ekan,
Oldilar har yerda bulbul oshyonin zog'lar.**

This was the discontent of injustice of that time, the serious reverence of the wise to the fact that he lives in grief, in joy of the ignorant people. In these couplet, the poet draws the landscape of real life.

The group "Young literate": the poet is forced to regret, because there is not even a ointment (ointment, medicine) on the wound of the heart. That is, he suffers from the fact that he did not find a mistress close to himself to cheer up. If you tell me that you are in trouble, they will try to crush you worse. They will hurt your heart, they will torment you.

**Marham istab kimsadin, zaxmi dil izhor
aylasang,**

Choraye qilmoqdin o'zga, ustiga tirnog'lar.

The poet appeals to himself, saying that in the last verse of the gazal he is settled. Even if you have to live in the corner of the blame, do not despair, be tolerant, keep your humming as steep as the mountain. The mountain gazal was used in a portable sense, in the sense of being tolerant. Power is given in place so. Artistic art, based on the use of words or



phrases in poetry not in the original sense, but in a figurative sense, is called metaphor[6.419]. Here the mountain goat came as a symbol of power, not used in its own sense. The poet creates a metaphor in place of the word power, temporarily supporting the phrase "mountains".

**Tobakay mundog' malomat kunjida doim Muqim,
Bu zamon ko'z tutgin emdi senga bo'lsun tog'lar.**

Working on the weight of the work will also help to gain a closer, more in-depth understanding of the intricacies of the readers' fixed works. It is also worthwhile to understand that the teacher gazal "Navbahor" aruz is written in the form of ramali musammani mahzuf and maksur. Understand this through concrete examples.

Tobakay mundog' malomat kunjida doim Muqim,

- V - - / - V - - / - V - - / - V -



Bu zamon ko'z tutgin emdi senga bo'lsun tog'lar.

- V - - / - V - - / - V - - / - V -

The teacher should touch upon each hiyo and explain its quality – why it is short or elongated, with the example presented, sometimes it should explain that the joints we have learned as short take the quality of the elongated hiyo according to the weight requirement[4.90-91].

It is possible to recommend a variety of interactive methods for the full mastering of the gazal text, a deeper perception of its artistic and aesthetic aspects.

By teacher the method of "Ortiqchasini toping" [2.34.] with the help of which students will be tested their existing knowledge on stationary gazals. In the course of carrying out the task, the following will be achieved: 1) to formulate a system of concepts that will serve to reveal the essence of the subject under study;

2) four (five, six, which are subordinate to the subject from the formed system...) and achieve the place of a single concept that is not synonymous;

3) find out the task of students to identify the concept that is not relevant to the subject and to remove it from the system;

4) to encourage students to interpret the essence of their actions (in order to strengthen the subject, students are also required to comment on the concepts preserved in the system, to base the logical link between them. Under the condition of this method, the gazals belonging to the pen of Zavqiy, Furqat, are given to the pupils in a mixture with their fixed gazals. Under the condition of this method,

students are required to keep only the information that belongs to their settled creativity, and to delete the rest. If there is an opportunity, they can perform this task on the computer, if not, then on white paper. Students will retain their belonging to their fixed creativity from the following information.

"Jahonda kamsuhan kim bo'ldi, asrori nihon bo'ldi", "Axtaring", "Farg'ona", "Ilm xosiyati", "Kelinchak", "Navbahor", "Qo'qondan-Shohimardonga", "Shohimardon xotirasi", "Arzimni aytay", "Talading baring", "Surating", "Sho'xi parivash ishqida.", "Sayohatnoma", "Moskovchi boy ta'rifida", "Loy", "Aroba".

"Eslab ko'rchi, unutmadingmi?" method [1.75.] with the help of it, the readers are asked to memorize the poems of Muqimiy, which were preserved on the basis of the above assignment. The main goal and task of this method is to strengthen the memory of students and teach them to speed. This method allows you to strengthen the topic, repeating the topic mentioned. According to this condition, each responding reader will have to read one of his chosen gazals with a memorable expression and draw one of the images depicted on the gazal or verbally. Of course, reading both expressive poetry and drawing at the same time requires the reader to concentrate and not be excited. Each reader is given 4 minutes of time, and during this time, the details in the images they draw are compared with the images in the gazal text. It is checked how correctly or incorrectly the student performs the task. Students who have done it correctly will be encouraged.

"Matn muharriri" method [1.91.] it is carried out in two stages and is inextricably linked with the science of mother tongue. Based on this method, the teacher will divide the text of gazal into several parts: "Ayrilmasun", "Navbahor", "Yakka bu Farg'onada". Readers will get acquainted with the text and put its contents in place in harmony with each other, as well as form the text of a holistic three-part poem. Such a method gives an opportunity to get acquainted with the text of several gazals in a short time. For example, according to the 1st assignment, students must put the couplet in their place in the listed couplet. The task is performed as follows:
Kimga dod aylay bu bedodingni man, ey sangdil,

Ayrib hush-u aqlin telba bo'lmay sog'lar.
Ruh ochib ko'zdin nihon bo'lsa paridek naylayin,
Oshno bo'ldim desam, ko'nglung seni begonada.

Ruh ochib ko'zdin nihon bo'lsa paridek naylayin,
Andalibi men kabi gulzoridin ayrilmasun.
The correct form of couplet is as follows:
Kimga dod aylay bu bedodingni man, ey sangdil,
Oshno bo'ldim desam, ko'nglung seni begonada.
Ruh ochib ko'zdin nihon bo'lsa paridek naylayin,
Ayrib hush-u aqlin telba bo'lmay sog'lar.



Hajr osebi xazonida bo'lib sho'ridahol,
Andalibi men kabi gulzoridin ayrilmasun.

At the second stage of carrying out the task, skills related to the use and expression of words are formed in students. They remove excess words from the text by finding in the poem couplet, make mistakes in word selection and application. To they will put their place in the sentence.

Fasli navbahor. Ochildi gullar, sabza bo'ldi bog'lar, (Navbahor)
Suhbat aylaylik kelinglar, jo'ralar, o'rtoq'lar.

Xush bu mahfilda tiriklik ulfat-u ahbob ila,
Kuylashib, gahe tabiatni qilaylik chog'lar. (O'ynashib)

Ruh ochib ko'zdin nihon bo'lsa paridek naylayin,
Ayrilib do'st-u yordan telba bo'lmay sog'lar. (hush-u aqldin)

Xayfkim ahli shuaro ushbu mahalda xor ekan, (ahli tamiz)
Oldilar har yerda bulbul oshyonin zog'lar.

Marham istab kimsadin, zaxmi so'ylab aylasang, (dil izhor)
Choraye qilmoqdin o'zga, ustiga tirnog'lar.

Tobakay mundog' malomat kunjida doim Muqim,
Bu zamon yo'l tutgin emdi senga bo'lsun tog'lar. (ko'z tutgin)

They make up the dictionary of words with the annotation they met in the text.

Mahfilda-bazmlarda, nihon-yashirin, ahli tamiz-aqli, dono kishilar, marham-dori, malham, zaxmi-yara, kunj-burchak.

“**Teskari test**” method [1.89.] it is an effective method that teaches students to compose an independent question on the basis of the subject, helps to the logical thinking circle, sharpens the mind. Through this method, the incentive in the reader to work on himself on a topic increases. Formulate the ability to eat controversial, distracting sides without fear, without doubting. This will focus on a pre-made slide of pupils attention. In it, one of the test answers is marked, and students are required to formulate a suitable question for this answer.

1-question.

- A.”Navbahor..” B.”Sayohatnoma”
D.”Fasli navbahor..” E.”Ayrilmasun”

Spring is a waking season. In which line is the poem given, in which it is described the sign of life, the pleasure of the post-winter revival of nature, the inexhaustible delight from

the landscape of nature, the realization that life is a great blessing, and the awakening of the post-life passion in it?

The correct answer is given as follows:

- A.”Navbahor..” B.”Sayohatnoma”
D.”Fasli navbahor..” E.”Ayrilmasun”

2-question.

- A.Ahli tamiz B. Bulbul
D.Zog' E.Nodon

Wise, intelligent people's sentence “Hayfkim, ahli tamiz ushbu mahalda xor ekan, Oldilar har erda bulbul oshyonin zog'lar” which word is expressed through the verse?

The correct answer is given as follows:

- A.Ahli tamiz B. Bulbul
D.Zog' E.Nodon

3-question.

- A.2-couplet B.3- couplet
D.4- couplet E.1- couplet

How interesting is the journey in the bosom of nature as it is with friends is listed in the verse of gazal?

The correct answer is given as follows:

- A.2-couplet B.3- couplet
D.4- couplet E.1- couplet

4-question.

- A.Telba B. Paridek
D. Nihon E.Aql-hush

Ruh ochib ko'zdin nihon bo'lsa paridek naylayin,

Ayrilib hush-u aqldin telba bo'lmay sog'lar. Find the word in which the tool that caused the tashbeh in couplet took part.

The correct answer is given as follows:

- A.Telba B. Paridek
D. Nihon E.Aql-hush

Assessment and motivation: students' falling scores are summed up and interpreted. The winning group is determined. The pupil, who actively participated in the lesson, penetrates into the “Bilimlar qasri”.

The remaining poems of the poet, given in the textbook, are also analyzed in this way. What method of assessment depends on the capacity of the teacher. Scholar of literature B.Tukhliev to one of the methods of working on the text of gazal shows that working with tables. When working with a table, the scientist says:students have an increased opportunity to learn poetry not only from one side, but from different sides. For example, it will be possible to use one or more tables.[8.50].

Through this method, productive and effective use of time is achieved. Because in the program the



poet is obliged to draw the attention of the teacher to the amount of time allotted for the study of his works.

REFERENCES

1. *Abdullayeva M., Djumabayeva D. Jahon adabiyotini o'qitishda interaktiv metodlardan foydalanish. T.: GOLD PRINT NASHR nashriyoti.-2019.*
2. *Ahmedova H.O'zbek tili o'qitishning zamonaviy texnologiyalari.-T.:2012.*
3. *Qodirov V. Umumta'lim maktablarida o'zbek mumtoz adabiyoti namunalari o'qitishning ilmiy-metodik asoslari. Ped. fanlari doktori diss.-2019.B.153-154 bet*
4. *Qodirov V. Mumtoz adabiyot: O'qitish muammolari va yechimlar.T.-A.Navoiy nomidagi O'zbekiston Milliy kutubxonasi.-2009.*
5. *5.Qosimov B., Nusratullo Jumaxo'ja. O'zbek adabiyoti. 10-sinf uchun darslik. - T.:O'qituvchi.1999.434-bet.*
6. *6 Sirojiddinov Sh. va boshq. Navoiyhsunoslik. -T.: -Tamaddun. -2018. 419-bet.*
7. *To'xliyev va boshq. Adabiyot.II kitob. Akademik litsey o'quvchilari uchun. -T.-BAYOZ. MChJ. 2018. 431- betlar.*
8. *To'xliyev B.,Ashurova G.Ta'lim bosqichlarida Alisher Navoiy asarlarini o'rganish.T.:BAYOZ MChJ.-2017.50-bet.*
9. *9.Zohidova D.Aruz saboqlari.T.: -Mumtoz so'z.-2016.*
10. *Капустин Н.П.Педагогические технологии адаптивной школы.*



SYNONYMY BETWEEN DICTIONARY UNITS AND OCCASIONALISM

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ANNOTATION

In this article, the issue of synonym between lexical units and occasionalism is considered. The peculiarities of the application of synonyms are analyzed.

KEYWORDS: *synonym, language, dictionary, artistic speech, speech attractiveness, creative.*

DISCUSSION

One of the most important features of artistic speech is the application of mutually synonymous words. Synonyms are one of the units that represent the breadth of the possibilities of the dictionary wealth of the language. The analysis of examples shows that the synonym is a phenomenon that occurs not only in the framework of lexical units, but also in the framework of occlusive units.

It is a synonym between lexical units and occasionalism. In the Uzbek language there are such words as йўлдош, ёстикдош, қариндош, тенгдош, ҳаётӣй, мозор, ширинсўз, стадион, юртдош, космик кема, касалхона, which are common words, and in the Uzbek language they are synonymous with speech occasionalisms are created. These occultisms can also be divided into two groups:

1. Occasionalisms that are synonymous with Uzbek words: йўлдош - оёқдош, қадамдош; юртдош - элдош, ердош, қариндош-қондош, ватандош - ўлкадош, ёстикдош - болишдош, тенгдош - қурдош, ҳаётӣй - турмушавий, мозор - сукутгоҳ.; ширинсўз - болсўз, мактабдош ёки синфдош - сабоқдош, қулфламоқ - калидламоқ, тарбиячи - боғчачи, пахтакор - тиллачи, жаҳонгир - оламгир, подачи-молчи.

The collected examples show that as long as one creator can use occasionalism created by another writer. Occasionalisms элдош, жондош belonging to the G.Gulom pen are used by Mirtemir.

Let's compare examples: **Элдошлар** оғзига бол қуйгучимиз. (Ғ.Ғулом) **Элдошларим** ичра юриб Қайғуларим қуюқлашади. (Миртемир)

Жондош occasionalism too G.Gulom, and Mirtemir applied in his creation: Жони бор **жондошлар** қолармиди жим. (Ғ.Ғулом) Бошқирд, Хакос боғларида **жондош** мўл. (Миртемир)

Қурдош occasionalism G.Gulom and E.Vohidov found in works of art: **Қурдошлар** гурунгида биз ҳам соҳибнафасмиз. (Ғ.Ғулом) Қайта шаҳар қурган қардош – **қурдошлар**. (Э.Воҳидов)

One of the most important signs of occlusive words is its extraordinary occurrence and its application in speech only once. V.V.Lopatin notes that some occasional words can be re-applied after a certain time without regard to the previous occasional meaning and in such cases the occasional word can be re-created [1.87].

And occasionalisms from the examples we cited above, despite the fact that they were re-applied, are not re-created. They will represent the same meaning in each re-application. Here is a review about the composition of the language dictionary of some of such re-applied occasionalism. A.Mamatov says: "If occasionalism is popularized among those who are known to have moved from mouth to mouth not once, but several times, they can first be used as a jargon for that group, if the scope of its application becomes more extensive,



get the status of neologism and, finally, having been recorded in dictionaries and legalized, they can become lexical units that meet the word occasional, which is considered a phenomenon of speech, takes place from the composition of the dictionary as a unit of language.

For example, in Uzbek language “кек сақлайдиган” express the meaning киндор occasionalism it is included in the composition of the dictionary, and this word is interpreted like this: Киндор — Persian-Tajik. offence, grudge [3.386]. Қурдош also mentioned in the dictionary and commented like this: “age is equal, equal” [4.620].

2. Synonyms occasionalisms, which appeared as a result of the translation of Russian-international words: робот - темиртан, зоотехник - молшунос, стадион - футболгоҳ, радио - овознигор, концерт - қўшиқнигор, микрофон - унолгич, сўзолгич, подполковник - бир мири кам полковник ёки остин-устун полковник, космик кема - нур кема, пудра - мойупа, запис - хатбозлик and etc.

For examples: Ётган еридан **овознигор** —радиони қўйиб, бироз **қўшиқнигор** — концерт эшитдим. (Н.Аминов) Бир томондан **балетқўргон**, Тамошаси ур-тўпалон. (А. Обиджон) Мана, ўртоқ Сотиболдиев нукул Лола билан **запискабозлик** қилади. (П.Қодиров) **Молшунос** Зиёдқулни ҳам оёғини ерга теккизмай топиб келтиришибди. (С.Солиев) Яхшиям жияним кутиб турган экан. Буни қаранги, уям **футболгоҳга** тушган экан. (Н.Аминов) Ойдоғим **мойупа** қўяркан гулдан, Тошойна олдида зулфи қирқ ўрим. (С.Акбарий) Редакциямизга ўт ўчириш командасининг **остин-устин полковниги** ташриф буюрди. (Муштум) Йўлга чиқар бугун фазогир **Сомончининг** йўли пойандоз. **Нур кемани** қилмоқда ҳозир Эллик ёшли нуроний устоз. (Э.Воҳидов) **Темиртан** даҳолар. (Э.Воҳидов)

When paying attention to the meaning of synonyms occasionalisms, their richness in stylistic coloring is manifested in relation to the lexical units, which themselves are synonymous. Therefore, they either amaze, or arouse laughter, as they have a strong influence on emotions. There are such synonyms occasionalisms that arise on the basis of translation, part of which is Uzbek, part is Russian. Such an unusual combination of words gives the new crop an occlusive meaning. For example: Мажлису машваратлар кўпайиб, отасини танимайдиган **буйруқротларга** қарши курашайлик. (Муштум) — Туғри, тўғри, —

деб **райкатталар** юқоридагиларни қўллаб – қувватлашди. (Муштум) **Кадрча** муборак бўлсин, Зоир ака. (Н.Аминов) Иккови аспирантурадаги бир ўринга ариза бериб, **конкурслашадиган** бўлганда, Тошев воқеаси юз берди. (П.Қодиров)

Examples буйруқрот - include those who are accustomed to command the райкатта - district leaders; кадрча - position, successor; конкурслашмоқ - used in the sense of competition, participation in the competition. From the analogy it can be seen that if the conversational situation in the examples was expressed by the units present in the language, it would not be at the level of artistry.

REFERENCES

1. Лопатин В.В. Рождение слова // Неологизмы и окказиональное словообразование.— М.: Наука, 1973. —87.
2. Маматов А. Ҳозирги ўзбек адабий тилида лексик ва фразеологик норма муаммолари: Филол. фанлари д-ри ... дис.—Тошкент: 1991. —208 б.
3. Ўзбек тилининг изоҳли лугати. — М.: Рус тили, 1981. I том. — 386 б.
4. Ўзбек тилининг изоҳли лугати. —М.: Рус тили, 1981. II том. — 620 б.



ECONOMICS AS A COMPLEX SCIENCE THAT STUDIES THE NEEDS OF SOCIETY

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ABSTRACT

In this article, economics is considered as a complex science that studies the needs of society. The scientific article analyzes different directions, goals and objectives of the economy.

KEYWORDS: *science, modern science, social requirements, economics, market, market laws*

DISCUSSION

Before giving a more or less strict definition of economics as a science, let us note two fundamental facts that make up its basis:

1. The economic needs of society as a set of individuals are limitless. Economic needs are understood as the lack of something to support the life and development of an individual, enterprise and society as a whole. It is economic needs that induce a person to be active. Needs are usually divided into primary and secondary. Without the satisfaction of the primary, a person simply cannot live - these are food, clothing and other vital needs. Secondary needs include everything else - sports, theater, cinema, etc. Means that satisfy needs are called goods. Some of them are available in unlimited quantities, such as water; others are limited and are called economic goods. They consist of goods and services.

2. Economic resources, that is, the means necessary for the production of economic goods, are limited. The most important economic resources are land, capital and labor. The land is a generalized term for such economic benefits as arable land, mineral deposits, forests. Capital includes all types of machinery, equipment, buildings, tools, etc. Capital is also called investment resources. Labor refers to the totality of the physical and mental abilities of people used in the production of goods and services. These three large groups of economic resources are called factors of production. All factors of production have one common property - relative limitation, which lies in the fundamental impossibility of simultaneous and complete satisfaction of the entire

spectrum of needs of all members of society. The limitedness of individual economic resources with the development of society, as a rule, is overcome. However, there are always resources that are currently lacking. They are called rare resources. Taking into account all of the above, we will give one of the possible definitions of economics as a science.

Economics is a social science that investigates the problem of using limited economic resources in such a way that maximum satisfaction of the unlimited needs of society is achieved. In other words, economics is the science of the optimal, that is, the best in specific conditions, the use of scarce resources.

During the implementation of economic policy, various goals are pursued. For a developed market economy, this is primarily economic growth, full employment, low inflation, positive balance of payments, increased economic efficiency, growth in the welfare of the population, maintaining a high degree of freedom for all business entities, preserving and improving the natural environment and other goals. In a transitional economy, they are complemented by the creation of a private sector and market infrastructure, liberalization of economic life, etc. But the problem is that many goals contradict each other. Thus, an active fight against inflation usually means a decline in economic growth and increased unemployment. Therefore, depending on the situation, the priority of the goals of the economy may change.



Economics constantly deals with choice. In the process of choice, inevitably due to the limited economic resources, any society must, one way or another, solve three fundamental interrelated economic problems:

1. What should be produced, that is, which of the mutually exclusive goods and services should be produced and in what quantities.

2. How the goods and services will be produced, that is, by whom, with what resources and in what way they should be produced.

3. For whom the produced goods and services are intended. In other words, how should the produced product of production be distributed among the members of society.

These three tasks are basic and common for all economic systems at various levels of their functioning. To solve such problems in economic theory, the method of scientific abstraction is widely used. It consists in abstraction in the process of cognition from external phenomena, insignificant details and highlighting the essence of an object or phenomenon. As a result, models are built - mathematical, graphic - that allow obtaining and demonstrating certain results in a compact and visual form.

Modeling, that is, building models, reflects the main economic indicators (data, variables) of the objects under study and the relationship between them. If the model contains only the most general description of indicators and their relationships, then this is a text model. If quantitative values are set by these indicators and relationships, then on the basis of the text model it is possible to build a graphic, mathematical and computer model that reflects how the indicators change. The method of graphic modeling is based on the construction of models using various pictures - graphs, diagrams, diagrams. The method of mathematical modeling is based on the description of an economic phenomenon using mathematical tools: functions, equations, inequalities. The method of computer modeling is based on economic and mathematical models and is used primarily in cases where the modeled economic phenomenon is described by a complex system of equations.

Economic theory analyzes economic life at two levels: microeconomic and macroeconomic. Microeconomic analysis is aimed at studying the behavior of specific economic units; it focuses on a detailed study of the relations that develop between different entrepreneurs (competition relations), between entrepreneurs and hired workers, between sellers and buyers in individual markets. Individual firms and households are examined under a microscope. Typical terms of microeconomics: the volume of production or the price of a particular

product, the costs of its production, the number of employees in a particular enterprise. Figuratively speaking, it is not the forest that is being studied, but the trees - individual elements of the economic system.

Macroeconomic analysis deals with the behavior of either the economy as a whole or of its constituent units such as the public sector, households, the private sector, and other aggregates. Thus, a general picture is drawn, the structure of the economy, the connections between large aggregates that make up the economy as a whole. This is an analysis of the total volume of production, the general level of employment, the general level of prices. Macroeconomic theory considers the change in these most important indicators both in the long term (when considering the problems of economic growth) and their short-term fluctuations, which form a business cycle, that is, it is not trees that are studied, but a forest, the economy is analyzed from a bird's eye view ... Such an analysis allows us to further consider the laws of the state's economic policy, those regulatory actions of the state that are aimed at achieving the best option for the socio-economic development of society.

On the one hand, macroeconomics forms the economic environment in which individual firms (enterprises) operate, there are individual consumers, individual industries, markets and other microeconomic units function. On the other hand, the microeconomic units, taken together, form the macroeconomics. For this, they are aggregated in economic theory, that is, they are combined into enlarged economic units, the so-called aggregates, for example, in the sector of firms (enterprises) and the sector of households, the public and private sectors. Moreover, the line between macro and microeconomics is blurred. So, in economic theory, some issues are considered simultaneously at both the micro and macro levels, for example, the state of affairs in specific industries and in individual product markets, where an analysis of the situation is important both for specific enterprises in these industries and for the country's economy as a whole. Therefore, some experts suggest using the term "mesoeconomics" to analyze this frontier sphere, in which, in their opinion, industries and markets fall.

Macroeconomics is a very "young" science, which means that it cannot pretend to some kind of completeness and systemic harmony. To this day, heated discussions continue in it on the following key issues: should the money supply in circulation be squeezed to overcome inflation; is it worth the government to actively fight unemployment, etc.

Macroeconomics provides an answer to questions like the following: why were the incomes of the population in West Germany higher than in



East, and in South Korea higher than in North? Why is the inflation rate in Russia in the mid-90s. was lower than in Ukraine, and today these countries have caught up in the rate of inflationary processes?

The whole society, from the president to the ordinary citizen, also needs basic macroeconomic education. So, macroeconomists analyze the development of the economy as a whole. They collect data on prices, unemployment, social product dynamics, incomes, etc., related to different countries and different periods. The empirical analysis is then replaced by the theoretical one, which opens up the possibility of explaining the data obtained, and then forecasting their upcoming dynamics in interconnection (inflation - unemployment, etc.).

REFERENCES

1. Гончаренко Л.П. Экономическая безопасность. Учебник / Отв. - Л.П. Гончаренко, Отв. - Ф.В. Акулинин. - М.: Юрайт, 2016. - 480 с.
2. Акмаева, Р. И. Экономика организаций (предприятий) / Р.И. Акмаева, Н.Ш. Епифанова. - М.: Феникс, 2018. - 496 с.
3. Безгина, ; Экономика Организации (Предприятия) / ; Безгина. - Москва: Мир, 2015. - 90 с.
4. Международная и континентально-региональные экономические интеграции: формы, типы, противоречия: [моногр.] / Р. И. Хасбулатов, Рос. экон. ун-т им. Г.В. Плеханова. - М.: Изд-во РЭУ им. Г. В. Плеханова, 2019. - 322 с.: ил. - ISBN 978-5-7307-1481-6. /Pages/reviews.aspx © ФГБОУ ВО «РЭУ им. Г.В. Плеханова»



THE ROLE AND SIGNIFICANCE OF THE INTERMEDIARY AGREEMENT IN THE GRADUAL TRANSITION TO MARKET RELATIONS

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ABSTRACT

The article analyzed the content and system of a civil law contract. The author concludes that obligation does not exhaust the full content of contract. In the scope of contract includes a variety of civil matters. The treaty is not simply a collection of obligations and other civil legal relations. The contract represents a definite system in which the agreement of the counterparties is central and is the organizing element of the entire treaty system.

KEYWORDS: *agreement, commitment, contract drafting, contractual agreements, organizational agreements on the establishment of property obligations, the system of civil-law agreements, the agreement.*

DISCUSSION

The formation of a system of market relations in the Republic of Uzbekistan, the establishment of its legal basis led to the transformation of contracts and agreements into the main means of legal regulation of social life. Today, relations between citizens, legal entities and other subjects are formalized by the conclusion of contracts.

It is known to us that citizens and legal entities can carry out their rights and obligations on their own, based on their own desires and interests, either on their own or through a representative. The implementation of its rights and obligations is carried out by means of contracts with another person and is based on the representation and assignment agreement. However, an individual may not always be able to exercise his or her rights and obligations on behalf of the representative. In carrying out activities in a particular area of social life, a person may not be able to participate directly or with the help of a representative for objective or subjective reasons. For example, when buying construction materials, a citizen can entrust the acquisition of them to another person for himself, since he does not have enough knowledge and understanding in this field. In this case, the person who is obliged to conclude the contract for the purchase of building materials is an intermediary and concludes the transaction on his own behalf, but from the account of the person - committee who gave the assignment.

The intermediary contract is considered to belong to the system of contracts for the provision of services, and the concludes one or more transactions on its own behalf but from the account of the committee in accordance with the instructions of the intermediary committee. In this type of service, a legal action is committed by an intermediary, which creates a legal consequence for a third party. With the help of mediation, agreements are made on the paid realization of property. In other words, it will formalize the attitude of trading intermediaries. Professional trading broker (intermediary) the participant is free from both the seller (manufacturer) and the buyer (consumer) league, and again from the formalization and execution of agreements concluded with them. For example, in international trade relations, manufacturers (exporters) or consumers (importers) work with international counterparties with the participation of an intermediary in the international market.

In determining the essence of the mediation agreement it is necessary to omit the aspects that are different from its related agreements. It is known that in the sentence of contracts close to the intermediary contract, the assignment contract, the contracts for the reliable management of property are included. The contract of assignment also represents the service of carrying out a certain topsheet of a third party in itself, such as an intermediary contract. Of course, the required to have certain knowledge and qualifications in the field of legal action and



transaction, in which the mediator and representative must be fulfilled.

According to S.B.Bobokulov, if the representative carries out the assignment given by the assignor on the actions not contrary to the law under the contract of assignment, then the intermediary under the contract of mediation can be an intermediary only in trade and sale of items that can be in civil circulation. S on this place. In this place, S.B.Bobokulov's connection with the conclusion of an intermediary contract only with the conclusion of trade agreements has a controversial character. Consequently, in the definition given to the mediation agreement in the CC, it is established that the contract is aimed at the implementation of the service of concluding transactions in exactly what sphere. For this reason, the intermediary can focus not only on trade transactions, but also on the performance of work and the conclusion of service agreements.

The contract of mediation differs from the contract of assignment under the following circumstances:

1. According to the instructions to be fulfilled and the content and essence of the service provided. If, under the contract of assignment, the representative receives an assignment to perform certain legal actions, the intermediary receives only one or more instructions for the conclusion of the transaction. For example, if, according to the assignment agreement, the representative is given the right to manage the property and carry out all legal actions related to it (possession of the property, use, lease of the property, payment of property, protection of rights in relation to the property, filing a claim for protection of the violated right, etc.), then the intermediary will be instructed only.

2. If the representative carries out all actions under the contract of assignment on behalf of the assignor, the intermediary concludes the transaction on his own behalf. The rights and obligations for the actions performed by the representative of the arise not for him, but for the assignor. Rights and obligations of the intermediary in the contract of mediation in the case of an agreement with a third party, the intermediary in the committee comes to the conclusion. After all, as established in Part 2 of Article 832 of the CC, the intermediary shall have the rights and obligations under the agreement with a third party, even if the name of the committee is mentioned in the transaction or he has entered into a direct relationship with a third party in the execution of the transaction.

3. Both in the contract of assignment and in the contract of mediation, all actions are carried out from the account of the assignor and the committee. However, if the legal actions carried out by the representative in the contract of assignment are

determined in general in relation to the property, the intermediary contract can be concluded without specifying a specific term or expiration date, in which territory the execution is indicated, taking into account the interests of the committee entrusted to the intermediary and taking.

4. In the contract of assignment, if the actions of the representative are carried out for free or for a fee, the contract of mediation is always carried out for a fee. Because, according to Article 833 of the CC, the committee is obliged to pay the intermediary a fee, and in cases where the intermediary assumes a guarantee for the execution of the transaction by a third party (delkredere), it is also obliged to pay an additional fee in the amount specified in the contract.

The purpose of the contract of mediation is to create convenience for the parties in trading the tokens, to trade in an amount not limited to those that do not belong to them, to create a wide range of opportunities for mediation. Although the mediation agreement is widely used in the conditions of today's market relations, legislation aimed at regulating this relationship requires improvement. In particular, the issues of licensing of this type of activity, arising from the spheres of implementation of the intermediary, are not specified in the legislation. In this regard, it is desirable to improve the norms of the law regulating the mediation service the essence of the mediation agreement the participation of third parties in the implementation of the rights and obligations of civil law subjects is considered to have a specific place in the science of civil law and in the system of economic treatment. Consequently, the lack of the capacity and potential of a person to exercise the rights of his or her subject, or the absence of such desire in it, does not lead to the fact that his or her rights are nullified or destroyed. At the same time, the fact that the rights belonging to the person are not exercised by him does not prevent the circulation of these rights either.

It is known that civil law allows subjects to exercise their rights through third parties, and in this case, various civil legal structures are aimed at this situation. In particular, the fact that in Article 9 of the CC it is established that citizens and legal entities dispose of their civil rights, including the right to their protection, at their own discretion, means that the subjects can freely and at their own discretion in the exercise of their rights, using the methods and means established by civil law.

In civil law, it is possible to enter into the constructions that determine whether the rights to the subject, which he expresses, are exercised by third parties, and not directly by the person himself, are representative, power of attorney, assignment contract, reliable management of property, intermediary contract, agency contract, etc. In its



essence, the structures of this contractual and legal nature provide for the realization and protection of the rights and interests of third parties. However, among these constructions, the contract of mediation acquires only a distinctive feature when the rights belonging to another person are exercised on their own behalf. In this case, it is understood from the definition given to the mediation agreement in Article 832 of the CC. According to this norm, under the mediation agreement, one party (the intermediary) is obliged to conclude one or more transactions on behalf of the second party (the committee) on the assignment, but from the account of the committee, without a fee.

The role and importance of the intermediary contract in the gradual transition to market relations is the systematization of the opinions of scientists in this field in our country, the conclusion and application of the intermediary contract, the analysis of the problems of the legal regulation of the intermediary contract and the development of proposals for the improvement of the current civil legislation.

Article 832 of the Civil Code of the Republic of Uzbekistan states that “one party (intermediary) under an intermediary agreement is obliged to conclude one or more transactions on behalf of the second party (committee) on behalf of the commission, but from the account of the committee on a fee-free basis. The mediation agreement must be concluded in writing. In the case of a transaction with a third party by an intermediary, even if the name of the committee is mentioned in the transaction or he entered into a direct relationship with a third party in the execution of the transaction, the intermediary acquires rights and is obliged to assume responsibility. The intermediary contract can be concluded for a certain period or without the indication of the expiration date, in which territory the execution is indicated or not specified, provided that the committee is in the interests of the intermediary and is obliged not to give third parties the right to conclude a transaction from its account, or without such obligation, in the case in the legislation, the characteristics of some types of intermediary contract may be stipulated”, it is noted.

Today it is necessary to admit that the intermediary contract plays an important role in the provision of trade services and mutual relations of counterparties in terms of market relations. Therefore, it is of urgent importance to improve the legal framework of this agreement and to improve its implementation.

In conclusion, it can be noted that the practical application of the contract of mediation in the conditions of transition to a market economy will allow the subjects of implementation to have more favorable opportunities and timely savings in their

income, allow developed countries to compete with the business entities with large investments.

This in turn leads to the prevention of poverty in our country, a sharp decrease in the number of unemployed and a sharp rise in the economy of the state.

REFERENCES

1. Фуқаролик ҳуқуқи. Иккинчи қисм. Ҳ.Раҳмонқулов ва И.Зокировларнинг умумий таҳрири остида.-Тошкент: Илм Зиё, 2008.
2. Фуқаролик кодекси. Иккинчи қисм.- Тошкент: Илм Зиё, 1996.
3. Ergashev I., Farxodjonova N. *Integration of national culture in the process of globalization //Journal of Critical Reviews.* – 2020. – Т. 7. – №. 2. – С. 477-479.
4. Farxodjonova N. F. *MODERNIZATION AND INTEGRATION: SOCIAL-PHILOSOPHICAL ANALYSIS //Роль науки в формировании современной виртуальной реальности.* – 2019. – С. 10-12.
5. Numonjonov S.D. *Innovative methods of professional training //ISJ Theoretical & Applied Science, 01 (81).* – 2020. – С. 747-750.
6. Talapov, B., & Gapparov, E. (2019). *THE PROCESS OF DEMOCRATIZING LOCAL COMMUNITY IN THE GOVERNMENT. Scientific Bulletin of Namangan State University, 1(2), 177-181.*



SOCIAL INNOVATION AS A MOTIVATING, DEVELOPING FACTOR IN SOCIETY

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ANNOTATION

This article analyzes the meaning of innovation, innovation activity and social innovation. The role they play in the life and development of society and the state.

KEY WORDS: *Innovation, innovation, social life, social sphere, social development.*

DISCUSSION

Whether a country occupies a high or low place in the rating of the world community directly depends on how politically, socially and economically it has developed. And progress is the result of the creation of new ideas that are constantly developing, that is, the creation of innovations and their application in public life. Therefore, the problem of innovation and innovation is one of the most urgent. This is a natural phenomenon for a society that strives to develop at a high level. In this regard, the study of the topic of innovation is relevant today.

Before we get into the concept of innovation, let's look at the meaning of the word innovation. The term innovation is widely used today in all spheres of society. According to its lexical meaning, the term "innovation" comes from the Latin word "novatio", which means "renewal" (or "change"), and the suffix "in" is translated from Latin as "in the direction". If translated as a whole "Innovatio" - it is interpreted as "in the direction of change". The concept of innovation first appeared in 19th century scientific research.

The concept of "innovation" gave new life to the analysis of "innovative combinations" as a result of changes in the development of economic systems in the early twentieth century by the Austrian economist J. He began with the scientific work of Schumpeter. Schumpeter was one of the first

scientists to introduce the term into scientific use in economics in the 1900s.

The National Encyclopedia of Uzbekistan defines it as follows: "Innovation" comes from the English word "innovation", which means innovation, invention, 1) funds spent on the economy to ensure the replacement of generations of equipment and technologies; 2) innovations in such areas as mechanical engineering, technology, management and labor organization, based on scientific and technological achievements and best practices, as well as their application in various fields and fields of activity [1.199.].

The annotated Uzbek dictionary describes it as follows: Innovation \ visual. innovation - innovation, invention] 1 iq. Investments in the economy for the introduction of new types (generations) of equipment and technologies. 2 Advanced methods and technologies, management, etc. B. innovations in the field and their application in various fields. 3 tl. New phenomena (linguistic units) that have arisen in a particular language, mainly in the field of its morphology, recently [2.212.].

If we look at the above definitions, they mainly explain the concept of innovation in technological and economic terms. This leads to a one-sided approach to the study of the concepts of innovation and innovation. As a result, it is difficult to understand the importance of the concepts of innovation and innovation in public life. Here are the



views of international researchers who have conducted research on this issue:

Innovation is a tangible result of the introduction of capital into new techniques or technologies, new forms of organization of production, labor, services and management, including new forms of control and accounting, planning and analysis methods [3].

Innovation is the result of creative activity aimed at developing, creating and distributing new types of products, technologies, and the introduction of new organizational forms [4].

Innovation is an intellectual product - a process in which an invention, information, know-how or idea has economic value [5].

The above approaches are based on the economic and technological areas of innovation. However, for the development of society, both economic and social spheres must develop simultaneously. Approaching the concept of innovation from this point of view, D. M. Gvishiani defines it as follows: "Innovation is a complex process of creating, disseminating and using a new practical tool (innovation) for a new social need (or better satisfaction of a known need); at the same time, it is a process of change associated with the social and material state in which this innovation completes its life cycle [6.46.]. Here, the researcher evaluates the concept of innovation as novelty serving the development of society. Another researcher, L. V. Kantorovich, concludes that innovation is a discovery: "Innovation is a scientific invention or discovery, applied in practice and meeting social, economic and political requirements, effective in the relevant fields" [7.84]. But research shows that innovation is not a discovery or an invention. We consider it correct to evaluate innovation as innovation. However, we should not look at innovation as an innovation, but as a factor that significantly increases the efficiency of the existing system. Despite common misconceptions, innovation is different from discovery and invention. That is, an invention is the creation of a new concept. Innovation is innovation that emphasizes the practical value of the invention and ensures its success. More precisely, it is the discovery of new ways to achieve a certain goal. This means that innovation is directly related to practice and is the result of activities. That is, innovation is the result of innovative activity in public life.

The concept of innovation is becoming more and more popular in everyday life. This is due to the fact that innovative activities are implemented all over the world as a solution to the problems of transition to a new stage of development. The concept of innovation activity is currently not defined in the National Encyclopedia of the Republic of

Uzbekistan, annotated and other dictionaries. However, the Decree of the President of the Republic of Uzbekistan dated August 7, 2006 "On measures to improve the coordination and management of the development of science and technology" and September 7, 2007 "On the approval of the Regulation on the formation and implementation of innovative scientific and technical programs." Committee for the Coordination of Science and Technology Development under the Cabinet of Ministers of the Republic of Uzbekistan, the Ministry of Finance, the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan, the Ministry of Economy of the Republic of Uzbekistan, the Academy of Sciences of the Republic of Uzbekistan The resolution suggests the following definition: creation of a new or improved technological process, development and (or) practical application of works and (or) provision of services." [8]. Foreign researchers explain this concept as follows: "Innovation activity - the results of completed research and projects or other scientific and technical achievements (scientific and technical achievements) to a new or improved product; it is a process aimed at introducing new or improved technological processes sold in the market, used in practice, as well as in additional research and related projects" [4.78].

When we think about the role of the concept of innovation in the life and development of society, we try to explain it socially. Because there are enough economic and technological approaches to the concept of innovation. Not enough attention is paid to its application in the social sphere today. The application of innovation in the social sphere is called social innovation in science. The analysis shows that the concept of social innovation is not defined either in the National Encyclopedia of the Republic of Uzbekistan or in the Philosophical Encyclopedia. Typically, social innovation refers to innovation aimed at meeting social needs: improving working conditions, education, health and culture.

Social innovation was first mentioned in the 1960s in the works of Michael Young and Peter Drucker. In the 1970s, the term "social innovation" began to be used by French authors, in particular Jacques Fournier, Jacques Atalli and Pierre Rosanvallon. However, social news and its manifestations appeared much earlier. Benjamin Franklin, for example, proposed a number of changes related to the social organization of communities, and with their help they could solve their daily tasks. Many radical reformers of the 19th century, such as Robert Owen, who was considered the founder of the cooperative movement, contributed to social change, and the greatest sociologists Max Weber, Karl Marx and Emil Durheim e. Noticed.



Social innovation research has become very popular in the twentieth century. For example, Joseph Schumpeter studied innovation processes based on his theory of "creative destruction" and invited entrepreneurs to consider the use of existing products in the creation of new products and services as other modern methods.

In our country, there is very little research on the application of social innovations in society or the creation of new social innovations. However, many reforms are directly related to the practice of social innovation. President of the Republic of Uzbekistan Sh. In particular, M. Mirziyoyev announced 2018 as the Year of active entrepreneurship, support for innovative ideas and technologies.

"Today we are on the path of innovative development aimed at cardinal renewal of all spheres of life of the state and society. This is certainly not in vain. Because who will win in today's fast-paced world? The state based on innovation wins a new idea. Innovation is the future. If we start building our great future today, we must start with innovative ideas, innovative approaches"[1].

If we focus on the essence of social innovations, then they can be understood as the implementation of processes related to the life of society and the state in harmony with the citizens of this society or state. That is, social innovation is primarily about cooperation. If we look at the reforms that have taken place in our country in recent years, we will see a number of social innovations. This includes the opening of the People's Reception and the Virtual Reception of the President by decree of the President of the Republic of Uzbekistan. As a result of this practice, the principle of direct and indirect participation of citizens in public administration was further strengthened, which is the most important condition for democracy.

In conclusion, we can say that today, carrying out innovative activities, he contributes to the development of society or the state. Innovation is the key to development today. However, innovative activity can only develop if it is accepted as new. Otherwise, its acceptance as a discovery can often lead to various misunderstandings and to the fact that the discovery will not be implemented in practice. It should be noted that innovative activity should be equally applied in economic, technological and production processes, as well as in the social sphere. Otherwise, this practice may lead to a one-sided development of society, a strong socio-political crisis.

REFERENCES

1. *National encyclopedia of Uzbekistan. I AM /* - T.: "Uzbekistan - National. Encyclopedia" State Scientific Publishing House. 2003.S. 199.
2. *Annotated dictionary of the Uzbek language. 2-t. I AM /* - T.: "Uzbekistan –
3. *National. Encyclopedia" State Scientific Publishing House. 2006. 212 s. Balabanov I.L. Innovation management. SPb.: Peter, 2001.*
4. *Borisov A.B. Big Dictionary of Economics. M. : Book World, 2000.*
5. *Brian T. Management of scientific and technical innovations. M.: Economics, 1989,*
6. *Gvishiani D.M. Dialectical and material basis of the system research. // Dialectics and Systems Analysis. M. : Science, 1986.*
7. *Kantorovich L.V. System analysis and some problems of scientific Technological progress: dialectics and systems analysis. M. : Science, 1986.*
8. *Lex. uz.*
9. *Word of the people. // Oliy Majlis of the President of the Republic of Uzbekistan Request. December 22, 2017.*
10. *Ismoilov, T. I. (2018). UNIQUE FEATURES OF WORKING WITH UNORGANIZED YOUTH. Экономика и социум, (2), 28-30.*
11. *Ismoilov, T. I. (2019). SOCIAL AND LEGAL SOLUTIONS OF INSURANCE MANDATORY RECOMMENDATIONS. Scientific Bulletin of Namangan State University, 1(3), 152-154.*
12. *Ismoilov, T. I. (2018). PROVISION OF INFORMATION-PSYCHOLOGICAL SECURITY IN OPEN INFORMATION SYSTEMS. Теория и практика современной науки, (1), 24-26.*
13. *Исмоилов, Т. И. (2017). ЗАДАЧИ ФОРМИРОВАНИЯ ИДЕОЛОГИЧЕСКОГО ИММУНИТЕТА В ПРОЦЕССЕ ГЛОБАЛИЗАЦИИ. Теория и практика современной науки, (5), 328-330.*



FORMING A FEELING OF LOVE FOR THE COUNTRY IN MUSIC CULTURE CLASSES

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ANNOTATION

If today's young generation does not realize the power and great notion of the Motherland, it will be re-searched, read, and, if necessary, the soil of the Motherland will be rubbed in their eyes, and they will truly love their parents and loved ones. If he is with his problems and indifferent to the wonders of nature, he will wake up through the magic of the song. He eagerly feeds every season, animals, birds. Heaven will return if the motherland does not appreciate our country, dreams of other places and goes to different thoughts.

KEY WORDS: *Motherland, patriotism, homeland, kindness, music, nationality...*

АННОТАЦИЯ

Если сегодняшнее молодое поколение не осознает силу и великое представление о Родине, оно будет пересмотрено, прочитано, и, если необходимо, почва Родины будет протерта в их глазах, и они будут по-настоящему любить своих родителей и близких. Если он со своими проблемами и безразличен к чудесам природы, он проснется от магии песни. Он охотно кормит каждый сезон животных, птиц. Небеса вернуться, если Родина не оценила нашу страну, мечтала о других местах и ходила в разные мысли.

Ключевые слова: *Родина, патриотизм, Родина, доброта, музыка, национальность...*

DISCUSSION

The more we understand the dignity, history, destiny and prospects of the homeland, the more we connect this belief with our life, activities, dreams and hopes, the more we will become true patriots. The concept of homeland has a certain social and economic significance when applied to ethnic groups. Man connects all the aspirations of himself and his people with the future of the Motherland, its peace, stability and development. Devotees of education have been instilling in the minds of students and youth that if the homeland is peaceful, the people will be peaceful, if they are rich, they will be rich, and if they develop, their dreams will come true.

Attitudes towards the motherland have risen to the level of spirituality, and they are actively working to develop the national education system, realizing that giving goals and direction to human activity is patriotic. Their main goal is to strengthen the young person's understanding of the homeland, as well as the general public, education officials, including music teachers. Each student is more interested in music than other subjects. It is more difficult to educate primary school students. The "foundation" of music is laid in the primary school, so educators must pay special attention to the child's psychological experience when conducting the musical process with the child.



However, while some children come from the national education system, others are highly educated, talented students with a good understanding of technology. They simply do not want advice and do not like it. But there is a wise saying among our people: "If you find the leftovers, the snow will burn." It is necessary to understand the heart, language and language of today's youth. Nowadays, some young people like noisy rap and rock. Everything is a phonogram, and whether he understands it or not, he can jump. They don't like national songs, they insult them, saying, "Shut up!" That's why we need to teach them to listen to national music when they need it. That's the way you tell young people. The main reason for today's youth is the indifference and irresponsibility of parents ...

For example, when organizing a music lesson in the 4th grade, when we say homeland, we first of all think of the state symbols of Uzbekistan: the flag, coat of arms and anthem, the Uzbek language, the Constitution. It is necessary to repeatedly explain the symbols of the state with their expression and definition, to instill in them feelings of love.

Turning patriotism into a belief is also the highest sign of love for the Motherland. Music lessons instill a sense of patriotism through songs about the homeland. Patriotism is formed in the closed life environment in the lessons of music culture, on the basis of spiritual and moral values in the example of a musical work. Its complete and correct formation is formed in music lessons and extracurricular activities, by setting high standards, that is, by listening to music, visiting historical monuments. Singing and listening to music teaches to love the Motherland, to be proud of the achievements of our country, to work honestly and selflessly for its development.

As you know, as long as you live and work, you can strive. The faster we progress, the more difficulties and problems we will have in life. Of course, in the field of music education, one of the socio-spiritual spheres, there are both successes and shortcomings. In music lessons, we repeatedly say that music educates a person. So what kind of music educates a person? Especially for young children? Of course, only a song that enchants and heals a person can bring up a melody influenced by the national spirit. He enters his world, whether he wants to or not, and goes to apologize to his friend if he has hurt his friend by doing something wrong. That's why it's called living in an impressive song.

The study of the factors that are important in the upbringing of a harmoniously developed generation has always been a topical issue and has been studied by scholars in various ways. Well-known scientists of our time have commented on these factors throughout human history. Musical

culture has always played an important role in raising the morale of young people. Many scholars consider music culture and literature to be an integral part of spiritual life.

From the first years of independence, great attention has been paid to the development of music culture and literature in our country. Musical culture and literature are becoming more important today than any other country in raising the morale of its members. Traditions, like our people, are eternal, kind and lively. In every corner of the country there are unique ceremonies, family and labor traditions, the source of love and praise from grandmothers. The centuries-old values of folk traditions and ceremonies, the winged dreams that have become a spiritual mirror, have been poetically polished and perfected as a result of many centuries of creative activity of folk art. An in-depth study of ancient rituals and folk traditions that bring goodness to hearts, such as the rainbow, will allow us to better understand and comprehend the essence of our national values.

The independence of Uzbekistan plays an important role in the revival of the traditions of oral art of our ancestors, who have a unique talent, the popularization of folklore works, their historical origins, genre features, art and spiritual life. created ample opportunities for large-scale learning.

As a result of the creative freedom and spiritual renewal that emerged as a result of independence, folklore began to be widely promoted. In particular, the revival of ceremonial folklore, epics, folk rituals and customs, as well as the development of amateur creativity of the people opened a wide way. Folklore and ethnographic communities today have their own direction, aspects of historical development. Inspired by the conditions of independence, experts in the field began to restore the forgotten values, both theoretically and practically. Especially from the program of historically formed folklore and ethnographic communities, songs in praise of Navruz and the motherland are sung like a river. It is an example of the Chechen children's deep respect for the motherland and its values.

Traditions and customs created by our ancestors and absorbed into the way of life of our people are also directly reflected in the art of folklore. This art is reflected in the flowers of the spiritual garden. Today, folklore and ethnographic communities contribute to the development of folk art, the enrichment of the national consciousness, national pride, national pride and national-spiritual world of our students due to our national independence. They are participants in the natural process associated with the development of folk art.



The development of national folk art traditions and their integration into the lifestyle of the younger generation is reflected in various aspects of this process.

The knowledge that has been created to meet the needs of human life is the wealth of humanity. If the body is alive with the soul, the soul is with knowledge. Knowledge is salvation for man. He is a companion, confidant and helper in life. Knowledge is the key to unlocking treasures. Every problem and knot in the world is solved and solved with the help of science, intellect and thinking. At the heart of each work is an anthem of our independent country, preservation and appreciation of independence, music textbooks and programs with melodies and songs that form universal qualities in the minds of every youth with world-class textbooks that meet state educational standards. enrichment is necessary. Our main goal is to provide young people with in-depth knowledge of music culture in the modern world. It is necessary to educate young people through live performances, live melodies and songs with the use of traditional national instruments.

There are some peculiarities of cultivating national pride in students. In particular, the development of teacher-student interaction, individual lessons with each student using the traditions of teacher and student, the use of group singing, school and school. It is necessary to make effective use of extracurricular activities, to pay attention to the ideological content, tone of songs and other means.

At present, great attention is paid to the art of music in our country. On the eve of the Independence Day, it has become a tradition to hold song contests "Uzbekistan is my homeland." These competitions play an important role in instilling in young people a sense of love for the country, devotion to the motherland, respect for our national values and cultivate national pride. The development of national pride in students through the art of music is in many respects the correct organization of music lessons, the diversity and methodological significance of the diversity of secondary schools, extracurricular activities. depending on the

Everyone expresses their love and devotion to their homeland in different ways. Someone works hard, increases the material wealth of the Motherland, contributes to strengthening its economic power. Another mobilizes his unique talent and energy for the development of the motherland, to raise its prestige. Someone else stays awake day and night on the borders of the Motherland and protects her every inch of her husband like the apple of her eye. All this is a practical manifestation of a unique and sacred feeling of patriotism, which is inherent in man. When a person always lives in harmony with

the worries, joys and sorrows of his homeland, and even sacrifices his life for the Motherland, patriotism becomes not just an emotion, but a high human quality.

Patriotism means to love one's country, to serve it faithfully, to mobilize one's body and soul for its development, peace and independence, to live with devotion.

REFERENCES

1. *Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 15, 2017 No 140 "On approval of the Regulations on general secondary education"*.
2. *M.A. Nurmatova Text of lectures on the subject "Theory, methods and school repertoire of music teaching" - Ur., 2006.*
3. *Talapov, B., & Gapparov, E. (2019). THE PROCESS OF DEMOCRATIZING LOCAL COMMUNITY IN THE GOVERNMENT. Scientific Bulletin of Namangan State University, 1(2), 177-181.*
4. *Farxodjonova N. F. MODERNIZATION AND GLOBALIZATION AS HISTORICAL STAGES OF HUMAN INTEGRATION //Теория и практика современной науки. – 2018. – №. 3. – С. 16-19.*
5. *Numonjonov S. D. Innovative methods of professional training //ISJ Theoretical & Applied Science, 01 (81). – 2020. – С. 747-750.*
6. *Farxodjonqizi F. N., Dilshodjonugli N. S. Innovative processes and trends in the educational process in Uzbekistan //ACADEMICIA: An International Multidisciplinary Research Journal. – 2020. – T. 10. – №. 4. – С. 621-626.*



THE ROLE OF LEGAL CONSCIOUSNESS AND LEGAL EDUCATION IN RAISING LEGAL CULTURE IN SOCIETY

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ABSTRACT

One of the most important conditions for ensuring the rule of law, preventing corruption and strengthening legality is the promotion of legal consciousness and legal culture.

A number of works have been carried out in Uzbekistan on radical reform of the system of national law, formation and promotion of legal culture in society.

KEY WORDS: *legal education, legal culture, legal consciousness, society.*

DISCUSSION

In recent years, serious attention has been paid to the formation of a respectful attitude to human rights and freedoms, the rise in the legal consciousness and legal culture of the population, especially young people, and the increase in the level of legal literacy of citizens in society, and its legal foundations are being created.

In raising the legal culture, first of all, the importance of putting legal education and training into one system is finding its proof from day to day.

Legal consciousness, legal education, legal literacy of young people and the population as a whole determines the level of legal culture of society. And the formation of legal consciousness depends on the system of properly organized legal education and upbringing. Because education is a product of consciousness, but at the same time a factor that determines the level of consciousness and its development. Consequently, consciousness can not change without changing the system of education. And without changing consciousness, thinking, the supreme goal – the restoration of a free and prosperous society can not be achieved.

It is possible to achieve the rise of legal culture by establishing legal education and training.

In 2019, the decree of the president of the Republic of Uzbekistan “On the radical improvement of the system of raising legal consciousness and legal culture in society” № PD-5618 was adopted in January for the purpose of further improvement of

the effectiveness of work on raising legal awareness and legal culture of the population, introduction of modern methods of increasing in the command:

formation of a system of consistent transmission to the population of socio-economic reforms carried out in our country, the content and essence of the adopted legislation and state programs, decision - making in the minds of citizens "the spirit of respect for laws in society is the pledge of building a democratic legal state, strengthen the vital idea that;

in raising legal consciousness and legal culture in society, first of all, paying special attention to the systematic and inalienable conduct of education and training, starting from the system of preschool education, deep integration of legal consciousness and legal culture into the entire population, wide promotion of the ideas of maintaining a balance between personal interests and the interests of society;

deep integration of the concepts of right and duty, honesty and purity into the minds of the younger generation, norms of morality and teaching them important aspects of the Constitution since childhood;

to organize legal and educational activities on formation of legal culture among the population in harmony with the teaching of history, religion, national values of our people, as well as to create a sense of patriotism, sense of patriotism in the country through the formation of feelings of pride in state symbols in each citizen;



to raise the legal consciousness and legal culture of civil servants, to form an uncompromising attitude towards corruption and other violations in them;

to systematically establish the wide and productive use of social partnership prints in the organization of events related to the development of legal consciousness and legal culture in the society;

increase the role of the media in the provision of legal information, the broad use of innovative methods of legal promotion, including the expansion of the use of web technologies;

improvement of legal education, as well as development of the system of training, retraining and professional development of legal personnel;

in the society, tasks such as in-depth study of the scientific foundations of raising legal consciousness and legal culture have been established.

Also, "Finding a decision in society a spirit of respect for laws is a pledge of building a democratic legal state!". It was also noted that the implementation of vital ideas "High legal culture - guarantee of the country's development", "Personality - family - neighborhood - Educational Institution - Organization - Society".

With this decree, the "Concept of raising legal culture in society "and the" road map" were approved.

The reforms carried out in the education system in order to raise the legal culture create the necessary and sufficient conditions for the participants of the legal education process. Through the radical reform of the legal education and training system, a number of requirements have been set in the direction of raising the legal culture of the individual, expanding the worldview.

The level of the rise of legal culture can be divided into the process of legal education and legal education.

Legal education is a system of practical actions and activities carried out through legal education, aimed at the formation of legal consciousness and culture, if there is a process of systematic, planned and theoretical and practical activity aimed at a particular purpose, aimed at the formation of legal knowledge and skills that are used in life-practical activities and which need to be Through legal education it is necessary to convey to the minds of every youth "what he can do?", "what he cannot do?".

The purpose of legal education is to influence the consciousness of young people with the help of tools, forms and methods, an expression from respect for the norms of law, observance of them and the formation of obedience to the laws. This leads to the

formation of legal consciousness in the individual and the rise of legal culture.

In order to achieve the desired result, it is necessary to systematically conduct legal education, ensuring their consistency.

As a result of legal education, young people are taught not only the knowledge of laws, but also ways to apply them. Only then is the ability of young people to apply the norms of law that are relevant to the sphere of law.

A person who respects the norms of law regularly studies the observance of laws and encourages others to do the same.

U.Tojikhonov and A.Saidov noted, the results of legal education can be seen at the increase in the social activity of students, their involvement in the fight against stalemates of the past, apathy, selfishness, violations of the norms of national spirituality. This means that the formation of the legal consciousness of a person involves a complex process - legal education - upbringing. Therefore, legal education, which is part of the legal educational process, requires clarification of the concepts of legal education. Complementing the above general points, legal education should be described as follows.

Legal education means the formation of legal concepts and concepts as a result of the provision of legal knowledge and the raising of a person in the spirit of compliance with legal rules and raising his legal consciousness and culture.

On this basis, legal education and legal education can be described separately.

Legal education is the acquisition of legal knowledge, the formation of legal skills and qualifications. Legal education also educates young people to develop intellectually. As a result of legal education, the influence of young people on their legal consciousness, feelings, will be achieved on the basis of a system with constancy. Legal education includes the transfer of legal information in a certain order and its reception.

And legal education is to teach young people to be able to apply their knowledge gained in practice. Legal education can not be carried out without legal education. The purpose of legal education is to educate the individual on the basis of the practical application of the knowledge gained. This activity constitutes a certain process.

In the process of legal education, the legal consciousness of young people is formed and developed. In the formation and development of the legal consciousness of a person, it is necessary to study, analyze the purpose and desires set by them, their imagination and understanding in a certain direction. Only then will the legal consciousness help to correctly understand reality, to have an idea of such elements as the state, law, politics, morality. It



should not be forgotten that legal consciousness does not represent only the concept of justification for the right, understanding the right, imagining it, interpreting it, applying it, fulfilling it. It has a much wider content. It also includes such concepts as thinking about the state system and the system of law. Legal consciousness is also the view, reasoning and imagination that characterizes the person's attitude to law. Legal consciousness has a certain meaning, a reflecting subject, a worldview, a system of imagination. Legal consciousness provides an opportunity for the occurrence, development and application of applicable legal provisions.

The system of legal consciousness factors is inextricably linked with each other, the legal knowledge, literacy of an individual, knowledge of laws, their observance and application in life, one of which arises from the other, complements the other.

Since the formation of legal consciousness is inextricably linked with the general upbringing of a person, as well as the processes of his legal upbringing, today the need for improving the process of legal education is increasing.

A.Saidov, U.Tajikhanov, O.Karimova, Z.Gafarov and others believe that legal education is an important tool for the development of a harmonious person. U.Tajikhanov and A.Saidov believe that it is important to be aware of the theory and practice of legal education by agreeing to the opinion that legal education consists not only of legal education or training of legal subjects.

The legal educator himself must also have legal knowledge, be able to implement the legal concepts, imagination, legal normative rules learned, master the legal rules in the manner of moral rules. For example, along with the teaching of the legal rule "citizens are obliged to comply with the Constitution and laws, to respect the rights, freedoms, honor and dignity of other people" established in the Constitution of the Republic of Uzbekistan, the goal of legal education is achieved only if the observance and understanding of its essence becomes the moral qualities of each citizen. In this person adheres to this rule not for the existence of a norm in the Constitution, but for the formation of this virtue in his legal consciousness.

Legal education is a set of information, knowledge that must be acquired, which is the main tool for the preparation of a person for legal relations and the formation of legal consciousness. Therefore, the system of legal educational activity is called a legal pedagogical process. This process includes legal education, legal training and independent activities of the individual. For this reason, "jurisprudence pedagogy" in the circuit of jurisprudence and pedagogical sciences is created

today, and it is required to clearly demonstrate the essence and meaning of legal education and training.

Jurisprudence pedagogy legal education is a branch of science that arms education recipients with modern legalities, content, methods, means of education, and how legal education is not carried out, is primarily aimed at the consciousness of the individual, through which influence it in the sense of regulation.

Like every educator engaged in pedagogical activity, a lawyer – teacher should know who is teaching and educating. He, in addition to responding to his professional training, takes on the responsibility of pedagogical activity. The responsibility of the lawyer – pedagogical profession is that such a teacher should not only be a teacher of different knowledge and become a master educator, but also perfectly master the special disciplines related to jurisprudence in all specialties of the chosen profession and the fundamental disciplines that are the foundation of them, as well as the psychological and pedagogical bases.

The success of legal education is largely due to the fact that, firstly, the activity in the interaction of the educator with the educator is actively transferred, and secondly, from what lessons are taught, by whom it is organized, with what methods it is carried out and what is taught.

REFERENCES

1. *Ўзбекистон Республикаси Конституцияси*. - Т.: Ўзбекистон, 2018. 14-б.
2. *Таджиханов У., Саидов А. Ҳуқуқий маданият назарияси*. - Т.: ИИВ Академияси, 1998. Т. 2. - 447 б.
3. *Ergashev I., Farhodjonova N. Integration of national culture in the process of globalization //Journal of Critical Reviews*. – 2020. – Т. 7. – №. 2. – С. 477-479.
4. *Farhodjonqizi F. N., Dilshodjonugli N. S. Innovative processes and trends in the educational process in Uzbekistan //ACADEMICIA: An International Multidisciplinary Research Journal*. – 2020. – Т. 10. – №. 4. – С. 621-626.
5. *Farhodjonova N. F. MODERNIZATION AND GLOBALIZATION AS HISTORICAL STAGES OF HUMAN INTEGRATION //Теория и практика современной науки*. – 2018. – №. 3. – С. 16-19.
6. *Numonjonov S. D. Innovative methods of professional training //ISJ Theoretical & Applied Science*, 01 (81). – 2020. – С. 747-750.



THE ROLE OF MORAL EDUCATION IN THE PROBLEM OF PERSONALITY ACTIVITY

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ANNOTATION

Morality and decency are formed from the initial period when a person steps into life, turning into an internal spiritual factor, which creates the basis for his perfection. A person will be able to fully demonstrate abilities and talents in one or more areas, will be able to work, gain experience and skills, will have professional skills, will possess certain norms of decency and morality, knowledge, consider upbringing. Etiquette leads to greatness, increasing the value of man. The behavior, temperament of such a person will be beautiful, his behavior, life, labor will be orderly.

KEY WORDS: *person, moral education, abilities and talents, behavior, life and labor, personality activity, spirituality.*

DISCUSSION

Morality is the basis of the development of the spirituality of a person. Every person should struggle to be morally beautiful. To do this, it is necessary that a person feels the responsibility of morality and develops it, to put himself and the respect of others in place, to be attentive, faithful, to struggle in this way. The life of a person who has achieved such a virtue will be beautiful and stable. The moral, manners, knowledge and talent of man are formed in his person, conscience.

Understanding morality as a product of social upbringing and consciousness is of particular importance in Islamic culture.

Abu Nasr Farabi says, "Knowledge, reason, of course, should be adorned with good morality"[1], who did not imagine being wise, intelligent, without moral virtue. The concept of the use of human qualities in the formation of morality expresses the fact that a person can find his own, know his right, strive for innovation, love peace, be active, create humanity.

Moral education is one of the main factors for bringing a person's child to perfection, in which traditional and modern means are widely used.

Abdurauf Fitrat advocates the issue of conscious and purposeful conduct of moral education. He is aware of moral education as a post – physical and mental education-a third-tier education,

he offers the following system of its implementation:"form a person as a perfect, beautiful owner of behavior and a member who benefits society" [2].

- explain to the child the rules of etiquette in the tool of stories;

- the fact that the educator himself should be a lesson;

- to show the bad of the bad, to know the good of the good. If we pay attention to these structural elements, then the behavior of the educator with the question is harmonious, it is necessary to be an example and an example for everyone with his behavior. In scientific research conducted in this regard,"the lesson plays an important role in the spiritual and moral perfection of the individual, only the instruction, word statements, not the formation of attitude and lesson" [3], it means that moral consciousness, moral behavior and moral attitude are perceived without harmony. Also, in teaching the educator of moral education to distinguish good from bad, in the formation of the ability to analyze it, the educator (responsible person, teacher-educator, parent, coach) should pay attention to the age characteristics, gender aspects, status and level of educators on the basis of life events, and should cover such as the organization of work activities accordingly. That is, moral education to a certain



extent stabilizes the spiritual and moral environment with its real realities and practical aspects.

Being one of the qualities that form the basis for the formation of noble morality in a person, it is used in the sense of generosity, kindness, goodness, honest and pure, hardworking, being kind, living in obedience to the command of conscience. Generosity encompasses such human qualities as spiritual moral purification, helping disabled people, charity, doing good, raising their hearts, providing material assistance. If the educator is formed a sense of generosity, not only will the moral education improve, it will also harmonize the prosperity of the nation and the interests of the nation in the activity of the individual. Also, such qualities as enthusiasm, perseverance, honesty, loyalty, contentment occupy an important place in the moral education of a person. In particular, Abdurauf Fitrat said that "for those who are engaged in social work, especially those who need to raise their steps from the ground to the ground with great effort" [4] in contrast to other qualities in education, loyalty focuses on the important role of the individual in the process of socialization.

Of course, the above qualities do not always have the same effect on the development of moral education in society. For example, if we take the quality of contentment, then contentment in each of the conditions, skill also leads to the formation of the mood of immortality in a person in these specific cases. Of course the positive side is to endure this, to be patient, to be thankful. However, the trifles that are encountered in society, or if not, in certain cases, laziness as a result of misunderstanding of the wing, laziness is caused by the occurrence of such vices as malnutrition. Therefore, in his time, Abdurauf Fitrat criticized the interpretation of contentment, which was composed in his time and said, "We have a strange situation in the Turkestan, without knowing either the moral virtues and the shariah virtues, we understand either intentionally or mistake. For example, today we sit at home and think that we are content to agree on the hardened bread without ever going out to the ground and making efforts." [5] This is not contentment, but confession. On the contrary, the contentment is to give thanks to what is available, to restrain the soul and strive for the affairs of others. Indeed, exactly the same attitude is now finding its proof on the example of many families. Therefore, the nature interprets this virtue as a criterion that preserves humanity, as a component of morality, is formed in the human body, and recommends the issue of the formation of these moral and ethical qualities in the upbringing of morality. Attention is paid to the fact that the scientist implies more social education in moral education. That's right. Because in today's science, morality is perceived as a component

of social consciousness. At the moment the scientist rejects them by saying negative qualities that are moral qualities. In this regard, he will comment on such vices as ignorance, selfishness, extravagance, greed, dullness, arrogance, duality, stubbornness, anger, shamelessness(vajohat), discord, flattery(shaloq), idleness (ihmol), greed, hypocrisy (riyo), vengeance to good – world (sarvat). It is especially true that these negative features of the Fitrat make the person begin to be confused and depressed.

In our opinion, the moral and ethical upbringing of a person gives the expected effect on the basis of the following moral norms:

1. Formation of the will of the individual. The will is an inner feeling, but an important human quality. Willpower creates the power of knowing, feeling and tempering in a person. Through willpower, the individual perceives the scientist and the person, events, feels the truth deeply, creates the ability to withstand in the influence of Good – Evil. In a person, the will does not arise spontaneously, but it is formed for a certain period of time. A strong-willed person acts as a conscious individ of society, while a weak-willed person, who is this, is formed as an unconscious, mute and a slave to others. As a result of the spiritual-moral rise of man, his will also increases. An energetic person of willpower believes in himself and is not afraid to take on any difficult task, too.

2. To bring an adult as a person into reality. Reality as an important moral value holds a special place in the spiritual and moral image of a person. Striving for truth helps a person to find his place in society. In this sense, reality is one of the factors shaping the character of a person.

3. Adult education of a person as a human being. Humanism is an important moral principle that affects the activity of a person and evaluates it. Since a person does not show in his activity the virtues of humanism, he cannot become a progressive person of society.

After all, at the present stage of development of our society, spiritual and moral education plays an important role. Because as our society is increasingly accepting democratic values, there is an increasing number of advocates who "educate" its members. In particular, various religious currents are trying to clog their way of upbringing, rich in fanatical, illusionary features. In such conditions, it is an urgent issue to clearly define the directions of spiritual and moral education. In this sense, spiritual and moral education is based on the following principles: purposefulness, consciousness, efficiency.

Growth or crisis in every society is determined by the level of the existing environment in that society. But, no matter how high thoughts,



noble ideas of thought are formed in society, there will be no growth, development, if there is no practical activity in them. We want to focus our attention on activity, practical activity and its freedom, at the same time, the interaction of these qualities with moral norms.

Activity is one of the most important characteristics of a person, aimed at changing the existence of society, the external world itself in a purposeful way. It has a conscious nature and embraces purpose, motor, result and process. It is based on the idea of the manifestations of existentialism, freedom means that it is a person-specific feeling, a person's responsibility in life, a sense of guilt for all that he has done. In general, freedom is a necessary condition for the achievement of human spiritual perfection, consciousness. Freedom comes true primarily in the freedom of speech, conscience, press. The concept of "freedom" is used not in relation to any person, but in relation to a morally harmonious person who feels responsibility for his behavior and activities.

If we talk about practical activity, then its types are diverse. In our opinion, in practical activity, the goal must be realized. Promotion of the goal should be consistent, subject to certain procedures and values of society, especially moral norms. The activity that gives the opposite result to the set goal cannot be called a practical activity. "Morality solves practical issues, the basic concept of morality is related to the purpose of good, and it always strives for it," Aristotle said. It should not be an attempt to achieve another merciless goal through this goal. Human happiness depends on the activity " [6]. Aristotle perfectly classifies the moral qualities necessary for a person, introducing to them courage, bravery, moderation, generosity, gentleness, correctness, kindness, fairness. In his opinion, "the realization of true happiness is attributed to a spiritually high right-minded person. Spiritual perfection is one who practices the unity of virtue with the human mind"[7].

Spiritual and moral activity represents the spiritually high norms and rules that regulate historically composed behavior, behavior, interaction in social and personal life of people. Relations in society are formed on the basis of moral and moral principles, manifested as an important aspect of social development. Therefore, at the initial stage of the reforms carried out in society, awakening the minds of people, increasing their initiative, activity constitute the basis of spiritual reform. In developing countries, history shows that thoughts are land and conscious activity, morality is a factor of the development of society. In this regard, it should be said that the experience of history should not only have a sense of freedom of thought according to the

lessons of history, a group that demonstrates its diversity, a person, and so on, but also have a sense of purpose, a logical point of view, a sense of responsibility for the consequences of his point of view, as well as Because, as society progresses, there is a need to focus attention on moral relations. That is, no country can develop a spiritual and educational sphere and imagine its future. Therefore, for development, growth, development, educational process, educational activity, self-sacrifice and patriotism are needed. Education, educational activity begins with the integration of moral qualities, the development and formation of spiritual values.

In his time, Jalaliddin Davani said that "if justice is a whole set of perfection, evil is his oppositely, that is, a whole set of shortcomings" [8]. Justice find content of the characteristics of mindfulness, equality and courage in a person of justice. As noted by the philosopher John Rolz, a fair person must find solutions to problems in his activities, set an example for others in a difficult time, influence them with his human qualities[9]. Professor H.Alikulov noted, "the moral side of justice is reflected in the interaction of people, the way they walk, evaluate what they do from the point of view of morality" [10]. Summarizing them, we can say that justice is in the person, intelligence forms three characteristics, such as equality and courage. So, justice is that the person has a moral quality that he or she brings to the person and the blessing for the other people.

After all, intelligence is the main feature that distinguishes a person from other beings. Eastern thinkers focused on two issues in the development of the mind in a person. The mind is of two types: natural and professional. Natural intelligence is innate, while professional intelligence is formed through experience[11]. It is necessary to understand this way: in a person the mind is innate, therefore it has the property to develop and perfect. In the tool of upbringing, the sense of reason is improved, in a person who is well-educated, the mind reaches perfection, the person who is ill-educated remains at the initial stage of the sense of reason. The human innate sense of reason is brought to perfection by knowledge craft and profession.

Eastern philosophers have learned that people are divided into two categories when adhering to the moral characteristic of equality:

1.Vigilant people. These follow the right of others so that there is no risk.

2.People without events. These are admired for their rights and remain without measure[12].

Sadiy Sherozi argued that "bravery is being fair" [13]. Courage is the manifestation of a sense of courage in a person's behavior[14]. Courage



manifests itself in the self-sacrifice of a person by his actions in the interests of others.

According to oriental philosophers, courageous people strive for three things: to live a good life, to be in a good position among people, to do good deeds. To do this, they rely on four tools: with honest labor they accumulate wealth, know how and where to spend honest wealth, avoid wastefulness, enjoy helping people[15]. Hence, courage is the spiritual and material support of others.

The conflict of justice is ignorance. Ignorance creates in man an end to the world, slavery to his own soul, lust, actuality, misfortune and humiliation[16]. That is why this vice morally absorbs the person. A means of preventing, protecting ignorance is justice.

Plato said that "Man must beware of ignorance as he seeks to avoid the most infectious diseases" [17].

Sahibqiran Amir Temur said about moral values such as justice and equality: "Power is in justice", "Justice is not justice, justice is overcome", "The world is prosperous with justice", "I have done good to the good, and I have handed over the bad to their evil", "I have adorned my rule with Sharia"[18].

Duty is a moral concept, and it is the feeling that determines the task that a person undertakes[19]. Duty forms the concept of "self-awareness" in the moral consciousness of a person, with the embodiment of human and social qualities. Our society is "interconnected with the rights and duties of the citizen and the state in relation to each other" [20]. It consists of five characteristics in the person, namely morally: the self-awareness of the individual, the protection of the interests of the individual, the protection of the individual's own society, the presence of the individual in the civil service, the respect of the individual's universal values.

Duty conveys the person morally in the spirit of persistent fulfillment of his human task as an adult. It is noted in ancient Indian philosophy: "whether it brings you happiness or brings misfortune – fulfill your duty. Whoever fulfills his duty and calmly faces the consequences as a result, he is spiritually high"[21]. Duty is a set of human tasks. The sense of personal interest in the performance of the human task is limited, satisfaction is generated from any consequence that comes as a result of the performance of the duty. Aristotle (BC 384-322) "It is your duty to give up even your dear one and your loved one to save the truth" [22], he says. So, the realization of truth is one of the most important human tasks.

Xilon (BC 596-528), "Know yourself, so that you know the gods and the universe"[23]. It is necessary to understand this so: a person has the qualities, properties of the whole being, so that a

person understands the mystery of all existence by understanding its essence.

Philosopher Georg Hegel (1770-1831) says that man's "Moral duty is to gain freedom through his activities and perception"[24]. In this place, the concept of "freedom" means that a person fulfills his or her human duty and gets rid of the moral burden on.

Responsibility is a concept that evaluates moral qualities, which becomes the basis for the practical aspect of the person's morality[25]. Responsibility is a pure moral concept and plays an important role in the moral activity of an individual. Abdurauf Fitrat interprets responsibility as a "set of spiritual actions" of the individual[26]. Responsibility forms a sense of accountability before the person's own moral behavior. In our opinion, responsibility forms three important qualities in a person. These are: responsibility, initiative and mobility. After all, responsibility is the person's observance of an acceptable level in his actions. When a person feels responsibility before himself, his family, society and the state, he can act in accordance with the norms of morality. Otherwise, the element of maturity in the morality of the person will not be at the full level. Initiative is the basis for the work of a person, which is of general interest, permeated with kindness. Find content to promote goodness, do good, and initiative excellence in a person to know that goodness is your goal. That is why this virtue has always been of particular importance. And mobility provides for the moral activity of the individual. A person can not feel the responsibility of active action, he can not even realize his moral maturity. In this sense, mobility is a factor of motivation for the morality of the individual.

It turns out that responsibility is the most important quality for the morality of a person. Therefore, the German scientist G.Yonas (XX century) presented responsibility as the "most important ideal procedure" for the ethics of the individual[27]. Indeed, the sense of responsibility serves as an ideal resource not for the individual, but for others. Because, other than responsibility, that is, society will benefit relatively more. This means that a responsible person does not behave in a manner that is unpleasant to others. On the contrary, a responsible person feels a sense of immunity to himself and others[28]. Responsibility is the source of life or salvation for the development of society and the world. Because the responsible person is not only morally perfected, but also affects the stability of the spiritual and moral environment of society.

The conflict of responsibility is irresponsibility, which expresses the moral weakness of a person. This illiteracy is rejected in morals in essence.



Well, moral categories such as justice, duty and responsibility are important in the moral formation and functioning of an individual. These qualities form in a person the observance of the norms of reasonableness, equality, courage, self-awareness, Loyalty, truth, responsibility, initiative and diligence. A person with justice, duty and responsibility is needed in every society.

REFERENCES

1. *Форобий А.Н. Фозил одамлар шаҳри. – Тошкент: А.Қодирий номидаги халқ мероси, 1996. – 14-б.*
2. *Фитрат А. Раҳбари нажот / Ш.Воҳидов таржимаси. – Тошкент: Шарқ, 2001. – 157-б.*
3. *Очилова Б.М. Аждодлар меросига ихлосмандлик ва шахс маънавий- ахлоқий камолоти. Тошкент: ЎЗМУ, 2005. – 22-б.*
4. *Фитрат А. Раҳбари нажот / Ш.Воҳидов таржимаси. – Тошкент: Шарқ, 2001. – 109-б.*
5. *Фитрат А. Раҳбари нажот / Ш.Воҳидов таржимаси. – Тошкент: Шарқ, 2001. – 111-б.*
6. *Арасту. Никомахова этика // Арасту. Соч. В 4-х т. – М.: 1984. 4-жилд. – С. 54-55.*
7. *Арасту. Никомахова этика // Арасту. Соч. В 4-х т. – М.: 1984. 4-жилд. – С. 54-55.*
8. *Шарқ донишмандлари ҳикматлари / Тузувчи Аҳмад Турсун. – Тошкент: Шарқ, 2006. – 110 - б.*
9. *Ролз Дж. Теория справедливости. – Новосибирск: Филлал-Наука, 1995. – 40 с.*
10. *Алиқулов Ҳ. Жамолдин Давоний // Ўзбек педагогикаси тарихи. – Тошкент: Ўқитувчи, 1997. – 114 - б.*
11. *Ибн Муқоффа. Муқаддима // Калила ва Димна / С.Ғаниева таржимаси. – Тошкент: Ғ.Ғулом номидаги адабиёт ва санъат, 1977. – 26 - б.*
12. *Ибн Муқоффа. Муқаддима // Калила ва Димна / С. Ғаниева таржимаси. – Тошкент: Ғ.Ғулом номидаги адабиёт ва санъат, 1977. – 66 - б.*
13. *Шарқ донишмандлари ҳикматлари / Тузувчи Аҳмад Турсун. – Тошкент: Шарқ, 2006. – 109 - б.*
14. *Новая философская энциклопедия. В 4-х т. – М.: Мысль, 2001.Т.2. – 321 с.*
15. *Ибн Муқоффа. Муқаддима // Калила ва Димна / С.Ғаниева таржимаси. – Тошкент: Ғафур Ғулом номидаги адабиёт ва санъат, 1977. – 47 - б.*
16. *Форобий А.Н. Фозил одамлар шаҳри. – Тошкент: Ёзувчи, 1993. – 162 - б.*
17. *Афлотун. Қонунлар. – Тошкент: Янги аср авлоди, 2004. – 7 - б.*
18. *Амир Темур / Темур тузуклари. – Тошкент: Ғ.Ғулом номидаги Адабиёт ва санъат, 1996. – 15 - б.*
19. *Новая философская энциклопедия. В 4-х т. – М.: Мысль, 2001. Т.1. – 381с.*
20. *Ўзбекистон Республикасининг Конституцияси. – Тошкент: Ўзбекистон, 2010. 19-модда. – 7 - б.*
21. *Сержило тафаккур дурдоналаридан / Тузувчи ва таржимон А. Жалолов. – Тошкент: Navroz, 2003. – 11- б.*
22. *Сержило тафаккур дурдоналаридан / Тузувчи ва таржимон А. Жалолов. – Тошкент: Navroz, 2003. – 87 - б.*
23. *Сержило тафаккур дурдоналаридан / Тузувчи ва таржимон А. Жалолов. – Тошкент: Navroz, 2003. – 29 - б.*
24. *Сержило тафаккур дурдоналаридан / Тузувчи ва таржимон А.Жалолов. – Тошкент: Navroz, 2003. – 297 - б.*
25. *Новая философская энциклопедия. В 4-х т. – М.: Мысль, 2001.Т.3. – С. 261.*
26. *Фитрат А. Нажот йўли. – Тошкент: Шарқ, 2001. – Б. 26-35.*
27. *Ионас Г. Принципы ответственности. – М.: Пионер, 2000. – С. 60-63.*
28. *Хабермас Ю. Будущее человеческой природы. – М.: Искра, 2002. – 40 с.*
29. *Хужаев, М. И. (2015). Некоторые особенности этических взглядов Ахмет-Заки Валидова. Credo new, (2-2), 3-3.*
30. *Хужаев, М. И. (2018). АХМАД-ЗАКИ ВАЛИДИЙ ИСЛАМСКАЯ КУЛЬТУРА. Теория и практика современной науки, (1), 531-533.*
31. *Saifnazarov, I., & Xujayev, M. I. (2018). AXMAD ZAKI VALIDIY ISLAMIC CULTURE. Экономика и социум, (2), 55-57.*
32. *Гуйчиева, Х. Н. (2014). Основы повышения правовой культуры в Республике Узбекистан. In*
33. *Yusupova, N. J. (2018). THE ROLE OF THE FAMILY IN THE SPIRITUAL EDUCATION OF MODERN YOUTH.*
34. *Юсупова, Н. Ж. (2018). Основные принципы исламского права в укреплении семейных отношений. Россия и мусульманский мир, (4 (310)).*
35. *Rashidov, F. T. (2020). TOLERANCE, INTERNATIONAL AND RELIGIOUS RELATIONS IN UZBEKISTAN: HISTORY, PRESENT AND PROSPECTS.*



SOCIAL RIGHTS OF WOMEN IN ISLAM

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ANNOTATION

The attempt to solve the issue of women in the era of the regime of the Soviets on the basis of ideological pressure had severe consequences. The heavy life of women caused tragedies in this or that appearance. In the former Shuro regime, it was understood that the equality of women with men was only in social labor, and the craft woman was appreciated.

KEY WORDS: *islam, social rights, women, religion.*

DISCUSSION

During this period, the use of women in shifts was simple. "The state that recruited the most women in the world was the state of these councils. 90 percent of the women either worked or studied at the age of Labour"[1].

After the independence of our republic, it was taken into account that the first task of women is not social work, but to educate a healthy generation, to bring up an adult, to be a wise housewife, and conditions were created for them to find their place in social life with their labor without giving up these responsible duties. The woman is first of all a mother, a housewife, a kind sister, a grandmother. It is because of the competence of the house, the calmness of the male soul, the mating of the children. A woman is a person of her own mind, according to her labor, the development of society, the cult of country prosperity. This does not mean that a woman should work like a man, provide for family needs. In Islam, it is the responsibility of men to provide the woman with the necessary things from birth to the end of her life. Performing heavy labor is also for men, and Islam says that respecting a woman cannot work if it is not necessary. It can be seen that in Islam, the work of a woman is not forbidden, but the issue is resolved based on the interests of the woman herself, her family and society. "If Allah has made one of you more than the other with a favor from him, then do not desire it while you are jealous. Men also receive their share of their profession, women also receive their share of their profession " [2]. This

verse is evidence that women are also allowed to earn.

Great companions of Prophet Muhammad Abu Bakr (r.the a.) when the daughter of Asmo also went out into the street to help her husband in making a living, that the Prophet (p.the a.v.) it is known from history that they did not express honor. After all, Islam has created all conditions for women to maintain their feminine charms, to serve their societies, their homeland, their religion by fully fulfilling their duties, by substituting them for the reverence[3].

There are many examples in Imam Bukhari's collection of hadiths that Muslim women work, are educated, and are nurses in fights[4].

While we analyze the theoretical problems of Islamic law concerning women's rights in our study, it is impossible not to emphasize the peculiarities inherent in the study of women's rights in Islamic law.

First, even if there is an understanding of the equality of a man with a woman in Islamic law, the peculiarity of his approach to this is explained by some factors. That is, in Islamic law, a man and a woman have the same personal, social, economic and political rights. For example, it is recognized that a woman, like a man, has the right to honor, to protect her reputation, to work, to have personal property, to be an heir, to leave an inheritance, to occupy a high career (for example, to be a judge), to participate in judicial affairs as a witness, to participate in elections (bayat) and so on. At the same time, some discrepancies between these rights can be seen. As



the main reason for this, the physical characteristics of a woman as well as her role in society and the level of her participation are indicated.

Since women have some physical characteristics, lightening is created for her. For example, if a man is not released from prayer in any case, a woman is released from prayer in case of menstruation and nifos. At the same time, for their weakness, the obligation to provide the family with benefits is imposed on the man, not the woman.

The share of a woman in the matter of inheritance was less than the share of a man, since she was released from the obligation to provide for the family pension, and her pension was imposed on others (father, guardian or partner, husband) from childhood to death.

Secondly, in Islamic law, polygamy is allowed as long as a woman is allowed to marry a single man[5]. Although this issue is also a subject that has received a lot of criticism, in our opinion the difference between these two views came from the point of view of the period. Because the period when Islamic law developed was the Middle Ages, the attitude of people to the woman in this period was not positive. Although this attitude was loosened due to the Islamic teachings, polygamy was considered a natural and even necessary condition in the influence of the eastern mentalitet, as well as the economic consequences of many wars and the decline of men and the increase of widow wives. To date, globalization has been approached with a different approach to this issue due to eastern views as well as the rise in the issue of women's rights and the emphasis on their equality.

Even if these issues on women's rights in Islamic law are the subject of many debates, it must be acknowledged that Islamic teaching has brought news on women's attitudes and it has been the point of "revolution".

In Islam, women are allowed to participate in the social sphere, for this, women will have to comply with the conditions that are inherent in them.

About the performance of women in Islam, the scribes have different views. Summarizing them, it is possible to bring:

- it is not permissible for women to work outside the home. They can work only if necessary;
- it is possible for women to work, but this labor process should not remain a tool for them to move away from the instructions of religion;
- women have the right to work with men on a par.

Supporters of the first thought "Find a decision in your own homes, do not make (when you go out into the street) as if the cult is made (the era) of ignorance...based on verse[6], "the house is a woman's natural enterprise". Dealing with household chores, managing them at a high level is actually a

woman's labor. Also, raising and educationa child is an important task that a woman can take all her time. A man cannot cope with such tasks as giving birth to a child, keeping an order in the house, raising a child, taking care of them, but also the main task of a woman is not to find a piece of bread to feed her husband and children in the form of food. However, in cases of extreme necessity, men are allowed to work without hindrance and with observance of Islamic teachings,"[7] they admit. A woman is forced to work only when there is no man capable of working in the family. For example "...And our father is the old man"[8] verse words says that what motivates two girls to do is that their father is not capable of stuttering and craft. Suddenly the reason that justifies female labor can be poverty[9].

Muhammad Said al Buty, a supporter of the second opinion: "If we talk about the fact that a woman is engaged in any profession with the aim of finding sustenance for herself or for her family, or that someone is trained to acquire useful knowledge, then in Islam the judgment for this is a fold, common for a man and for a woman. If you meet a situation where Islam religion prohibits a woman from taking or working knowledge outside the home, this is because of some sinister, prohibited actions. No matter how honorable the labor is, if it demands that a woman come out of the judgment of dying, to be made before an alien male, it means that such labor loses its honor"[10].

Using the third opinion, the devotees draw from the Qur'an and hadith documents that women have the right to work like men. For example: "Of course, I do not worthless the deeds of the one of you - whether male or female - "[11], "whether male or female - if anyone does a noble deed while believing in him, then we give him a pleasant life and reward them with the reward equal to the beautiful (solih) deeds they have done"[12].

In general, the three parties recognize that women have the right to work, even if they are of different sizes. But in this place, we must say that the possibility of women's labor is not the same as the possibility of men, and this is due to the fact that they are created by their own characteristics of femininity. For example, "Imam Abu Hanifa believed that a woman can manage court cases in other cases apart from matters of territory and revenge. Scholars of Islamic law have interpreted this condition from the nature of a woman. Because a woman by nature becomes emotionally attached, submissive, compassionate and gentle. Therefore, they are too weak to make judgments about death, revenge and long-term imprisonment. And not applying punishments sharply when it comes to leads to a violation of society"[13].

In Islamic law, scribes on the appointment of a woman as a judge of different opinions. Many of



them, that is, moliki, shofe'i, hanbali scribes knew that the female person would be appointed to the post or that he would work in any position with the issues of the post. And the faqihs of the hanafi sect consider it permissible for a woman to be appointed to the post of judge, but with the exception of criminal cases. If the judge makes a judgment in accordance with the Quroni Karim and sunnah nabavi, his judgment must be executed[14]. Marginoniy also says in "Hidoya" that "it is permissible for a woman to judge on matters other than territory and revenge" [15].

According to Ibn Jarir at Tabari, a woman has the right to judge and judgement in any case. Because, it is permissible for a woman to be appointed to a magistrate. This means that he can also be appointed to the post of a judge. Vahba az Zuhaili also noted that in his work "Alfiqh alislomiy and adillatuh" a woman can be appointed as a judge in civil affairs in the sect of Imam Abu Hanifa[16].

In Sharia, even a woman is allowed to become an imam. The imam of women passes in separate houses only a church consisting of women and children. In mosques, usually men serve as imams[17].

Shariat's moral and spiritual norms advised women to read the prayer at home, not officially prohibiting them from going to the mosque. The Prophet (s.a.v.): "If any of your wife asks you for permission to go to the mosque, do not hinder her!" those who say[18]. In order to pray, women do not have to go to the mosque, because they are very busy with household chores. Rasululloh (s.a.v.): "The woman will be close to her master when she is inside the house. It is better for him to pray in his inner courtyard than to pray in the mosque, and for him to pray inside the house is better than for him to pray in the inner courtyard" [19].

In conclusion, it should be noted that Islamic teaching does not deny in all respects the possibility of taking into account the specific situation of a woman in society, her full participation in social life, but rather reveals the ways of ensuring that these opportunities are carried out purposefully. Taking into account the household characteristics of the women's lifestyle, the ways of labor activity for them are indicated. The thing is that it serves as a guarantee for the social protection of a woman.

The fact that women in Islam have the right to express their views on issues related to political social life, as well as to protect the rights of members of society, has created a basis for women to take an active part in the development of society.

The economic sphere has made it possible to cooperate and acquire independent knowledge, to increase the activity of every woman in the spiritual and educational sphere and to show her creative and educational potential.

In keeping with the honor, reputation and determination of women, Allah makes both sexes equally responsible for their deeds. According to their nature and family duties, Islam frees women from some obligations, taking into account their responsibility in the upbringing of the mentally and children, as well as their family responsibilities and weaknesses in some areas.

REFERENCES

1. *Ислам и женицины Востока*. -Т.: Фан, 1990. -Б. 222; *Худжум - значит наступление*. -Т.: Узбекистан, 1987. -Б. 32.
2. *Қуръони карим маъноларининг таржима ва тафсири // Таржима ва тафсир муаллифи Абдулазиз Мансур*. -Т.: Тошкент ислом университети наشريёт-матбаа бирлашмаси, 2004. «Нисо» сураси, 32-оят. -Б. 83.
3. *Қаранг: Ал-Бутий Муҳаммад Саъид Рамадон. Ал-маръа байна тугён ал-низом ал-гарбий ва латоиф ал-ташир ал-раббоний. Дамашқ.: «Дор ал-фикр», 1996. Б. 154-155.*
4. *Маълумот учун қаранг: Имом Бухорий. Ҳадислар. 2-жилд. Б. 256.*
5. *Қаранг: «Нисо» сураси 4-оят. Б. 77*
6. *«Аҳзоб» сураси. 33-оят. Б. 422.*
7. *Ал-Бутий Муҳаммад Саъид Рамадон. Ал-маръа байна тугён ал-низом ал-гарбий ва латоиф ал-ташир ал-раббоний. Дамашқ.: «Дор ал-фикр», 1996. Б. 64-65.*
8. *Қасос сураси. 23-оят.*
9. *Ал-Бутий Муҳаммад Саъид Рамадон. Ал-маръа байна тугён ал-низом ал-гарбий ва латоиф ал-ташир ал-раббоний. Дамашқ.: «Дор ал-фикр», 1996. Б. 65; «Ал-Азҳар» журнали. 1994. № Сентябрь. Б. 471*
10. *Ал-Бутий Муҳаммад Саъид Рамадон. Ал-маръа байна тугён ал-низом ал-гарбий ва латоиф ал-ташир ал-раббоний. Дамашқ.: «Дор ал-фикр», 1996. Б. 66-67; «Ал-Азҳар» журнали. 1994. № Сентябрь. Б. 471*
11. *«Оли Имрон» сураси. 195-оят. -Б. 76*
12. *«Наҳл» сураси. 97-оят. Б. 278.*
13. *Сайида Исмаил ад-дин Каркар. Ал-маръа мин хилол ал-оятил-Қуръония. Тунис: Наир жойи кырсадилмаган, 1985. Б. 234-235.*
14. *Муҳаммад Раъфат Усмон. Ал-низом ал қадойи фи фиқҳ ал-ислом. Кувайт: Наир жойи кырсадилмаган, 1994. Б.79.*
15. *Бурҳониддин ал-Маргиноний. Ал-Ҳидоя. Байрут: «Дор ал-кутуб ал-илмия», 1990. 3-жилд. Б. 118.*
16. *Ваҳба аз-Зухайлий. Ал-фиқҳ ал-исломий ва адиллатух. Байрут: «Дор ал-фикр», 1984. 8-жилд. Б. 593.*
17. *Керимов Г.М. Шарият и его социальная сущность. М.: Наука, 1978, С. 45.*
18. *Kawther M., Al-Minawi A. Segment of woman right in islam. Madina.: Б. 88; Абу Исо Муҳаммад Ат-Термизий. Сунани Термизий. Ҳадислар тыплами. 1 жилд. Т.: Адолат, 1999. Б. 535, 566.*
19. *Kawther M., Al-Minawi A. Segment of woman right in islam. Madina.: Б. 88; Абу Исо Муҳаммад*



- Ат-Термизий. Сунани Термизий. Хадислар тыплами. 1 жилд. Т.: Адолат, 1999. Б. 535, 566*
20. Хожаев, М. (2019). *THE RELIGIOUS-PHILOSOPHICAL LEGACY OF AHMED ZAKI VALIDIY. The Light of Islam, 2019(4), 26.*
 21. Хужаев, М. И. (2018). АҲМАД ЗАКИ ВАЛИДИЙНИНГ ДИНИЙ-ФАЛСАФИЙ МЕРОСИНИНГ ИЛДИЗЛАРИ. *In Инновационные подходы в современной науке (pp. 177-182).*
 22. Saifnazarov, I., & Хижаяев, М. I. (2018). АХМАД ЗАКИ VALIDIY ISLAMIC CULTURE. *Экономика и социум, (2), 55-57.*
 23. Туйчиева, Х. Н., & Каххарова, М. М. (2020). *Повышение правовой культуры в системе образования Республики Узбекистан. 3 та*
 24. Туйчиева, Х. Н. (2015). *Актуальные вопросы совершенствования высшего образования. Высшая школа, (8), 21-23.*
 25. Qaxharova, M., & Tuichieva, H. (2019). *SPIRITUAL-MORAL ENVIRONMENT AND ITS BASIC INDICATORS. The Light of Islam, 2019(4), 24.*
 26. Каххарова, М. М. (2018). *Этическое наследие мыслителей востока. Актуальные проблемы современной науки, (5), 47-52.*
 27. Туугунovich, R. F. (2020). *Religion and state relations in the legislation of the countries of central asia. Asian Journal of Multidimensional Research (AJMR), 9(4), 181-185.*



BASHKIR TURKISH STUDIES

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ANNOTATION

Among the foreign researchers conducting scientific research on the territory of Uzbekistan, the representative of fraternal Turkic peoples, Bashkir scientist Ahmad zaki Validi Tugon occupies a special place.

KEY WORDS: *Ahmad Zaki Validi, research, scientist, Oriental history.*

DISCUSSION

Ahmad Zaki Validi, was born on December 10, 1890, studied at the madrasahs of Ufa and Kazan: "Osmonia", "Shahabiddin Marjani", "Kasimiya" [1]. His first articles were regularly published in magazines and newspapers such as "Tarjimon", "Shuro", "Maktab", "Vaqt", "Suyumbeka", "Yulduz", "Turmush", which were watered with the reform verses of that period in harmony with the ideas of jadid's enlightenment.

Validi knew Arabic, Persian, Russian, was interested in Oriental history and literature, was well acquainted with the works of Russian Orientalist scientists[2]. Academic V.V.Bartold invited Zaki Validi to work at the faculty of Oriental Languages of the University of St. Petersburg, as well as the International Committee for the study of Central Asia on his initiative. He sought to engage in the search and research of Islamic manuscripts from libraries in European countries, particularly Germany, Austria, Paris and London. But the beginning of the first World War stopped these plans from coming to the surface"[3].

After that, Zaki Validi travels to Fergana, Samarkand, Bukhara, Tashkent and Sharhrisabz to collect and research local sources. Later this activity continued in Khiva (1920 years), Turkmenistan, Iran and Afghanistan (1923 years).

Later, Zaki Validi conducted research in libraries in such cities as Paris and London (1924), Venice (1925), Austria (1938) and studied works in such directions as philosophy, religion, history, culture, geography, ethnography, economy, toponymics, anthropology, and the scientific

worldview.

Zaki Validi noted in his work on Shahabiddin Marjani that during those times there were about 15 libraries in Bukhara madrasahs, which were completely destroyed and neglected during the reign of Amir Nasrullah.

In Samarkand, the master of Marjani, who died in 1849, the library of judge Abu-Said Samarkandi was considered the richest library according to its historical theme. He noted that a part of this library was created by the Samarkand passed into the possession of orientalist V.L.Vyatkin[4].

Zaki Validi managed to get the most perfect copy of the famous "Devon" from Ashurali Zahiri[5]. In addition, Yunusjon Dodkhoh Muhammedov met with a total of 23 rare hands in the treasure trove. Among them are "Kitob Fit-tib" by Junaydullah Hoziq, "Badoe'ul-vaqoe" by Zayniddin Vasify, "Tarikhi Badakhshan" by Mirzo Sang Muhammad Badakhshiy, "Ansob-us-Salotiyin va tarih-ul-havaqiyyin" by Mirzo Olim Mulla Rahim oglu Tashkandiy, "Tavorikhi manzuma" by Mullo Ali Kari Qunduziy, "Muntahab-ut-Tavarix", "Tazkirai Bugraxani Turkiy" by Haji Muhammad Hakimjon Tura binni Sayyid Masum Khan Tura, Abu-l- Bako's "Jami-ul-Maqomot", Mullo Muhammad Sadiq Iskandari's "Majmuati Muhaqqiqqiyn", "Tarixi Banokotiy", Alisher Navoi's "Khamisa", "Majolisun-nafois", "Khamsat ul-mutahayyir", "Devoni Amir Navoi", "Devoni Mavlono Lutfi", "Devonai Mashrab" got acquainted with the works of the manuscripts and managed to characterize and research them.

Zaki Validi in the Kokand receives information from the judge Mahmud Mahdum about



2 volumes of ancient and complete copies of "Muntahab ut-tavorix", works of "Ajoyib ut-tabaqot", manuals. Also, the "Devonai Mashrab" in the hands of Yunusjon Dodkhoh provides extensive information about the owners of the manuscript, whether it is available in other directories or not, that the content of each manuscript is twice as large as the printed copy in Tashkent at that time, and the author, the place of its structure, the editions of the manuscript.

Also, in the house Yaqub Haji Yahyo "Devonai Masud" and "Muntahab ut-tavorix" are in Isokhan Tura, a complete and rare copy of the work of Abu-s-Saodat Abdullah binni Ali titled "Mirot ul-janon fil-marifat ul-insan". Abdusalim Boy Muhammadjonov, also described the handshake written in 1550 by Sadullo Abdullo Sirojiddin Qasim of "Zubdat ut-tavorix". Validi gives a complete description of the seasons and chapters of the imam khatib of the "Kurxona" mosque, "Bahr ul-asror fi Manaqib al-ahyor" of Mahmud Vali, "Samot al-Quds min hadoiq ul-uns" of Muhammad Hashim bin Qasim (continuation of Ali Safi's "Rashkhot" work).

Also, Validi Okhunjon Haji's "Ziyat ul-Majolis" in his hand, Orif Haji's "history Aziziy" in the hand of the margilan Mirzo Aziz Muhammad Rizo in his hand and described the content.

The scientist was in the library of the deceased people's judge Otabek in Andijan, where he described such works as "Suvar ul-akolim" of Muhammad ibn Yahya, "Ajoyib ul-mahluqot" of Qazvniy, as well as "Mirot ul-futuh" of another author, "Mufassal tarixi Fergana" written by the Otabek judge himself.

In the city of Osh, Validi Mirzo Fazil Bek writes about the existence of "Tarixi Shakhruhi", "Timurnoma", "Zafarnomai Hotifiy", Mirzo Sang Muhammad Badakhshan's "Tarixi Badakhshan".

Also, Zaki Validi got acquainted with the treasure of the hands of Mullo Qudratullo Toirboev and described seven hands on it. Among them is the work of Muin al-Juwaini "Nigoristan", the work of Muhammad Olim as-Sadiqiy al-Uluvi "Lamohot", the work of Ziya Nahshabi "Chihl Namus", the "Ajoyib ut-taqobot" of Muhammad Tahir ibn Abu-l-Qasim, by Muhammad bin Mahmud al-Amuli "Nafayis ul-funun fi aroid-ul-uyun", the poet Mushrif's "Risolai askariya". Mullo Qudratullo noted that there is a very rich collection of hands on tarot and astronomy.

Another rare hand found by Validi, Mirzo Fazil was the hand of Abdurazzak as-Samarkandi "Matla us-sadayn and majma ul-bahrain", which was preserved in the hands of one of his relatives, who also managed to characterize it.

In Namangan, he got acquainted with two copies of the famous Yusuf Khan Tura "Tarixi Guzida" of Hamidullah Mustafafiy Qazvini in his

hands, "Tarixi Roqimi", "Ravzat us-safa", "Manoqibi Mavloni Isxoq", "Manoqibi Mavloni" of Mullo Mir Muhammad Avaz ugli.

Also, "in Namangan Muhammad Khoja-Eshon Lolayarish introduced and described by Yusuf Khos Hojib "Qutadgu bilig" manual, which is later known by the name "Namangan copy" of "Qutadgu bilig" in science [6], reported to science. This manual is now stored in the fund of hands of the Institute of Oriental Studies named after Abu Rayhon Beruni of the Academy of Sciences of Uzbekistan.

During his scientific trip to Turkistan, Zaki Validi will also be in Shahrisabz. In Karshi, he buys a Turkish translation of the Koran "Sub" ("Haftiyak"), that is, "one of the seven", in the hands of a merchant on the market and determines that it is a unique copy of the X century. He then publishes his article in English about these translations of the old Koran [7] and lectures in the International Congress of orientologists in 1951 [8].

Validi will also be in Tashkent on his scientific trip in 1913 in Turkistan and will get acquainted with the manuscripts in several libraries. On the orders of his father, Ahmadshah and his neighbour Bekbulat go to the pilgrims of Sheikh Khovand Tahir and Khoja Ahror Vali, Sheikh Khovand Tahir's mufassal manoqib, Persian and Turkish poems buy from the concentrated handkerchiefs. Meanwhile, he also travels to Bukhara and Samarkand, where he also meets with intellectuals, owners of handicrafts, fans of history and archeology, ethnography [9].

The intellectuals familiar with his works give a high assessment to his work. In particular, Abdulhamid Suleyman ugli Chulpan sends a letter to Andijan after reading the works of the Zaki Validi. Validi will be meet at the house of the father of the Chulpan with Nazir Turaqulov [10]. This acquaintance was later the first meeting of the Chulpan and Validi on the road to unification in the struggle against the government, spreading the ideas of enlightenment and standing shoulder to shoulder in political processes.

During his scientific trip to Fergana in 1914, Zaki Validi managed to get acquainted with a total of 23 rare hands in the treasure of the hands of Yunusjon Dodkhoh Muhammedov.

Later, Zaki Validi with the help of Nikolai Katanov, he will also be able to receive copies of the books of Mirkhond and Khondamir from London and copies of the memories of Bobur. [11]

Zaki Validi was faced with many obstacles in his scientific journey, on the roads, but this obstacle and difficult, the sufferings and the needy could not force him to change his covenant.

As a result of nearly 10 years of scientific research Zaki Validi creates his work "Zamonaviy



Turkiston va uning yaqin tarixi" in 1923-1932. The first chapter of the work is devoted to the history of the Turkic peoples, which covered the lands stretching from the Caspian Sea to the Altai, Olatog, Tien-Shan mountains. While studying the period of Central Asian history from the XVI to the end of the XIX and the first half of the XX centuries, Zaki Validi Tugan gets acquainted with all the works, manuscripts created during this period and is sure that the history of the country is not fully studied and begins to study it in detail.

Ahmad Zaki Validi later continued his life and career abroad-in Turkey and published more than four hundred scientific works in Turkish, German, French, English, Arabic, Hungarian, Russian and Bashkir languages. His famous works such as "Bugungi turk eli va uning yaqin tarixi" (Istanbul, 1942-1947) and "Xotiralar" (Istanbul, 1969) were written abroad.

Validi's works "Xotiralar", "Tarixiy tadqiqotlar usuli", "Bugungi turk eli va uning yaqin tarixi" are the philosophy, religion of the Turkic peoples. It is a valuable resource that contains very rich sources about history, traditions, beliefs and values. After all, during his many-year scientific trip he was in Fergana, Samarkand, Bukhara, Tashkent, Sharhrisabz, Khiva, Turkmenistan, Iran, Afghanistan and was able to identify interesting information and sources about the peoples living here.

In Zaki Validi's scientific heritage, information, views on religious philosophy, Oriental Studies, history, culture, geography, ethnography, economy, toponymy, anthropology were harmonized. The direction of his works, the theme of which is colorful, the sources of which are very rich, and the fact that it is written in many languages indicates that his knowledge is very broad, his interests are multifaceted.

His interest in philosophical, religious, historical, cultural and other spheres as a source of diverse information was one aspect of the issue, the second aspect of which was the scientist's peculiar outlook, the scope of thinking, his attitude to events and events, his ability to evaluate Customs and values, the profound philosopher of Zaki Validi.

Zaki Validi was not only a philosopher, historian, scientist, politician of his time and chairman of the Government of Bashkirdistan, Bashkir, Uzbek, Persian, Arabic, Russian, German, Latin, Turkish, English, Turkmen, politician who understood the spiritual and ethical state, life of the Kazakh people.

After eleven years of political activity, Zaki Validi went to Istanbul in 1925 year and returned to the field of science. In 1930 he entered Vienna University and in 1935 he defended Real Gymnasium and doctoral dissertation. Taking the degree of

Doctor of philosophy in Islamic sciences is an honorary professor of Islamic sciences at the University of Bonn.

The scientist analyzes them, looking at the event or scientific findings and events that seemed insignificant at that time, as did the tourist scientists who passed before him, with great care and attention. Therefore, the information that Ahmad Zaki Validi Tugan has reached us has a special value with its richness of details and comments. In these works, there is a lot of information about the political processes taking place in socio-Turkestan, the factors affecting them, the role of historical persons in these processes, rich spiritual and cultural heritage, and life in the region.

REFERENCES

1. *Абдурахмонов М., А.Зохийдий, А.З.Валидий Тўғоннинг Туркистонга илмий сафари. (1913-1914 йиллар) – Тошкент.: Фан. 1997. 75 б.*
2. *Юлдашбаев А. Ватандаш. Заки Валиди как политик, ученый и патриот. // 2009. № 9.*
3. *Юлдашбаев А. Ватандаш. Заки Валиди как политик, ученый и патриот. // 2009. № 9.Б.17.*
4. *ЦГИА. РБ. Ф.Р-4947., оп. 1 д. 2633.л.1, 2. (фонд А.З.Валидова).*
5. *Валиди А.З. «Диван» Махтумкули... // Шуру. Оренбург. 1913. №12. С.357-360. №13. – С. 393-395-524.*
6. *Prof. Zeki Velidi Togan. «Divân-I Lugât üt-Türk»ün telif senesi hakkında (О дате создания «Дивану лугат ит-тюрк»)// Atsız Mecmuası.- İstanbul: 1932. - № 16. – С.77-78.*
7. *Togan Z. V. Turkish Qur'an Translation (Qur'וןнинг туркча таржимаси) // Islam Tedkikleri Enstitüsü Dergisi. 1964. S. 19; Togan A. Zeki Velidi Kur'an ve Türkler. İstanbul, 1971. S. 19-20.)*
8. *Валидий А.З. "Хотиралар: Туркистонда мустақиллик ва озодлик курашлари тарихи.(Мухаммаджон Абдурахмонов таржимаси) – Т.: "Истиқлол нури" 2014. – Б.119.*
9. *Абдурахмонов М., А.Зохийдий, А.З.Валидий Тўғоннинг Туркистонга илмий сафари. (1913-1914 йиллар) – Тошкент.: Фан. 1997. 26 б.*
10. *Абдурахманов М. Научная деятельность А.З.Валидова в Туркестане.– Ташкент: «Фан», 2004. 37 с.*
11. *Иванов С.Н. Николай Федорович Катанов (очерк жизни и деятельности). Изд-е 2-е. – Москва.: Наука, 1973. 34-37 с.*
12. *Saifnazarov, I., & Xujayev, M. I. (2018). AXMAD ZAKI VALIDIY ISLAMIC CULTURE. Экономика и социум, (2), 55-57.*
13. *Туйчиева, Х. Н. (2014). Основы повышения правовой культуры в Республике Узбекистан. In Педагогическое мастерство (pp. 139-141)..*
14. *Туйчиева, Х. Н., & Каххарова, М. М. (2020). Повышение правовой культуры в системе*



- образования Республики Узбекистан. 3 школа, (8), 21-23.
15. Каххарова, М. М., & Холмирзаев, Х. Д. (2014). *Философское и психо-эстетическое познание цвета. Новый университет. Серия: Актуальные проблемы гуманитарных и общественных наук*, (2), 49-52.
 16. Qaxharova, M., & Absattorov, B. M. (2020). *EVOLUTION OF VIEWS ON ETHICS, ETHICAL CRITERIA AND ETHICAL STANDARDS. The Light of Islam*, 2020(1), 110-115. 4 ta
 17. Yusupova, N. J. (2018). *THE ROLE OF THE FAMILY IN THE SPIRITUAL EDUCATION OF MODERN YOUTH*.
 18. Юсупова, Н. Ж. (2018). *Основные принципы исламского права в укреплении семейных отношений. Россия и мусульманский мир*, (4 (310)).
 19. Rashidov, F. T. (2020). *TOLERANCE, INTERNATIONAL AND RELIGIOUS RELATIONS IN UZBEKISTAN: HISTORY, PRESENT AND PROSPECTS*.
 20. Tuygunovich, R. F. (2020). *Religion and state relations in the legislation of the countries of central asia. Asian Journal of Multidimensional Research (AJMR)*, 9(4), 181-185.



PSYCHOBIOGRAPHIC APPROACH TO NAVOI CREATIVITY

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ANNOTATION

The article is dedicated to the work of Alisher Navoi on the basis of psychobiographical approaches. In which the lyrical and epic works of Navoi were analyzed in the context of the virtue and personality of the great thinker and came to the scientific conclusions.

KEY WORDS: *psychobiography, personality and spirituality, perfection, plea, humanism, methodological approach.*

DISCUSSION

Navoi's creativity is a combination of truth and beauty at the highest level. And Navoi's personality and way of life is a school of unique lessons, a practical application of high ideas, which is praised in his work. Behind the verse dedicated to the promotion of a certain moral virtue of the thinker lies the Navoi personality, who first formulated and perfected this virtue. Therefore, it is important to take a psychobiographic approach to the works of Navoi, that is, to read and write them through the author's personality. It's not just when the possibilities of psychobiographic methods are scientifically based and recognized in modern literary studies. The fact that there is not enough scientific preparation for his work, the need to recognize and feel the personality and psyche of the author in the understanding of his works is also emphasized by Navoi himself:

*Ҳар кимга улум бўлса восил,
Гар дардию ҳоли йўқ не ҳосил?...
Эшитгучи бўлса дардпайванд,
Бордур ичи онинг ўтқа монанд.
Мунғлуғ мену мунг била паёмим,
Мунғлуғ кишилар сўзи каломим.
Шак йўқки қачонки бу ўқулғай,
Ким ўқуса хотири бузулғай...
Ёраб, бу рақамки бўлди марқум,
Ҳар ким ўқумоқдин этса маълум.
Ҳарнеки ўқур таамул этса,
Деган ғаразим тахайюл этса,
Айб истамак ўлмас муроиди,
Бер борча ҳунар сори кушоди! [7, 327]*

At the heart of Navoi's creativity lies a huge love for a person and for him. The parallel transfer between the works and personality of Navoi in this regard creates a basis for deepening the spiritual world and the world of creativity of the great thinker.

It can be said that the creativity of Navoi is an artistic program about the conditions and requirements for achieving perfection, about the way and methods. The condition for a perfect profession is to overcome selfishness and get acquainted with oneself. And the soul can be broken by two joys, which are interconnected. The first: to purify the soul with the work of truth, to give up, to be patient in hard work. The second: to be able to give up one's own interests for the benefit of other people, to sacrifice one's own desires for the benefit of others. These two views were put forward in a harmonious way in Navoi's work. The poet sees the attitude of a person to a person as the main tool for the status of perfection. Why did Farhod, the perfect hero of Navoi, reach such heights in love, was able to sacrifice in love. Because in his breed, in his nature, there was a huge feeling of love, compassion for people in general:

*Биравким зор йиғлаб – йиғлаб ул зор,
Тоғиб кўнгли эл озоридин озор.
Бўлуб эл андуҳидин кўнгли ғамнок,
Ёқо чокин кўруб, кўксин қилиб чок. [6,
106]*

What is important is that this view of Navoi about the people was born out of the life experiences of the arrogant, who did not arise in the form of a dry



reminder, but spent his whole life in self-sacrifice in the interests of other people. Loving the human race, looking at it with infinite compassion and mercy, putting the grief of other people above their own tint, formed the essence of Navoi's life. However, during the life of Navoi, many of the people around him saw torment, and pain. Otherwise it

*Ҳар неча қилдим вафо, жуз
бевафолиғ кўрмадим,
Не ажаб кўнглумга бўлса навъи
инсондин малол [4, 196]*

the tribe would not have written the couplet. But, “Нафъинг агар халққа бешак дурур, Билки бу наф ўзингга кўпрак дурур” Navoi, who raised confidence in the level of the principle of life, saw the defeat of the soul and the victory of the spirit behind the blessing of the response to each ozone being delivered. In devon Navoi's «Badoe ul-vasat» “Ёраб ўлғон чоғда жоним жисми вайрондин жудо” there are gazal that starters. Gazal has a munojot meaning:

*Ё раб, ўлғон чоғда жоним жисми вайрондин
жудо
Ул бўлуб мундин жудо, сен бўлмағил андин
жудо,
Чун жудо бўлсам мени ғамнок йўқу бордин
Не ғамим, сен бўлмасанг мен зори ҳайрондин
жудо.
Нақди жон чиққанда ймон гавҳарин
кўнглумга сол,
Айлағил жондин жудо, лек этма ймондин
жудо.
Хонумондин ойириб, қилғанда зиндон ичра
ҳибс
Қилма лутфунг мен алохону аломондин жудо.
Ҳашр гавғоси аро осийлиғимга раҳм қил,
Лутф ила илғим тутуб, қил аҳли исендин
жудо. [3, 10]*

At the beginning of gazal, the thesis "the sign of humanity – believe, can save even when the soul goes – believe", which was the basis of the worldview of Navoi, was reflected: the poet asks not to lose the material wealth of the world at a time when the soul leaves the body of destruction, and the priceless soul cash-gavhar-faith, which is worthless before him. He is ready to give up the happiness of going with faith, and to give up the freedom of life, of the world, of the lady, of the soul. Starting from the couplet, where the "Hashr gavgosi" is mentioned, the thought and the image move from world life to the final destination. Now the lyrical hero pleads with the herbalist to forgive his sins in the form of the helpless, he hopes for the blessing of the creator. Almost to the end of the gazal, the dreary zeros in the style of the munojot are expressed as extremely

affective. Even if Navoi ended up with this tone, he could make the reader a fanatic. Maybe he could go this way when there was another poet. Only not Navoi! In one of the last couplet, the poet's lament rises to such an extreme veil that at first the firewood remains one side of the amulet:

*Элга махлас истасанг, етти тамуғни
айла кул
Айлабон бир шуъла бу оҳи дурахшондин
жудо.*

Navoi begs to create: "If you say that you will save el from suffering, burn your seven fires with ashes." Hell itself is a place of flames, which we lovingly set fire, we can only imagine with the power of imagination what kind of powerful fire it should be in order to make the fire burn and turn into ashes. Navoi says: "If you set fire to the seven fires and separate the man with one shue from the man of my grassy love for you (Allah) to burn, then". One spark is the temperature of the flame, capable of turning seven fires into ashes, even harder to imagine. In verse, two great feelings are placed side by side. Unlimited and fiery love for one right and the other for the people. Such Navoi high humanistic inclinations also moved to the logos he created. A bright expression of this state "Lison ut-tayr" is visible. The "Sheikh Ahmadi Jom hikoyati" is an example of an artistic image that reflects not only the creativity of Navoi, but also the idea of humanism in the classical literature of the East. Ahmadi Jami (1141 year of his death) was a famous thinker sheikh and poet, who received the name Zinda Pil – "living elephant" because physical was energetic and huge. The story tells that he confesses to his God that he:

*Ким: 'Илоҳо, аҳли дўзахни тамом,
Ҳарне бўлғай шайху шобу хосу ом,
Барчанинг қилғон гуноҳин афв қил,
Ёрлиқаб, лутф айлаб озод айлағил.
Санга бу лутфу карам осон эрур,
Бу улус бору йўқи яксон эрур.*

*Гар мунга рози эмассен — бер манго,
Ўйла жисмиким томуғ бўлғай тўло." [8, 10]*

Contents "O Allah! All the people of hell: whether he is old or young, whether he is a representative of the upper or lower strata - all pass away from the sin that he has committed! Light them up, bless them, and release them all from hell! It is easy for you to do the job, whatever their absence is at you. If you do not agree with this, give me such a body that I will fill the whole hell with it!"

Ahmadi Jami's own body, filled with hell, embodied the lesson of an instructive example in the firewood about not leaving a place and suffering to other people. The logic of this tale serves the hearts to receive kindness, compassion, tolerance in relation to the human being.



Navoi gave all his life and creativity to the people and people. This happiness has a three-sided character:

1. He created invaluable works that serve the spiritual benefit of people.

2. Country himself was at a leisurely service in the midst of peace and prosperity. In his own words lived "people eat grief from grief".

3. In addition to the spiritual treasures of Navoi, he made his material wealth available to the people.

In "Mahbub ul-qulub" Navoi said that "if you say that your meal is not a worthless and your dress is not worn out", "Dress is a few beautiful, your dress is a generation", and Navoi made these views a living criterion for himself. Let's turn to the work of the creator "Vaqqiya" for proof of our opinion. The list of Navoi's possessions, that is, voluntarily transferred to the disposal of the state, is clearly presented in the game, which briefly consisted of the following: 24 shops in Herat and its environs, 4 timis and timis (upper market rast), 490 jerib yielding land and garden, two coriander (water removed from the ground for irrigation), etc. Now let us see this passage from the "Vaqqiya": "in this sentence from people for his salary until the salary of one is passed a kind of for a warm-cold tambourine, a kind of fur is a worthy for eat, and for the advice of some ul hazrat, to come-to-go and army ...and I spent on cherik's bat...it's obscene ... as good as the universe from morning till evening-seeing the yemen, a course like the sun will pass knowingly salary. And some of me, manuot and all are over takallufetin, biqui goodbye I did the building" [9, 25-26]. It seems that in the life of Navoi, the owner of the huge goods listed above, he was content to eat for himself a pair of robes, which were kept from the heat-cold, which would suffice for the survival of an ordinary person. And some of his money was spent on the construction of charitable buildings, including madrasahs, mosques, hospitals, bridges, parks, sponsored by the people of science and art, assigned scholarships to students from his own account. As the definition of Babur says "people of grace and craft Alisherbek coach and alternative is not known, calm have appeared... while he did, few people have succeeded." Navoi did not bring his works in the field of charity in order to leave them in history at the "Vaqqiya", but counted them in order to bequeath the continuation of these works even after his death. In the work "Vaqqiya" there is an urgent important information describing the level of generosity of Navoi: "Жоним нақди ул Тенгрига закотким, кўнглимга насабқа еткунча мол захира қилмағайман, солмади ва насабқа еткан мол закотин айирғунча илкимда қолмади" [9, 30]. It is known that zakot is given

when the property reaches a certain amount, since Navoi was very generous, wealth never accumulated in his hands, and zakot was not prescribed for him once in his life. The artistic reflection of this biographical information is evident in many of the poet's couplet, in particular in the following couplet:

*Ҳеч дурур ҳосилу боқиси ҳеч,
Кеч боридин бот, вале кўйма кеч.
Сени ул этеунча забун, сен бурун
Айла ани фақр ила хору забун.
Панжаи хуршиддек илкингни оч,
Анда неки сийм эса оламға соч.[5, 254]*

The poet skillfully uses the tajnis in the word "kech", emphasizing that both the harvest and the immortality of this world do not exist, so it is necessary to pass all of them without delay. This transitory world, which does not fulfill anyone, harass you even before you are humiliated, and you keep it a way of charity – to renounce the ambition of the world. To do this, starve your hands like the sun and shave the riches in it to the universe. Navoi the sleeve is open expressed openness to The Sun, referring to two meanings of the sentence "quli ochiq". As a rule, the phrase "quli ochiq" is used in relation to a generous person. At the same time, the shape of the hand, in which the paws are opened, is also like a shining sun. As the sun radiates its golden rays to the whole universe, the open hand radiates its treasures to the head of the people of country. This embodiment, first of all, embodied in its image Navoi, which made its overwhelming material wealth a nisor for the people, gave all his life to leave spiritual gangs for mankind and became an indelible sun.

Thanks to his incomparable talent, Navoi gained the status of greatness both as a creator and as a person because of his unconditional application in life to noble ideas, which he put forward along with full forms of sympathy for the immortal ideas that received light from guidance. Behind the perfect works of Navoi stands his perfect personality. Therefore, it is important to study the works of the great thinker in the context of author spirit. The psychobiographic approach to the creativity of Navoi leads to significant scientific results, allows to discover the essence of his works, to look at them as one of the leading methodological principles of Navoi. It is also true that the attention to this vobasticity increases the power of the emotional-aesthetic, educational influence of the poet's creativity.



REFERENCES

1. Сент-Бёв Ш. Литературные портреты. Критические очерки. Москва: Художественная литература, 1970;
2. Боров Ю. Искусство интерпретации и оценки. Москва Советский писатель: 1981
3. Алишер Навоий. Мукаммал асарлар тўплами. 20 томлик. 5-том. Тошкент: Фан, 1990
4. Алишер Навоий. Мукаммал асарлар тўплами. 20 томлик. 6- том. Тошкент: Фан, 1990
5. Алишер Навоий. Мукаммал асарлар тўплами. 20 томлик. 7- том. Тошкент: Фан, 1991
6. Алишер Навоий. Мукаммал асарлар тўплами. 20 томлик. 8-том. Тошкент: Фан, 1991
7. Навоий. Мукаммал асарлар тўплами. 20 томлик. 9-том. Тошкент: Фан, 1992
8. Алишер Навоий. Мукаммал асарлар тўплами. 20 томлик. 12-том. Тошкент: Фан, 1996
9. Алишер Навоий. Вақфия. Тошкент: Фан, 1991.



CONCEPTUAL ASPECTS OF THE DEVELOPMENT OF SOCIAL WORK IN THE NEW SOCIAL PROTECTION SYSTEM OF UZBEKISTAN

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ANNOTATION

The profession of “social work” (social service) in our country is one of the new professions and is of great importance in connection with the need for qualified specialists who carry out professional potential assistance in providing social assistance, care for people, including people in need of social protection, their adaptation to society and their integration.

KEY WORDS: *Social work, social protection, development, family and society.*

DISCUSSION

Social work has long been located in the heart of every person, reflected in such qualities as kindness, kindness, kindness, upbringing and humanity. The fact is that these adjectives are given to each other through the soul of humans, passes. Actions aimed at these qualities have taken a significant place in the countries of Europe, India, the Middle East, China, Central Asia to practice and taste Social thoughts and ideas. In particular, in the ancient book “Avesto” (BC IX-VIII centuries), the idea of forming and educating brave, honest, pure, entrepreneurial, enterprising people who struggle for their prosperous life, regardless of their differences in race, language, customs, in order to find justice on earth was put forward[1].

The Holy book of the religion of Islam is in the surah “Niso” of the Koran Karim "...great attention has been paid to the observance of the rights of orphans, the protection of the rights of small children, vulnerable people and women”, as well as “strengthening the family, putting relatives in place”[2]. Also, the hadith sharifs focused on various aspects of social work, including Jabir ibn Abdullah (may Allah bless him and grant him peace) people

say: the Rasulullah (s.a.v.) those who say that “every business that is considered good will be charity” [3] argue.

Chinese Confucius (BC 551-479) in teaching, a noble person has five characteristics. The first is Jen - humanity, the second-I-justice, the third-li-eatery, the fourth-chji-healthy thinking, the fifth-sin-tender.[4] emphasizing that jen - humanity, when tradition comes from justice, justice comes from humanity. Hence, humanity is given as [5] consisting of a sense of empathy, kindness, compassion, love of people, care for them. The five factors brought in the doctrine of Confucius cover the core of the social work carried out today.

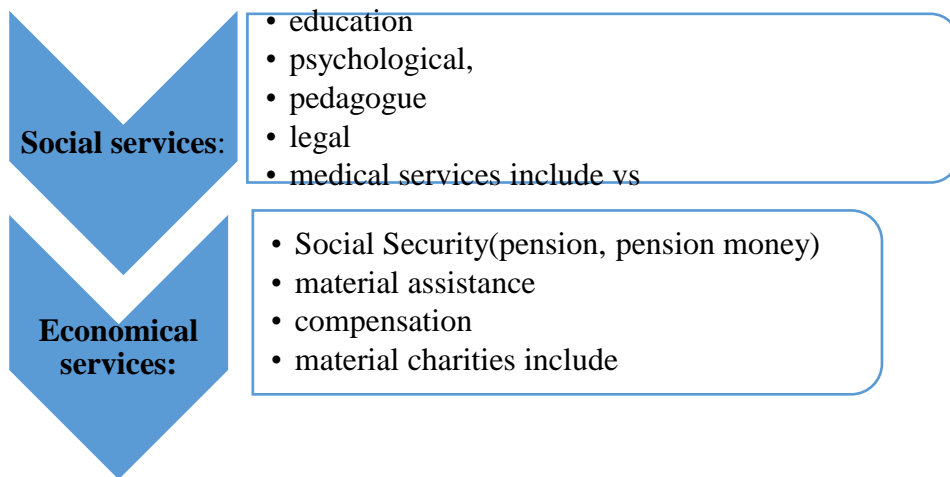
Amir Temur (1336-1405) paying great attention to social life, knowing that all his victories in the spheres of social life, politics, economy, management and the military, above all, he was engaged in his own business, and that entrepreneurship was the motto of his own thinking and action[6], he said, “I am very glad that you are here”..with justice and kindness, I have satisfied myself with the servants of my God. I have mercy on both the sinner and the innocent, and have condemned him for justice. I took a place in the



hearts of people with my charitable deeds. Keeping my hopes, hopes and fears among the presidency, with politics and moderation my tour. I have been merciful to the citizens and subordinates, I have shared gifts to my soldiers,”[7] emphasizing the social work in the period of great entrepreneurship.

At the meeting of the president of the Republic of Uzbekistan Shavkat Mirziyoyev on November 21, 2019, dedicated to the discussion of the priority tasks in the field of social protection of the population, it is noted that “social protection should not only be sufficient with payment of benefits, but also contribute to the “standing” of the needy. In their opinion, social protection implies the need to promote people not only by material support, but also by directing various socio-economic services to the vulnerable strata of the population. To dwell deeper on this aspect, what is social services itself? Also economic servicemen? It is natural that these questions arise. It is worth noting that today all the socio-economic conditions are created in Uzbekistan for every person who enjoys the glorious status of ”man”. For example: during the period of the formation of the family: in-depth medical services, the school of brides and grooms, healthy xomiladorlik(skiring services for mother and baby

khomila, medicines, vitamins, potranage services for housewives), medical services for mother and child from the moment of birth, provision of social necessary services, material social security, assistance with children's pensions and others, vaccination, it also includes compulsory involvement of children in pre-school education from a young age in order to make them a perfect human being (in order to support them financially, to release or reduce low-income children from payment fees), full coverage of the school, provision of inclusion to all, provision of them with free food, clothing and books, etc. through socio-economic assistance. According to Y.Habermas, as a result of the development of values, moral rules and norms, which are generally accepted, the society is organized by the interaction of people, the state and society will continue to develop and change. The system of social services is the product of human interaction[8]. Russian researcher L.K.Tereshenko believes that social service is an activity that is carried out among the general public, and it relies on the principles of openness, transparency. The social service is carried out by public administration bodies, entrepreneurs, legal entities, individuals and the non-governmental sector.



In the opinion one of the lawyer scientists D.H.Bakhrakh said: “One of the areas of activity for the purpose of people, as well as the state and society, is service”. This concept can be used in different meanings: in the sense of the type of activity of a person, a socio-legal institution, a special system of state bodies. Service-consists of management, carrying out state activities, providing management, providing socio-cultural services to the population. Thus, the concept of "civil servants" unites all those who serve in the central and local bodies of power. As in other countries (and

consequently in other languages), the public service is officially called “social service” [9].

The concept of social services is described in the law of the Republic of Uzbekistan “On social services intended for the elderly, disabled and other socially vulnerable categories of the population”.

Specially,

- social services - on the provision of assistance aimed at improving the quality of life of persons (families) living in difficult living conditions, creating opportunities for participation in the life of society on an equal footing with other citizens and



(or) increasing opportunities for independently meeting their basic life needs;

- suppliers of social services - organizations of social sphere, social assistance services, non-governmental organizations and individual entrepreneurs providing social services;

- consumers of social services-persons providing social services[10].

At the meeting of the president of the Republic of Uzbekistan Shavkat Mirziyoyev dedicated to the discussion of priority tasks in the field of social protection of the population on November 21, 2019 "...perhaps, when they said that it was necessary to promote the standing of the needy", the concept of "Iron notebook", which is being implemented in Uzbekistan during the current pandemic period, and the need to ensure their employment, increase their income through the socio-economic support of families included in the "Iron notebook", as a result of which the activities aimed at achieving the well-being.

So what is "Iron notebook" – it[11]? the question is also natural to be born. In response, "Iron notebook" is a transparent list of families in the neighborhood who need help, who are unemployed, without income in the conditions of quarantine;

"Iron notebook", in turn, will strengthen the joint activities of the chairman of the meetings of citizens with the head of the sector and the region;

7 categories of families in need of maintaining the "Iron defter", including:

- low-income,
- having a disability;
- families in need of social protection;
- the elderly alone;
- permanent unemployed citizens;
- unemployed citizens due to quarantine;
- measures are taken to remove displaced

citizens from poverty from severe epidemiological areas.

Responsible personnel shall provide information on the daily work carried out in the "Iron notebook" saxovat.argos.uz through the digital signature key on the site is entered in electronic form. In the absence, at least one member of the family, who has fallen into the "Iron notebook", will be employed this year, through which measures will be taken to remove them from need.

In conclusion, it can be said that in today's conditions, the government of Uzbekistan is aimed at increasing its well - being through the support and protection of the people of all its strength, socio-economic resources.

REFERENCES

1. Razzoqov A., Toshmatov Sh., Ormonov N. *Iqtisodiy talimotlar tarixi.* –T.: Iqtisod-moliya, 2007. – B. 13.
2. Шайх Муҳаммад Содиқ Муҳаммад Юсуф. *Тафсири Ҳилол. Биринчи жуз "Hilol-nash" наириёти*, Тошкент, 2013. –Б. 474-475.
3. *Ал-адаб ал-муфрад.* 37- бет. Имом Исмоил ал-Бухорий www.ziёuz.com кутубхонаси
4. Конфуций, Ҳикматлар. Жўраев О., Жўраева К. *Русчадан таржимаси.* Тошкент. А.Навоий номидаги Ўзбекистон Миллий кутубхонаси наириёти, 2010. Б.6-7.
5. Конфуций, Ҳикматлар. Жўраев О., Жўраева К. *Русчадан таржимаси.* Тошкент. А.Навоий номидаги Ўзбекистон Миллий кутубхонаси наириёти, 2010. Б.6-7.
6. Аҳмедов Б., Аминов А. *Амир Темур ўғитлари.* – Тошкент: Навруз, 1992. – Б. 11.
7. Созуний А., Кароматов А., Аҳмедов Б. *Темур тузуклари* –Т.: Наириёт-матбаа бирлашмаси, 1191, - 144 б.
8. *Управление общественными отношениями: Учебник / Под общ. ред. В. С. Комаровского. М.: Изд-во РАГС, 2005. С. 17-18.*
9. *Давлат хизмати : Ўқув қўлланма / Э. Т. Хожиев, Г. С. Исмаилова, М. А. Рахимова.* – Тошкент: Baktria press, 2015. –Б. 103.
10. *O'zbekiston Respublikasi Qonun hujjatlari ma'lumotlari milliy bazasi veb sayti* <https://www.lex.uz/docs/3083192>
11. *Боймурзаева С.* <http://xs.uz/uz/post/temir-daftar-oz-nima-u>
12. *Hojaev, M. (2019). THE RELIGIOUS-PHILOSOPHICAL LEGACY OF AHMED ZAKI VALIDIY. The Light of Islam, 2019(4), 26.*
13. *Туйчиева, Х. Н. (2015). Актуальные вопросы совершенствования высшего образования. Высшая школа, (8), 21-23.*
14. *Qaxharova, M., & Tuychieva, H. (2019). SPIRITUAL-MORAL ENVIRONMENT AND ITS BASIC INDICATORS. The Light of Islam, 2019(4), 24.*
15. *Yusupova, N. J. (2018). THE ROLE OF THE FAMILY IN THE SPIRITUAL EDUCATION OF MODERN YOUTH.*
16. *Юсупова, Н. Ж. (2018). Основные принципы исламского права в укреплении семейных отношений. Россия и мусульманский мир, (4 (310)).*
17. *Tuygunovich, R. F. (2020). Religion and state relations in the legislation of the countries of central asia. Asian Journal of Multidimensional Research (AJMR), 9(4), 181-185.*
18. *Тургунова, А. Т. (2018). Социальные угрозы и социальная безопасность. In Психология: традиции и инновации (pp. 33-35).*
19. *Madaminova, N. Z. (2018). Peculiarities of Teaching Social Subjects at High Educational Pedagogical Organizations. Eastern European Scientific Journal, (2).*



THE ROLE OF GERONTOPEDAGOGY IN IMPROVING A HEALTHY SPIRITUAL AND MORAL ENVIRONMENT IN FAMILIES

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ANNOTATION

The resume is based on the gerontopedagogics of the article, scientific theoretical conclusions were made on the achievement of the spiritual perfection of young people. The issues of rational use of the experiences of the older generation, that is, the methods of national education of gerontopedagogics, which are a lesson and a betrothal example in the stabilization of the moral environment of families, have been analyzed.

KEYWORDS: *succession, moral succession, values of behavior, pedagogy, gerontopedagogy, andragogy, gerontopsychology, subtext, great generation, heritage of ancestors, created conditions and sources.*

DISCUSSION

The age of any society determines its cultural level of dignity and care for the glorious people. Showing respect to the elderly is an integral part of our spiritual life, one of our national qualities, which is reflected in our daily lives. These moral and moral qualities inherent in our people have evolved into our national values and become one of the main directions of the reforms carried out in the period of independent development. It is not surprising, of course. Being one of the main indicators of the spiritual life of our country, the age shows itself to the glory, respect and compassion of the elderly, knowing that they are the angel of bliss, a symbol of blessing at the level from the micro environment of our family to the macro environment of our society. Because "to please our believing grandfathers and grandmothers, our parents, who washed and combed all the White, the heavy burden of our native land, his joy and anxiety all the life on his shoulders, to receive their prayers is the most glorious, most rewarding work in the world". [1; - 3-P.]

The reforms carried out in our country have a special role and role of representatives of the older generation, such as the generation, in the adoption of state programs, in the stabilization of the spiritual environment of society, in the further development of the family institute, in raising the duties and

responsibilities of parents, pedagogical trainers, educational institutions, public control councils in the fact, it is clear to all of us that in every apartment there is a luminous personality, and in this family, of course, there is a blessing of prosperity. [2; 5-6-P.]

Along with the special attention given to the work on the improvement of the health of the elderly in our country, the level and quality of medical and social services, their exemplary and effective use of rich life experience has a significant impact on the acceleration of modernization processes carried out in our country. [3; 2-3 P.]

As we analyze the work carried out to increase the standard of living of the older generation and to social protection and welfare, the following issues with principal significance are evident.

- the formation of an effective system of state support of social needy strata of the population;
- improving the standard of living and quality of the elderly, i.e., improving the system of pension provision and social assistance;
- organization of systematic health improvement works and implementation of modern methods of treatment of diseases;
- creation of favorable organizational and legal conditions for the care and attention of representatives of the older generation.



In general, through the adoption of a number of state programs aimed at elevating the system of organization of life activities and recreation of the older generation to a qualitatively new level, a special science that deals with gerontology, geriatrics, as well as the means by which a person can lead an active and full-fledged life, which is based on the intersection of developmental psychology and gerontology, certain problems of advanced gerontopsychology are being solved. In particular, it has been studied between the older generation to live in a group or to be with a group, to have a feeling of very pleasant interaction with people, to have a sense of communication with people (anxiety), to have a feeling of "confidence", to be content with failures, to have a feeling of optimism, etc.

This perception is also revealed by scientists from the field that in the elderly, according to the law of heterochronism, such feelings as Goh positive, Goh negative, getting closer in these periods, together with the approach, increasingly moving away from social life, close people from friends, the fall of social status, isolation, physical and mental retardation from colleagues, have a much greater negative impact on the

Social problems of the elderly in social development, position, various frontiers of the system of society – interaction with social institution, family and other groups, issues of its constant transformation.

"Gerontology" is studied in the science of old age. He is one of the ancient sciences that arose in the harmony of philosophy and medicine. That is, (Greek *geron*, *gerontos* - old, old and *logia*) is a science that studies the aging process of living organisms, including man [4; - 665 - P.]. Its appearance is associated with the names of the founders Hippocrates and Ibn Sina, philosophers Cicero and Seneca in the science of Medicine. There are such components of gerontology as "geriatrics", "gerogigiena", "gerontopsychology", studied the features of diseases in the body of the elderly, their hygiene, psyche and temperament. Sociologist Sh.Sadikova noted that "according to the meaning-essence, gerontology is an equivalent of human culture, it stands in addition to the antiquity of the most modern sciences and the modernity of ancient sciences. Science about old age has embodied new sciences, which scientists at all times created. These were medicine, physiology, philosophy and biology, psychology and sociology, demography and ethnography, history and jurisprudence, and gerontology in the 20th century was enriched with new science achievements such as biochemistry, biophysics, psychoanalysis, psychophysiology. Since

the first period of its development, mankind has been striving for a long life, for a certain period of time to return death and is looking for a solution to this issue, and in the second half of the twentieth century certain results have been achieved. [5; 27-31-P.]

In the XVIII century, gerontology began to be recognized as a true science. Francis Bacon (1561-1626 y.) a special work devoted to the classification of Sciences – in the "great revival of Sciences" he writes about this science. "The work of this science, which is taking the first steps to the end, will be to teach life." In the work F.Bacon long of life will tell you tips and recommendations that have a socio-hygienic character that will help. The philosopher emphasizes that work on life expectancy should be carried out in three directions. These are: slowing down the process of premature aging, supporting living and updating the members of an aging person.

It is known that in the development of gerontology science S.P.Batkin, I.I.Mechnikov, I.P.Pavlov works created such scientists as occupy a special place. With gerontology problems I.I.Mechnikov was more actively engaged than others. The works of the scientist "etuds about human nature" and "life - giving etudsr" devoted to this science [6;-6-P.]. The motto of gerontologists is "healthy old age" and "for a happy long life". The main goal is the treatment of the elderly on the basis of the latest achievements of gerontology.

If we take a deep look at the rich spiritual heritage of our people, at Avesto, it is also a sacred duty to appreciate and cherish the elderly. The founder of the religion and doctrine of zardushtism, Zardusht, gives young people a reminder that "listen to what the elderly say and meditate with anxiety, separate the good and the evil from the bad by yourself" in regard to the appreciation of the elderly. He adds that the teachers are also among the elderly, he says. "Good teachers are people close to God." Therefore, we must respect them.

In Avesto, it is written that the purpose of a person's living is meticulous, the country is prosperous, the country is prosperous, different people are friends with each other, appreciate the elderly, they follow the advice of the elderly and ensure that the young people are brothers with each other, bahamjihat.

Zardusht is a pure moral, practically stable person, active in life, the owner of creative labor-honors the old man, believes in his activity, the blessing of contemplation, sees science and morality as the beacon of human life. After all, such devotees can only repulse the disgrace of ignorance, lead their compatriots to prosperity and development. In the philosophy of zardusht, the highest morality, the



honor and honor of the old man, the owner of creative labor, is in the first place.

In avesto, good teachers arouse affection for their religion, people, land in the hearts of young people, teach them to live by finding sustenance for honest labor, to be purified, to cooperate, to take care of solidarity, to see people only for good, to pass through wise teachers to the shogurs, to remain a monument. It is appreciated that the teachers are "welcomed in the shakharu villages, as a category that has a people's duck, who, thanks to their education in the whole country, took the road to khaq, bring new ahkoms to the apartments." [7; 7-9-P.]

The theoretical and practical results achieved in gerontology by the 20th century are harmonized with the style and results of other sciences, and the networking of this science is evident. The scope of the research is increasingly separated from gerontology by human gerontology, as well as molecular, biological, environmental, developmental gerontology. After a certain period of time, completely new theoretical and practical directions appear in the research of the problems of old age.

And andragogic, which is determined by adult education (derived from the Greek word) – is one of the directions of pedagogical science, which covers the theoretical and practical problems of adult education, education and upbringing. For the first time this term was used by a German historian, scientist entered into scientific communication by K.Kapp (1833). In addition to the term andragogics, in the special literature, "Adult pedagogy", "Theory of adult education" and other concepts were used. [8; - 197-P.]

Scientists note that such subjects as andragogics, gerontopedagogics are sub - educational areas that have not yet found their place in the system of Social Sciences [9;-72-P.].

Also, currently, gerontopedagogic problems have also been studied, and in them, scientists have focused the main attention on the study of emotions, which are mainly associated with the social interests of the elderly. However, the older generation is not only a layer worthy of social economic protection and attention, but also an active participant in social life, a full-fledged internal force with the ability and skill to equally realize the role of a reformer, a colleague and an executive in the implementation of great reforms.

It is known that the life of man is a broad, deeply spiritual, invaluable umman. As a person grows older, the circle of knowledge and reason grows older. Life experience increases. The Sons of the older generation, the satisfaction of patience before the hardships of life, the attitude to Labor, the

attitude to the book, their knowledge-it's enlightenment, the sense of saving and gratitude in them, loyalty and maturation, experience and entrepreneurship, at the same time, the position of this generation in society and family, which saw many events, injustices, the fruitful use of The rapidly changing times, the intensity of the globalisation process, as well as the changing levels of social influence, necessitates the improvement of the ijtimioi-pedagogical system and the possibility of effective use of the experience of the older generation in the educational process. Also, the effective use of refined experiments in the so-called test field of life is important not only for today, but also for tomorrow's bright future.

And with these issues, gerontopedagogy is engaged in a special direction of pedagogy. The system of effective use of these layer opportunities, which constitutes a huge potential in our country, also gives its results in practice. At present, the need to restore the spiritual and moral environment of society, to protect the young layer of the population from social dangers, to protect the human consciousness and soul from the existing social risks, on the one hand, requires not only a complete perception of the process of spiritual renewal, but also an active participation in this process, on the other – in the upbringing of fidelity to the native land, the grandfather demands to use the grandmother's eaters efficiently, for this, to carry out educational and educational work, which is a powerful force that provides for the development and prospects of our country.

The role of not only all civil society institutions of the educational system, in particular the "luminous" fund, neighborhoods, other non-governmental organizations and physical structures in the implementation of these works is very great. The reason is positive if education and training is carried out on the basis of social partnership with institutions of civil society and state organizations. The well-being of the life of society, the harmony between people, cooperation, the integrity of the system arise through a fair policy and exemplary work arising from it [10; - 157-P.].

In the effective implementation of the work on the democratization of the country, the formation of a healthy lifestyle, it is important to use the methods of national education of the older generation, namely gerontopedagogics, where the generations have meticulous search, sharp thoughts, in a word, a beautiful example for young people in Noble affairs, a real lesson and a concrete example.

Naturally, while it is rather difficult to reflect in detail all its facets, today our achievements in various spheres have an unforgettable and great



service of our parents, our elderly people, and it is our human duty to serve them with a lifetime.

Gerontopedagogics is not only an adult pedagogy, but also a wise use of the fruitful experiences of the older generation on education, in general, the grandfathers and mums of rich, the elder of his dynasty, the family warlords, the advisers of the grandfathers of grandson, in general.

In place of the conclusion, we can say that the use of adult experience also requires relying on the values and mentality of our people, the traditions of national statehood and the progressive achievements of world experience, achieving harmony of national and universal values, improving the criteria of a healthy spiritual and moral environment.

REFERENCES

1. “Мамлакатимизни демократик янгилаш ва модернизация қилишга қаратилган тараққиёт йўлимизни қатъият билан давом эттириш-бош мақсадимиздир”/ Халқ сўзи. 2014 йил 6 декабр. 3-бет.
2. 2017 — 2021 йилларда Ўзбекистон Республикасини ривожлантиришнинг бешик устувор йўналиши бўйича Харакатлар стратегияси. Ўзбекистон Республикаси Президентининг 2017 йил 7 февралдаги ПФ-4947-сонли Фармонида 8-илова «Халқ билан мулоқот ва инсон манфаатлари йили»да амалга оширишга оид давлат Дастури. Ўзбекистон Республикаси Президентининг 2018 йил “22” январдаги ПФ-5308-сон Фармонида илова. “Фаол тадбиркорлик, инновацион гоялар ва технологияларни қўллаб-қувватлаш йили”да амалга оширишга оид давлат Дастури. ҚХММБ: 06/18/5308/0610-сон. 23.01.2018 й.
3. Ўзбекистон Республикаси Президентининг 2016 йил 28 декабрдаги “Кексалар ва ногиронларни давлат томонидан қўллаб-қувватлаш тизимини янада такомиллаштиришга доир қўшимча чора-тадбирлар тўғрисида”ги ПҚ-2705-сон Қарори. 28.12.2016 й.
4. Ўзбекистон миллий энциклопедияси. – Т.: “Ўзбекистон миллий энциклопедияси”, Т.2. 2001. - 665-бет
5. Қаххорова М.М. Геронтология: ёшингизга ёш умрингизга умр қўшилсин. / Тошкент давлат педагогика университети. Илмий ахборотлари. №1(2)/2015.-Б.27-31
6. Ш.Содиқова. Геронтология: талқин ва ёндашувлар. –Т.:”Академия”, 2006. - 6-бет
7. Болтаев М. Буюк мутафаккир Зардўшт ва унинг “Авесто” китоби. – Бухоро, 2007,7-9-бетлар
8. Бим-Бад Б.М. Педагогический энциклопедический словарь. — М., 2002. С.
17. , Чернявская А.Г. Андрагогика. Практическое пособие для вузов. - М.: “ЮРАЙТ”, 2017. 197 стр. ISBN: 978-5-534-00724-4
9. Horehled P./Gerontopedagogika.pdf https://is.muni.cz/el/1411/podzim_2015/MNZA_071c/um/60359139/72стр.
10. Жакбаров М. Комил инсон гояси: тарихий-фалсафий таҳлил. – Тошкент.:Абу Али Ибн Сино, -Б.157.
11. Хужаев, М. И. (2018). АХМАД-ЗАКИ ВАЛИДИЙ ИСЛАМСКАЯ КУЛЬТУРА. Теория и практика современной науки, (1), 531-533.
12. Хужаев, М. И. (2020). Влияние научно-просветительской сферы эпохи Ахмада Заки Валиди на религиозно-философское творчество мыслителя
13. Хожаев, М. (2019). THE RELIGIOUS-PHILOSOPHICAL LEGACY OF AHMED ZAKI VALIDIY. The Light of Islam, 2019(4), 26.
14. Saifnazarov, I., & Xujayev, M. I. (2018). AXMAD ZAKI VALIDIY ISLAMIC CULTURE. Экономика и социум, (2), 55-57.
15. Туйчиева, Х. Н. (2014). Основы повышения правовой культуры в Республике Узбекистан. In Педагогическое мастерство (pp. 139-141)..
16. Туйчиева, Х. Н., & Каххарова, М. М. (2020). Повышение правовой культуры в системе образования Республики Узбекистан. 3 та
1. школа, (8), 21-23.
17. Каххарова, М. М., & Холмирзаев, Х. Д. (2014). Философское и психологическое познание цвета. Новый университет. Серия: Актуальные проблемы гуманитарных и общественных наук, (2), 49-52.
18. Qaxharova, M., & Absattorov, B. M. (2020). EVOLUTION OF VIEWS ON ETHICS, ETHICAL CRITERIA AND ETHICAL STANDARDS. The Light of Islam, 2020(1), 110-115. 4 та
19. Yusupova, N. J. (2018). THE ROLE OF THE FAMILY IN THE SPIRITUAL EDUCATION OF MODERN YOUTH.
20. Юсупова, Н. Ж. (2018). Основные принципы исламского права в укреплении семейных отношений. Россия и мусульманский мир, (4 (310)).
21. Rashidov, F. T. (2020). TOLERANCE, INTERNATIONAL AND RELIGIOUS RELATIONS IN UZBEKISTAN: HISTORY, PRESENT AND PROSPECTS.
22. Tuygunovich, R. F. (2020). Religion and state relations in the legislation of the countries of central asia. Asian Journal of Multidimensional Research (AJMR), 9(4), 181-185.



THE CHARACTERISTICS OF PSYCHOLOGICAL DIAGNOSIS AND CORRECTION OF MOTIVATIVE-NEED SECTORS OF SUICIDAL BEHAVIOR SPECIFIC TO ADOLESCENCE

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Article DOI: <https://doi.org/10.36713/epra4935>

ABSTRACT

The article analyzes the analysis of psychological diagnostic methods in the field of motivational needs of suicidal behavior, which is typical of adolescence.

KEY WORDS: *Need, motivation, adolescence, suicide, value, clinical interview, emotionality.*

INTRODUCTION

Suicide is a reality that has been going on since the earliest days of human society. As N.A. Berdyaev writes: "Suicide is a psychological phenomenon and in order to understand it, it is necessary to understand the mental state of a person who decides to end his life [1, p.21]. In recent years, the number of teenagers committing suicide has been particularly high. Adolescence as a stage of ontogenetic development differs sharply from other periods of human development by the peculiarities, possibilities, laws, complexity of expression and formation of behavioral motives of puberty.

Suicidal behavior is a conscious act aimed at depriving oneself of life. The scientific problem is that suicidal behavior or suicide is a person's self-condemnation (*italics G. Tulaganova*). In this case, the person becomes in a situation where at the same time he can not control his actions, can not respond to himself, and as a result, an accident occurs. Suicidal ideation, suicidal attempts, suicidal covenant are specific to adolescence.

METHODS

According to many researchers, suicidal behavior is rare in children under 13 years of age, with suicidal activity only increasing between the ages of 14 and 15, and peaking at 16 to 19 years of age. Therefore, psychodiagnostic and correctional, psychoprophylactic work with adolescents who constitute such a risk group, the prevention of suicidal attempts among them, allows them to find their place in life later. Adolescence is a period of re-understanding and analysis of life values.

RESULTS AND DISCUSSIONS

Values determine the value and importance of a person in the social environment that surrounds him in life. The highest value is human life. Values reflect an individual's chosen attitude toward these values based on the needs of the subjectivity of the individual. S.L. Rubinstein emphasized that "values" cannot be bought with money, but determine our purpose in life. Rubinstein classifies the process of formation of a system of values as an important factor in the socialization of the individual [2]. Understanding the vital values of adolescents in this



regard allows them to lend a helping hand when needed. It is during adolescence that the lack of life experience, the lack of logical reasoning skills, and the tendency to draw conclusions based on age-specific emotions often lead to suicidal activity.

One of the relatively perfect and methodologically based areas of research on values is the methodology "Value Orientation" developed in the United States in the 70s of the last century by M. Rokich, as well as research based on it in other countries [6, p.7]. M. Rokich defines value as the existence of a stable belief in an advantage over a particular behavioral appearance or the ultimate goal of existence when taken from a personal or social point of view in relation to the opposite behavioral appearance. Human values are characterized on the basis of the following main features [7, p.14]:

- the amount of common human values is not large in comparison;
- all people have exactly the same values, although they are expressed at different levels;
- values are formed in the system;
- The source of human values is observed in culture, society and its institutions, as well as in the individual;
- The influence of values is seen in almost all social phenomena worthy of study.

The methodology developed by M. Rokich is based on the direct stratification (ranking) of the list of values. He distinguishes two classes of values [3, p.44].

1. Terminal - the belief that the ultimate goal of an individual's existence is worth striving for. The incentive material is described in 18 value sets.

2. Instrumental - any appearance of an action or personality trait is preferred in any situation. The incentive material is also reflected in 18 sets of values.

Such separation is based on the traditional division of values into value-goals and value-means. In the process of analyzing the results of the ranking of values, we focused on grouping them into content blocks according to different bases. In this case, for example, the values of "concrete" and "abstract", the values of self-expression in private life can be distinguished. Instrumental values can be grouped as follows:

- Moral values;
- Communication values;
- Work values;
- Individualistic values;
- Conformal values;
- Altruistic values;
- Values aimed at finding their place;
- Values of acceptance of others.

If it is not possible to determine any correlation based on the results obtained, it can be

assumed that the respondent did not form a value system or did not give sincere answers by him during the research process. The advantage of the methodology is its universality, convenience and cost-effectiveness, flexibility in the process of testing and processing the results - the ability to apply both the incentive material (list of values) and instructions according to the situation. Its significant shortcoming, in our opinion, is the effect of social approval on the answers, the manifestation of insincerity in them. Therefore, in such a situation, diagnostic motivation, voluntary participation in the examination, and the presence of communication between the psychologist and the subject play an important role.

Methodology for diagnosing the degree of satisfaction of basic needs (hierarchy of basic needs) developed by V.Skvortsov in the method of pair wise comparison[8]. The theoretical basis of the methodology was A. Maslow's modified pyramid of needs. In the author's understanding, a person's needs are a state in which a person feels the need for something. Needs activate the person, directing him to search for what he needs at the same time [7]. The methodology allows to determine the level of satisfaction of 15 basic needs and five main needs of the adolescent:

- material needs;
- security needs;
- social (interpersonal) needs;
- recognition needs;
- needs for self-expression.

In the course of the audit, it was proposed to evaluate 15 confirmations in pairs. First, the first approval is evaluated by the second, third, and so on. The same process is then repeated with the second, third, fourth, and other affirmations. The results are evaluated by calculating the sum of points for each of the 5 groups:

- 10 - 15 points - the zone of satisfaction;
- 6 - 9 points - zone of partial satisfaction;
- 1 - 5 points - zone of dissatisfaction.

Many psychologists believe that the optimal way to make a psychological diagnosis of an individual is a clinical interview. In this case, the psychologist has the opportunity to communicate directly with the subject, on the basis of which to observe, evaluate him, and at the same time to collect comprehensive information in a relatively short period of time [3, p.6]. Conducting a clinical interview, on the one hand, allows to obtain diagnostic information, on the other hand, to determine the methods and directions of corrective work during the adolescent ball. The fact that the clinical interview was conducted in an informal form without the participation of strangers in the course of the research, in turn, allows to highlight the following



areas of the personality of a teenager with suicidal behavior[4]:

The main tasks of the first interview should be:

- reduction of emotional tension;
- blocking suicidal emotions;
- to mobilize the adolescent to overcome difficult situations;
- cases of possible psychological trauma in the process of this crisis and preparation for an adequate response to them;
- to strengthen the motivation of the adolescent to receive further psychological help, focusing part of the adolescent's attention from situational problems to internal problems.

In the process of conducting the interview, a simple enough, open character, such as: "Can not you tell me about yourself?" addressing questions in the style of the study also provided an opportunity to explore topics that were important to the adolescent, not planned in advance.

CONCLUSION

The results of the interviews were recorded and analyzed on paper. In addition to the basic information gathered during the clinical interview, it is advisable to focus on the needs of the adolescent, his or her memories of past events, and so on. The clinical interview allows the adolescent to obtain additional information about suicidal ideation, to study the characteristics of suicidal behavior, suicidal goals (risk), the cause (motive) of suicidal behavior, the psychological description of suicidal behavior.

REFERENCES

1. Berdyaev N.A. *On suicide // Psychological journal. - 1992. -T.13.- №2.-P. 95-106.*
2. Vasilchenko M.V. *Psychological support of adolescents at risk, prone to crisis states and suicidal behavior: Abstract of the thesis for the degree of candidate of psychological sciences, Stavropol 2009.*
3. Kulakov S.A. *At the reception of a psychologist, a teenager - St. Petersburg: Union, 2001.-350 p.*
4. Kochyunas R. *Fundamentals of psychological counseling Per. with lit. -Moscow: Academic project, 1999.- p.240*
5. Maslow A. *Motivation and personality. -SPb: Eurasia, 2001. -P.478.*
6. Mendelevich V.D. *Psychology of deviant behavior.- Moscow: MED press, 2001.-P.589.*
7. Molenda O. *The influence of value orientations on the asocial behavior of adolescents: Abstract of the thesis for the degree of candidate of sociological sciences. - Moscow: RAU, 1992.-23 p.*
8. Shoumarov G.B., Usmanov E.Sh., Umarov B.M. *Suicide prevention as part of a psychological*

service at school (Psychological aspects of improvement).-Tashkent: Ukituvchi, 2009.



ROLE OF PUBLIC AND PRIVATE SECTOR IN MAKING INDIA FIVE TRILLION ECONOMY- A CRITICAL STUDY

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ABSTRACT

India is the world's fastest-growing trillion dollar economy, with a nominal GDP of \$2.94 trillion, and the fifth largest overall. In 2019 India became the fifth largest economy, overtaking the UK and France. India is an emerging economic power with a very large group of human and natural resources, and a large group of skilled workers. A country's economic output is intrinsically tied to its international political position. After the 1990s, India's economic performance sparked a debate on the strategic implications of the higher growth rate. In the wake of reforms, Indian private sector has also begun to play a key role in the country's economic diplomacy. The paper explores the contribution private efforts make to spending and finding capital in a globalized world and the obstacles it faces in achieving its full potential. Comparative studies of private and public sector entities frequently include organizations with different tasks or business purposes: profitable business companies usually represent the private sector, and the public sector is typically represented by non-profit agency or government regulatory agencies. However, these studies generally have not accounted for this difference in business purpose, and have attributed the differences that have frequently been observed to organizations' affiliations with the presumably different sectors.

KEY WORDS: *Public Sector, Private Sector, Five Trillion Dollar, Economy*

INTRODUCTION

The public and private sectors play an important part in achieving a nation's economic development. An impact of their work on achieving socio-economic development of the country is observed. In a developing country like India, the public sector occupied a decent place to achieve systematic and planned growth. In a country like India that is suffering from multidimensional issues,

the private sector is not in a position to simultaneously make the necessary effort to develop its different sectors. Thus, in order to provide the necessary support to the country's development strategy, the public sector offers the minimum push required to bring the economy to a path of self-sustained growth. Thus it is now well known that in the initial stage of its growth, the public sector plays



a positive role in the country's industrial development by laying a sound foundation for industrial structure. Gone are the days when the economy was dominated only by the Public Sector. A lot of countries have now implemented the privatization strategy, through which the private sector is also gaining in importance. Both sectors must go hand in hand for the progress and development of any country, since only one sector cannot lead the country in the direction of success. The private sector includes companies owned, operated and regulated by individuals. On the opposite, the public sector includes various government-owned and managed business enterprises. These organizations are either wholly or partly owned by the centre or the state, and fall under the ministry. Many organisations in the public sector are set up by a special act of

Parliament. A cut-throat rivalry between the two markets is to prove stronger than the other. Therefore, in tabular form, the article tries to explain the gaps between the public and private sectors.

Definition of Public Sector

Public Sector is the sector that participates in the activities of supplying the general public with government goods and services. The enterprises, agencies, and bodies are wholly owned, controlled, and administered by the government, whether it is central government, state government, or local government. The public sector consists of the companies, undertakings or undertakings in which the government is majority shareholding owner of the undertaking. These enterprises are owned, supervised, and run by government.

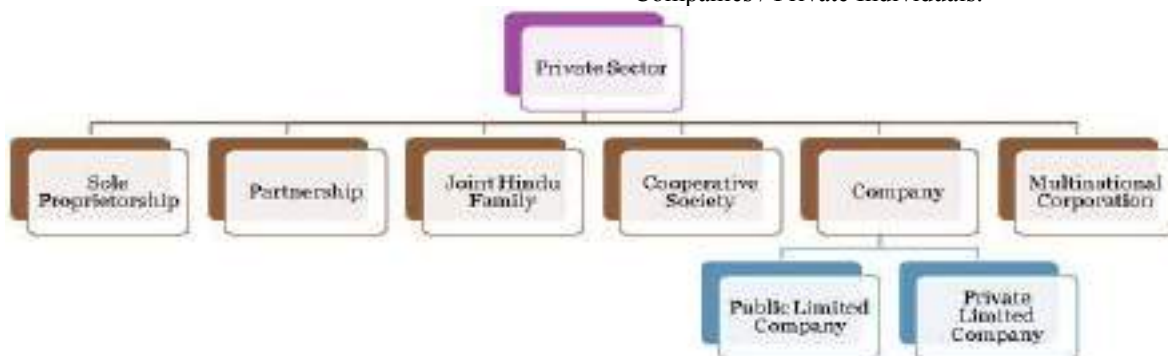


There are two types of organizations in the public sector, i.e. either the government fully funds them through the revenues they generate by collecting taxes, fines, fees, etc., or the government holds more than 51 per cent of the company's total share capital that falls under different ministries. The companies are established with the motive of operation. It is the largest sector which works to uplift people by providing the people with the following services:

- Generation of employment opportunities
- Postal services
- Providing education and health facilities at low cost
- Providing security
- Railway service

Definition of Private Sector

The part of a national economy owned, regulated and operated by individuals or companies is known as the Private Sector. Based on sizes such as small and medium-sized enterprises and large enterprises which are either private or publicly traded organisations, the private sector companies are divided. These can be formed in two ways, either through the formation of a new corporation or through the sale of any Public Sector Enterprise. Private Sector comprises such businesses, companies or entities owned by private individuals or private companies. Private sector companies are regulated, managed and run by Private Individuals / Private Entities. Private sector companies are owned, governed, managed and operated by Private Companies / Private Individuals.





Private sector business organizations are typically formed with the sole purpose of generating profit and building brand reputation. They provide the society with quality services to gain people's confidence and good will to succeed in the long run and deal with the enemies. Such businesses must also follow the law and order of the country. In terms of employees it is the largest sector.

Even though success in the private sector is the basic requirement for job stability, i.e. you will get promoted if you perform well and if you don't, you will be fired. The key Private Sector services are as follows:

- Quality education
- Telecommunication services
- IT services
- Courier Services
- Infrastructure development

DIFFERENCES BETWEEN PUBLIC SECTOR AND PRIVATE SECTOR

The following are the major differences between the public and private sectors:

- Public Sector is a part of the economy of the country where policy is in the hands of regulation and maintenance. As we talk about the Private Sector, private individuals and corporations own and operate it.

- The public sector's goal is to serve people, but with the profit motive, private sector companies are created.
- The Government has full control over the companies in the public sector. Conversely, companies in the private sector enjoy less interference from the government.
- Public sector employees have job security along with the advantages of allowances, perquisites, and retirement benefits such as gratuity, pension, superannuation fund, etc. that are lacking in the private sector scenario.
- There is a fairly competitive working environment in the private sector which is lacking in the public sector because they are not established to meet commercial goals.
- In general, the Public Sector uses Seniority to promote workers, but also takes merit and seniority as a criterion for employee promotion. Unlike the private sector, where success is everything and where competence is seen as a criterion for promoting them.

Public Sector Vs Private Sector

BASIS FOR COMPARISON	PUBLIC SECTOR	PRIVATE SECTOR
Meaning	The section of a nation's economy, which is under the control of government, whether it is central, state or local, is known as the Public Sector.	The section of a nation's economy, which owned and controlled by private individuals or companies is known as Private Sector.
Basic objective	To serve the citizens of the country.	Earning Profit
Raises money from	Public Revenue like tax, duty, penalty etc.	Issuing shares and debentures or by taking loan
Areas	Police, Army, Mining, Health, Manufacturing, Electricity, Education, Transport, Telecommunication, Agriculture, Banking, Insurance, etc.	Finance, Information Technology, Mining, Transport, Education, Telecommunication, Manufacturing, Banking, Construction, Pharmaceuticals etc.
Benefits of working	Job security, Retirement benefits, Allowances, Perquisites etc.	Good salary package, Competitive environment, Incentives etc.
Basis of Promotion	Seniority	Merit
Job Stability	Yes	No



ROLES OF THE PUBLIC SECTOR IN THE ECONOMIC DEVELOPMENT OF INDIA

- Promoting rapid economic development by filling gaps in the industrial structure;
- Promoting adequate infrastructure facilities for economic growth;
- Conducting economic activity in those strategically important areas of development where the private sector can distort the spirit of the national objective;
- The consolidation of monopolies and the accumulation of power in the hands of a few;
- The promotion of sustainable regional development and the diversification of natural resources and other infrastructural facilities in the less developed regions of the country;
- The reduction of inequalities in income and wealth distribution by bridging the gap between rich and poor;
- The development and enhancement of appropriate employment opportunities in different sectors through heavy investment;
- Self-reliance on different technologies as required; I the elimination of dependence on foreign aid and foreign technology;
- The exercise of social control and regulation through various institutions of public finance;
- Managing sensitive markets, such as the distribution system, rationally allocating scarce imported goods, etc.; and
- Reducing the balance of payments burden by facilitating exports and reducing imports.

ROLE OF PRIVATE SECTOR IN INDIA

India, being a mixed economy, has given the country's private sector great importance for achieving rapid economic development. The Government has given the private sector a specific role in the field of manufacturing, trade and services. India's most dominant industry, i.e., agriculture, and other related activities, such as dairy, animal husbandry, poultry, etc., are entirely under private sector power. Thus the private sector plays an important role in managing the whole agricultural sector and thus providing the millions with the entire food supply. In addition, the major portion of the industrial sector engaged in the non-strategic and light areas, manufacturing various consumer goods, both durable and non-sustainable, electronics and electrical goods, vehicles, textiles, chemicals, food products, light engineering goods, etc., is also under

private sector control. Private sector has a positive role to play in the development and expansion of the aforesaid industry group. In addition, the private sector is also responsible for the development of the small-scale and cottage industries. Private sector has a positive role to play in the development and expansion of the aforesaid industry group. In addition, the private sector is also responsible for the development of the small-scale and cottage industries.

CONCLUSION

Finally, the private sector also has its part to play in the country's tertiary sector growth. The private sector manages the whole services sector providing the people in general with different types of services. The whole of the country's wholesale and retail trade is also regulated most rationally by the private sector. In addition, the major portion of the transportation is also handled by the private sector, particularly in road transport. In recent years, with the growing liberalization of the Indian economy, the private sector is being given much greater responsibility in different spheres of economic activity. Private Sector is progressing faster nowadays because it encourages efficiency, not quantity; it promotes creativity. Public sector is full of quotas such as minority section reservations, females, an individual with a disability and much more, here no one sees potential, it's totally ignored and talented youth remain unemployed because of this. Enterprises in the public sector provide their employees with so many facilities and the job is secured. But come to the private sector the job is unsecured. Again in the private sector, where performance is king, there's a lot of workload. One thing in the private sector is really good, i.e. it is free of corruption. In the public sector, you have to pay the government officers lots of money, for no reason, even for a simple work. It's an endless debate, both are good in their ways, if the disadvantages are eliminated, they'll definitely be good for the economy.

BIBLIOGRAPHY

1. Kalyan Raipuria and Rajesh Mehta, *Economic and Political Weekly*, Vol. 26, No. 31/32 (August 3-10, 1991), pp. 1873-1875, Published by: *Economic and Political Weekly*
<https://www.jstor.org/stable/41498540>
2. *Essays, UK*. (November 2018). *India: Analysis of public and private sectors*. Retrieved from <https://www.ukessays.com/essays/economics/india-analysis-of-public-and-private-sectors-economics-essay.php?vref=1>



3. <http://www.economicdiscussion.net/india/role-of-public-sector-and-private-sector-in-india/19190>
4. <https://keydifferences.com/difference-between-public-sector-and-private-sector.html>
5. <https://journals.aom.org/doi/10.5465/256122>



UZBEK POETESSES - HIGHLIGHTS ABOUT HUMANISM AND COMPREHENSIVE DEVELOPED PERSONALITY

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ANNOTATION

The scientific article analyzes the humanistic ideas of Uzbek poetess about a comprehensively developed personality based on the poems of Nodirabegim, Uvays, Anbar otin, Dilshod. Their socially philosophical views and educational activities are shown.

KEY WORDS: *Humanism, love, social progress, enlightenment.*

DISCUSSION

Nodira, Uvaysi, Dilshod otin, Anbar otin, who played an important role in the Uzbek literature of the XIX century, expressed in their poems and philosophical views the ideas of human spiritual maturity, which reached a height from the point of view of enlightenment.

Mohlaroyim-Nodira was born and raised in Andijan in 1792 in a ruling family and was known as a mature poet of her time.

Nodira wrote poems in Uzbek and Tajik languages and combined them into a separate Devon, expressing her thoughts on love, devotion and fidelity in her poems. His views on man and nature reflect not only personal feelings and love, but also his thoughts on the upbringing of the perfect man. According to him, man is the highest, the greatest of all beings. One should enjoy the beauty of life and always strive for it.[1,67]

In Nodira's views on perfect human upbringing, the ideas of humanity - justice, fairness, people, interests - play an important role. It is well known that the poet consistently propagated these ideas in her work and followed them.

The poet puts the value of human dignity high, wants it to be spiritually rich and meaningful. This is due to Nodira's deep feelings of love. That is why he emphasizes that the existence of humanity and love is an indication of the true humanity of man:

*Муҳаббатсиз киши одам эмасдур,
Гар одасен муҳаббат ихтиёрэм,
(A man without love is not a man,*

If you want to love,)

Nodira believes that the essence of life is to build a building of goodness. According to him, whoever does good deeds while living and makes people happy, has built a palace of goodness, and with these good deeds he will leave a bright memory in the life to come. Such a person is a perfect person.

Nodira promotes true friendship. In his opinion, a true friend will be with a friend on difficult, sad days. If he doesn't, he's not a true friend. In her poems, the poet glorified the perfect man. He described many useful teachings on education. His thoughts help people to understand the essence of the concepts of life, love, goodness, perfection, to develop as human beings.

Another representative of the Uzbek classical poets, the humanist singer Jahon Atin-Uvaysi was the daughter of a scientist and nobleman from Margilan. The world has envied poetry since its youth. His father taught him literature, and soon he became a poet, diligently reading and studying Uzbek and Persian-Tajik classics. In addition to reflecting the social issues of the time in his works, he also pays great attention to the issues of morality, etiquette and upbringing.

Uvaysi believes that everyone must be sincerely committed to the truth. According to him, a person should not retreat from the truth under any circumstances, endure any hardships and calamities, and stand firmly on the path of truth. The poet emphasizes that truth is an adornment that should not be turned away. That is true humanity. [3,89]



Uvaysi emphasizes that the decoration of life is the feeling of love, the power that gives life experiences to a person. Uvaysi glorifies the love that is unique to such people. When Uvaysi speaks of a perfect man, a man who feels the feeling of love in his heart is mature. The poet considers the heart that feels the feeling of love to be the true ornament of human life, and says that this heart is beautiful. Such a person is a perfect person. It is noteworthy that Uvaysi's views on the harmoniously developed person inspire young people to love life, to develop the ability to think independently, to encourage them to adopt the best national traditions. Poet Uvaysi's thoughts on life and the decoration of life, sincere love, a harmonious person, upbringing are still important in the development of the young generation as beautiful morals.

Dilshod Atin is another enlightening poet who encourages young people to be educated in the spirit of patriotism. He was born in 1800-1801 in the city of Uratepa near Kokand. His father Rahimqul was a poet by nature. Dilshod received his first education from his father, and from a young age he fell in love with poetry. He began to write poems under the pseudonym Barno, and by the end of his life had been a schoolboy, developing his enlightenment extensively and serving his work in educating the youth.

"I, as Dilshod writes, work to school until I was 88, seeing a glassless letter. Fifty-one years of schooling, 23 excellent students, and 891 girls were educated. About a quarter of them had natural poems ... more than two hundred poets had been educated before." [4,21]

Dilshod pays great attention to the education of young people, to the fact that they are people of knowledge, and emphasizes that in order to get knowledge, it is necessary to work hard and be talented. He said the following about it:

*Кўзимнинг нуруни тўқғум китоб эрса сариҳ,
Вужуд бобида ёзилгондек боб эрса сариҳ.
(If the light of my eyes is the book of birth,
As it is written in the chapter on existence, the
chapter is sarih.)*

Dilshod Atin emphasizes that science leads a person to history and helps to solve various problems in this field. A person who is perfect in knowledge will have a high prestige, a position, everyone will enjoy his knowledge, and even day and night he will receive light from it.

*Оламдан нур олди ҳар лайлу наҳор,
Тарихни ҳисобин топғон ҳам одам,
(Every layer of light that received light from the world,
The man who reckons history,)*

According to the poet, the beauty of man is his spiritual world. Hypocritical, selfish people are deceitful. A person's inner world should be as beautiful as his outer appearance. This beauty, which is given to man to adorn humanity, must always be guarded. [4,23]

*Гар ташқи жамол ҳўб, ичи бад бўладилар,
Гўёки ичи пой, юзи нақшу нигор.
(If the outside is beautiful, the inside is bad,
It's as if the inside is mud, the face is patterned).*

The mature poetess, teacher Dilshod Atin, while devoting his long, meaningful life to art, made a worthy contribution to the development of social philosophical thought by expressing valuable ideas about education in his poetry and horsemanship.

When analyzing the works of classical poets of the XVIII century, it is expedient to dwell on the works of Anbar Otin, who interpreted the social and political life of the current period in his works. Anbar Otin was born in 1870 in Kokand in the family of a carpenter. His father, Farmanqul Margilani, was known to be the nephew of the poet Uvaysi, and became a mature poet and enlightener of his time.

Anbar urges people to have these qualities, saying that harmony, compassion, diligence are the best qualities among people.

In her work, the poet considers justice to serve the Motherland and the people as great happiness and goodness. He encourages his friends to be so happy and kind:

*Хизмат этсанг эл учун холис қилакўр доимо,
Кўб кирокашлар илан кўркмай мубориза қил,
Кимсани халқ ғамидин ғами бўлурса анга сан,
Ёндошиб, ҳар ишида ул ила мутойиба қил.
(When you serve, you are always impartial,
Many tenants fight without fear of snakes, If anyone
is worried about the people, Approach him and obey
him in everything you do.)*

In his poems, Anbar Atin promotes the ideas of nationalism, enlightenment, humanity, and diligence.

According to the poet, enlightenment makes a person a classic. He called on the youth to learn from the work of good people, to do exemplary deeds and to be honorable, saying that everyone should serve the people and take their work to the highest level.

*Яхши одамлар ишидан ибрат ол,
Ибратомуз хизмат айлаб, иззат ол,
(Learn from the work of good people,
Respect our example,)*

He says, and whoever has generosity and gratitude in his face, takes them, that is, generosity and gratitude, and emphasizes that he should be such a person:

*Кимки илғида бор эрса ҳиммат ол,
Ранг рўйида кўрингай, раҳмат, ол,
(Whoever is interested, be generous,*



Look at the color, thank you, take it,)

It can be said that Anbar Atin, whose work deserves attention, sings his philosophical views in his works as a result of his creative activity, life observations, and at the same time took a worthy place in the development of philosophical thought in the XIX century.

In short, our innocent and talented poets, who have a worthy place in the history of Uzbek classical literature, have left a bright mark in the history of our people with their works and enlightenment activities.

REFERENCES

1. *Ўзбек шоирлари. Тўхтасин Жалолов. Тошкент., 1970.*
2. *Нодира шеърятидан. Тошкент., 1979.*
3. *Увайсий шеърятидан. Тошкент., 1980.*
4. *Дилшод Асарлари. 133.*
5. *Анбар отин. Шеърлар. Рисола. Тошкент., 1970.*