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CHARACTERISTIC STUDY OF INDUSTRIAL SLUDGE, TREATMENT AND THEIR DISPOSAL MECHANISM

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ABSTRACT

This research papers is the characteristic study and suggestive measure for disposal mechanism for the sludge. Sludge is one of the important common waste materials which is generated in tons per day from many industries. The different types of waste materials can undergo various treatment based upon its characteristics which also resulted in the variation for the treatment like Stabilization before disposal, Direct Landfill (DLF), Alternative Fuel and Raw material (AFRF), Incineration, Solvent recovery, Chemical treatment, Recycling of metals and others for the Hazardous waste management process. The various physicochemical, gravimetric and spot test were carried out in order to determine the quality of the waste and its suitability for the disposal by following different national and international methods. Further, Heavy metals were also analyzed by AAS obtained by following different methods in different forms like TM, TCLP and WLT which also indicated that the heavy metals are within the limits. Overall, the results obtained were found to be within the limits provided by the CPCB guidelines and the waste is suitable for the direct landfill disposal mechanism.

KEYWORDS: Industrial Sludge, Hazardous Waste Management, Heavy metals

INTRODUCTION

India is a developing nation. The major contribution in India's GDP is through the sectors like Agriculture, Industries and Service. The different policies and strategies made by Govt. of India has attracted many investors, for the ease of industrial start-ups. With the rapid establishment and expansion of the industries the tonnes of the waste is also generating which if disposed untreated could lead to the environment pollution. Most common waste from the industries are sludge. Sludge is produced when the waste undergoes the various stages of the Primary, Secondary and Tertiary treatment. Further the quality of sludge defines the treatment for disposal.

India is known as an agricultural nation as after its independence the five-year plan policy of Indian government was focused on the agriculture mostly as most of the population belongs to the rural area and known mostly engaged in agricultural practices. Slowly the policy changed to various other sectors which can be observed in the five year plans report prepared by Niti Aayog Planning Commission over the year [1]. The people are slowly moved to other sectors of services and industries. Now, India is an emerging developing country. The country is stepping towards the development by taking all big steps and decisions in different important pillars like economy, sustainable development and sectors like IT, agriculture and others. According to the Reports of the Ministry of Statistics and Programme Implementation, the Service Sector Contribute 53.89% GVA followed by Industries and Agriculture which contribute 25.92 % and 20.19 % in India's Development. According to the latest Report of Economy Survey 2021-22, the Industries will

grow more 11.8 % followed by Service sectors and Agriculture by 8.2 and 3.9% [2].

The various policies were laid by the Department for Promotion of Industries and Internal Trade for the industrialist have helped in the rapid growth and ease for the industries [3]. The different Indian states were provided with different strategies for the industrial development [4]. Likewise, Govt. Of India has marked its success by Make in India Project which attracted the foreign investors, provided support to the local MSME industrialists [5]. As per the 2015 Report, Govt. of India through the Ministry of Skill Development under National policy for skills development and entrepreneurship provides various skills that help people to get employment in easy manner in different sectors of employment [6].

HAZARDOUS WASTE & SCENARIO IN INDIA

Irrespective of the policy, rules and regulation for the better development of industries there are concern for the environment as various accidents, case studies in India has shown the environmental pollution caused due to the industrial activities. It is due to the direct and untreated disposal/discharge of waste into the environment [7].

Hazardous waste in India is defined as "any substance, excluding domestic and radioactive wastes, which because of its quantity and/or corrosive, reactive, ignitable, toxic and infectious characteristics causes significant hazards to human health or environment when improperly treated, stored, transported and disposed" [8]. Hazardous waste is mostly produced by industrial processes and must be treated in an environmentally responsible manner. Hazardous and Other Wastes (Management and Transboundary Movement) Rules,

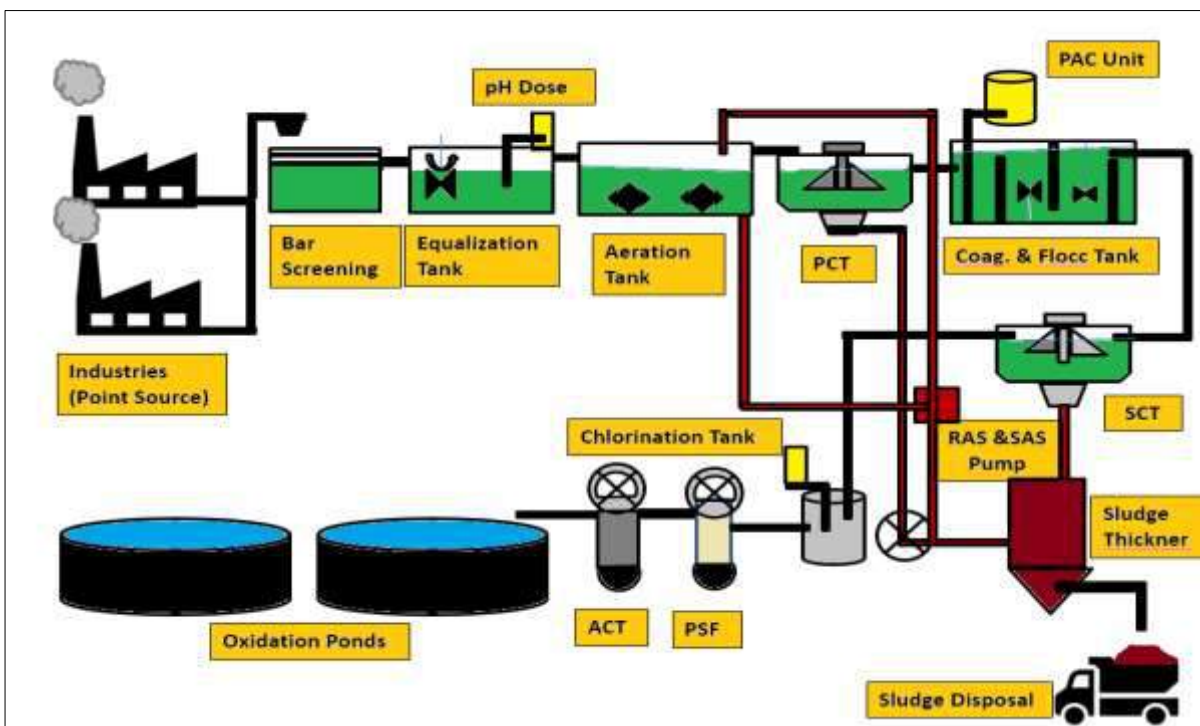
2016 (HOWM Rules, 2016), notified by the Ministry of Environment, Forest and Climate Change, Govt. of India under the Environment (Protection) Act, 1986, govern hazardous waste management [9]. Due to the country's rapid industrial expansion, hazardous waste is being produced. Indeed, industrialised states like Gujarat, Maharashtra, Tamil Nadu, and Andhra Pradesh are grappling with hazardous waste challenges. Gujarat, is one of India's fastest-growing industrial states, with an expanding chemical, petrochemical, medicines and pharmaceuticals, textiles, pesticides, paper, and fertiliser sectors. As a result, it is one of the country's leading producers of hazardous waste. The state's biggest source of pollution is untreated garbage from these enterprises [10, 11, 12].

Although precise data are difficult to come by, India produces around 51.1 million tonnes of waste each year, with 7.46 million tonnes of hazardous waste created by 43,936 industries. Landfilling accounts for about 3.41 MMT (46%), incineration for 0.69 MMT (9%), and recycling for 3.35 MMT (45%). Gujarat has the most hazardous waste generating facilities, accounting for 28.76 percent of total trash generation in the country. Hazardous waste accounts for 10–15 percent of all industrial waste. Solid hazardous waste volumes are increasing at a rate of 2–5% per year. Thermal power plants' coal ash accounts for more than 70% of all industrial hazardous waste [13].

SLUDGE GENERATION

The wastewater undergoes the process of preliminary, primary, secondary and tertiary process for the treatment [14]. The waste undergoes the bar screening process where all the solid materials get separated from the waste water. The wastewater further goes towards the primary treatment where pH is set by providing alkali or acidic treatment and also some retention time [15]. Some industries also perform the treatment in the equalization chamber. The wastewater goes towards the Secondary treatment where the waste materials are degraded with the help of micro-organisms [16]. Air blowers are also used in the secondary treatment. Some industries further use clarifiers to separate the organic matter and treated wastewater. For the chemical based effluent, the wastewater goes for the flocculation, coagulation process in order to separate the suspended particles by forming flocs [17]. Further the wastewater goes to secondary clarifiers to separate more efficiently and treat wastewater and sludge [18]. The sludge is then passed to the sludge thickner tank and in order to work more efficiently the sludge is added again in the secondary treatment by RAS and SAS pumps [19]. Further, the wastewater is passed through the Tertiary treatment where they undergo UV treatment, chlorination that kill the micro-organism [20]. The waste water is then treated by Sand Filter and Carbon Filter [21]. After which the water is discharged which is described in the fig.1

Fig 1 Flow chart in wastewater treatment



WASTE TRANSPORTATION

Solid waste collection, transportation, and disposal necessitate a large investment in waste management equipment and trucks, as well as the infrastructure that enables this technology to function properly [22].

- Dump Trucks and Trailers** - The trailers are typically composed of aluminium or steel and use hydraulic equipment to discharge rubbish off vehicles.
- Landfill Tippers** - Tippers can be linked with a truck or trailer to offload solid garbage at landfills using

self-contained hydraulic power units to lift themselves. Tippers are separate equipment that attach to the trucks' trailers.

- c) **Tractors** – These are most commonly used in rural and urban areas. They are used in wide range of waste as agricultural to building waste materials. While carrying the hazardous waste the vehicles are covered with heavy covers.
- d) **Trucks** – In India, truck are commonly used for the transportation of waste. As they are manufactured in a such a way that they have high capacity to carry load and can run on tough, hilly roads.
- e) **Tankers**- Irrespective of solid waste, many industries also generate liquid waste and semi-solid waste. So for the ease of transportation tankers are used.

WASTE TREATMENT

The HOWM Rules, 2016, establishes guidelines for the generation, packaging, storage, transportation, recycling/reprocessing, utilisation, treatment, and disposal of hazardous waste, as well as obtaining permission from the relevant State Pollution Control Board (SPCB) / Pollution Control Committee (PCC). The waste materials differ with different companies and thus the type of treatment also varies

which includes Landfilling, Incineration, Recycling and Utilizable are some of the treatment suggested for the disposal mechanisms [23]. As per the Report, 10.92 million MT of hazardous waste was generated in 2020-21. Recycling, utilisation, co-processing, and disposal in common/captive Treatment Storage and Disposal Facilities have all been used to manage the amount of hazardous waste [24].

LANDFILL IN INDIA

The National Inventory on Generation and Management of Hazardous and Other Wastes (2020-21) Report by CPCB under MOEFCC has provided the data of top 10 states producing types of hazardous waste are depicted in Fig 2. The main 10 HW producing States are Gujarat (34.57%), Tamil Nadu (8.56%), Maharashtra (8.35%), Odisha (7.47%), Andhra Pradesh (7.02%), Rajasthan (6.97%), Uttar Pradesh (6.34), Telangana (3.61%), Karnataka (3.17%) and Madhya Pradesh (2.25%) which together contributed around 88% of complete HW [13].

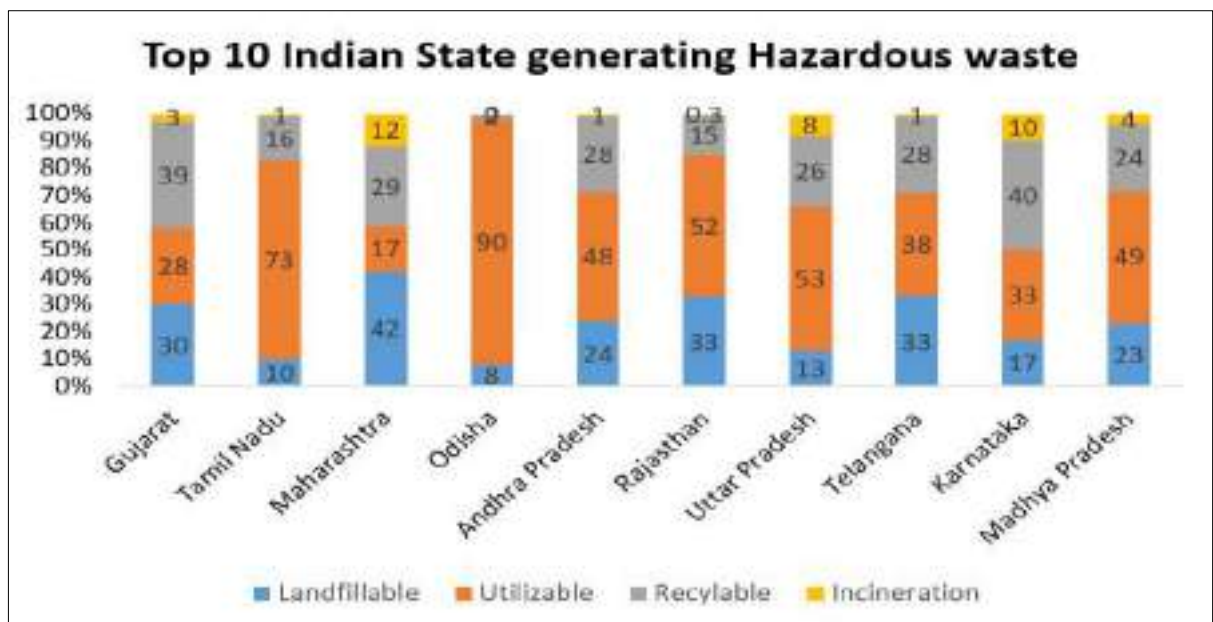


Fig. 2 Indian State generating Hazardous waste (Source- CPCB 2020-21 HW Report)

As per CPCB Report, out of the 9.24 million MT of waste created, 44 % HW was utilisable, 27 % was recyclable, 25 % was landfillable, and 4% was incinerated represented in Fig 3. The yearly increment of around 10% has been seen in the quantity of HW units when contrasted with the national

inventory report of 2019-20. During the year 2020-21, around 9.24 Million MT of HW has been produced demonstrating 5% increment in age of HW contrasted with the earlier year for the year 2019-20 [24].



Fig 3 Category-wise Hazardous waste generation in India (Source- CPCB 2020-21 HW Report)

HEAVY METALS IN SLUDGE

Heavy metals (HMs) pollution in the air, soil, and water bodies is caused by anthropogenic and geogenic processes [25]. Weathering of metal-bearing rocks and volcanic eruptions are natural sources, whereas mining and different industrial and agricultural operations are artificial sources. Mining and industrial processing for mineral resource extraction, as well as their subsequent applications for industrial, agricultural, and economic development, has resulted in increased mobilisation of these elements in the environment and disruption of their biogeochemical cycles [26]. Heavy metals with higher densities include cadmium (Cd), lead (Pb), mercury (Hg), zinc (Zn), chromium (Cr), and arsenic (As), among others. Metals and metalloids are the same thing. Heavy metals in the soil and environment are poisonous, non-biodegradable, and extremely persistent components. Heavy metal contamination is a global issue, with the number of contaminated sites increasing over time as a result of growing populations, disorganised industry, and expanding economies [27]. The sludge being produced by undergoing various physical, biological and chemical process which resulted in the presence of heavy metals. The suitability for metals removal also helps in the disposal mechanism of the sludge.

Heavy metals are released into the combined drainage system by industry effluent and rainwater runoff.

Their presence is the greatest impediment to sewage sludge being used in the natural environment. Land application was thought of as a more economical method for sewage sludge disposal than landfill and incineration. However, the presence of heavy metals in sewage sludge restricted the use of land application [28]. Contamination of the groundwater was studied by researchers from leachate near the Erode city, Tamil Nadu landfill site [29]. Similar studies resulted in the contamination of ground water near landfill site [30]. These elements may enter into human being through the foods and water via polluted water and soil by various anthropogenic and natural sources and is a concerning situation which could lead to various health impacts. [31].

STUDY AREA

The study was carried out at Visakhapatnam, Andhra Pradesh. According to the Ministry of Irrigation Department the States has 40 major, medium and minor like Godavari, Krishna, Vamsadhra, Nagavali and pennar are supposed to be major interstate rivers [32]. The Visakhapatnam city lies at the Latitude and longitude of 17.6868° N, 83.2185° E. Physiographically, Andhra Pradesh State is divided into three distinct zones, viz., Coastal plains, Eastern Ghats and Western pediplain. The Fig 4 depicts the physiography of the Andhra Pradesh State

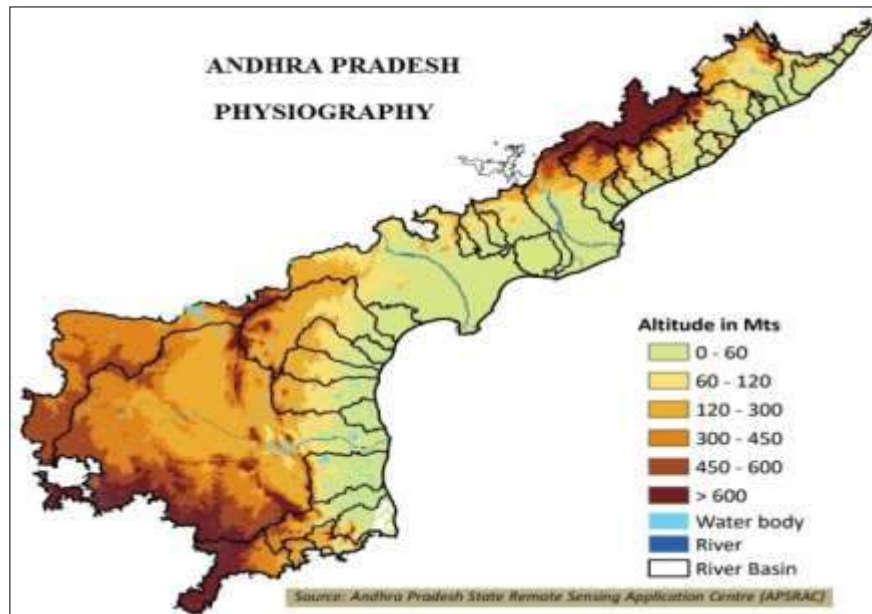


Fig 4. Physiography of the Andhra Pradesh State (Source-CGWB 2018-19 Report)

According to CGWB 2018-19 Report, the soil in the state varies from Red soil, Laterite soil, Cotton Soil, Deltaic alluvium soil, Coastal Soil and Saline Soil. Red Clayey soil found to be dominant in Visakhapatnam and other districts [33]. The rainfall pattern in Andhra Pradesh is mostly tropical as it is influenced by the topographical variations. As per the 2018 Reports, Visakhapatnam received 1020 cm rainfall actually while 1121cm was expected normally. The Geology of Andhra Pradesh ranged from oldest Archean crystalline formation to

new alluvium. The major portion is of gneissic complex which is overlain by basaltic lava flows in the northwestern part and is intruded by several younger rocks namely granites, dolerites, pegmatites and quartzite etc which is represented in Fig 5.

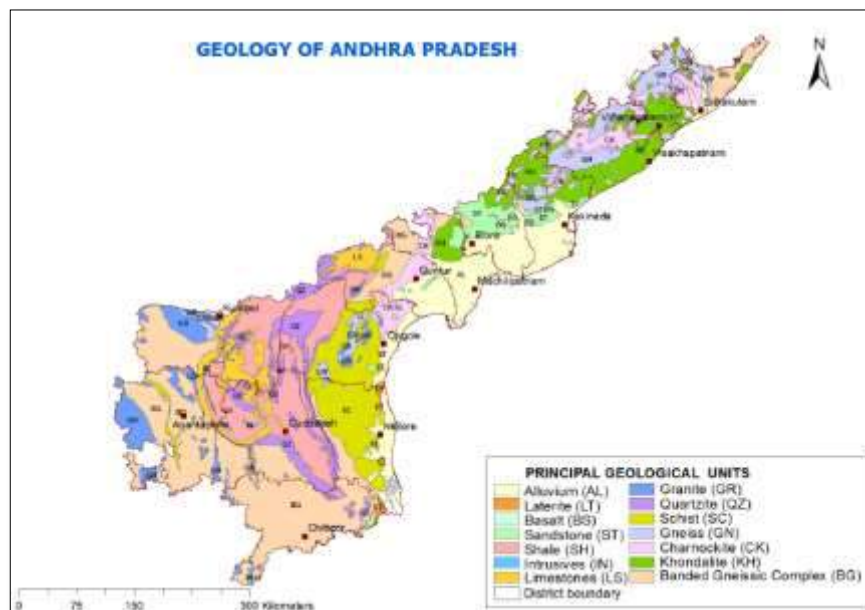


Fig 5. Geology of the Andhra Pradesh State (Source-CGWB 2018-19 Report)

The Charnockites and Khondalites occur in an extensive belt in Srikakulam, Vizianagaram, and

Visakhapatnam districts and in upland areas of East Godavari and West Godavari districts. The alluvial deposits attain a

thickness of more than 20 m in Visakhapatnam districts. The crops like Rice, Jowar, Bajra, Ragi, Maize, Pulses like Redgram, Bengalgram, Greengram and Blackgram while Fruits includes Mango, Coconut, Cashew nut, Banana, Guava and vegetables as Lemon, Batavia, Tomato, Onion, Ladyfinger, Brinjal and Turmeric are grown [34].

SAMPLING LOCATION

The sample was collected in the plastic bag from the APIIC, IALA Industrial Zone, Parwada village, Visakhapatnam, Andhra Pradesh which is represented in Fig 6, respectively.



Fig. 6 Google Earth image of the Industrial Zone, APIIC, Parwada, Vizag (A.P.)

MATERIAL AND METHODOLOGY

The sample was collect in the air tight plastic bags with the field data sheets by following the cone and quartering method prescribed by the SW-846 specially suggested for the solid waste. The sample was checked for various physicochemical, gravimetric and spot tests in in order to determine its characteristics. The various parameters were analysed by following the protocols of USEPA [35] and APHA [36]. While few parameters were analysed by following by book named “A Textbook of Soil Analysis by H.P. Barthakur and T.C. Baruah” [37].

RESULT AND DISCUSSION

The pH is significantly important because the hydrogen ion [H⁺] is involved in several chemical reactions, and minor variations in measured value equate to huge changes in H⁺ activity. The Sludge was found to be ranged as 10.31 which found be within the limit. The alkaline pH is due to the presence of the salts. pH during the study for Influence of Sulfur Concentration on Bioremediation of Heavy Metals from Industrial Waste Sludge was ranged as 6.98. [38]. The Electrical Conductivity was found to be 9.65 mS.cm⁻¹ for sludge sample while El-Nahhal, I. Y., et .al (2014) found EC for the sludge as 2.49 mS.cm⁻¹ [39] which is represented in table 1.

Table 1 - Physical characteristics of the Sludge

Physical Parameters					
pH	EC (mS/cm)	Bulk Density (g/cc)	Particle Density (g/cc)	Porosity (%)	WHC (%)
10.31	9.65	1.42	2.86	50.35	66.58
Sludge Texture					
Fine Sand (%)	Coarse Sand (%)	Clay (%)	Silt (%)	Sandy Loam (SL)	
44.78	27.14	4.24	23.84		

Particle Density and Bulk Density are two regularly utilised densities for soil characterization. The average value of particle density is 2.65 g cm³, which includes only the density of solid soil particles and excludes pore space (air space). Bulk density refers to the weight of a volume of soil in its natural state, which contains air, organic matter, and soil

solids [40]. The Bulk Density and Particle Density was found to be 1.42 and 2.86 g/cc.

The bulk and particle densities can be used to compute porosity, which is one minus the solid volume fraction of a sample [41]. Porosity refers to the quantity of pore space found in soil, sediments, and rock, as well as the

percentage of a material's total volume taken up by pores. Porosity for the sample was found to be 50.35 %.

The water holding capacity of sludge after electro-dewatering is an important index for landfill disposal, it should be evaluated [42]. Rainwater and melting snow move through the landfill and permeate into sludge, where some of

the water is absorbed and the rest combines with the organic matter in the sludge to generate leachate [43]. The Water Holding Capacity was found to be 66.58% which was followed by Keen Box Method. El-Nahhal, I. Y., et al (2014) found the WHC for sludge as 54.45 % [39].

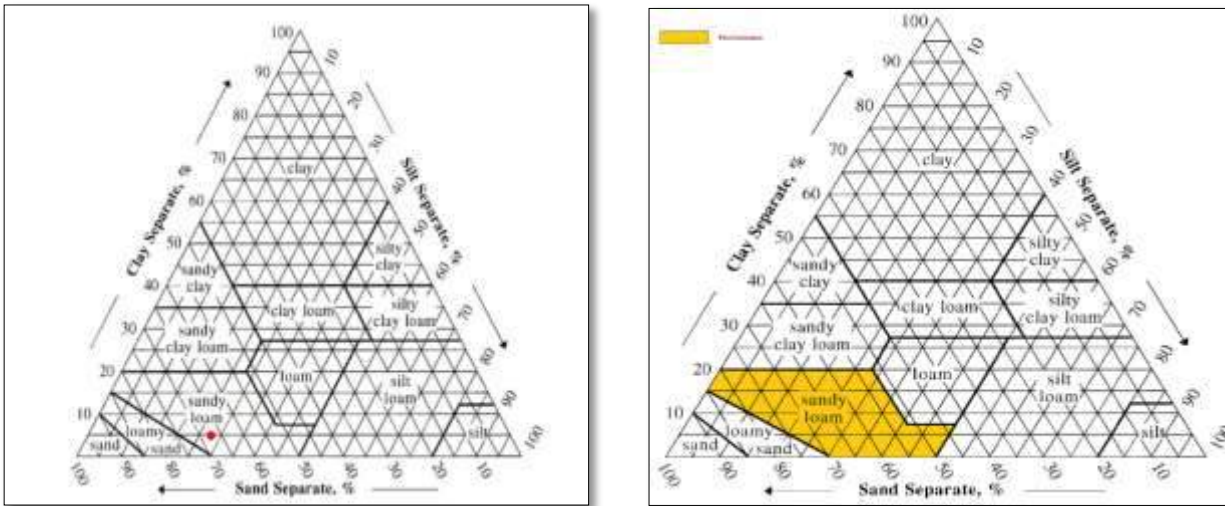


Fig. 7 (a) Sandy Loam Sludge Texture (b) Dominance of Sandy Loam in Sludge Texture

The Fig 7 represents the Sludge texture was found to be Sandy loam by following the International Pipette Method. The Fine Sand and Coarse Sand ranges as 44.78% and 27.14 % followed by Silt as 23.84% and Clay as 4.24 %, respectively according to table 1. Sludge biophysical

parameters are influenced by sludge texture, which is a very stable property. The Texture is linked to porosity, which governs water holding capacity, gaseous diffusion, and water flow, which also influence its materials health [44].

Table 2 - Chemical Characteristics of Sludge

Chemical Parameters (meq/100 gms)						mmol(c)/L
Na	K	Cal	Mg	Chlorides	SO4	SAR
19.89	2.72	0.05	0.24	9.48	5.79	49.88

The Sodium Adsorption Ratio (SAR) is used to express the relative activity of sodium ions in the exchange reactions with the soil. This ration measures the relative concentration of sodium to calcium and Magnesium [45]. The Na, K, Ca and Mg are considered as the Macro nutrient for the growth [46]. The water soluble cations like Sodium, Potassium, Calcium, Magnesium, were found to be as 19.89, 2.72, 0.05 and 0.24 meq/100 gm whereas anions like Chlorides and Sulphate were found to be as 9.48 and 5.79 meq/100 gm. The SAR being an important parameter were found to be 49.88 mmol(c)/L.

Table 3 - Spot Tests of Sludge Quality

Spot Tests			
PFLT	Cyanide	Sulphide	Chromium
Pass	Negative	Negative	Positive

Paint Filter Liquid Test is used to determine the presence of free liquid as based upon its result the treatment and suitability depends on the disposal mechanism [47]. The leachability of the sample is determined by this test. Paint Filter Liquid Test was found to be positive.

Metal contamination is going on worldwide due to various natural and anthropogenic activities. The elements like Cyanide, Chromium and Sulphide have negative impacts on environment and human beings and that's why their detection is important. Hydrogen Sulphide is tested as it pollutes the environment and the human's health. The H₂S converts into

various forms like S²⁻, SO₂/SO₃, H₂SO₄ by different factors like mineralization, Combustion, bacteria which make it form dangerous for the environmental pollution which ultimately affects the living beings. [48]. Chromium, on the other hand is also harmful as excessive exposure could lead to higher levels of accumulation in human and animal tissues, leading to toxic and detrimental health effects. [49] While similar studies also refer the same for the Cyanide. The cyanide are produced by natural and anthropogenic activities in various forms which affects the soil, water, air food, biological organisms and lastly the living beings [50]. The spot test for Cyanide, Chromium

and Sulphide were also carried out where results were found to be negative.

Table 4 - Other Parameters for Further Studies

Other Parameters			
Calorific Value(Cal/g)	Flash Point (°C)	Moisture Content (%)	Ash Content (%)
NA	>60	21.32	1.12

According to Table 4, the flash point of a flammable liquid is defined as the lowest temperature at which it emits enough vapour to generate an ignitable mixture with air near its surface or within a vessel [51]. The flash point of flammable material is the most essential combustible property used to identify the potential for fire and explosion dangers [52]. Flash point was found to be within the limit.

The Moisture Content and Ash Content were found to be within the limits prescribed by CPCB.

Calorific value, also known as heating value or heat of combustion, is a measurement of the total energy content released as heat when a substance is entirely burned with air or oxygen [53]. The Calorific Value (CV) was determined by using Bomb Calorimeter for the sludge which is found to be within the limit.

The natural sources of fluoride are fluorite, fluorapatite, and cryolite, whereas anthropogenic sources include coal burning, oil refining, steel production, brick-making industries, and phosphatic fertilizer plants, among others. The groundwater is more susceptible to fluoride accumulation and contamination than are other environmental media, primarily because of its contact with geological substrates underneath. As a result, drinking water is considered to be the potential source of fluoride that causes fluorosis. When consumed in adequate quantity, fluoride

prevents dental caries, assists in the formation of dental enamels, and prevents deficiencies in bone mineralization. At excessive exposure levels, ingestion of fluoride causes dental fluorosis skeletal fluorosis, and manifestations such as gastrointestinal, neurological, and urinary problems. [54].

Chloride is found in nearly all waters and is derived from a number of sources, including natural mineral deposits; seawater intrusion or airborne sea spray; agricultural or irrigation discharges; urban run-off due to the use of de-icing salts; or from sewage and industrial effluents [55]. Increased salinization and chloride concentrations can induce a variety of ecological effects within both aquatic and terrestrial ecosystems. It can lead to the acidification of streams, mobilize toxic metals from soils through ion exchange, affect mortality and reproduction of aquatic plants and animals, alter community composition of plants in riparian areas and wetlands, facilitate the invasion of saltwater species into previously freshwater ecosystems, and interfere with the natural mixing of lakes [56].

The sulphur enters through various sources as of natural and anthropogenic into various forms which further involves in Sulphur cycle and pollutes the environment if exceeded the limit [57]. After the testing of sampling for CV, the sample was further used to test the Fluoride, Chloride and Sulphate Contents which were found to be less than <0.3%.

Table 5- Heavy metals in Sludge

Heavy metals (mg/kg)					
Cd	Cu	Cr	Pb	Ni	Zn
10.47	14.38	2851	20.66	7.84	38.51

The Samples were tested for heavy metals using AAS. The metals are tested for TM, TCLP and WLT forms where the samples were found to be within the limits when compared with the standards. The Table 5 represents the metals in Total Metals extracted form which ranges for

Cadmium as 10.47 mg/kg, followed by other metals ranging as Copper (14.38 mg/kg), Chromium (2851 mg/kg), Lead (20.66 mg/kg), Nickel (7.84 mg/kg) and Zinc (38.51 mg/kg). Since there is no standards for the sludge comparison could not be made.

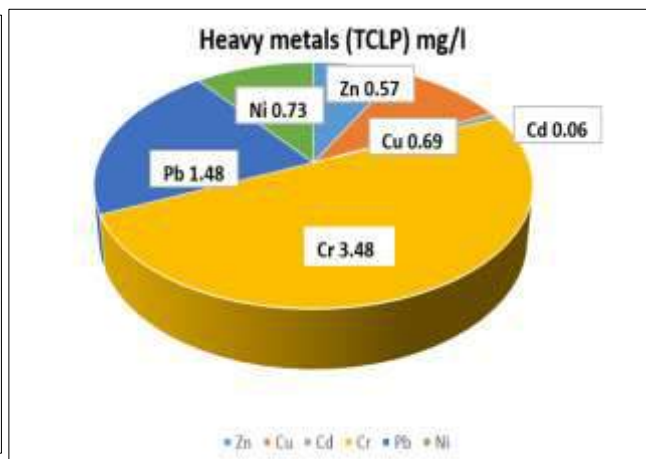
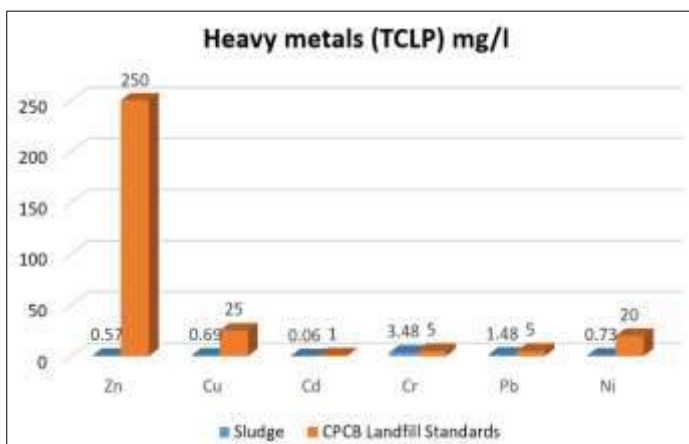
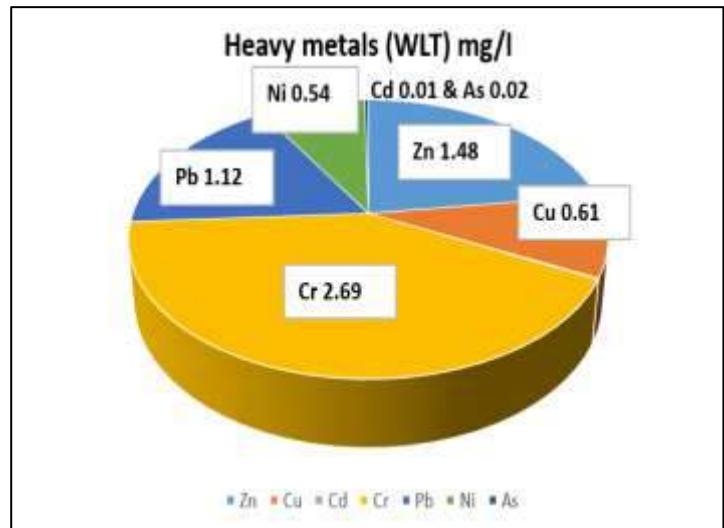
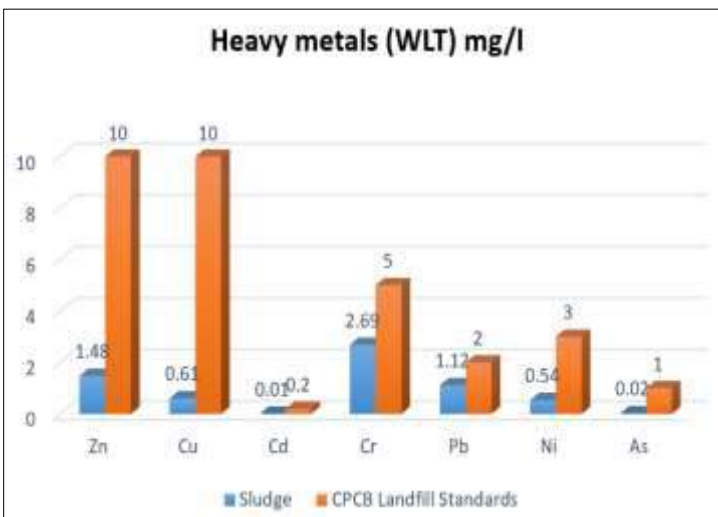


Fig 8. (a) Heavy metals in TCLP compared with the CPCB Landfill Standards (b) Metals in TCLP of Sludge.

The Fig 8 (a) depicts that the metals are within the limits while Fig 8 (b) represents the Chromium (3.48 mg/l) was found to be higher than other metals which is followed by

Lead (1.48 mg/l), Nickel (0.73 mg/l), Copper (0.69 mg/l), Zinc (0.57 mg/l) and Cadmium (0.06 mg/l) in TCLP extracted method.

Fig 9. (a) Heavy metals in WTP compared with the CPCB Landfill Standards (b) Metals in WLT of Sludge.



The Fig 9 (a) depicts that the metals are within the limits while Fig 9 (b) represents the Chromium (2.69 mg/l) was found to be higher than other metals which is followed by Zinc (1.48 mg/l), Lead (1.12 mg/l), Copper (0.61 mg/l), Nickel (0.54 mg/l), Arsenic (0.02 mg/l) and Cadmium (0.01 mg/l) in WLT extracted method.

CONCLUSION

Industrial sludge is most common waste generated by industries. The sludge is considered as Hazardous waste and so a proper disposal mechanism is required as treatment part. The various physico-chemical parameters were studied which shows the characteristics of sludge is within the limits prescribed by CPCB for landfill. For further studies heavy metals were also determined. The metals were extracted by various methods to get the TM, TCLP and WLT forms of sludge for heavy metals concentration and were analysed by using AAS. The result obtained indicates the metal concentration are within the limits. The Hazardous waste based upon its characteristic need to undergo various types of disposal as per CPCB guidelines. The studied sludge can be directly disposed to landfill site which is the easiest and effective way for the disposal of such kind of hazardous waste. But further sampling, monitoring and analyses should be followed routinely in order to check its characteristics for the safe disposal.

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INDIAN NAVY: BUILDING A POWERFUL BLUE WATER NAVY

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In light of the current geopolitical and security environment in the Indian Ocean region, India requires a modern navy to safeguard its maritime interests and carry out new duties.

The Indian Navy, which is the primary display of India's maritime might, wants to rule both the Indian and Pacific oceans. It has been working tirelessly to improve naval prowess. The Indian Navy's plans to modernise, however, have been hampered by a number of obstacles, including financial limitations and structural dysfunction in the Indian military industry.

In his speech to the nation on Navy Day 2019, Prime Minister Narendra Modi, to his credit, referred to the history of the Chola Kingdom. One of the main factors influencing the Cholas' dominance in the economy was their navy, which was regarded as one of the greatest at the time. Even in the 21st century, this is still true. The dreams of a New India, a youthful country in the process of converting itself into a modern nation, have been carried by the Indian Navy, a partner in progress. Admiral Alfred T. Mahan highlighted the strategic significance of the Indian in these. As a result, whoever achieves maritime supremacy in the Indian Ocean would be a significant player on the international stage.

The Indian Ocean region is at the core of a geopolitical landscape that is always changing, much like the oceans. From the Malacca Straits conundrum to terrorism's expansion, the developing conflict between the United States and Iran in the Middle East, as well as the region's quick militarization and nuclearization, the current situation between India and Pakistan is a boiling pot, which makes these issues even more complicated. The most urgent concern of all, however, is the perception of a rising tide of Chinese influence that, it feels, now extends all the way into India's backyard and beyond its borders.

Extended neighbourhood, especially penetrating weaker nations with its financial might and land grab tactics. A "strategic maritime triangle" has developed in the Indian Ocean as a result of the expansion of China's People's Liberation Army Navy (PLAN), the rise of the indigenous Indian Navy, and the US. Naval hegemony over the world's commons.

According to Hew Strachan, "Strategy is the choices, and geography determines strategy." That one makes in the face of

constraint," the current environment in the IOR is a complex interaction of many factors, and India, because of its central location and strategic vantage point at the centre of the Indian Ocean Region, is at the centre of many of the most urgent geopolitical developments in the world even though it has a lot of clout.

As a result, the Indian Navy, which represents India's maritime might in its purest form, acts as a solid foundation in defending our country's interests both at home and abroad. As a result, it is imperative that India's maritime strength be increased, which strongly supports the expansion of the Indian Navy at this precise time.

Plans for Indian Navy's Modernization and Outreach: What Have We Achieved So Far?

Over the past ten years, the Indian Government and Navy have worked tirelessly to increase naval prowess. In light of the current geopolitical and security environment in the Indian Ocean region, India requires a modern navy to safeguard its maritime interests and carry out new duties.

India has strengthened its eastward advancement strategy in order to achieve the goal of the Indian Navy's expansion plan, which is to rule both the Indian Ocean and the Pacific (Indo-Pacific construct). The Indian Naval forces have recently increased the extent of their engagement in the Indian Ocean and are taking a more proactive role there.

The Indian Navy's responsibility extends beyond protecting our coastline, since maritime terrorism, piracy, human and drug trafficking, illegal and unreported fishing, the trafficking of illegal weapons, and poaching present numerous threats to the region's marine safety and security. To successfully respond to these concerns, security forces need to have a better understanding of the marine operations taking place in the area. By deploying its ships for Indian Diaspora evacuation and disaster relief, the Indian Navy has taken a proactive approach to disaster risk management. Additionally, there had been a significant increase in port calls, visits, and participation in maritime exercises with international partners. In order to maintain watchfulness, the Indian Navy has also approved mission-based deployment, in which mission-ready ships and planes will be stationed year-round near key Sea Lanes of Communication and Choke Points in the Indian Ocean.



The Navy is working to fill capability gaps in areas like aircraft carriers, tankers, docks for landing platforms, mine-hunting boats, submarines, and integrated helicopters. Through the addition of long-range marine reconnaissance aircraft, integrated helicopters, high-altitude long-endurance aircraft, or remotely piloted aircraft, we are also improving our surveillance capabilities. Enhancing capabilities through the use of contemporary platforms, munitions, and sensors has been the main goal.

There is a proposal to implement a 10-year plan to develop facilities for extra soldiers, vessels, planes, and drones on the islands, upgrading the current military infrastructure, in addition to establishing a Tri-service command in the Andar and Nicobar Islands. In addition to being significant from a geopolitical standpoint, Andaman & Nicobar has developed into a staging area for India's IADR efforts. In Northern Andaman, INS Kohassa has been officially opened as the third aviation hub for the Navy. In Madagascar and Mauritius, the Indian government has constructed listening posts and naval surveillance facilities.

The creation of the Information Fusion Center (IFC), situated in Gurgaon's Information Management and Analysis Center for the Indian Navy. The IFC will improve maritime safety. And will exchange relevant real-time vessel information with friendly countries regarding white-shipping.

The development of combat capabilities and the production of weapons and equipment by the Indian Navy have advanced recently. The Indian Navy intends to have 200 ships, 300 planes, and 24 attack submarines, according to the Maritime Capability Perspective Plan, they stated. The Navy now possesses about 132 ships, 220 aircraft, and 15 submarines. We need at least three aircraft carriers, as the Indian Navy currently only possesses one, the INS Vikramaditya. Due to the need for a 65,000 tonne Catapult Assisted Take-Off But Arrested Recovery (CATOBAR) carrier with electric propulsion, the Navy has asked for additional funding. In the world, India is ranked sixth for having perfected the art of an arrested landing and ski-jump takeoff on the deck of a carrier, after Russia, the US, France, the UK, and China, according to the testing of Naval Light Combat Aircraft intended to operate from INS Vikramaditya. But there are still important challenges that the Indian Navy must deal with.

Indian Navy's Effort to Modernise

The Naval Commander Conference in April 2019 concentrated on important elements of force accretion and modernization. The Indian Navy (IN) is developing a massive plan to greatly improve its operational capability by bringing in new warships, submarines, and planes in addition to enhancing its overall influence in the important maritime zones, it was revealed during the discussions. The Navy intends to have a force level of 200 ships, 300 aircraft, and 24 attack submarines under this plan. The Navy now possesses about 132 ships, 220 aircraft, and 15 submarines. While emphasising a number of important topics during the conference in October 2019, CNS Admiral Karambir Singh also called attention to the essential

capability gaps. He also emphasised the need for three aircraft carriers to ensure that there is always at least one operational carrier available. He emphasised that the competence gaps must be filled, particularly in light of the IN's expanding mandate in the Indian Ocean Region.

Strategic Perspective and Maritime Security

Any navy's force size is directly correlated to its mission and level of threat. The IN published a White Paper titled "Maritime Security and Strategic Perspective" based on these important factors. Later, a new version with the title "Revised Maritime Security and Strategic Perspective" was published. According to a brief summary, "The updated policy has been dubbed 'Ensuring Secure Seas: Indian Maritime Security Strategy, in acknowledgement of two critical components. First, a seamless and comprehensive approach to maritime security is necessary due to the increase in the sources, types, and intensity of threats, as well as some blurring of traditional and non-traditional lines. Second, maintaining maritime security is vital to provide India the "freedom to use the seas" for its national interests. The title's broader outlook also takes into mind the IN's expanded mandate, which includes responsibility for total maritime security, including coastal and offshore security.

The Maritime Capability Perspective Plan of the Indian Navy (Mcpp)

The IN currently has 150 ships and submarines in its fleet. The notion of the Indian Navy's perspective-planning in terms of "force levels" has changed from focusing on "numbers" of platforms to one that emphasises "capabilities." Regarding force additions in the near future, the IN is doing so in accordance with an MCPP that aims to reach a force level of roughly 200 ships by 2027. The IN wants to change it from being a buyer's navy to a builder's navy. To increase output, the Navy is also appealing to the private shipbuilders.

2015-2030 Indian Naval Indigenization Plan (INIP)

In addition to encouraging domestic businesses, such as Micro, Small and Medium Enterprises (MSMEs), to take part in the construction of ships and related naval equipment, the Indian Naval Indigenization Plan (INIP) 2015-2030 was recently issued.

Current and Recently Completed Projects

Project-71 Indian Aircraft Carrier IAC-1. On February 28, 2009, Al Cochin Shipyard Limited lowered the keel of India's first indigenously constructed IAC-1, called INS Vikrant (CSL). India now belongs to the select group of countries capable of developing and building an air craft carrier thanks to this project. The largest and most prestigious battleship project in the nation was INS Vikrant. The LAC must be constructed by CSL for the IN. The Directorate of Naval Design of the Indian Navy completed the first design of the Aircraft Carrier (DND). The CSL design team improved the original concept. The ship, which is intended for short takeoffs but assisted landings, has reached its intended length of around 260 metres and is almost



at its maximum breadth of 60 metres (STOBAR). “In October 2020, IAC-I is anticipated to enter the Navy. The dates for each trial have been planned. We will shortly enter into advanced agreements with Cochin Shipyard Limited “Principal Director of Naval Design for the Indian Navy, Commodore J. Chowdhary, stated in January 2019.

IAC-2: INS Vishal, India’s second indigenous aircraft carrier (IAC-2), is still awaiting government sanction. According to the RFP, IAC-2 is expected to have a displacement of 65,000 tonnes, a length of 300 metres, with Calapult Take Off and Barrier Arrested Recovery (CATOVAR).

Shivalik Class Project 17

The Mazagon Dock Shipbuilders Limited produced the multipurpose stealth craft of the Shivalik Class for IN (MDL). The Project 17 Class frigates’ initial design was created by the DND, then MDL created the final version. These are the first locally produced warships that have stealth technology. This class of ships is headed by the Shivalik, followed by the Salpura and the Sahyadri. All of the ships have been put into service, and the experience gained during their design and construction will be useful for future endeavours.

Nilgiri Class Project 17A

MDL and Garden Reach Shipbuilders & Engineers (GRSE) are constructing Project 17A Nilgiri-class stealth frigates for the IN. In September 2012, the Cabinet Committee on Security gave the Indian Ministry of Defence (MoD) the go-ahead to develop warships under Project 17A. Shipbuilding agreements with MDL and GRSE were signed by the MoD in February 2015. The first stealth frigate, INS Nilgiri (12651), had its keel laid at MDL in December 2017. The ship is scheduled to be delivered in 2022 and was launched in September 2019. Seven frigates in total have been ordered, four of which will be built by MDL and three by GRSE. The Project 17A frigates incorporate cutting-edge engineering and stealth features like radar suppression screens and radar-resistant deck fittings. In September 2018, MDL and GRSE signed a contract with Bharat Electronics Limited to purchase seven Barak-8 air defence missile systems from Israel Aircraft Industries. Additionally, MDL hired Fincantieri to deliver technical support for Project 17A.

Kolkata Class Destroyers, Project 15A

The new stealth destroyers constructed by MDL for the IN under Project 15A are the guided missile destroyers of the Kolkata class. The Project 15B destroyers follow the Type 15 Delhi-class destroyers in the order of precedence. In August 2014, the first destroyer was put into service, and in November 2016, the third. They go by the names INS Chennai, INS Kolkata, and INS Kochi.

The Project 15B class of Guided Missile Destroyers

The Project 15B destroyer is a variation of the Kolkata-class destroyers that MDL is constructing. In January 2011, a

deal for the building of four Project 15B destroyers was signed. INS Visakhapatnam (D 66), the first Project 15B ship, had her keel laid in October 2013 and was launched in April 2015. The INS Mormugao (D 67), the second destroyer in the class, had its keel laid in June 2015, and it was launched in September 2016. By 2021, the first ship is anticipated to join the IN, and the other three will follow one after the other. The P-15B ship keeps the Kolkata-class hull shape but adds a stealthier flush deck and cutting-edge weaponry. The DND-designed vessels will have higher manoeuvrability, better seakeeping, and enhanced survivability. The destroyers will be among the most technologically advanced guided missile destroyers in the world because to their cutting-edge weaponry and sensor package.

Project 1135.6 Frigates

According to a statement made by the Indian Ministry of Defence (MoD) on January 30, 2019, an Inter-Governmental Agreement (IGA) was reached between India and the Russian Federation on October 15, 2016, to build additional Project 1135.6 Follow-on ships at Goa Shipyard Limited (GSL). In accordance with the IGA, the Government has a contract in place with GSL for the building of two ships, with delivery dates of June 2026 and December 2026, respectively. The Follow-on P 1135.61 series of frigates are powerful platforms with a mission span covering the full spectrum of naval warfare. They are specially designed to meet the IN’s unique requirements. The ships would be equipped with cutting-edge indigenous weaponry and sensors, including sonar, the BrahMos missile system, and the Combat Management System, among others.

Project 28 ASW Corvette

GRSE is constructing four Kamorta Class indigenous Anti-submarine Warfare (ASW) corvettes for the IN. The guided-missile corvettes of the Kora-Class are replaced by those of the Kamorta Class in service with the IN. In August 2014, the INS Kamorta, the IN’s command corvette, was commissioned. The third vessel, INS Kiltan, was commissioned on October 16, 2017, while the second vessel, INS Kadmat, was put into service in January 2016. The final vessel, the INS Kavaratti, was launched in May 2015 and will shortly be put into service.

Mines Counter Measures Vessels

According to media sources, India will shortly release a new request for proposals (RFP) for the construction of 12 mine-countermeasure vessels (MCMVs) in partnership with a foreign shipyard at an estimated cost of 32,640 crore (about \$4.5 billion). The chosen foreign collaborator has nominated GSL to work with them. The current mine sweepers are nearing the end of their useful lives and no progress has been achieved. It was also mentioned that the IN has agreed to pay Thales Australia 306 crore (\$42 million) for eight mine countermeasure clip-on influence sweeps to outfit its rapid interceptor crafts, which are expected to be delivered in 2021–2022.



Shallow Water ASW Crafts

Eight antisubmarine warfare shallow water boats (ASWSWCS) will be built and supplied for IN by GRSE under a deal valued at 26,311,32 crore. The first craft must be delivered in 42 months, while the last one must be delivered in 84 months.

Amphibious Capability

At a cost of 20,000 crore (about \$2.9 billion), or four Landing Platform Docks (LPD), MOD cleared them in July 2018. Armed forces use LPDS ships to transfer personnel, weapons, helicopters, and amphibious vehicles into combat zones via the water. IN already possesses five landing ship tanks and the INS Jalashwa (LPD) (Large).

Fleet Support Ships

India had a contract for a fleet tanker with a follow-on option for up to three additional tankers with the Italian shipbuilder Fincantieri in 2008. This option for one follow-on ship has already been acted upon by IN. Anadolu Shipyard in Turkey has been chosen by Hindustan Shipyard Limited (HSL) to assist in the construction of five 45,000-ton fleet support ships for the IN. Additionally, the MoD has approved the introduction of five locally built fleet support ships.

Subsurface Vessels

As opposed to 24 in 1997, the Maritime Capability Perspective Plan (MCP), which was introduced in 2012, calls for at least 18 conventional submarines. When finalised, the Kalvari Class project's completion and the decision to build six more diesel-electric submarines with Air Independent Propulsion (AIP) as part of Project 75 (India) will help close the gap between the present and future fighting power.

Project 75

Kalvari Class

The first of the six Scorpene class submarines constructed as part of Project 75, INS Kalvari, was launched on December 14, 2017. On September 28, 2019, the second submarine, INS Khanderi, was put into service. Vela and Karanj are currently being built. The sixth submarine is known as INS Vagsheer, and the fifth is known as INS Vagir. By 2022, all remaining submarines will have been delivered.

Life extension and Refit

The IN has upgraded six of its submarines—four of the Sindhughosh class and two of the Shishumar class—as part of the Major Refit and Life Certification (MRLC) programme in an effort to fill the gaps in its combat capability. Russian shipyard Zvezdochka and Larsen and Toubro announced their collaboration in July 2018 to upgrade four Sindhughosh-class submarines for roughly 70,000 dollars each (\$0.7 billion). MDL has hired ThyssenKrupp Marine Systems (TKMS) of Germany to upgrade two submarines of the Shishumar class for 410 crore (about \$0.05 billion).

Submarine Force Accretion-Project 75(1)

On January 31, 2019, the Defence Acquisition Council gave its approval for the building of six diesel-electric submarines with AIP at an estimated cost of about 45,000 crores (\$6.3 billion). Expression of Interest (EOI) was released on June 20, 2019, in order to identify possible Indian Strategic Partners (SPS) for P 75. (1). The chosen Indian SP will work with the chosen OEM to build all six submarines in India. In addition, the initiative would provide IN the option to produce six more submarines. Within two months, the potential SPs are expected to respond to the EOI. Three Indian shipyards, L&T, MDL, and HSL, were reportedly expected to reply to the EOI, according to the media. The RFP would then be sent to the businesses who made the short list. The EOI is expected to get responses from five top foreign submarine manufacturers, including Navantia's S-80, ThyssenKrupp's Type 214, Rubin's Amur, Naval Group's Scorpene, and Daewoo's KSS3.

Nuclear Submarine Programme

First steps were taken with the Advanced Technology Vessel (ATV) submarine programme. As one of the three legs of India's triad of airborne, naval, and land-based platforms as a minimum nuclear deterrent, the decision was made by India in 1983 to develop and deploy nuclear submarines to serve as India's sea-based nuclear deterrent. A Russian Charlie-class nuclear-powered cruise missile submarine was leased from Russia and operated in the IN as INS Chakra from 1988 to 1991 in order to gain experience operating nuclear submarines. India once more leased an Akula-II class SSN in 2012 for a period of ten years. The first Arihant submarine was launched in 2009 and put into service in August of that same year. To be effective, the Navy will need more than one SSBN, therefore it is said that India aims to have a total of six SSBNs, with the second one, INS Arighat, already launched and scheduled to be put into service by 2021. Additionally, according to the IN, two to four additional Arihant-class submarines with progressively larger configurations have already started construction. According to reports, India is also negotiating for a \$3 billion ten-year lease of a Russian Project 971 Shchuka-B class ship that will be customised and outfitted with homegrown communications and sensor technology. It will probably be called Chakra-III.

Can the Indian Navy handle the future?

India is widely acknowledged for its involvement in the region and is regarded as a guardian of the regional order, particularly with regard to preserving open sea lanes, freedom of navigation, and assuming the position of "Net Security Provider."

India had a modest but powerful regional naval posture at the start of the twenty-first century. The Indian Fleet, which has long been regarded as a "blue water" navy, has many difficulties.

The budgetary assistance for Indian army is one of their biggest problems. The Indian government has acknowledged that there has been no discernible rise in military spending over the last five years. Despite having the seventh-strongest navy in



the world, we spend among the least on the armed forces. According to data from the fiscal years 2017 and 2018, India's navy receives only 15% of the country's overall military spending, significantly less than its rivals in the Quad. In comparison, Australia and Japan spend over 25% and 23% of their military budgets, respectively, while the United States spends nearly 30% of its budget on its navy. Although it is difficult to find official figures from China, studies suggest that the country spends approximately three times as much total on its military as India does.

Despite being primarily a maritime nation, the Indian Navy receives the smallest percentage of the pie among the three forces. With a budget of 23,156 crore for 2019–2020, the government's ambitious goal to rank among the finest in the world took a significant hit. Thus, the goal of making the Indian Navy a "World Class Navy" is hindered by financial limitations.

There are issues with India's defence sector that limit the growth of the Indian Navy. India currently has five significant shipbuilding facilities. However, because of India's severe bureaucratic structure, these large-scale shipbuilding industries have developed persistent issues with low production and poor organisation and management, leading to a significantly longer construction cycle of the main naval ships for the Indian Navy than the global average.

Ironically, out of the three forces, the Indian Navy has utilised social media the most, notwithstanding the recent arrests. The Indian Navy forbade the use of social media and smartphones on bases after seven navy employees were accused of disclosing private information. However, this demonstrates the weakness of the forces and calls for a practical reorganisation of the Indian Navy to enhance cyber security and monitoring. Additionally, optimum staffing and operational effectiveness are urgent needs.

Another issue worth mentioning is that some of the ships in the lineup that are currently under construction will eventually replace those that are being phased out. As a result, for every two to three new ships that are added, one ship from the current strength retires. Delays are also caused by flaws; for example, the introduction of the Second Kalvari Class assault submarine was postponed because of 36 flaws. The Indian Navy must also publish detailed plans for implementing cutting-edge technologies like big data analytics and artificial intelligence. Additionally, the Indian Navy has thus far prioritised expanding its fleet of submarines above enhancing their effectiveness. However, India continues to harbour a strong ambition to develop a naval force that may help it achieve its strategic objective of becoming a significant global actor.

The Road Ahead

While the US is at the top of the list of the top five naval powers in the world and China is closely behind, the Indian Navy is not included. In order to change from a "Buyer's Navy into a Builders Navy," the Indian Navy must now make consistent efforts. Navies are not built in a day.

The mindset has also evolved with the times. For the Indian Navy to be seen as a powerful blue water force, it must

adapt and improve its marine readiness. The emphasis should be on rapid capability expansion, sometimes known as "nation building through shipbuilding," which is based on indigenous construction, self-reliance, and participation from both the public and commercial sectors. Instead than counting heads, the emphasis should be on improving capabilities.

India is getting ready to be a more active "maritime security provider" in the eastern Indian Ocean, according to a statement posted on the US Foreign Policy website. India must keep making investments in its force-readiness capabilities, manpower, and technology if it hopes to become a regional naval power.

Despite the enormous difficulties mentioned above, the Indian Navy has demonstrated an exceptionally rapid operational pace over the past ten years and has developed into a multidimensional, networked force that is prepared for battle and capable of meeting any maritime challenge in the twenty-first century. The Indian Navy is still a respectable, well-organized, and capable force. The Indian Navy plays four different types of functions to safeguard the country's maritime interests: military, diplomatic, constabulary, and benevolent.

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INAY KO PO, ANG MODYUL KO! PAGSIPAT SA KARANASAN NG ISANG INA SA GITNA NG PANDEMYA

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ABSTRAK

Ang papel-pananaliksik ay naglalahad ng pag-aaral hinggil sa karanasan ng mga magulang, partikular ang mga ina, sa pagsasagot sa mga gawaing modyul ng kanilang mga anak na nasa edukasyong primarya sa panahon ng pandemya. Hangarin ng pananaliksik na siyasatin ang kuwentong-buhay ng mga ina bilang kabahagi at katuwang ng mga guro sa pagsisiguro ng pagbibigay ng de-kalidad na edukasyon sa kabila ng kalagayang pamandemya na kinahaharap ng lipunan. Pangkalahatang layunin sa papel na ito na galugarin ang karanasan ng mga ina na silang sumasagot ng mga gawain sa modyul ng kanilang anak sa panahon ng pandemya. Gayon din ang hangaring masuri ang mga hamon at motibasyon na naghimok sa kanila upang sila ang magsagot ng mga gawain sa modyul ng anak. Sumangguni ang mga mananaliksik sa iba't ibang kaugnay na mga pag-aaral at literatura upang mapagtibay ang papel. Ginamit ang kwalitatibong metodo na may disenyong Husserlian Descriptive Phenomenology at Colaizzi's Seven Steps of Data Analysis upang mailarawan at magalugad ang kuwentong-buhay ng mga ina na silang sumasagot ng mga gawain sa modyul ng kanilang mga anak. Napili ang limang kalahok sa pag-aaral sa pamamagitan ng purposive sampling batay sa mga sumusunod na kriterya: (1) Ina na may anak na nag-aaral sa primarya, (2) Ina na siyang sumasagot ng gawain sa modyul ng anak. Pakikipanayam ang ginamit na instrumento sa pangangalap ng datos na binubuo ng interview guide na may tatlong open-ended questions. Isang paraan ang pag-aaral na ito upang makabuo ng mga programang makatutulong sa mga magulang na maibsan ang kanilang mga alalahanin. Higit sa lahat, upang magbigay diin na hindi dapat ang mga magulang ang siyang dapat na magsagot ng mga gawain sa modyul ng kanilang mga anak.

MGA SUSING SALITA: modyul, ina, edukasyon, pandemya

INTRODUKSYON

Maituturing ngang gagawin ng ina ang lahat para mabigyan ng magandang edukasyon ang kanilang mga anak, kahit anong hirap at sakripisyo ay gagawin nila upang ito'y kanilang mapunan. Laging sinasabi ng mga ina o magulang, ang edukasyon ay isang pundasyong paraan upang ang kanilang mga anak ay makamit ang kasaganahan, at sa pamamagitan ng proseso ng edukasyon, ito din ay instrumento sa minimithing kaalaman at kasanayan.

Upang maipagpatuloy pa rin ang edukasyon kasabay ng pagpapanatili ng kaligtasan ng mga mag-aaral, guro, at iba pang nasa larang ng edukasyon ay isinagawa ang *Distance Learning* bilang paraan ng pagkatuto.

Sa panahon ng modyular na pag-aaral gawa ng pandemya, ang mga ina ang isa sa mga malaking naapektuhan, sapagkat malaki ang hinihinging kalakip na responsibilidad, bagamat hindi sila praktisado sa pagbibigay ng kaalaman sa pamamagitan ng pang akademya, mahirap man at bago ang ganitong responsibilidad ay kailangan nila itong pagtuunan ng pansin sa ngalan ng edukasyon ng kanilang mga anak.

Ayon kay DepEd Undersecretary Diosdado San Antonio, may mga ginagawa nang hakbang ang pamahalaan

upang masiguro na lahat ng mag-aaral ay mabibigyan ng pagkakataon na makapagpatuloy sa pag-aaral sa panahon ng bagong normal. 59% ng mga mag-aaral ay gagamit ng tinatawag na print module, 20% ay online, at ang natitirang 20% ay offline digital. Ginagamit na rin ng DepEd ang telebisyon at radio bilang karagdagang paraan para sa tinatawag na *blended learning approach*.

Marahil, marami na sa atin ang nakarinig ng kasabihang, "Ang mga magulang ang unang guro ng mga bata." Sa panahong ito na nagkaroon ng pandemya at ang tanging paraan upang hindi maputol ang pag-aaral ng mga mag-aaral ay magkaroon ng iba't ibang *learning modalities* bilang tugon sa pagkatuto, ano-ano ang gampanin na kailangan tupadin ng mga "unang guro" ng mga kabataang ito?

Ang lahat ay sumasailalim sa bagong pamamaraan ng pamumuhay kasabay nito ang pamamaraan sa edukasyon ng mga mag-aaral. Maraming mga mag-aaral lalo na sa elementarya ang hirap unawain ang kanilang mga aktibidad na nakalakip sa kanilang mga modyul. Sa pamamagitan ng pagmamahal at kagustuhan ng mga magulang o ina na mabigyan ng magandang edukasyon ang kanilang mga anak ay handa silang maging tutor o guro upang tulungan ang kanilang sariling



mga anak. Batid ng karamihan na hindi lahat ng ina ay nakapagtapos sa pag-aaral at hirap din intindihin at paano ipaabot sa mga anak ang mga leksyon at mga aktibidad sa modyul ng kanilang anak kasabay nito ang responsibilidad nila sa kanilang trabaho at bilang asawa.

Ang mga modyul na sinasagutan ng mga ina ay kabilang na sa mga oras at obligasyon at ito'y pagtitimbangin ngayong bagong pamamaraan ng edukasyon. Marami ngang pabirong balita na ang mga ina na ang mga bibigyan ng marka at hindi na ang kanilang mga anak sapagkat sila naman daw ang sumasagot sa mga modyul ng kanilang mga anak, na tila sila ay bumalik sa pag-aaral, pero dito mo din makikita ang mga hindi birong dinadanas nila sa pag lalaan ng oras at pagbabahagi ng kanilang kaalaman sa kanilang mga sinasagutang modyul upang magkaroon ng magandang marka ang kanilang mga sariling anak.

Ang madiskarte ang isa sa mga katangian ng bawat ina at mahalaga din ito sa panahong sila ay kinakailangan bilang guro sa kanilang mga sariling anak na kanilang mga estudyante. Ang ilang buwan nilang gugulin dito ay nag papakita ng dedikasyon at inspirasyon ang pag hihirap nila pati na ang mga kaguruan at lubusin ang panahong ito upang matuto at mas mapalapit sa kanilang mga anak. Ang mananaliksik ay isang ina, kung kayat nilayon galugarin ang karanasan ng mga kalahok upang mailarawan ang penomenang kaugnay sa mga hamon at motibasyon sa panahon ng pandemya. Ang penomenang ito ang ninais suriin ng at naghimok upang isagawa ang pag-aaral. Mahalaga at napapanahon ang pag-aaral na ito dahil upang maipaabot nito ang panawagan ng magulang sa mga guro upang matugunan ang pangangailangan sa pagharap ng mga hamong dulot ng pandemya na nakasasagabal sa motibasyon ng kanilang mga anak sa pagkatuto nang may motibasyon.

TEORETIKAL NA BALANGKAS

Ang self-Determination Theory ay isang masaklaw na teoryang nakatuon sa personalidad at motibasyon, at sa kung paano nakikisalamuha ang isang indibidwal at dumedepende sa kanyang lipunan (Legault, 2017). Maiugnay rin ito sa paniniwala nina Ryan at Deci (2000) na nagpapahayag na ang motibasyon ay tumutugon sa kung ano ang nagtulak sa pag-uugali ng tao at humihimok sa kanya para kumilos, pati na rin kung paano nakokontrol ang pag-uugali sa iba't ibang aspekto ng kanyang buhay. Bilang sandigan ng pag-aaral, naniniwala ang mga mananaliksik na mahalagang masuri at magalugad ang mga hamon at motibasyon ng mga magulang na siyang sumasagot sa mga gawain sa modyul ng kanilang mga anak. Ginamit ang *Husserlian Descriptive Phenomenology at Colaizzi's Seve Steps of Data Analysis* upang mailarawan at masuri ang phenomenon o ang mukha ng pandemyang danas ng mga magulang.

LAYUNIN NG PAG-AARAL

Pangkalahatang layunin sa papel na ito na galugarin ang kuwentong-buhay ng mga ina batay sa kanilang karanasan sa pagsagot ng mga gawain sa modyul ng kanilang anak sa

panahon ng pandemya. Gayon din ang hangaring masuri ang mga hamon at motibasyon na naghimok sa kanila upang sila ang magsagot ng mga gawain sa modyul ng anak. Isang paraan ang pag-aaral na ito upang makabuo ng mga programang makatutulong sa mga magulang na maibsan ang kanilang mga alalahanin. Higit sa lahat, upang magbigay diin na hindi dapat ang mga magulang ang siyang dapat na magsagot ng mga gawain sa modyul ng kanilang mga anak.

Tiyak na layunin ng pag-aaral na sagutin ang mga sumusunod:

- (1) Ano ang kuwentong-buhay ng mga ina batay sa kanilang karanasan sa pagsagot sa mga gawain sa modyul ng kanilang anak?
- (2) Ano ang motibasyon ng isang Ina sa pagsagot sa mga gawain sa modyul ng kanilang anak?
- (3) Ano ang hamon sa pagsagot sa mga gawain sa modyul ng kanilang anak?

MGA KAUGNAY NA LITERATURA

Ang Karanasan at Gampanin ng isang Ina bilang modelo sa pagkatuto ng mga anak sa loob ng tahanan.

Inilathala ng Department of Education, Western Australia (2015) ang buket na "Pagtuto sa bahay –0 hanggang 4 na taon: Mga aktibidad at masasayang ideya para matulungan ang mga anak mong matuto sa bahay. Para sa mga magulang/tagapagalaga ng mga batang bata", kung saan tinalakay na ang utak ng mga anak ay 'trabahong isinasagawa' at ang paglalaro ay trabaho sa mga bata. Ipinauunawa rito na makapangyarihan ang paglalaro at likas na paraan ito para matuto ang mga bata. Ipinaliliwanag dito na ang mga bata ay umuunlad nang pisikal, sosyal, emosyonal at kognitibo sa pamamagitan ng paglalaro. Gayun din, sinasabi na mahalaga ang paggabay sa mga bata. Kailangan ng mga bata ang gabay at malinaw at hindi nagbabagong hangganan para matutong gumawa ng mahuhusay na pagpili sa buhay. Natututo ang mga bata tungkol sa mga patakaran sa tahanan at sa komunidad. Nagkakaroon sila ng pag-uunawa ng mga kahihinatnan kapag ang mga patakaran ay hindi sinusundan. At sa mga gampanin at karanasang ito sa pagkatuto sa loob ng tahanan ay ang magulang, partikular ang ina, ang pinakamahalagang modelo ng tungkulin sa kanilang mga anak.

Hamon at Motibasyon ng isang Ina sa Panahon ng Pandemya

May mahalagang tungkulin ang motibasyon sa paghubog ng pag-uugali ng mga kasapi ng anomang organisasyon. Masisinag ang motibasyon ng isang ina mula sa artikulong Tuloy ang pagkatuto: Ang Pilipinong mag-aaral sa gitna ng pandemya (2020), kung saan sinambit ni Delia Magallanes, ina ng isang mag-aaral sa isang pribadong paaralan sa Maynila na "Malaki ang epekto sa pamumuhay ang pandemyang [COVID-19]. Lahat tayo nahihirapan sa sitwasyon, subalit ang pag-aaral o pagkatuto ay hindi dapat isawalang bahala. Karapatan ng mga kabataan na makapagalar. May kasabihan nga, "Ang kabataan ang pag-asa ng bayan". Kaya naniniwala ako na kahit anong hirap ng sitwasyon natin, marami namang paraan upang matugunan ang pag-aaral ng mga kabataan. Ang mahalaga ay



hindi masasayang ang isang taon sa buhay ng mga mag-aaral. Upang matagumpayan ito kailangan magtulong-tulong ang bawat isa. Bilang magulang, malaki ang responsibility namin para maging maayos at magtagumpay sa pag-aaral ng aming mga anak.”

Batay sa mga inilahad, masasabi na napapanahon ang pagsasagawa ng kasalukuyang pag-aaral upang maitampok at mapag-aralan ang kabuuang karanasan ng mga kalahok kabilang na ang kanilang hamon at motibasyon nararanasan sa pagsagot sa mga Gawain sa modyul ng kanilang mga anak. Isang paraan ito upang makabuo ng mga programa na makakatulong sa mga magulang upang maibsan ang kanilang mga alalahanin. Higit sa lahat, upang magbigay diin na hindi dapat ang mga magulang ang siyang dapat na magsagot ng mga Gawain sa modyul ng kanilang mga anak.

METODOLOHIYA

Disensyo ng Pananaliksik

Ginamit sa Pag-aaral ang *Husserlian Descriptive Phenomenology at Colaizzi's Seven Steps of Data Analysis* upang mailarawan at magalugad ang kuwentong-buhay ng mga magulang na siyang sumagaot ng mga gawain sa modyul ng kanilang mga anak. Ang nanguna sa pagsusulong sa deskriptibong penomenolohiya ay si Edmund Husserl na naglalayong tuklasin, galugarin, at ilarawan ang kahulugan ng isang penomenang nararanasan at sinusuri ang mga datos gamit ang pamamaraang ito (Augusto, 2019). Binaggit naman ni Gaddi (2016) na nag prosesong nakapaloob sa *Colaizzi's seven steps of data analysis* ay nagtutulak sa mga mananaliksik na pasukin ang komplikadong proseso ng interpretasyon ng mga datos upang tuklasin ang namamayaning tema nito.

Mga Kalahok

Limang mga magulang na may anak sa primarying pag-aaral ang napili na makilahok sa pag-aaral. Purposive sampling ang pamamaraan sa pagpili upang makahanap ng mga kalahok na kwalipikado batay sa mga sumusunod na mga kriterya: (1) Ina na may anak na nag-aaral sa primarya, (2) Ina na siyang sumasagot ng gawain sa modyul ng anak.

Instrumento ng Pananaliksik

Ginamit sa pangangalap ng mga datos ang *interview guide* na may tatlong open-ended questions sa karansan ng mga kalahok sa pagsagot ng mga Gawain sa modyul ng anak. Sa pagpapahusay ng instrumento, ipinabalideyt ito sa 2 propesor na dalubhasa sa larangan ng wika, pantikan at pananaliksik. Ang dalawang propesor na singguni ay kapwa mga guro sa kolehiyo. Isinaalang-alang ang mga suhestiyon at rekomendasyon ng mga balideytor upang maiangkop ang gabay na tanong at matamo ang nilayon ng pag-aaral. Kinapalooban ito ng tatlong tanong bilang gabay sa interbyu- (1) Ano-ano ang dahilan ng pagsagot sa mga gawain sa modyul ng kanilang anak? (2) Ano ang motibasyon ng isang Ina sa pagsagot sa mga gawain sa modyul ng kanilang anak? (3) Ano ang hamon sa pagsagot sa mga gawain sa modyul ng kanilang anak? Isinagawa ang

pakikipanayam sa paraang *online* bilang pagsunod sa *health protocols*, sa kanilang libreng oras, at nagtagal lamang ng 15-30 minuto ang panayam habang ang ibang kalahok na hindi nagpa-interbyu ay binigyan ng isang linggo upang masagutan ang talatanungan.

Mga Hakbang sa Pag-aaral

Tatlong kalahok na boluntaryong nagbahagi ng kanilang karanasan sa pagsagot sa mga gawain sa modyul ng kanilang anak. Bilang pagsasaalang-alang sa etikal na konsiderasyon, humingi ng pahintulot ang mananaliksik at tiniyak na ang personal na pagkakakilanlan at tugon ng mga kalahok ay mananatiling lihim. Ang tugon at iba pang ibinahaging karanasan ng mga kalahok ay gagamitin alinsunod sa layunin ng pag-aaral. Gumamit ng koda ang mananaliksik na I-1-I5 upang matiyak ang pagiging confidential ng pagkakakilanlan ng mga kalahok.

Bilang panimulang hakbang, ipinaalam ng mananaliksik sa mga kalahok ang mga layunin ng pananaliksik. Pagkatapos, simimulan ang pagkalap ng mga datos sa pamamagitan ng pakikipanayan at direktang pagsagot sa talatanungan. Bilang pagsunod sa *health protocols*, isinagawa ng mananaliksik ang pakikipanayan sa *online* na paraan. Tatlo sa mga kalahok ang nagpaunlak sa online interview habang dalawa naman ang pumili ng pagsagot sa talatanungan sa bakante nilng oras. Nagtagal ng 15-30 minuto ang panayam habang ang ibang kalahok naman ay binigyan ng isang linggo na sagutan ang talatanungan upang hindi makagambala sa kanilang gawain sa bahay.

Matapos na malikom ang mga kinakailangan datos, sinuri ito ng mga mananaliksik gamit ang *Colaizzi's Seven Steps of Data Analysis*. Una, binasa ang lahat ng deksripsyon mula sa mga tugon at mabusing sinuri ang kabuluhan ng mga transkrayb na mga datos. Sinundan naman ito sa pagkuha ng mahahalagang tugon na may direktang kaugnayan sa kanilang mga karanasan sa pagsasagot ng mga Gawain sa modyul ng kanilang anak sa panahong na pandemya. Pagkatapos, bumuo ang mga mananaliksik ng mga pagpapakahulugan mula sa pagsusuri sa mga tugon at muling binasa ang talatanungan upang tiyakin ang kaankupan ng nabuong kahulugan. Matapos matiyak na angkop ang pagpapakahulugan, isinaayos ito sa pamamagitan ng pagkakalster ng mga tema na may kaugnayan sa mga hamon at motibasyon ng mga Ina sa pagsot sa mga Gawain sa modyul ng kanilang anak. Ang pagkakalster ng mga natuklasang tema ang pinagbatayan sa pagbuo ng komprehensibong deskripsyon sa phenomenon na mabusing sinuri sa pamamagitan ng pagsasagawa ng balidasyon sa mga datos na nalikom. Kasunod naman ito ay ang pagbalangkas ng kabuuong paglalarawan sa penomenang pinag-aralan. Panghuli, binalikan ng mananaliksik ang mga kalahok at tinanong sila sa kaangkupan ng naging kinalabasan sa kanilang naging karanasan. Isinagawa ang balidasyon sa pamamagitan ng paghingi ng komento at suhestiyon upang matiyak na walang anomang karansan o impormasyong nakaligtan sa isinagawang pagsusuri.

**RESULTA**

Matutunghayan sa bahaging ito ang pagsusuri sa karanasan, mga hamon at motibasyon ng mga Ina sa pagsagot ng mga

gawain sa modyul ng kanilang anak. Makikita rin dito ang paggamit ng mga kodang I1-I5 upang mapanatiling lihim ang pagkakakilanlan ng mga kalahok.

Talahanayan 1**Karanasan ng mga ina sa pagsagot sa mga Gawain sa modyul ng kanilang anak.**

Tanong	Koda ng Respondenteng Tumugon	Siping Pahayag
<p>Tanong:</p> <p>Bilang ina, nararanasan kong sagutan ang mga gawain sa modyul ng aking anak dahil</p> <p>_____.</p>	<p>(I3)</p> <p>(I1, I2, I3, I4, I5)</p> <p>(I1, I2, I3, I4, I5)</p> <p>(I4)</p> <p>(I5)</p> <p>(I5)</p> <p>(I1)</p> <p>(I1)</p> <p>(I1, I5)</p> <p>(I3, I4)</p> <p>(I2, I4)</p> <p>(I4)</p>	<ul style="list-style-type: none"> • Nahihirapan ang anak ko dahil hindi gaanong maunawan kung papaano sasagutan ang mga gawain sa modyul. • Nahihirapan akong ipaliwanag ang mga aralin sa modyul upang masagot ng anak ko ang mga gawain. • Nahihirapan akong pasunurin ang anak ko sa pag-aaral at pagsagot ng mga gawain sa modyul. • Minsan ay nagsasabay-sabay rin ang gawaing bahay at mga aktibidad na kailangan tapusin. • May mga pagkakataon naman na hindi kayang sagutan ng aming mga anak ang modyul nila dahil sa kakulangan rin ng kaalaman. • Naaapektuhan ang kalagayang mental, kung saan nagdudulot na ito ng stress • Higit na natutuon ang oras ng kanilang anak sa paglalaro kaysa pag-aaral dahil nasa bahay lamang. • Hindi nararamdaman ng kanilang anak na ang bahay ay lugar para sa pag-aaral • Nagkikita-kita sila (ang mga ina ng mga magkakaklase na magkakapit-bahay) para magtulong-tulong sagutan ang modyul ng kanilang mga anak. • Natututo rin sila ng mga aralin ng kanilang anak dahil sa pagsagot sa mga gawain sa modyul • Nagkakaroon sila ng mahabang pagpapasensiya at pagtitiyaga sa pagtuturo sa kanilang anak. • Nagiging <i>bonding time</i> nilang mag-ina ang pagsagot sa mga gawain sa modyul.



Sa Talahanayan I, ay itinala isa-isa ang mga sagot ng mga ina hinggil sa kanilang karanasan sa pagsagot sa mga gawain sa modyul ng kanilang anak. Lahat o limang (5) respondente ay nagsabing nahirapan sila sa pagpapaliwanag ng mga aralin sa modyul upang masagot ng kanilang mga anak ang mga gawain; at maging ang pagpapasunod sa mga anak na aralin at sagutin ang mga gawain sa modyul. Dalawa (2) ang nagsabi na kinakailangan nilang magkita-kita ng mga kapwa nanay upang magtulong-tulong sa pagsasagot sa mga modyul ng kanilang mga anak; natututo rin sila sa mga aralin ng kanilang mga anak dahil sa pagsagot sa mga Gawain sa modyul; at nagkakaroon sila ng mahabang pagpapasensiya at pagtitiyaga sa pagtuturo sa kanilang mga anak. Isa (1) ang nakaranas na nahihirapan ang anak dahil hindi gaanong maunawaan kung papaano sasagutan ang mga gawain sa modyul; minsan ay nagsasabay-sabay rin ang gawaing bahay at mga aktibidad na kailangan tapusin; may mga pagkakataong hindi kayang sagutan ng kaniyang anak ang modyul dahil sa kakulangan ng kaalaman; naapektuhan ang kalagayang mental na nagdudulot sa kanya ng stress, higit na natutuon ang oras ng kaniyang anak sa paglalaro kaysa pag-aaral dahil nasa bahay lamang; hindi nararamdaman ng kanyang anak

na ang bahay ay lugar para sa pag-aaral; at nagiging *bonding time* nilang mag-ina ang pagsagot sa mga Gawain sa modyul.

Mahihinuha sa sagot ng mga magulang na may mga magkakatulad silang karanasan hinggil sa pagsasagot ng mga gawain sa modyul ng kanilang mga anak bagamat marami rin ang mga sitwasyon na sila lamang ang nakadaranas. Sa labindalawang sitwasyong kanilang inilahad ay kapansin-pansin na higit ang mahihirap nilang karanasan kaysa sa positibong karanasan.

Ang mga karanasang ito ay tumutugma sa mga disadbentahe ng *Modular Distance Learning* na nakasaad sa Helpline (2021), kung saan sinasabing hindi lahat ng mag-aaral ay buong pusong ginagawa ang kanilang modyul; (2) ang ilang magulang ay pinamimihasa ang kanilang mga anak sa pamamagitan ng pagsagot sa mga modyul ng mga ito; (3) kinokopya na lamang ng ilang mag-aaral ang sagot nang hindi binabasa ang modyul; (4) maraming mag-aaral ang nagsabing hindi naman sila natututo sa mga modyul; at (5) para lamang sa pormalidad ang mga modyul at hindi talaga isinasalob ng mga mag-aaral.

Talahanayan 2

Ang Motibasyon ng isang Ina sa Pagsagot sa mga Gawain sa Modyul ng Kanilang Anak

Tanong	Koda ng Respondenteng Tumugon	Siping Pahayag
Bilang isang ina, motibasyon ko sa pagsagot sa mga gawain sa modyul ng aking anak ang	(I4)	<ul style="list-style-type: none"> • Ang kaalaman na patuloy pa ring makapag-aaral ang anak ko kahit nasa bahay lang.
	(I1, I2, I3, I4, I5)	<ul style="list-style-type: none"> • Kapanatagan ng kalooban ko na makapag-aaral ang anak ko nang ligtas sa kabila ng laganap na pandemya.
	(I1, I3, I5)	<ul style="list-style-type: none"> • Malaki ang natitipid ko sa gastos na nakalaan sa pag-aaral dahil pagsasagot na lamang ng modyul ang kinakailangang gawin.
	(I5)	<ul style="list-style-type: none"> • Kasiguruhang ako mismo ang nakasubaybay sa pag-aaral at pagkatuto ng anak ko.
	(I1, I2)	<ul style="list-style-type: none"> • Nagkakaroon din ako ng kamalayan sa kakayahan at talino ng anak ko.
	(I1, I3, I5)	<ul style="list-style-type: none"> • Ako din na ay natututo sa mga aralin.

Sa talahanayan 2, inilahad ang motibasyon ng isang ina sa pagsagot sa mga gawain sa modyul ng kanilang anak. Lahat o Limang (5) ina ang magkakatulad ng motibasyong nagtataglay ng kapanatagan ng kalooban na makapag-aral ang kanilang anak nang ligtas sa kabila ng laganap na pandemya. Tatlo (3) ang nagsabing motibasyon nila ang malaking katipiran sa gastos na nakalaan sa pag-aaral dahil pagsasagot na lamang ng modyul ang kinakailangang gawin; at ang motibasyon na maging sila man ay natututo sa mga aralin. Dalawa (2) ang may magkakatulad na motibasyon na pagkakaroon din ng kamalayan sa kakayahan

at talino ng kanilang anak. Isa (1) ang motibasyon ay ang kaalaman na patuloy pa ring makapag-aral ang kaniyang anak kahit nasa bahay lang; ang kasiguruhang siya mismo ang nakasubaybay sa pag-aaral at pagkatuto ng kaniyang anak.

Maaanalisa sa sagot ng mga ina ang kanilang motibasyong pangkalusugan, pangpinansiyal, at pangkognitibo. Makikita rin sa resulta ng pag-aaral na isinagawa nina Grace Hui-Cheb Huang at Kimberly L. Mason (2008) na ang mga motibasyon ng mga magulang na makibahagi sa pag-aaral ng kanilang mga anak ay umunlad sa tatlong tema: (a) kailangang bumuo ng mga



relasyon ang mga magulang; (b) kailangang impluwensyahan ng mga magulang ang pag-aaral ng kanilang mga anak; at (c) edukasyon ang susi para makamit ng mga bata ang tagumpay.

Talahanayan 3

Ang Motibasyon ng isang Ina sa Pagsagot sa mga Gawain sa Modyul ng Kanilang Anak

Tanong	Koda ng Respondenteng Tumugon	Siping Pahayag
<p>Bilang isang ina, motibasyon ko sa pagsagot sa mga gawain sa modyul ng aking anak</p> <hr/>	(I4)	<ul style="list-style-type: none"> • Ang kaalaman na patuloy pa ring makapag-aaral ang anak ko kahit nasa bahay lang.
	(I1, I2, I3, I4, I5)	<ul style="list-style-type: none"> • Kapanatagan ng kalooban ko na makapag-aaral ang anak ko nang ligtas sa kabila ng laganap na pandemya.
	(I1, I3, I5)	<ul style="list-style-type: none"> • Malaki ang natitipid ko sa gastos na nakalaan sa pag-aaral dahil pagsasagot na lamang ng modyul ang kinakailangang gawin
	(I5)	<ul style="list-style-type: none"> • Kasiguruhang ako mismo ang nakasubaybay sa pag-aaral at pagkatuto ng anak ko.
	(I1, I2)	<ul style="list-style-type: none"> • Nagkakaroon din ako ng kamalayan sa kakayahan at talino ng anak ko.
	(I1, I3, I5)	<ul style="list-style-type: none"> • Ako din na ay natututo sa mga aralin.

Sa talahanayan 3, inilahad ang motibasyon ng isang ina sa pagsagot sa mga gawain sa modyul ng kanilang anak. Lahat o Limang (5) ina ang magkakatulad ng motibasyong nagtataglay ng kapanatagan ng kalooban na makapag-aral ang kanilang anak nang ligtas sa kabila ng laganap na pandemya. Tatlo (3) ang nagsabing motibasyon nila ang malaking katipiran sa gastos na nakalaan sa pag-aaral dahil pagsasagot na lamang ng modyul ang kinakailangang gawin; at ang motibasyon na maging sila man ay natututo sa mga aralin. Dalawa (2) ang may magkatulad na motibasyon na pagkakaroon din ng kamalayan sa kakayahan at talino ng kanilang anak. Isa (1) ang motibasyon ay ang kaalaman na patuloy pa ring makapag-aral ang kaniyang anak kahit nasa bahay lang; ang kasiguruhang siya mismo ang nakasubaybay sa pag-aaral at pagkatuto ng kaniyang anak.

Maaanalisa sa sagot ng mga ina ang kanilang motibasyong pangkalusugan, pangpinansiyal, at pangkognitibo. Makikita rin sa resulta ng pag-aaral na isinagawa nina Grace Hui-Cheb Huang at Kimberly L. Mason (2008) na ang mga motibasyon ng mga magulang na makibahagi sa pag-aaral ng kanilang mga anak ay umunlad sa tatlong tema: (a) kailangang bumuo ng mga relasyon ang mga magulang; (b) kailangang impluwensyahan ng

mga magulang ang pag-aaral ng kanilang mga anak; at (c) edukasyon ang susi para makamit ng mga bata ang tagumpay.

Konklusyon

Sa isinagawang pag-aaral ay natuklasan ang mga sumusunod:

Karanasan ng mga ina sa pagsagot sa mga gawain sa modyul ng kanilang anak.

Higit na marami ang mga karanasang magkakatulad ng mga inang respondente bagamat may mga karanasang partikular lamang na naranasan ng bawat isa sa kanila. Gayundin, higit ang mahihirap nilang karanasan kaysa sa positibong karaansan hinggil sa pagsasagot sa mga gawain sa modyul ng kanilang mga anak.

Ang Motibasyon ng isang Ina sa Pagsagot sa mga Gawain sa Modyul ng Kanilang Anak

Sa resulta ng pananaliksik ay lumabas ang kanilang motibasyong pangkalusugan, pangpinansiyal at pangkognitibo.

Hamon sa Pagsagot sa mga Gawain sa Modyul ng Kanilang Anak



Natuklasan sa mga hamong nararanasan ng mga ina ang dami ng kanilang kailangang gampanang responsibilidad at ang kawalan nila ng katiyakan sa sariling kakayahang magturo sa kanilang mga anak.

REKOMENDASYON

Isang paraan ang isinagawang pananaliksik upang makabuo ng programang makatutulong sa mga magulang na maibsan ang kanilang mga alalahanin. Batay sa resulta ng pag-aaral ay iminumungkahing makabuo ng isang Programa ng Pampamilyang Literasiya na pamumunuan ng paaralan at mga guro na naglalayong makapagbigay ng *training* sa mga magulang, partikular sa mga ina, hinggil sa epektibong paraan ng pagtuturong makatutulong upang matagumpay nilang maturan ang kanilang mga anak sa kani-kanilang tahanan. Ang impluwensiya ng mga guro upang maibsan ang kawalang tiwala ng mga ina sa kanilang sariling kakayahan sa pagtuturo sa kanilang mga anak sa pamamagitan ng iba't ibang estratehiyang maaaring gamitin sa pagtuturong pantahanan ay magiging epektibo upang maging matagumpay ang pagkatuto ng mga batang mag-aaral. Ang pagkakaroon din ng kasanayan ng mga ina sa tamang pagtuturo sa kanilang mga anak ay makatutulong upang maisawan na sila mismo ang magsagot sa mga gawain sa modyul ng kanilang mga anak.

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EDUCATION AND INCLUSIVE GROWTH: A STUDY OF HIMACHAL PRADESH

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ABSTRACT

The role of education in ensuring inclusive growth is very essential. The educational development is an important component for achieving inclusive growth for any state. Himachal Pradesh has progressed tremendously on the educational front, within Indian states Himachal Pradesh stands out as one of the educationally developed state. Due to constant, conscious efforts of political will, administrative involvement and the society by large, the educational status in Himachal Pradesh is improving with each passing year. In present research study an attempt has been made to examine the growth of education and gender parity in accessibility of education in Himachal Pradesh by using secondary data sources with the help of exponential growth function and gender parity index. The results show that during the study period viz; 2010-11 to 2019-20 colleges for general education show highest compound growth rate than of higher/higher secondary schools, while primary and middle schools show negative compound growth rate. Further it is also observed that gender parity is more in favor of female during the study period. Government should ensure adequate numbers of teachers, access of education, affordable education and quality education by appointing qualified and competent faculty in schools and colleges.

1. INTRODUCTION

The most common meaning of the term inclusive is not excluding any section of society but it is a new economic strategy which takes into account the betterment and development of every section of the society without any discrimination. Inclusive growth advances equitable opportunities for economic participants during economic growth with benefits incurred by every section of society. Inclusive Growth model include focus on the equity of health, human capital, environmental quality, social protection, and food security. It implies direct links between the macroeconomic and microeconomic determinants of the economy and economic growth. The microeconomic dimension captures the importance of structural transformation for economic diversification and competition, while the macro dimension refers to changes in economic aggregates. Sustainable economic growth requires inclusive growth. Maintaining this is sometimes difficult because economic growth may give rise to negative externalities, viz; rise in corruption, which is a major problem in underdeveloped economies. Nonetheless, an emphasis on inclusiveness; especially on equality of opportunity in terms of access to resources, and an unbiased regulatory environment is an essential component of successful growth.

Education as an important parameter for Inclusive Growth, it is the most critical element in empowering people with skills and knowledge and giving them access to productive employment in the Future. Availability of education includes the opportunity of education to all students at same Platform. The availability of it to all students is necessary to make students in

touch with current updated educational word. The availability of infrastructural and educational facility is not necessary at the same time they require accessibility to same to all students to benefit from it. All students should get access of those facilities without any bias of gender, religion and socio economic status of students. There is no use of infrastructural and educational facilities even though they are available and accessible if they are not affordable to all students. The affordability of it is also important for inclusive growth of education. The role of teacher who is responsible for delivery of education to students and thus the positive and right attitude of teachers is necessary. So this positivity will get spread in student's attitude and maximum students can take part in education. Education delivery should not include any discrimination. Adaptability includes responsiveness of education or students to social changes and it should be adoptable.

2. OBJECTIVES

- i. To examine the growth of education in Himachal Pradesh.
- ii. To study the gender parity in accessibility of education in Himachal Pradesh.

3. RESEARCH METHODOLOGY

The present study based upon secondary data. The data compiled from the statistical abstract of Directorate of Economics and Statistics Government of Himachal Pradesh. The growth in educational institutions, teacher availability and



students enrolment is worked out with the help of exponential growth function;

$$Y = AB^t$$

Where Y = dependent variable, t = time

By taking logarithms of both sides of the equations it takes the form: $\text{Log } Y = \text{Log } A + t \text{ Log } B$. If we put $\text{Log } A = a$ and $\text{Log } B = b$, then equation becomes $\text{Log } Y = a + bt$, which is linear function with independent variable t and dependent variable Log Y. The compound growth rate calculate as $(\text{antilog } b - 1) \times 100$ and represent uniform rate of change from year to year.

However, the gender parity in education accessibility has been worked out with help of Gender Parity Index (GPI). This index usually measures the relative access to education of males and females. This index is introduced and observed by UNESCO, and in its simplest form it is calculated as the quotient of the number of females by the number of males enrolled in a given stage of education.

$$\text{GPI} = \frac{\text{Value of Indicator for Females}}{\text{Value of Indicator for Males}}$$

A value of GPI equal to 1 indicates parity between both genders. A value lower than 1 will indicate differences in favour of

males, whereas a value near 1 means that gender parity is closer to be achieved.

4. RESULTS AND DISCUSSION

4.1 Growth Trends in Availability of Educational Institutions in Himachal Pradesh

The growth trends in educational institutions in Himachal Pradesh are presented in Table 1. During the year 2010-11, there were 10767 primary schools in Himachal Pradesh, these numbers decreased to 10582 in 2019-20 with a compound growth rate of -0.16 per cent, per annum. During the year 2010-11 there were 2303 middle schools in Himachal Pradesh and same decreased to 1948 in 2019-20 with a compound growth rate of -2.18 per cent, per annum. In case of high/higher secondary schools there were 2094 high/higher secondary schools during the year 2010-11 in Himachal Pradesh and same increased to 2797 in 2019-20 with a compound growth rate of 3.88 per cent, per annum. In case of colleges only 67 colleges were for general education in Himachal Pradesh during the year 2010-11 and these numbers increased to 130 in 2019-20 with a compound growth rate of 3.88 per cent, per annum. At overall level the compound growth rate in educational institutions has been worked out 0.24 per cent, per annum during the study period viz; 2010-11 to 2019-20.

Table-1: Growth Trends in Availability of Educational Institutions in Himachal Pradesh

Sr. No.	Particulars	Primary School	Middle	High/Higher Secondary	Colleges of General education	Overall
1.	2010-11	10767	2303	2094	67	15231
2.	2011-12	10771	2269	2126	67	15233
3.	2012-13	10739	2317	2162	67	15285
4.	2013-14	10650	2321	2191	67	15229
5.	2014-15	10712	2201	2385	80	15378
6.	2015-16	10710	2130	2487	89	15416
7.	2016-17	10724	2064	2641	111	15540
8.	2017-18	10657	1996	2749	118	15520
9.	2018-19	10623	1969	2776	125	15493
10.	2019-20	10582	1948	2797	130	15457
11.	CGR	-0.16	-2.18	3.88	9.37	0.24

Source: Directorate of Economics and Statistics GoHP

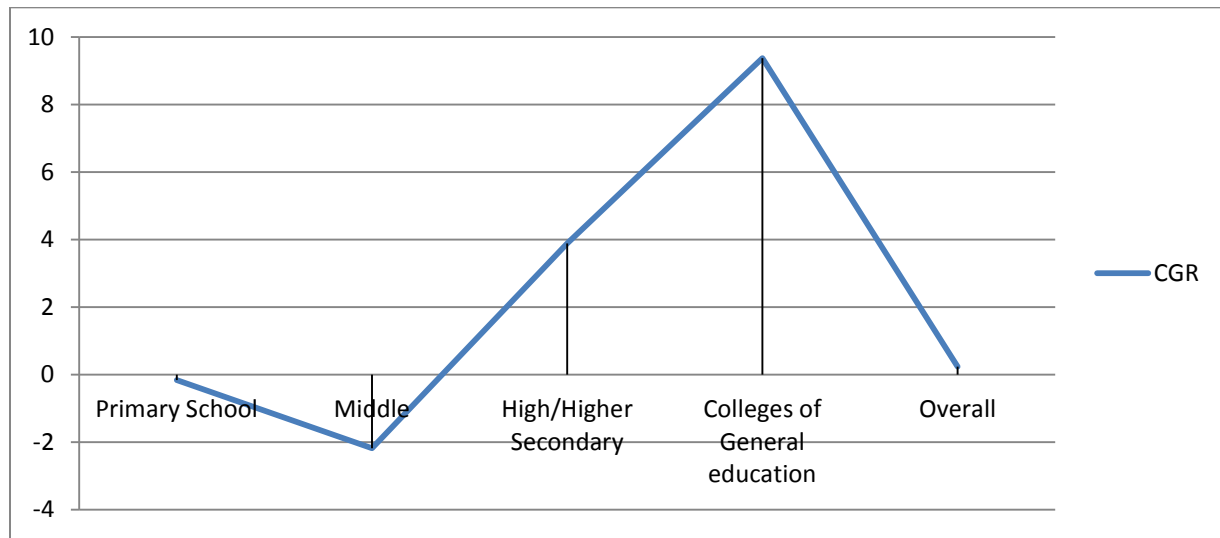


Figure-1: Growth Trends in Availability of Educational Institutions in Himachal Pradesh

Further it is observed that during that during the study period colleges for general education registered highest compound growth rate than of High/higher secondary schools, where as primary and middle schools show negative compound growth rate during the study period. It is also evident from figure 1.

4.2 Growth trends in Availability of Teachers in Educational Institutions in Himachal Pradesh

The growth trends in availability of teacher in educational institutions are presented in Table 2. In Himachal Pradesh during the year 2010-11 26199 teachers were in primary schools and same increased to 22756 teachers in 2019-20 with a compound growth rate of -1.45 per cent, per annum. In middle

schools there were 21859 teachers during the year 2010-11 and in 2019-20 it decreased to 6429 with a compound growth rate of -12.89 per cent, per annum. Further in high/higher secondary schools 25375 teacher were available during the year 2010-11 and same increased to 38779 teachers in 2019-20 with a compound growth rate of 5.52 per cent, per annum. In colleges of general education during the year 2010-11, only 2008 teachers were available and in 2019-20 it increased to 2628 teachers with a compound growth rate of 3.88 per cent, per annum. Whereas by adjoining all the educational institutions together, the compound growth rate in teachers availability in educational institutions has been worked out -0.25 per cent, per annum.

Table-2: Growth trends in Availability of Teachers in Educational Institutions in Himachal Pradesh

Sr. No.	Particulars	Primary School	Middle	High/Higher Secondary	Colleges of General education	Overall
1.	2010-11	26199	21859	25375	2008	75441
2.	2011-12	25817	21003	23472	1938	72230
3.	2012-13	25239	9206*	28641\$	1545	64631
4.	2013-14	25234	9009*	29073\$	1570	64886
5.	2014-15	25827	8073*	30796\$	1681	66377
6.	2015-16	24976	7554*	32727\$	1656	66913
7.	2016-17	25087	6870*	34520\$	1840	68317
8.	2017-18	23909	6614*	36288\$	2039	68850
9.	2018-19	22955	6432*	37527\$	2416	69330
10.	2019-20	22756	6429*	38779\$	2628	70592
11.	CGR	-1.45	-12.89	5.52	3.59	-0.25

Source: Directorate of Economics and Statistics GoHP

*Teachers of Middle Schools only.

\$Teachers of middle classes functioning in High/Sr.Sec.schools are also included

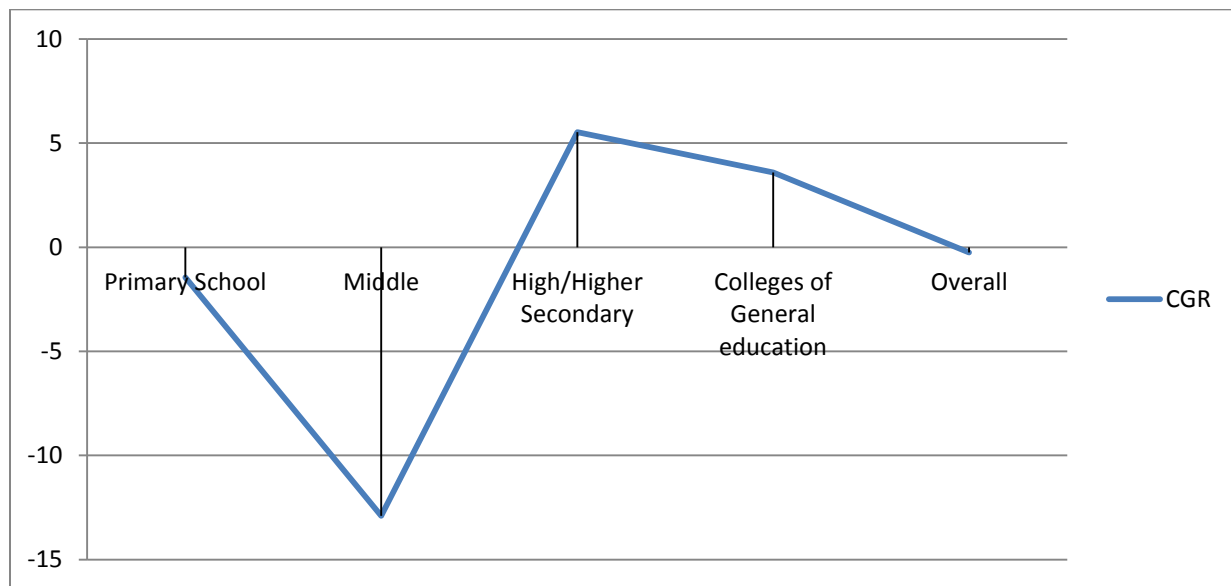


Table-2: Growth trends in Availability of Teachers in Educational Institutions in Himachal Pradesh

4.3 Growth trends in enrolment of student's in Educational Institutions in Himachal Pradesh

The growth trends in enrolment of students in educational institutions are presented in Table 3. This table shows that during the year 2010-10, 421910 students were enrolled in primary schools and these numbers decreased to 290158 students in 2019-20 with a compound growth rate of -4.21 per cent, per annum. In middle school's 311700 students were enrolled during the year 2010-11 and in 2019-20 it decreased to 197205 students with a compound growth rate of -4.56 per cent,

per annum. Further in high/higher secondary schools 400405 students were enrolled during the year 2010-11 and same decreased to 313408 students in 2019-20 with a compound growth rate of -5.35 per cent, per annum. In colleges of general education during the year 2010-11 only 86919 students were enrolled and in 2019-20 it increased to 131642 with a compound growth rate of 6.89 per cent, per annum. Whereas, among all the educational institutions together, the compound growth rate of students enrolment in educational institutions, has been worked out -3.51 per cent, per annum.

Table-3: Growth trends in enrolment of student's in Educational Institutions in Himachal Pradesh

Particulars		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	CGR
Primary School	M	210780	199911	188357	178303	166408	159079	153088	148906	146954	143467	-4.32
	F	211130	202458	192342	182743	171781	164308	157947	153907	151256	146691	-4.10
	T	421910	402369	380699	361046	338189	323387	311035	302813	298210	290158	-4.21
Middle	M	158910	142120	132418	126592	122949	119889	115276	106586	100520	97586	-4.85
	F	152790	138778	130360	126649	124506	122048	116736	108259	101863	99619	-4.27
	T	311700	280898	262778	253241	247455	241937	232012	214845	202383	197205	-4.56
High/Higher Secondary	M	204287	227135	206316	200682	191543	187525	177247	86347	162591	156590	-5.58
	F	196118	213143	200023	192227	181960	178338	169843	84925	160889	156818	-5.11
	T	400405	440278	406339	392909	373503	365863	347090	171272	323480	313408	-5.35
Colleges of General education	M	37837	38489	24385	29932	42220	39446	47041	50958	53322	53795	6.52
	F	49082	51950	43863	43806	46023	58805	67688	76907	79298	77847	7.20
	T	86919	90439	68248	73738	88243	98251	114729	127865	132620	131642	6.89
Overall	M	611814	607655	551476	535509	523120	505939	492652	392797	463387	451438	-3.93
	F	609120	606329	566588	545425	524270	523499	512214	423998	493306	480975	-3.11
	T	1220934	1213984	1118064	1080934	1047390	1029438	1004866	816795	956693	932413	-3.51

Source: Directorate of Economics and Statistics GoHP

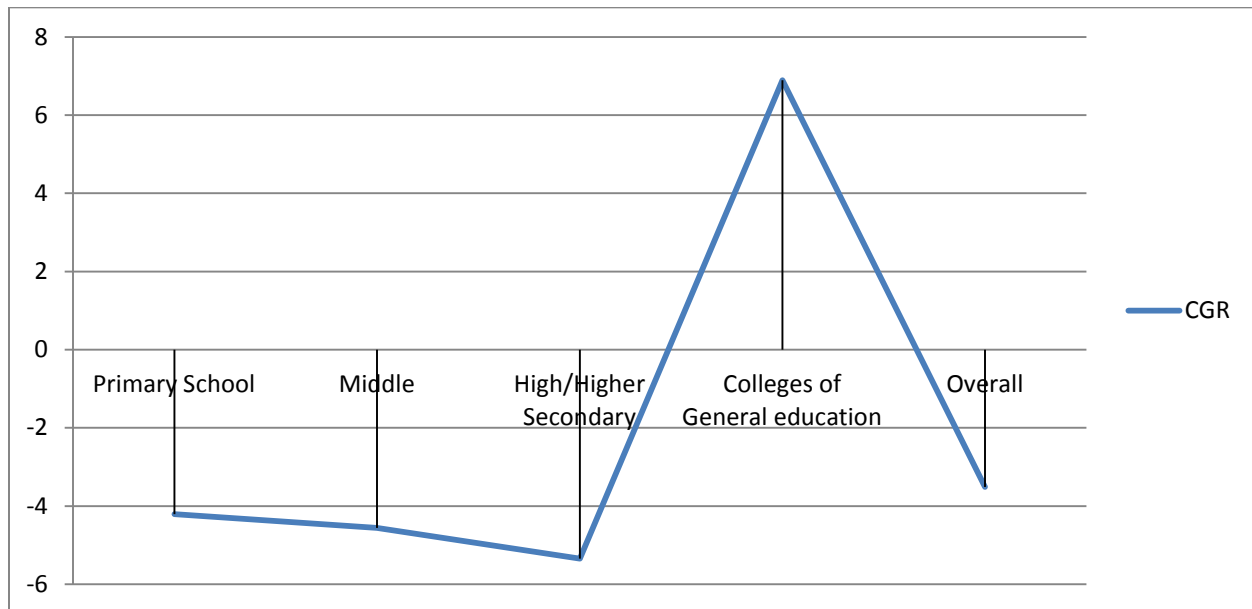


Figure-3: Growth trends in enrolment of student's in Educational Institutions in Himachal Pradesh

4.4 Per Institute Availability of Teacher

Per institute availability of teacher in schools and colleges is presented in Table 4. This table shows that during the year 2010-11, 2.43 teachers available in one primary school and in 2019-20 it decrease to 2.15 teachers in per primary school. In middle school 9.49 teachers available for one middle school during the year 2010-11 and same decreased to 3.30 teachers per

middle school in 2019-20. While in higher/secondary schools 11.02 teachers available for one school during the year 2010-11, and 2019-20 it increased to 19.91 teachers per school. In colleges during the year 2010-11 per college teacher availability was 29.97 teachers and in 2019-20 it decreased to 20.22 teachers per college.

Table-4: Per Institute Availability of Teacher

Sr. No.	Particulars	Primary	Middle	High/Higher Secondary	Colleges
1.	2010-11	2.43	9.49	11.02	29.97
2.	2011-12	2.40	9.26	10.34	28.93
3.	2012-13	2.35	3.97	12.36	23.06
4.	2013-14	2.37	3.88	12.53	23.43
5.	2014-15	2.41	3.67	13.99	21.01
6.	2015-16	2.33	3.55	15.36	18.61
7.	2016-17	2.34	3.33	16.72	16.58
8.	2017-18	2.24	3.31	18.18	17.28
9.	2018-19	2.16	3.27	19.06	19.33
10.	2019-20	2.15	3.30	19.91	20.22

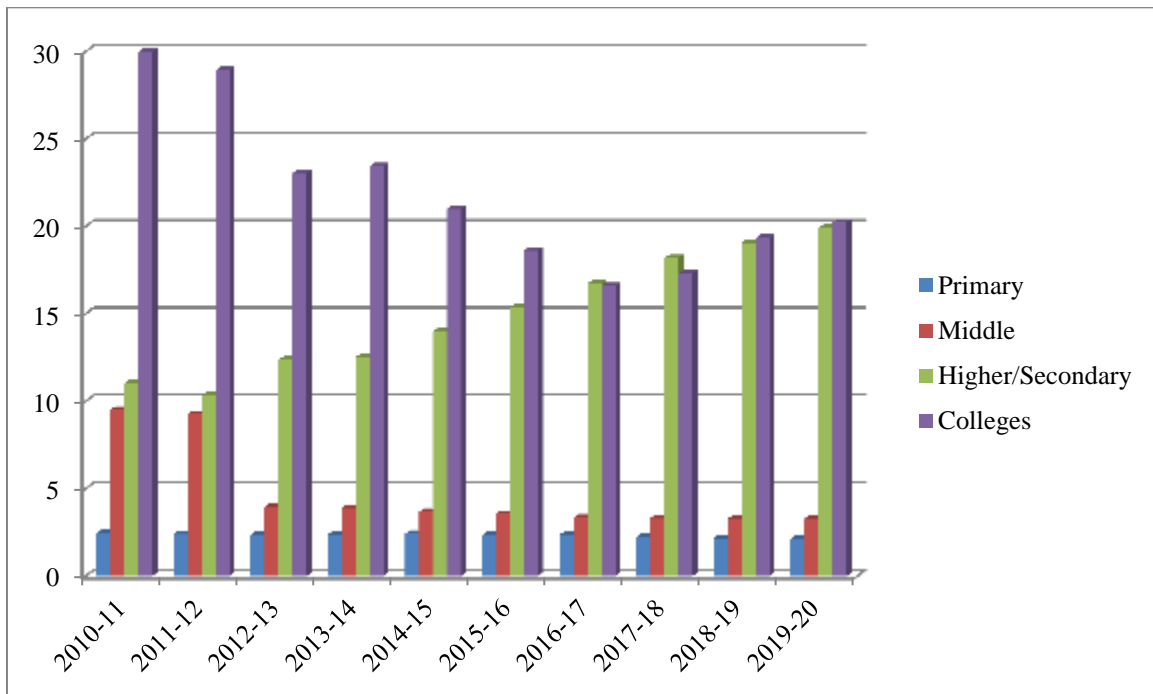


Figure-4: Per Institute Availability of Teacher

From the data it observed that in primary and middle school teacher availability shows decreasing tendency during the study period. In high/higher secondary schools after 2011-12 per school availability of teachers show increasing tendency and in colleges availability of teacher shows decreasing tendency upto 2016-17 and after that it shows increasing tendency.

4.5 Teacher Student Ratio

The teacher student ratio during the year 2010-11 in primary, middle, higher/secondary schools and colleges has

been worked out 16.10, 14.26, 15.78 and 43.29 students per teacher respectively. While adjoining all the institutes together this ratio came out 16.18 students per teacher, whereas during the year 2019-20 teacher student ratio in primary, middle, high/secondary school and colleges has been worked out 12.75, 30.67, 8.08 and 50.09 students per teacher. Among all the institutes together this value came out 16.18 students per teacher.

Table-5: Teacher Student Ratio

Sr. No.	Particulars	Primary	Middle	Higher/Secondary	Colleges	Overall
1.	2010-11	16.10	14.26	15.78	43.29	16.18
2.	2011-12	15.59	13.37	18.76	46.67	16.81
3.	2012-13	15.08	28.54	14.19	44.17	17.30
4.	2013-14	14.31	28.11	13.51	46.97	16.66
5.	2014-15	13.09	30.65	12.13	52.49	15.78
6.	2015-16	12.95	32.03	11.18	59.33	15.38
7.	2016-17	12.40	33.77	10.05	62.35	14.71
8.	2017-18	12.67	32.48	4.72	62.71	11.86
9.	2018-19	12.99	31.47	8.62	54.89	13.80
10.	2019-20	12.75	30.67	8.08	50.09	13.21

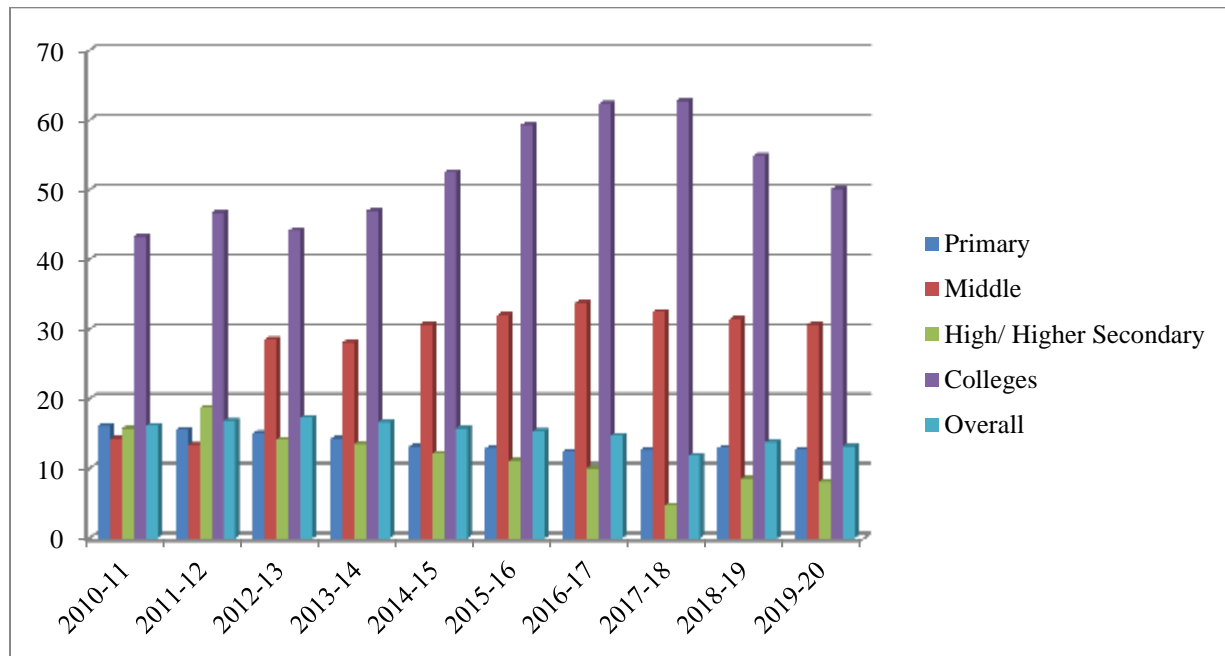


Figure-5: Teacher Student Ratio

4.6 Per Institute Enrolment of students

Per institute enrolment of students in primary, middle, high/ higher secondary school and colleges is presented in Table 6. During the year 2010-11, the per institute enrolment of students has been worked out 39.19, 135.35, 191.22 and 1297.30 students for primary, middle, high/higher secondary and

colleges and whereas at overall level this value came out 80.16 students only. While in 2019-20 it is 27.42, 101.23, 112.05 and 1012.63 students for primary, middle, high/higher secondary and colleges. By adjoining all the institutes together this value came out 60.32 students only.

Table-6: Per Institute enrolment of Students

Sr. No.	Particulars	Primary	Middle	High/ Higher Secondary	Colleges	Overall
1.	2010-11	39.19	135.35	191.22	1297.30	80.16
2.	2011-12	37.36	123.80	207.09	1349.84	79.69
3.	2012-13	35.45	113.41	187.95	1018.63	73.15
4.	2013-14	33.90	109.11	179.33	1100.57	70.98
5.	2014-15	31.57	112.43	156.61	1103.04	68.11
6.	2015-16	30.19	113.59	147.11	1103.94	66.78
7.	2016-17	29.00	112.41	131.42	1033.59	64.66
8.	2017-18	28.41	107.64	62.30	1083.60	52.63
9.	2018-19	28.07	102.78	116.53	1060.96	61.75
10.	2019-20	27.42	101.23	112.05	1012.63	60.32

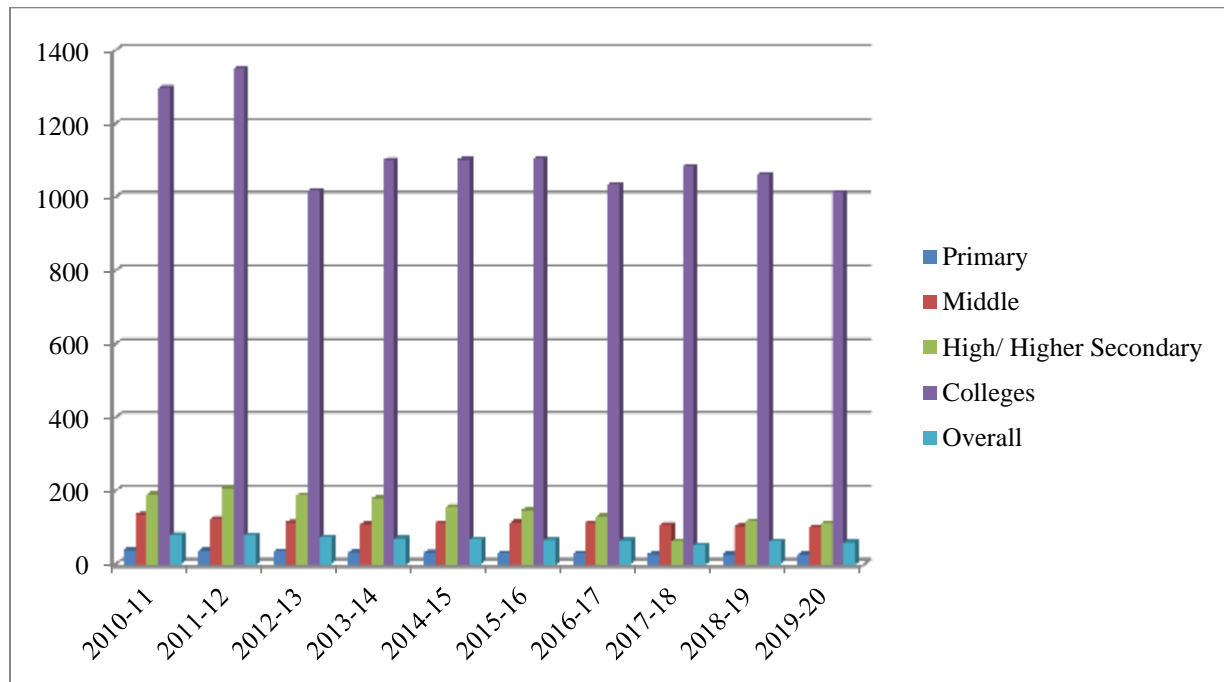


Figure-6: Per Institute enrolment of Students

It is also observed that during 2019-20 per institute enrolment of student is less as compared to 2010-11 enrolment.

4.7 Gender Parity in Education Attainment

The gender parity in education attainment is presented in Table 7. The gender parity during the year 2010-11 in primary,

middle, high/higher secondary and colleges has been worked out 1.00, 0.96, 0.96 and 1.30 respectively. Adjoining all institutes together this value came 1.30. While in 2019-20 it is 1.02, 1.02, 1.00 and 1.45 for primary, middle, high/higher secondary and colleges. At overall level this value came 1.07.

Table-7: Gender Parity in Education Attainment

Sr. No.	Particulars	Primary	Middle	High/Higher Secondary	Colleges	Overall
1.	2010-11	1.00	0.96	0.96	1.30	1.00
2.	2011-12	1.01	0.98	0.94	1.35	1.00
3.	2012-13	1.02	0.98	0.97	1.80	1.03
4.	2013-14	1.02	1.00	0.96	1.46	1.02
5.	2014-15	1.03	1.01	0.95	1.09	1.00
6.	2015-16	1.03	1.02	0.95	1.49	1.04
7.	2016-17	1.03	1.01	0.96	1.44	1.04
8.	2017-18	1.03	1.02	0.98	1.51	1.08
9.	2018-19	1.03	1.01	0.99	1.49	1.07
10.	2019-20	1.02	1.02	1.00	1.45	1.07

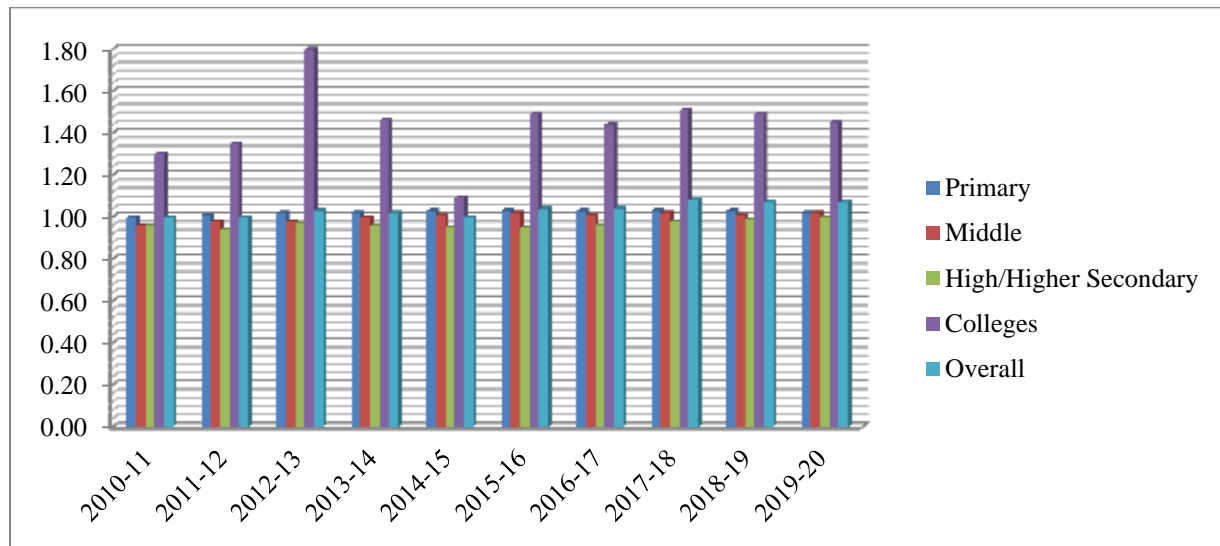


Figure-7: Gender Parity in Education Attainment

From the data it is observed that gender parity is more in favor of female during the year 2019-20 as compared to 2010-11. It is also evident from figure 7.

5. CONCLUSIONS

From the above analysis it can be concluded that there is negative growth rate in numbers of primary, and middle schools. The student enrolment and teacher available in these schools also registered negative growth rate during the study period. While high/higher secondary schools and colleges registered positive growth rate during the study period viz; 2010-11 to 2019-20. Further there is growth in access of education to male and female. The gender parity index shows parity in education in favour of female in Himachal Pradesh.

6. RECOMMENDATIONS

- i. Government should ensure adequate numbers of teachers at primary and middle school levels.
- ii. Efforts should be taken by Government institutions for greater and equal access of education to level of society. More facilities should be provided to females.
- iii. Availability of affordable education for all with equipped infrastructure and education facilities. The use of latest technology should be included in education to increase the access.
- iv. Efforts should be taken to provide quality education by appointing qualified and competent faculty.

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CARPAL TUNNEL SYNDROME, GENERALITIES, MANAGEMENT AND TREATMENT

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ABSTRACT

Introduction: Carpal tunnel syndrome (CTS), also called median wrist mononeuropathy, is the most frequent nerve compression syndrome reaching up to 90%.

Objective: To detail the current information related to carpal tunnel syndrome and its management, as well as to analyze the conservative and surgical treatment of this disease.

Methodology: A total of 27 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 18 bibliographies were used because the other 9 articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish, Portuguese and English were: túnel carpiano, síndrome do túnel do carpo e AINEs, carpal tunnel syndrome, treatment in patients with carpal tunnel syndrome and corticoids in carpal tunnel.

Results: Wrist flexion and extension increase pressure in the carpal canal, leading to the following symptoms: pain, numbness and paresthesia. Corticosteroid injections are recommended in mild to moderate carpal tunnel syndrome. Endoscopic carpal tunnel release has less postoperative pain, earlier recovery in grip and pinch strength, compared to open release. Postoperative complications are infrequent and most are minimal and transient.

Conclusions: Carpal tunnel syndrome is the oppression of the median nerve at the level of the wrist joint, which may be accompanied with limitation in epineural and axoplasmic blood flow, leading to nerve dysfunction, edema, and scarring. The diagnosis of carpal tunnel syndrome has been made through a mixture of clinical history and physical examination maneuvers, however, the use of ultrasound and electrodiagnostic tests is now being supported. There are conservative and surgical treatments, among which evidence shows that steroid injection and carpal tunnel release are effective and present good treatment results.

KEY WORDS: Syndrome, tunnel, carpal, mononeuropathy.



INTRODUCTION

Carpal tunnel syndrome (CTS), also called median mononeuropathy of the wrist, is the most frequent nerve compression syndrome, reaching up to 90%. This clinical picture is generated by the compression of the median nerve at the moment of crossing the wrist in the carpal tunnel (1,2).

Frequently, carpal tunnel syndrome occurs in regular computer users, construction workers and other occupations where repetitive and frequent movements are performed (3).

Generally we have ten structures that penetrate the carpal tunnel: the median nerve, the flexor pollicis longus, four tendons of the flexor digitorum profundus and four tendons of the flexor digitorum superficialis. The flexor retinaculum forms the roof of the carpal tunnel where the transverse carpal ligament is incorporated. Below this is the median nerve, continuing and dividing into the digital nerves. The floor of the carpal tunnel is formed by the carpal bones(4).

The picture may consist of hyperesthesia or paresthesia in the sensory distribution of the median nerve in the hand, in addition to weakness in the intrinsic median innervated muscles of the hand(2).

Treatment is versatile, usually correlated with the preferences of the affected person, the physician and the severity of the syndrome(5).

METHODOLOGY

A total of 27 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 18 bibliographies were used because the other 9 articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish, Portuguese and English were: carpal tunnel, carpal tunnel syndrome, treatment in patients with carpal tunnel syndrome, síndrome do túnel do carpo e AINEs and corticoids in carpal tunnel.

The choice of the bibliography exposes elements related to carpal tunnel syndrome in the last 5 years; besides this factor, these studies have several important factors related to their different treatments.

DEVELOPMENT

Carpal tunnel syndrome is the oppression of the median nerve at the level of the wrist joint related to the breakdown of nerve function and is caused by increased pressure in the carpal tunnel (3,4).

In a healthy person the pressure inside the carpal tunnel fluctuates between 2.5 and 13 mmHg, decreasing the cross-sectional area of the carpal tunnel could lead to an increase in pressure above 20 to 30 mmHg. This is where epineural and axoplasmic blood flow is limited, leading to nerve dysfunction, edema and scarring(4,6,7).

Among the risk factors and probable causes for presenting this syndrome are: advanced age, female sex,

pregnancy, obesity, repetitive movements, diabetes mellitus and autoimmune disorders(2,3).

In patients with carpal tunnel syndrome, flexion and extension of the wrist increase the pressure in the carpal canal, which leads to the following symptoms: pain, numbness and paresthesia in the first three fingers of the hand, as well as the radial half of the fourth finger. Those with moderate or severe disease may also reveal atrophy of the thenar muscles, decreased grip and pinch strength, and proximal migration of pain(4).

Conventionally, the diagnosis of carpal tunnel syndrome has been made through a mixture of clinical history and physical examination maneuvers, among which we find Tinel's test and Phalen's test. Currently, support is being given to ultrasound, electrodiagnostic tests and a combination of the two, because they show the underlying pathophysiology (5).

It is essential to differentiate acute carpal tunnel syndrome from chronic carpal tunnel syndrome, since acute carpal tunnel syndrome requires urgent release. Acute CTS can be subdivided into traumatic and non-traumatic. Traumatic CTS is caused by trauma to the wrist and carpal bone, resulting in rupture, direct or indirect entrapment of the nerve, which may be caused by hematoma and/or inflammation of adjacent soft tissues. Among the causes of acute non-traumatic CTS are pseudogout, tophaceous gout, soft tissue infections, calcifying tendinitis, septic arthritis, tumoral calcinosis and pigmented villonodular synovitis, although they are not very frequent (4,8).

When assessing CTS it is recommended to differentiate with the following pathologies: overuse injury, cervical radiculopathy, cervical disc disease, cervical spondylosis, cervical myofascial pain, traumatic and radiation-induced brachial plexopathy, neuropathies, mononeuritis multiplex, multiple sclerosis, tendinitis, tenosynovitis and thoracic outlet syndrome(3).

Carpal tunnel syndrome is usually evident following a distal radius fracture and may be transient. Prophylactic carpal tunnel release is not indicated in the absence of signs and symptoms following a distal radius fracture(9).

There are conservative and surgical treatments, among which evidence shows that steroid injection and carpal tunnel release are effective and have good treatment results(5).

In the first instance the treatment is not surgical, it can be through splints and orthopedic devices, however surgical treatment was shown to be superior to conservative treatment, regardless of the surgical technique used. In addition, post-surgical complications are infrequent and most of them are minimal and temporary(10).

Corticosteroid injections are recommended in mild to moderate carpal tunnel syndrome, since they provide symptom improvement, although their effects are usually temporary (4).

Corticosteroids may have benefits, but should be used with caution as they may have negative effects(11).

Conservative treatment is first line in non-deficient CTS and surgical intervention when it presents or progresses with severe sensory or motor deficits(5).



Oral corticosteroid therapy with 20 mg daily for two weeks temporarily improves CTS symptoms in the short term and can be used(12).

The use of NSAIDs, pyridoxine and diuretics in the treatment of CTS has been described, however they are not effective(13).

Laser acupuncture and traditional acupuncture show little or no effect on short-term symptoms compared to sham acupuncture or placebo(14).

Surgical treatment involves releasing the transverse carpal ligament longitudinally which relieves pressure inside the carpal tunnel and frees the median nerve. It can be performed by an open or endoscopic approach. The most appropriate one should be individually assessed according to the patient's factors and also take into account the surgeon's skill with each technique. One study showed that treatment with open surgery for carpal tunnel release has superior results compared to treatment with wrist splints (4,15).

Surgical treatment of CTS is unevenly distributed among race, gender, and socioeconomic status. More research is needed to recognize the source of these inequalities for greater equity in patient care (16).

Currently, hydrodissection or transverse carpal ligament release under ultrasound guidance shows promise but more evidence is needed. The endoscopic compression release that has shown the most favorable results is named after Agee et al, where only a 0.5-1.0 cm incision proximal to the wrist flexion crease is made following the deep surface of the flexor retinaculum to the distal fat pad. Sectioning of the flexor retinaculum is initiated distally. This lowers the risk of damage to the neurovascular bundles to less than 1% and can usually be guided by ultrasound (5).

Some research has shown that endoscopic carpal tunnel release has less postoperative pain, as well as earlier recovery of grip and pinch strength, allowing early return to work compared to open release. Infraretinacular or transcarpal tunnel approaches may be associated with a higher risk of median nerve injury (17,18).

As for sutures, absorbable sutures are presumed to confer considerable savings by eliminating the need for removal, however it is not known whether they provide superior, inferior or equivalent results compared to non-absorbable sutures (19).

Myofascial self-stretching of the carpal ligament may be a conservative treatment option since a study of patients showed improvement in numbness, tingling, pinch strength and sensory range(2).

Occasionally, the syndrome may recur even after undergoing surgery. Those with carpal tunnel syndrome secondary to wrist fracture or diabetes have a less favorable prognosis, as do those with axonal loss on electrophysiological testing(3).

Among the most common complications of carpal tunnel syndrome are chronic wrist and hand pain, irreparable damage to the median nerve, atrophy and weakness of the muscles at the

base of the thumb. In addition, postoperative complications include neuroma of the palmar cutaneous branch of the median nerve, joint stiffness, hypertrophic scarring, dysesthesia and inability to relieve symptoms (3).

CONCLUSIONS

Carpal tunnel syndrome is the oppression of the median nerve at the level of the wrist joint, which may be accompanied with limited epineural and axoplasmic blood flow, leading to nerve dysfunction, edema and scarring. Flexion and extension of the wrist increase pressure in the carpal canal, leading to the following symptoms: pain, numbness and paresthesia. The diagnosis of carpal tunnel syndrome has been made through a mixture of clinical history and physical examination maneuvers, however, the use of ultrasound and electrodiagnostic tests is now being supported. There are conservative and surgical treatments, among which evidence shows that steroid injection and carpal tunnel release are effective and have good treatment results. Corticosteroid injections are recommended in mild to moderate carpal tunnel syndrome. Endoscopic carpal tunnel release has less postoperative pain, earlier recovery of grip and pinch strength compared to open release. Postoperative complications are infrequent and most are minimal and transient.

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Conflict of Interest Statement

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A STUDY TO ASSESS THE EFFECTIVENESS OF DRUMSTICK LEAVES POWDER ON BLOOD GLUCOSE LEVELS AMONG DIABETIC CLIENTS

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ABSTRACT

AIM: The present study aims to assess the effectiveness of drumstick leaves powder on blood glucose levels among diabetic clients in selected UPHC.

METHODS AND MATERIALS:

A quantitative research design was used for the present study. A total 30 samples were collected using non probability purposive sampling technique. The demographic variable and prevalence of blood glucose level among diabetes clients was assessed using structured questioner and visual assessment, followed by that data was gathered and analysed.

RESULTS: The results the study revealed that there is a significant association between level of prevalence with selected demographic at the level of $p < 0.01$

CONCLUSION: Thus, the present despite that factors associated with level of prevalence with selected demographic.

KEY WORDS: Blood glucose level

INTRODUCTION

Metabolic and neurological conditions have a high incidence in the general population and frequently develop into chronic complications, which severely limit quality of life. The present rise in the prevalence of diabetes, metabolic syndrome, and associated disorders (obesity and cardiovascular pathologies) prompts the need for better strategies aimed at improvement of life styles and nutrition, together with the development of more efficient therapeutic alternatives. A major component Nutrients of metabolic syndrome, hyperglycemia, is a critical factor in the development of diabetes mellitus (DM) and has been related to serious progressive damage in different organs (retina, kidneys, and nerves), as well as to the development of neurodegenerative diseases such as Alzheimer's disease. DM can cause many different types of peripheral nerve injuries, the most common being a bilateral and symmetric, distal-to-proximal damage to sensory nerves in the feet (in "stocking-glove" pattern), and commonly referred to as diabetic neuropathy. It has been estimated that almost 316 million and 387 million people are affected by pre-diabetes and diabetes, respectively, worldwide, and of these people approximately 200 million develop neuropathy. Drumstick leaves is used for treating hyperglycemia. It contains about 73% of mono unsaturated oil that has the ability to regulate blood sugar levels and as a result can reduce the harmful built up of sugar in the blood. In addition drumstick leaves also have a stabilizing effect on blood pressure and control of glucose levels. It has been naturally boost the immune system

which usually becomes compromised in those who suffer hyperglycemia. Hyperglycemia often causes circulatory problems which can be managed through anti-inflammatory supplements and Drumstick leaves have more than 36 natural anti-inflammatory components.

MATERIALS AND METHODS

After obtaining and ethical clearance from the institutional ethical committee of Saveetha Institute of Medical and Technical Science and formal permission letter obtained from the head of the SMCH, present study was conducted. For the present study quantitative approach with descriptive research design was adopted. The samples were collected using a non-probability random sampling technique from sixty samples. The inclusion criteria for the study, participants, who are available during the study period and who are cooperative and who understand both Tamil and English. Exclusion criteria for the study are, samples who are not willing to participate in the study. The purpose of the study was explained by the investigator to each of the study participants and a written informed consent was obtained from them. The demographic and the prevalence of diabetic foot ulcer data was collected from the samples using semi structured questionnaire. The data were analyzed by biostatistics. The sample characteristics were described using frequency and percentage. Chi-square was used to associate the level of prevalence with their selected demographic variables.

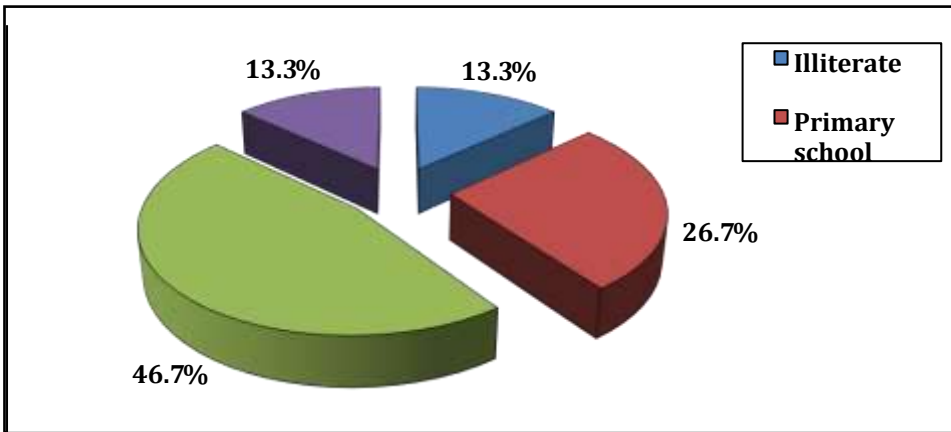
RESULTS AND DISCUSSION

SECTION A: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF DIABETIC CLIENTS

The result shows that most of the diabetic clients, 9(30%) were aged above 60 years, 14(46.7%) had higher secondary

education, 25(83.3%) were married, 22(73.3%) were Hindus, 16(53.3%) were private employees, 22(73.3%) belonged to nuclear family, 14(46.7%) had an income of above 20,000, 14(46.7%) had no co-morbidities, 27(90%) were non-vegetarian and 20(66.7%) were living in urban

Figure:1

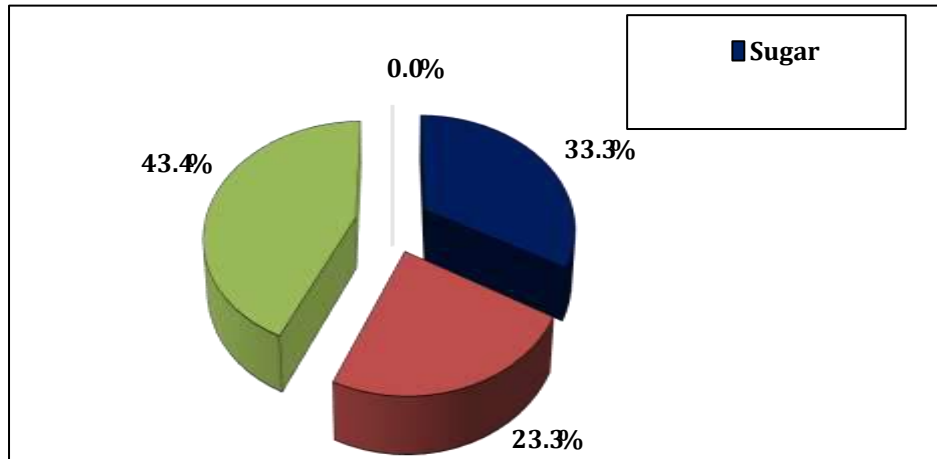


Percentage distribution of educational status of diabetic clients

The result shows that most of the diabetic clients, 24(80%) had no past medical history, 12(40%) had moderate level of physical activity, 15(50%) had physical history of 1 km, 14(46.7%) had regular clinical visits 6 months once, 19(63.3%) had no habits, 13(43.4%) had dietary restriction of

sugar and dietary products, 13(43.4%) had diabetes mellitus for 3 – 5 years, 18(60%) had type 1 diabetes mellitus, 30(100%) were having diabetes drugs regularly and 14(46.6%) were taking oral hypoglycemic drugs.

FIGURE: 2

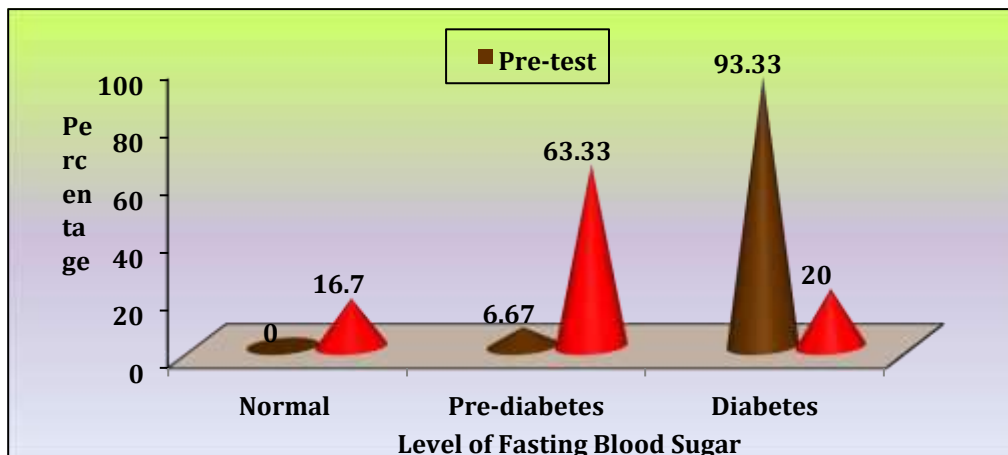


Percentage distribution of type of family of diabetic clients

SECTION B: ASSESSMENT OF LEVEL OF BLOOD GLUCOSE AMONG DIABETIC CLIENTS.

The above table 3 shows that in the pre-test, 28(93.33%) had diabetes and 2(6.67%) had pre-diabetes. Whereas in the post

test, 19(63.33%) had pre-diabetes, 6(20%) had diabetes and 5(16.67%) were normal.



Percentage distribution of level of Fasting blood sugar among diabetic clients

SECTION C: EFFECTIVENESS OF DRUMSTICK LEAVES POWDER ON BLOOD GLUCOSE LEVELS AMONG DIABETIC CLIENTS.

Table 5: Comparison of pretest and post test level of blood glucose levels among diabetic clients. n = 30

Group	Test	Mean	S.D	Paired 't' test Value
FBS	Pretest	181.33	21.88	t = 13.933 p = 0.0001 S***
	Post Test	125.43	20.74	
PPBS	Pretest	309.37	72.19	t = 11.698 p = 0.0001 S***
	Post Test	207.63	55.03	

***p<0.001, S – Significant

The result shows that the pre-test mean score of FBS was 181.33 ± 21.88 and the post test mean score of FBS was 125.43 ± 20.74 . The calculated paired 't' test value of $t=13.933$ was found to be statistically highly significant at $p<0.001$ level. This clearly infers that administration of drumstick leaves on blood glucose level among diabetic clients was found to be effective in lowering of FBS in the post test.

SECTION D: ASSOCIATION OF LEVEL OF BLOOD GLUCOSE AMONG DIABETIC CLIENTS WITH SELECTED DEMOGRAPHIC VARIABLES.

The result shows that the clinical variable type of diabetes mellitus ($\chi^2=6.645$, $p=0.036$) had shown statistically significant association with post-test level of PPBS among diabetic clients at $p<0.05$ level. The other demographic variables had not shown statistically significant association with post-test level of PPBS among diabetic clients.

CONCLUSION

From the results of the present study shows significant improvement for researcher.

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PERCEIVED ADVERSE HEALTH EFFECTS OF EXPOSURE TO PARTICULATE MATTER AMONG RESIDENTS OF PORT HARCOURT

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ABSTRACT

Background: In recent years, there has been a public outcry in Port Harcourt over the presence of black particulate matter (PM) on surfaces, and in the nostrils, prompting health concerns. The study is to assess the knowledge, attitude, and perceptions of the adverse health effects of exposure to PM among residents in Port Harcourt metropolis.

Method: The study was carried out using a cross-sectional design technique, while data was collected using a structured, self-administered questionnaire, administered to respondents residing in Port Harcourt during the period of public outcry, 2016 to 2020.

Results: The questionnaire was administered to 400 respondents, 260 (65.0%) of whom are females. Most (96.0%) of the respondents were below the age of 50 years, of the Christian faith (96.0%), and had a tertiary education 270(67.5%). Finding from this study showed that the majority of the respondents (54.8%) have only fair knowledge of the adverse health effects of exposure to particulate matter, while 75.5% had poor attitude towards preventing the adverse health effects of exposure to PM. Most of the respondents (92.3%) in this study have poor perception towards the adverse effect of exposure to particulate matter.

Conclusion: The fair knowledge of the adverse health effects of PM among the respondent translated to poor attitude and perception towards its adverse health effects. Hence, an intense sensitization is required to boost the knowledge of the populace on the adverse health effect of exposure to soot so as to increase their attitude towards preventive measures and perception of the adverse effect of the menace.

KEYWORDS: Knowledge, attitude, perception, adverse effects, exposure, soot, particulate matter.

I. INTRODUCTION

Indoor and outdoor air pollution has been a major challenge worldwide and a serious public health issue particularly in the developing world due to the numerous risks and increasing concerns over its adverse health effects on human health. It is ranked the 4th health threat and the largest among all of the environmental risks to be associated with an annual

death rate of over 3 million globally.¹ Reports also shows that approximately 3.7 million and 4.3 million premature deaths in 2012 were attributed to outdoor and indoor air pollutions respectively.^{1,2}

Approximately 8 billion cubic meters of gas containing pollutants such as particulate matter (PM), ozone (O₃), nitrogen oxides (NO_x), volatile organic compounds (VOC), sulphur



dioxide (SO₂) and metals are flared every year at different oil production sites in Nigeria.³ Amongst the array of pollutants, the emphasis of this study is on PMs, which are particles of variable but very small diameter and are composed of black carbon, sulfate, nitrates, ammonia, sodium chloride, mineral dust and water.⁴ According to the United States Environmental Pollution Agency (USEPA), Particles of about 10µm (PM₁₀) or larger are typically trapped in the upper respiratory tract, preventing them from penetrating deeply into the respiratory tract, whereas particles of about 5µm or smaller can penetrate deeply into the lungs where the gas exchange occurs in the alveoli and impart a variety of severe health outcomes, including acute bronchitis and aggravated asthma in children, cardiac arrest, strokes, and early death.

The ultra-fine particulate matter (soot) measures about 2.5 microns (PM_{2.5}) and has been regarded as the leading cause of global pollution-related mortality.⁵ They can penetrate the respiratory system via inhalation, causing respiratory and cardiovascular diseases (lung inflammation, emphysema, pneumonia, bronchitis, asthma, respiratory tuberculosis, vascular dysfunction, and increased thrombosis), reproductive and central nervous system dysfunctions, and cancer,⁶⁻⁸ while Ohimain et al.⁶ reported that prolonged exposure to high concentration of particulates could damage eyes, teeth, and bones.

Seeing the great negative potentials associated with exposure to PM, it is unfortunate to note that the emission of ultrafine particulate matter into the atmosphere have continued to rise globally, with this phenomenon palpably visible within the city of Port Harcourt which houses most of the oil exploration companies and illegal oil refining activities. This signifies a huge backward step from the progress made between 2005 and 2010 in the reduction of emissions due to various industrial and non-industrial operations and processes by 29%.⁹ This current poor air quality due to soot emission further aggravates the existing poor air quality situation of the region, suggesting a “double air pollution burden” as a result of the unresolved prevailing widespread air pollution due to stench smell from improper waste disposal management system and the emergence of particle pollution.¹⁰⁻¹¹

Though there has been a great level of awareness of this fact from different quarters, much attention is not being paid to the knowledge of its adverse effects on human health. Some existing studies have investigated knowledge and perception concerning air pollution and breathing experience among residents in Port Harcourt as well as the potential health impact of continuous exposure to soot,¹²⁻¹³ while some others have only emphasized the poor air quality in the metropolis.¹⁴⁻¹⁵ Hence, this study was hinged on investigating the knowledge level, attitude and perception of residents in Port Harcourt metropolis to the adverse human health effects of exposure to soot. Recommendations by Odonkor and Mahami,¹⁶ can play a significant role in the development and implementation of necessary intervention programmes to curb the menace.

II. METHODOLOGY

Study Design and setting

This survey adopted a descriptive cross-sectional study design and was set in the metropolitan city of Port Harcourt, Rivers State. The city occupies approximately 1811.6km² area, a multi-national, multi-cultural, and multi-religious community with a population of about 1.5 million.^{17,18} The city is situated in the southernmost part of the country, in the Delta of the Niger River, with a total size of 109 square kilometres. The city is located between the Dockyard Creek/Bonny River and the Amadi Creek, with an estimated mean elevation of 12 km above mean sea level.¹⁸ Since there are hardly any high lands in Port Harcourt, its topography, geographical location, land breezes, and occurrence of Harmattan make it possible for emissions to spread quickly throughout the city.¹⁹ Hence, periodic plumes of pollutants from industrial discharges (a principal source of air pollution) constitute a frequent occurrence in the city.²⁰ The activities of the multinational companies (especially oil and gas companies) and illegal refining of crude oil has significantly contributed to the poor ambient air quality of the city. For instance, soot results from gas flaring or pipeline explosion deposits on nearby surfaces including buildings and vegetation covers causing respiratory problem.

Study Population

The study consists of male and female genders from all age who are resident in Port Harcourt metropolis where the soot is also mostly observed.

Sample Size and Technique

The sample size for the study is 400 this was gotten using the Taro-Yamane formula,²¹ at 95% confidence level, population size of 538,558 according to 2006 National Population Commission census. The study adopted the use of the multi-stage sampling method in recruiting the respondents for the study

Study Instruments

The tool used for data collection was a pre-tested, structured questionnaire designed in line with the study objective, to elicit response from the respondents.

Statistical Analysis

Data analyses was done using SPSS version 22.0 (IBM, U.S.A) and Microsoft excel 2010. Descriptive statistics and t-test were used to analyse data obtained from the study. This was done using SPSS version 22.0 (IBM, U.S.A) and Microsoft excel 2010. The section on the knowledge, attitude and perception towards adverse health effects of the soot were scored using the correct answers to the questions as provided by the respondents. Each correct answer was scored 1 mark and cumulated to 100% and graded as follows: Poor knowledge (0 – 49%), Fair knowledge (50 – 74%) and Good knowledge (75 – 100%), while that of attitude towards preventive measures and



perception towards adverse health effects of soot was graded as negative practice (0 – 49%) and positive practice (50 – 100%).

Ethical Consideration

Ethical clearance was obtained from the University of Port Harcourt Research Ethics Committee and the Rivers State Ministry of Health before commencement of the study.

III. RESULTS

Socio-demographic Characteristics of Respondents

Table 1 show the analysis of the socio demographic characteristics of the respondents. According to the result, most respondents are female (65.0%), aged 31 – 40 years (42.5%), Married (54.5%), Christians (96.0%), educated up to the post graduate level (67.5%), employed as civil servants (34.3%) and had a monthly income level of > 90,000 (50.5%). Majority of the respondents (74.0%) indicated that they have lived in Port-Harcourt for 1 – 20 years, while 217(54.3%) spend most of their time outdoors.

Table 1: Socio-economic characteristics of respondents

Variable	Frequencies (n=400)	Percentage (%)
Sex		
Male	140	35.0
Female	260	65.0
Age		
21-30	149	37.3
31-40	170	42.5
40-50	65	16.3
≥51	16	4.0
Marital Status		
Single	177	44.3
Married	218	54.5
Divorced/separated	3	0.8
Widowed	2	0.5
Religion		
Christianity	384	96.0
Islam	11	2.8
Traditional	1	.3
Others	4	1.0
Highest level of education completed		
Primary	1	0.3
Secondary	8	2.0
Tertiary	121	30.3
Post-graduate	270	67.5
Employment status		
Civil servant	137	34.3
Self-employed	88	22.0
Employed in private sector	106	26.5
Others	69	17.3
Income		
None	59	14.8
<30,000	33	8.3
30,000-60,000	48	12.0
60,001-90,000	58	14.5
> 90,000	202	50.5
How long have you lived where you live now (386)		
1-20	296	74.0
21-40	103	25.8
≥41	1	0.3



Do you spend more time outdoor		
Yes	217	54.3
No	183	45.8
Do you spend more time indoor		
Yes	198	49.5
No	202	50.5

Knowledge of adverse effect of Soot**Table 2: Knowledge of human adverse health effects of particulate matter**

Variable (n=400)	Frequencies	Percentage (%)
Knew that exposure to soot can lead to COPD	366	91.5
Knew that exposure to soot can cause skin irritation	306	76.5
Knew that exposure to soot can cause loss of vision	189	47.3
Knew that exposure to soot can cause underweight among under-five children	145	36.3
Can the following respiratory systems be affected by soot		
Nose	350	18.5
Mouth	150	7.9
Throat	306	16.1
Voice box	171	9.0
Windpipe	234	12.3
Airways	330	17.4
Lungs	356	18.8
Soot cause more adverse effects on children compared to adults	281	70.3

The analysis of the knowledge of the adverse health effect of soot as presented in table 4.3 indicates that majority of participants, knew that exposure to soot can lead to chronic obstructive pulmonary disease (91.5%), skin irritation (76.5%), loss of vision (47.3%) and underweight of under-five children (51.5%). Also, majority of the respondents are aware that exposure to soot can affect the different organs of the respiratory system such as; lungs (18.8%), nose (18.5%), airways (17.4%), throat (16.1%), windpipe (12.3%), voice box, (9.0%) and mouth (7.9%), while 281 (70.3%) of the respondents agreed that exposure to soot causes more adverse effects on children compared to adults. Further analysis of this result showed that 219 (54.8%) of the respondents has fair knowledge of the adverse health effects of particulate matter on their health, while 161 (40.3%) had a good knowledge of the same and the remaining 20 (5%) had poor knowledge.

Attitude towards adverse health effects of exposure to particulate matter

The result of the attitude of the respondents towards preventing exposure to soot and curtailing its adverse effect on

their health is presented in Table 3 above. According to the findings, majority of the respondents, stated that they try to close their doors (82.5%) and windows (78.3%) at night to reduce the amount of soot entering their rooms, while more than half, 233(58.3%), of the participants do not remember or try to wear protective clothes to reduce the amount of the soot falling on your body. The table also show that most respondents, 209(52.3%) and 243(60.8%) do not remember or try or like the use of nose mask and glasses respectively, when at a place of high level of soot, while 355(88.8%) and 339(84.8%) stated that they remember or try to wash their hands regularly after touching soot surfaces and bath regularly after being exposed to soot or spending time outside their rooms respectively. Furthermore, 313(78.3%) stated that covering food is a very effective way of preventing the adverse effects of the black. Further analysis revealed that majority of the respondents, 302 (75.5%), have poor attitude while 98 (24.5%) had good attitude towards the human adverse health effects of particulate matters.



Table 3: Attitude towards adverse health effects of particulate matter

Variable (n=400)	Frequencies	Percentage (%)
Closing doors at night to reduce entry of soot into the room	330	82.5
Closing windows at night to reduce entry of soot into the room	313	78.3
Wear protective clothing to reduce exposure of the skin to soot	167	41.8
Use of nose mask to prevent breathing in soot	191	47.8
Use of glasses when you are at a place of high level of soot	157	39.3
Regular washing of hands after touching soot surfaces?	355	88.8
Regular bathing after prolonged time outdoor stay?	339	84.8
Covering food after dishing or cooking to prevent exposure to soot	313	78.3

Perception towards adverse health effects of exposure to particulate matter

The figure 1 below shows the perception of the respondents on the adverse effect of exposure to particulate matter.

According to the chart, 369 (92.3%) which represents majority of the respondents had poor perception, while 31 (7.9%) of the respondents had good perception of human adverse health effects of particulate matters

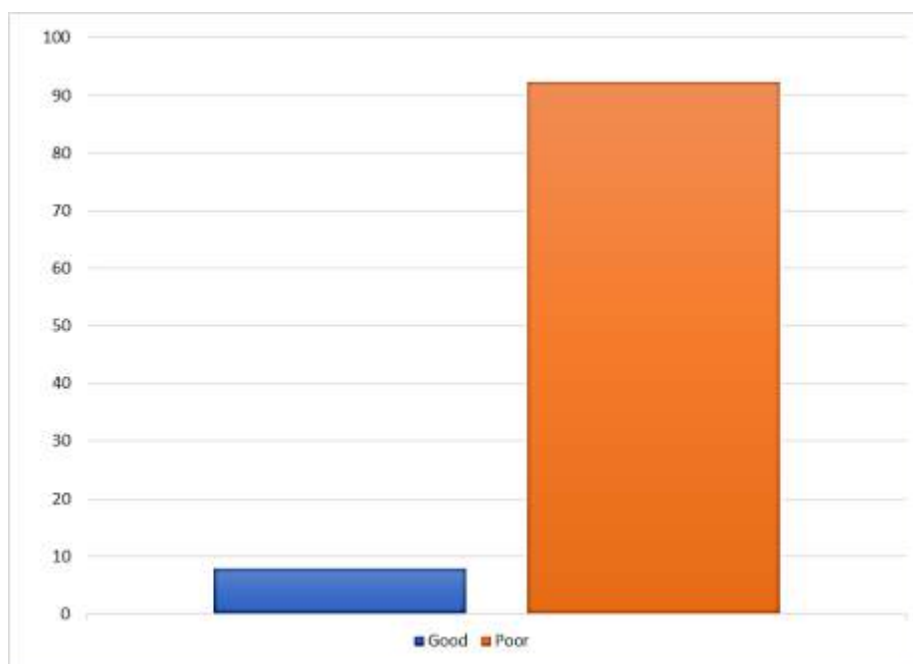


Figure 1: Perception of respondents towards adverse health effects of exposure to particulate matter

IV. DISCUSSION

Knowledge of adverse health effects of exposure to particulate matter

Breathing in good quality, clean and healthy ambient air daily, remains an essential physiological need for an effective and efficient human function and well-being.²² Hence, the presence of pollution in the form of PM constitutes a major threat to human health and environmental challenge across most cities of the world.¹³ According to the responses generated with regards to the knowledge of adverse health effects of exposure to PM, majority of the respondents knew that exposure to soot can cause chronic obstructive pulmonary disease (91.5%), skin irritation (76.5%), loss of vision (47.3%) and underweight of under-five children (51.5%). This translated only to fair

knowledge among 54.8% of the respondents. A similar study by Kanee et al.¹³ on air pollution and breathing experience of residents in Port Harcourt during COVID-19 Pandemic lock-down reported that only 24% of the respondents were very aware of health consequences of air pollution. Other similar studies conducted by Wang et al.²² and Odonkor and Mahami¹⁶ in China and Accra showed that 80% and 70.5% of their respondents, respectively, were aware of the adverse effects on health, while the studies of Afolabi et al.²⁴ and Qian et al.²⁵ recorded high level of awareness on air pollution and its health consequences. Congruent with the knowledge of the respondents on the adverse effect of exposure to soot is the growing evidence published by WHO which shows that fetus and young children are especially susceptible to PM,²⁶ while continuous exposure to it may be



implicated in the increase in the occurrence of childhood asthma, cancer, and developmental disabilities in recent decades.^{27,28}

Attitude towards adverse health effects of exposure to particulate matter

The respondent's attitude towards preventing the adverse health effects of exposure to particulate matters is poor (75.5%). According to the responses, to close their doors (82.5%) and windows (78.3%) at night to reduce the amount of black soot entering the room, while 58.3% do not remember or try to wear protective cloths or use nose mask (52.3%) and glasses (60.8%) when at a place of high level of soot. However, 88.8% try to wash their hand regularly after touching soot surfaces while 84.8% try to bath regularly after being exposed to soot or spending time outside their room respectively. Contrary to this, majority of the respondents in the study of Qian et al.²⁵ were reported to have developed some practices that indicated some certain self-protection consciousness such as using air purifiers, putting up green plants, reducing outdoor exercise and weekend travel, as well as wearing face masks. In the study of Majumder et al.²⁹ over 50% of the respondents never avoided outdoor activities and only 30% regularly reduced window opening time to air the room, while only about 40% use facemasks on a regular basis. Furthermore, evidence according to Morishita, Thompson & Brook³⁰ did show that measures such as air filtration, closing windows and air conditioning, using a particulate respirator feasible and effective in reducing air pollutant.

Perception towards adverse health effects of exposure to particulate matter

Most of the respondents in this study have poor perception towards the adverse effect of exposure to particulate matter (92.3%). The findings revealed that majority believe that exposure to soot can cause cough (85.8%), irritation to the eyes/nose/throat (92.0%), skin irritation (80.3%), worsen already existing allergies (89.5%), asthma (91.0%), bronchitis (86.0%) and lung cancer (86.3%) as well as lead to breathlessness (76.0%), or blurry vision (66.8%). Comparing this finding with the report in the study of Whyte et al.³¹ which assessed the perception of residents of Rivers state on soot pollution revealed that 69.9% and 64.2% perceived that the soot exposure caused them chronic cough and irritation to eyes, nose and throat respectively. Another study carried out in Delta State also showed that most respondents had strongly agreed that air pollution had negative harmful effects on health.³² Also, the result in the study of Omanga et al.³³ showed that 80% of study participants in rural Kenya perceived that air pollution posed a serious risk to their health, while Gany et al.²³ reported that 81% of the Taxi drivers in New York city thought that air pollution in general causes health problems.

V. CONCLUSION AND RECOMMENDATION

The overall outcome from this study revealed that knowledge of the adverse health effects of PM among the respondent is fair and this translated to poor attitude towards preventive activities and perception towards its adverse health effects. Hence, an intense sensitization is required to boost the knowledge of the populace on the adverse effect of exposure to soot so as to increase their attitude towards preventive measures and perception of the adverse effect of the menace. Also, the government and policy makers should implement complementary policies that will arrest the increase in the emission of soot in the environment.

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VIETNAM'S INCREASING RELEVANCE TO INDIA'S SOUTH CHINA SEA POLICY

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ABSTRACT

Despite China's assertiveness, India has actively participated in the South China Sea (SCS), particularly by expanding its naval presence and building relationships with Vietnam. This essay analyses the pertinent incentives for India's participation in the SCS before looking at the development of three areas of bilateral cooperation between India and Vietnam: defence, economy, and diplomacy. Given their shared concerns over China's escalating maritime coercion, the cooperative initiatives become strategically important in that they help deepen India-Vietnam relations.

Vietnam is at the top of India's strategic calculations as it attempts to ensconce its geopolitical interests in the South China Sea (SCS). First, their trusting relationship has depended on their long-standing and trouble-free connection, with India's support for Vietnam's anticolonial resistance during its tenacious fight for independence and unification. Second, New Delhi's goal of a secure Southeast Asia has benefited from Vietnam's stance on regional security and its strategy for resolving the SCS issue.

Despite Beijing's threats, New Delhi has stepped up security ties with Hanoi while regional middle powers like South Korea, Australia, and New Zealand have refrained from criticising the SCS and avoided seeking close maritime cooperation with Vietnam out of concern for Chinese retaliation. India has grown more motivated to promote better ties with Vietnam under the Act-East Policy because New Delhi regards Hanoi as a critical fulcrum for its Southeast Asia policy. The cornerstone of Vietnam's efforts to pursue multilateral involvement has become building relationships with conventional and friendly nations. Vietnam, which has acted as a bridge-builder between India and the Association of Southeast Asian Nations, has so fostered India's tighter integration with Southeast Asia (ASEAN). Vietnam would aid India in "expanding its reach beyond the Indian Ocean," according to Pham Sanh Chau, ambassador of Vietnam to India. Both nations hold that ASEAN "[occupies] the central role in any evolving security structure in the region."

This article's major point is that India views Vietnam as the key to extending its influence in the SCS, as seen by its diplomatic, economic, and military efforts. Therefore, encouraging India-Vietnam collaboration on marine security might potentially strengthen the developing middle-power

partnership between the two like-minded nations, attributing a firm stance to China's aggressive posturing in the SCS.

MOTIVATORS FOR INDIA'S SOUTH CHINA SEA ENGAGEMENT

The expansion of China in the disputed sea, India's utilitarian interests there, and the expanding geopolitical importance of the Indo-Pacific region are the main causes strengthening India's involvement in the SCS. India has adopted a cautious stance in response to China's growing power, which has prompted India to intervene in order to protect its interests and thwart Beijing's aspirations for hegemony in coastal Southeast Asia. India's interests in the SCS, such as trade connections, freedom of navigation, and a regional order based on rules, have strengthened Indian authorities' commitment to the area. India is also aware of how crucial it is to strengthen its position as a true middle power in the Indo-Pacific region.

CHINA'S RISE IN A CONFLICTED SEA

The gradual increase of Chinese influence in the SCS since World War II could be summed up as follows: (1) Invasion of the Paracel and Spratly Islands in 1946-1947; (2) Gradual occupation of the Paracel Islands from 1956 to 1974; (3) Occupation of land features (such as islands and rocks) in the Spratly Islands from 1988 to 1995; (4) Pursuit of the policy of "detaining land disputes, exacerbating maritime tensions" from 1996 to 2008; and (5) Multifaceted expansion with a high level of military presence since 2009. The logic behind China's ascent in the SCS is that whenever a power vacuum was apparent, China would seize the opportunity to fill the void and assert its dominance.

"A new phase in the legal struggle over territory and maritime rights in the SCS" began in 2009 when China



unilaterally submitted the Nine-Dash Line map to the UN. China has increased coercive measures against claimant governments starting in 2009, which has increased the possibility of confrontation in the disputed waters. As the COVID-19 pandemic spread, tensions in the SCS increased further as China violated the maritime waters and exclusive economic zones (EEZs) of its neighbours. In short, the reason for the escalating tensions in the SCS is China's irredentist claims to disputed islands and its aggressive behaviour.

India considers China's SCS aggression to be a danger to the balance of power in the region. India has continued to be wary of Chinese intrusion into the SCS since China has long tried to limit India's military presence and cooperation with nearby littoral nations. India would find it difficult to access maritime trade routes and carry out oil and gas development in the sea if China came to dominate the SCS. In addition, given Beijing's naval capabilities, India's long-term economic foothold in Southeast Asia would probably be put to the test.

Border issues between China and India have exacerbated Indians' hostility toward China. 73 percent of Indian respondents to a 2019 Pew survey deemed China's escalating military strength in the SCS to be "a bad thing." Both historical and contemporary factors, particularly "the unique histories governing their formation as modern states, the stark contrasts in their respective political regimes, and their ongoing territorial disputes and geopolitical rivalries," are major determinants of tensions between India and China, whether overt or covert.

INDIAN INTERESTS IN THE SOUTH CHINA SEA

In India's SCS interests, freedom of navigation, marine resources, and strategic interests all play a triple role. Since "the SCS is our business," India has taken the stability and security of the SCS seriously. Our historical entitlement to pass through the SCS unhindered has been established by custom and practise. For two thousand years, we have mutually aided in each other's prosperity, according to Vijay Gokhale, a former ambassador of India to China and current minister of foreign affairs. India's access to Southeast Asia, where it has historically maintained maritime relations and deep cultural ties with neighbouring nations, might be severely harmed if freedom of navigation in the SCS is seriously threatened.

The SCS, one of the most significant international shipping routes, supports India's diplomatic and economic ties with Southeast Asian nations. The Indian Ministry of Commerce and Industry estimates that India's bilateral commerce with ASEAN economies was \$78.9 billion in 2020–21 and may increase to \$300 billion by 2025. There is still a tonne of room to grow trade and investment between India and ASEAN, particularly in fields like infrastructure, tourism, e-commerce, education and skill development, and pharmaceuticals and healthcare. As a result, the stability and security of the economies of Southeast Asia coincide with the security of the maritime route from the Indian Ocean to the Pacific, with the SCS continuing to serve as the focal point.

Since the late 1980s, when ONGC Videsh Limited (ONGC-VL) collaborated with PetroVietnam, India has been working on offshore energy projects in the energy-rich SCS alongside Vietnam (PVN). In the SCS, both sides made the discovery of the two sizable gas fields known as Lan Do and Lan Tay, each with up to 58 billion cubic metres of estimated natural gas reserves and an annual output of two billion cubic metres on average. India's dependence on oil imports increased from 83.8 percent in 2018-19 to 85 percent in 2019-20 as a result of the country's quickly rising consumption and stagnant domestic output. A sizable portion of the country's oil imports came from the United States and Russia. India's energy requirements might be met by the plentiful oil and gas in the SCS, reducing its reliance on imports from the American and Russian markets.

In terms of strategic interests, the SCS is a strategic centre connecting East Asia, the Pacific, the Indian Ocean, South Asia, and the Middle East. It is located at the edge of India, where the Pacific and Indian Oceans converge. The SCS serves as a buffer zone that helps stop major powers from attacking India viciously. A strong presence in the SCS could aid India in reducing its reliance on major nations for its stated marine needs. India might maintain its strategic security in the SCS as a "pedal" to increase its strategic influence in the western Pacific in the face of China's increasing coercion. In other words, the SCS uses India's counterbalanced influence against China to fulfil the role of the "Eastern shield."

It is also crucial to recognise that the SCS acts as a strategic entry point to India's Act-East Policy, which demonstrates New Delhi's readiness to pursue tighter political and security alignments as well as economic cooperation with Southeast Asia. In terms of strategy, the SCS aids India in extending its influence and examines its capacity to have a significant impact on Southeast Asia. India views China's expansionist activities in the SCS as endangering its national and regional interests, hence Indian Defense Minister George Fernandes stressed in April 2000 that India's maritime rights extend "from the North of the Arabian Sea to the SCS."

INDIA'S VISION FOR THE "INDO-PACIFIC"

In his keynote speech at the 2018 Shangri-La Dialogue in Singapore, Indian Prime Minister Narendra Modi for the first time outlined India's vision for the "Indo-Pacific area." Modi advocated for a "free, open, prosperous, and inclusive Indo-Pacific Region" in his speech on foreign policy, using the term "Indo-Pacific" 11 times. Additionally, Modi emphasised that ASEAN would continue to be the defining feature of the Indo-Pacific and stated that India's relations with this area would be based on the Hindi letters Sammaan (respect), Samvad (conversation), Sahyog (cooperation), Shanti (peace), and Samridhi (prosperity).

Vietnam showed support for India's pledge to play a stronger part in the Indo-Pacific architecture. Former Vietnamese president Tran Dai Quang praised India's crucial



role and urged India to have a stronger presence in the Indo-Asia-Pacific region in his 2018 defining speech on India-Vietnam relations: “In recent years India’s rise has been closely linked with the prosperity and affluence of Asia as a whole. The peaceful development of India has always contributed significantly and positively to the peace and stability of the region. India certainly deserves to play a bigger part in the Indo-Asia-Pacific region and the rest of the globe given its enormous potential and significant contributions.

India has practical reasons to want to get access to Southeast Asian waterways and help ASEAN members develop their capacities. The core of New Delhi’s Indo-Pacific strategy is centred around these strategic issues. When seen from the Indian Ocean, Southeast Asia is India’s “backyard,” while when seen from India, it is the Indian Ocean’s “foyer.” With its expanding maritime role, India has long served as a security provider at the centre of the integrated Indo-Pacific maritime theatre. Under the Modi administration, India’s Act-East Policy—an upgrade from its earlier Look East Policy—has progressively evolved into an Act Indo-Pacific Policy, with the Indo-Pacific region serving as the main point of its engagement with nations in South, Southeast, and East Asia.

Due to China’s naval bases around it in the “string of pearls” that stretches from the Chinese mainland in the Asia-Pacific to the Indian Ocean and even the Middle East, India’s sphere of influence is expected to become increasingly constrained. While China has become engaged in SCS territorial conflicts, India may soon experience the spillover effects of geopolitical unrest. India has maintained cordial ties with neighbouring nations in the Indian Ocean region, which may portend a new arena for rivalry between Beijing and New Delhi. India’s geopolitical and strategic interests in the larger Indo-Pacific, where China has long been caught in an ambiguous position given the expansion of its maritime aspirations, would be seriously threatened by China exercising greater influence outside.

INDIA-VIETNAM MARITIME SECURITY TIES

Vietnam has consistently supported India’s active participation in the SCS. Vietnam has consistently viewed India as a trustworthy strategic partner and has long regarded the two countries’ relationship as “trusted and cordial.” Vietnam stands out as a focus point in India’s perception because Hanoi is at the geopolitical centre of the Indo-Pacific, whereas India’s physical location in South Asia has always backed itself as a critical component “in the strategic equation around the Indian Ocean.”

FINANCIAL COLLABORATION

India has a significant economic interest in promoting oil-exploration activities off the coast of Vietnam, with ONGC Videsh Limited involved in oil and gas production alongside PetroVietnam, despite keeping quiet about China’s dominance in the SCS. China, on the other hand, expressed serious concerns over India’s efforts to establish commercial links with Vietnam,

alleging that the two countries’ joint oil and gas development breached China’s legal rights in the SCS. The China Communist Party’s official tabloid, *Global Times*, referred to the India-Vietnam agreement as a significant political provocation in 2011 and asked the Indian government to “use every means necessary to prevent this cooperation from happening.”

India strongly disagreed with China’s position about Vietnam’s offer to conduct oil exploration in maritime areas. Vishnu Prakash, the official spokesperson for the External Affairs Ministry, responded to Beijing’s threat in September 2011 by saying, “Our cooperation with Vietnam, or with any other country for that matter in the globe, is always in accordance with international laws, norms, and agreements.” A harder stance took shape with the signing of the agreement on new investments in oil and gas exploration between ONGC-VL and PVN during the visit of Vietnamese president Truong Tan Sang to India in October of the same year.

Admiral Devendra Kumar Joshi, the head of India’s navy, described the SCS situation as “complicated” and emphasised India’s steadfast commitment to economic resources and freedom of navigation in the disputed waters. Admiral Joshi asserted that anytime India’s interests are at stake—for instance, because ONGC-VL holds three oil exploration blocks there—“we will be compelled to go there and we are prepared for it” against the backdrop of Beijing’s military modernisation in the SCS. State-owned ONGC-VL from India and state-run PVN from Vietnam signed a mutual cooperation agreement “for mutual cooperation for exploration in Blocks 102/10 & 106/10 of PVEP and Block 128 of OVL [ONGC-VL] in offshore Vietnam” despite China’s protests that the exploration of Blocks 127 and 128 violated its territorial rights. A decided decision, the 2014 agreement “made a volte face at the urging of Ministry of External Affairs, which wanted India to extend its presence in [the] SCS,” according to the statement. India demonstrated its will to stand in good favour with Vietnam by remaining committed to increased oil exploration with Vietnam and promoting its readiness for naval combat.

A two-year extension to explore Oil Block 128—part of which is inside China’s so-called Nine-Dash Line—was given to ONGC-VL by Vietnam in July 2017. India’s strategic interest in maintaining its economic presence in the SCS while Vietnam might continue to entangle Indian economic interests with its economic activity in the contentious waters was implied by the fifth extension of the exploration licence. The extension was a calculated strategic choice because the two parties’ interests go much beyond simple business. Increasing oil cooperation could be interpreted as Vietnam’s concrete action to welcome India’s expanding role in the SCS. Vietnam is fostering commercial ties with India “as part of its strategy of seeking many partnerships with big powers while avoiding formal military alliances.”

The core of bilateral economic relations remained oil and gas exploration. In his official meeting with Prime Minister Modi on 2018, Vietnamese President Tran Dai Quang urged Indian companies to keep up their oil and gas exploration and



exploitation activities in Vietnam's continental shelf and EEZ. The two nations defined "models for cooperation, including those involving third country" in their joint oil and gas projects that same year for the first time. Vietnam's open attitude toward China may be seen as a direct reaction to Beijing's unreasonable opposition and, to some extent, a subtly counterbalanced action against the latter's maritime aspirations. Despite Beijing's condescending and confrontational acts in Vietnamese waters, India has again demonstrated its commitment to promoting oil and gas exploration with Vietnam.

DEFENSE AND SECURITY

While understanding the strategic significance of the SCS and their precarious situation in relation to China's ascent to power, India and Vietnam are moving closer together. The two partners have increased their investment in security and defence cooperation along with diplomatic support and energy cooperation. The Defense Protocol signed by India and Vietnam in March 2000, which established a thorough framework for ongoing discussions between the two defence ministers and potential combined naval exercises, marked a turning point in their bilateral defence cooperation. India and Vietnam signed a memorandum of agreement on defence cooperation in November 2009, which aided both nations in strengthening their defence cooperation and fostering delegation interactions.

A mysterious Chinese warship engaged the Indian Naval Ship Airavat in September 2012 while it was leaving Vietnam. The naval threat that China purposefully sparked was the first known run-in between the two navies in the SCS. India's position in the disputed sea was irritated by China's naval assertiveness, which made India more determined to improve maritime ties and interoperability with Vietnam.

The "rise" of China and Its escalating maritime aggressiveness are primarily to blame for the change in India's SCS engagement, as well as "its own evolution via the Indian strategic prism" and "security dynamics" in Southeast Asia. Referring to David Scott's SCS rhetoric, the logic of India-Vietnam relations under the "China threat" was greatly illuminated: "Kautilya's logic also applies for India, his so-called "mandala diplomacy" in which a neighbour (China) is likely to be antagonistic but a neighbour of that neighbour (Vietnam) is likely to be supportive."

Vietnam has been in the vanguard of India's participation in the area, and India remains dedicated to the modernization of Vietnam's defence and security forces, according to Prime Minister Modi's 2014 media statement. This will entail joint exercises, cooperation in the development of defence equipment, and the extension of our training programme, which is already rather extensive. The 100 million dollar Line of Credit that will allow Vietnam to purchase new naval warships from India will be swiftly operationalized. In April 2021, Vietnam launched the second high-speed patrol boat it had constructed with technical and financial support from India. Vietnam is purchasing 12 high-speed patrol boats under the 2014 Extended Line of Credit.

Vietnam received the first patrol boat built in India in December of the previous year.

India has increased its military relations with Vietnam while staying out of the maritime disputes. India participating more actively in the SCS would surely draw China's ire. However, Chinese leaders would undoubtedly view India's decision to end its economic and defence cooperation with Vietnam in response to China's imperiousness because of "its dominance in economic production and a presumed divine entitlement to global dominion" as kowtowing to Beijing's leaders.

Because of India's strategic thinking, which sees Vietnam as "a counterweight in much the same way Pakistan has been for China," Vietnam has long been of strategic significance to India. At the same time, strengthening defence ties and giving Vietnam air and naval capabilities would strengthen India's relationships with the United States because Hanoi and Washington have been developing their relationship. Given that Vietnam is seen by the US as "the most strategically-thinking of all the ASEAN countries," there is a chance that the relationship will improve over the next years.

A strong India-US cooperation can "anchor peace, prosperity, and security from Asia to Africa and from [the] Indian Ocean to the Pacific," as then-US president Donald Trump said in a statement praising the improving ties between the two countries. The alliance between the US and India "can assist [the US] handle a lot of global difficulties," US president Joe Biden stated in September 2021. When New Delhi and Hanoi are acknowledged as "major regional powers" and partners of the United States in the Biden administration's 2022 Indo-Pacific Strategy, India can strengthen its naval cooperation with Vietnam by using Vietnam as the SCS's lynchpin. In addition, in the face of China's confrontational actions, India and Vietnam can potentially forge stronger connections with the United States.

As India's Act-East Policy gained a significant maritime advantage and the two middle powers began to care about the security of sea lanes and China's hegemony over the SCS, defence cooperation between India and Vietnam was given a fresh boost. The Indian Navy favours maritime interactions with Vietnam and has assisted that country in developing the necessary capabilities for maintaining and repairing its defence platforms. Vietnam has received assistance from India in "the acquisition of weapons and military gear, capacity building, and collaboration in the area of warship building and repair." At 2011, the Indian Navy offered Vietnam berthing rights in the port of Nha Trang in exchange for access to naval training and capacity-building facilities.

India has become one of Vietnam's major defence suppliers after recent gains. By starting a number of military contracts, India has strengthened its military ties with Vietnam. A \$100 million Defense Line of Credit, which was implemented by New Delhi, assisted in the construction of 12 high-speed patrol boats for the Vietnam Border Guard Force. The two



nations have been working hard to strengthen their defence connections as indicated by the security cooperation to “improve coastal security and deter illegal activities.” Essentially, India’s contributions to maritime security show a soft alignment between the two like-minded states.

Given China’s increasing aggressive activities toward Vietnam in the SCS, naval cooperation between India and Vietnam remains essential. The Indian Navy and the Vietnam People’s Navy conducted the second edition of their bilateral naval exercises off the coast of Cam Ranh Bay, Vietnam, over a four-day practise period in April 2019, following the first exercise held near Da Nang in May 2018. A composite training programme in submarine, aircraft, and dockyard training was part of the navy-to-navy collaboration, which boosted interoperability and exchanged best practises from both sides.

Due to the expanding bilateral relationship, the Vietnamese government has invited Indian ships to make yearly visits to some of Vietnam’s main ports, including Dinh Vu (Hai Phong City), Tien Sa (Da Nang City), Sai Gon (Ho Chi Minh City), and Nha Trang (Khanh Hoa Province). Regular trips to Vietnam by Indian naval officers have strengthened India’s maritime commitment and increased Indian presence in the SCS.

India “has not taken a strong posture against Chinese intimidation attempts,” despite the SCS being clearly “a neutral navigation field outside the sovereign bounds of the littoral countries.” India’s role in maintaining the international system of rules-based order at sea has so far developed to include transferring defence equipment and weaponry to Vietnam.

India and Vietnam have been in talks since 2014 over the potential of Vietnam buying Indian Brahmos and Akash missile systems, but India is now no closer to giving either missile system to Vietnam out of concern for upsetting China. There are many causes for this deficiency. One reason is that money has not been agreed upon between India and Vietnam, and another is that Vietnam may decide to purchase the Brahmos cruise missile from Russia rather than India. However, Russia’s relations with Beijing, which has increasingly served as its ally against the West, could be harmed by the potential export of the Brahmos medium-range missile to Vietnam. This is especially true in light of Russia’s ongoing invasion of Ukraine. As of now, New Delhi and Hanoi have exercised good judgement by keeping their discussions private rather than allowing public audiences to learn about their intentions.

CONCLUSION

The extremely ambitious Act-East Policy and the advent of the Indo-Pacific vision in Indian strategic thought have given India’s SCS engagement a justification in order to protect its interests and counterbalance China’s expanding military might. China’s expanding influence in the SCS and abroad has made India more vulnerable to threats and difficulties. As China is determined to transform the SCS into its “internal lake” and has openly taken advantage of the weakness or patience of big powers to irritate its neighbours, regional security can barely be

maintained. It turned out to be a foolish move for former US president Barack Obama to accept Chinese president Xi Jinping’s 2015 pledge that China would never militarise the SCS. India could therefore start over by playing a counterbalancing role in the sea that China has long regarded as its sole fishing ground.

India and Vietnam have been watching China’s hard-power projection over their shoulders, which could push both nations into a unified front to address their shared concerns. Examples of the continuous honest and solid connection that stand out are the development of India-Vietnam cooperation in the area of SCS security, the persistence in oil and gas exploration and exploitation, and the improvement of Vietnam’s military power. However, the two countries should refrain from “a direct confrontation” with Beijing and instead encourage the SCS’s expansion of like-minded nations like the US, Japan, and Australia.

India should closely coordinate with Vietnam to strengthen deterrence and defence against China with an eye toward the security of the SCS, and it should tie maritime challenges posed by China to its long-term interests. By holding combined naval drills, India, a historic middle power, and Vietnam, a developing middle power, could further adopt a more resolute strategy. Participating in marine discussions and naval drills with “joint role[s] in regional decision making, expanding maritime connectivity, and focusing on efforts toward maintaining a free and open Indo-Pacific” could potentially strengthen India and Vietnam’s relationship. Vietnam’s defensive capability could be improved by combined marine operations with India while Hanoi’s defence costs are reduced.

In response to China’s escalating hostility, a strengthened India-Vietnam alliance might give Beijing the message it needs to hear. First, strengthening relations between India and Vietnam during China’s maritime aggressiveness demonstrates India’s desire to increase its involvement in the SCS. Second, Vietnam is expected to continue seeking closer defence connections with nations that share its views, with India serving as a prime example. Growing bilateral connections create the possibility of a strengthened alliance between India and Vietnam, which Chinese leaders must take into account before stepping up their presence in the SCS.

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UNDERSTANDING AND REACTING TO THE BELT AND ROAD INITIATIVE: A NEW COLD WAR FOR THE DEVELOPING WORLD

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ABSTRACT

Particularly since the People's Republic of China (PRC) launched its Belt and Road Initiative (BRI) in 2013, the strategic competition between the US and the PRC for economic opportunities and political influence in the developing world has been compared to US and Soviet Union competition for the "Third World" during the Cold War. This essay contends that even while the form and setting of strategic competition now are very different from those of the second half of the 20th century, there are still many lessons to be learned from the US grand strategy of containment. The Soviet Union's (USSR) motivations, which included the need to protect against external dangers and preserve domestic legitimacy of the regime, were comparable to those driving Chinese behaviour. The PRC's ability to maintain rising living standards for the Chinese populace is a key factor in its legitimacy. The PRC does not, however, think that time is on its favour given the mounting demographic and economic restrictions. Therefore, before these restrictions become mandatory, BRI's strategic economic goals entail taking on more financial risk in exchange for the possibility of bigger and speedier profits. Common misunderstandings about PRC aims are dispelled when it is realised that profitability is the BRI's primary goal. The study comes to the conclusion that the US and its allies should (1) clearly define which PRC practises they are trying to contain; (2) respond by offering foreign assistance to developing countries that links more strongly to US economic interests; and (3) more actively incentivize commitment to liberal democratic values and sound development practises rather than by trying to match BRI spending symmetrically.

"It's no longer arguable that the United States and China, tacit partners throughout the last half of the last Cold War, are beginning their own new cold war," assert Hal Brands and John Lewis Gaddis, two of the greatest academics on the Cold War and American grand strategy. There are clear distinctions between the Cold War and the current deterioration of diplomatic ties between the United States and the People's Republic of China (PRC), which started about 2013. The degree of economic integration between the two nations, each of which is the other's top trading partner with significant bilateral direct investment, is the difference that stands out the most clearly. Even in 1990, American trade with the Soviet Union was insignificant in comparison to that of the United States with Western Europe and other non-communist bloc nations.

The PRC and the US's growing desire for political and economic sway in the developing world, however, draws a strong comparison to Cold War rivalry. Throughout the Cold War, the United States and its allies fought for influence in the nations of the "Third World" and the Non-Aligned Movement. Each side provided financial and military support, usually with conditions related to politics. In emerging nations like Africa, Asia, and to a lesser extent Latin America, the PRC has become a significant political and economic rival to the United States. Given that, excluding China, 65 percent of the world's population currently resides in these regions and that, over the

next 30 years, almost all population growth will occur in these low- and middle-income countries, with the population of sub-Saharan Africa expected to nearly double by 2050, this competition could develop into a serious threat.

Beijing sees closer economic ties with Eurasia and Africa as an essential part of the PRC's bigger plan to keep the pace of development and project political influence through economic force. Beijing sees itself as a "developmental state," and its political and economic objectives are intertwined, according to the PRC. Therefore, the legitimacy and viability of the Chinese Communist Party depend on continued economic growth, improved living standards in China, and the capacity to appease growing nationalist feeling by projecting more authority abroad, in large part due to the size of the Chinese market (CCP).

The PRC's development objectives, however, are becoming more and more difficult to realise due to new economic and demographic realities. In light of these limitations that will have an impact on China's development and ultimately the CCP's legitimacy, the Belt and Road Initiative (BRI) of the PRC must be interpreted as a strategy of increasing financial risk acceptance in the hopes of attaining larger returns.

While acknowledging the limitations of historical comparisons, this article seeks to extract lessons from the Cold War and apply them to the contemporary strategic struggle for economic and political dominance in developing nations. It



examines the BRI's influence on Chinese state-led foreign investment and its economic and political-strategic drivers. In addition, given the overall lack of governmental capacity and the high risks that continue to discourage private investment in many developing countries, the study evaluates rising debt levels in emerging nations, the Chinese model of development, and the expected returns from BRI investments. The article then examines the appropriate US strategic response to BRI, making the case that certain lessons from the US Cold War containment strategy apply. These lessons include the significance of defining what should be contained, concentrating on strong points of strategic interest rather than attempting to match Chinese foreign investment dollar for dollar, and having self-confidence in the superiority of the US development model. Last but not least, the paper looks at what would make US foreign assistance more strategic and consistent, keeping in mind the ideas that underlie the Marshall Plan's goal of limiting Soviet influence.

THE ORIGINS OF CHINESE BEHAVIOUR

In order to construct a US response to the rising Soviet challenges, George Kennan, one of the architects of US Cold War strategy, thought that understanding the Soviet leadership and their underlying motivations was crucial.

” Since Kennan was working at the US Embassy in Moscow at the time, “The Sources of Soviet Conduct” was first published in the July 1947 issue of *Foreign Affairs* magazine under the pseudonym “X.” The piece, which built on his private “long telegram” to Department of State officials in Washington, coined the word “containment” and established the groundwork for a programme that would guide US foreign policy for decades. The article's strength stemmed from Kennan's understanding that, in order to respond to the Soviet Union's growing threat, US policymakers needed to first comprehend how the Soviet leadership saw the world. Understanding that the legitimacy and continuation of the Communist Party regime served as the cornerstone of Soviet behaviour served as the beginning point. He then used this knowledge to develop ideas and offer advice to US foreign policy decision-makers, which was occasionally adopted and other times rejected.

Similar to that method, this article uses strategic empathy to analyse the dynamics around the CCP and PRC's objectives for the BRI in the context of five categories. The BRI, which is just one element of a bigger PRC plan to maintain rapid economic growth in order to avoid the middle-income trap as a crucial source of CCP regime legitimacy, is also reviewed along with its fundamental drivers.

CHINESE COMPANIES SHOULD TAKE THE LEAD IN GLOBAL VALUE CHAINS TO AVOID FALLING INTO THE MIDDLE-INCOME TRAP

The CCP sees rising living standards as the foundation of its legitimacy, while the PRC sees sustained economic growth as

essential to maintaining its security. China's collective identity is shaped by the recent poverty, starvation, subjection, and cultural exploitation it has experienced at the hands of foreign powers. Similarities to the significant “feeling of insecurity” Kennan identified among the Soviets can be seen in this situation. Russia had recently been humiliated in the Sino-Japanese War, forced to leave World War I after suffering terrible losses, and had suffered an invasion from another country and significant defeat in World War II. The CCP feels that its situation is still precarious because if economic growth slows down, it will lose its main source of ability to exert influence and uphold the legitimacy of its one-party system.

The CCP regime's main concern is that it will fall into a “middle-income trap.” If the nation is unable to make the transition to more knowledge-intensive and higher-productivity industries, rising wages will eventually make existing labor-intensive industries and exports less competitive. This will slow growth. The CCP government is well aware of how challenging and uncommon such transitions are. Being an active participant in global value chains to export low-value items while steadily increasing the share of domestic technology and human capital in production to establish lead firms has shown to be the most effective strategy for achieving the transition, particularly in East Asia.

The PRC Introduced the Made in China 2025 plan in 2015 to carry out such a strategy. By minimising reliance on foreign intellectual property, enhancing human capital, and incorporating more domestically developed science and technology into production, the plan was explicitly intended to move Chinese enterprises into higher value-added manufacturing. Electric vehicles, information technology (IT), shipping, aircraft and aviation, pharmaceuticals and medical equipment, telecommunications, sophisticated robotics, and artificial intelligence are important industries that are currently receiving targeted public investment.

Therefore, the BRI is an essential part of Made in China 2025 and the CCP's bigger goals to advance Chinese companies to the top of certain global value chains and escape a middle-income trap. This is due to China's growing reliance on imports of intermediate goods and services, as well as raw resources, to support its own production objectives. China aims to transform lower-income and lower-wage nations into a source of supply of the inputs required to overcome such shortages and provide Chinese enterprises the ability to control more global value chains through the BRI, which increases connectivity and lowers transportation and transaction costs. If the BRI is effective, it will enable China to play the same role in the developing world that Western and other developed country businesses have been doing in China for many years.

CHINA'S OVERCAPACITY IN A SECTOR

Through its communist ideological commitment to state-led public investment as a driver of industrialization and growth, the early Soviet economy experienced notable early triumphs.



As the Soviet Union's primary source of domestic revenue, Moscow primarily relied on its vast supply and reserves of oil and gas to fund that investment. The PRC still substantially relies on state-led investment despite being significantly more open to the private sector and local policy experimentation than the USSR ever was. Beijing also argues that in order to remedy market imperfections and maintain economic growth, significant state involvement is required. However, given China's relative paucity of natural resources, the PRC had to increase domestic savings sources in order to carry out China's public investment plans.

Therefore, Beijing's primary economic development strategy has been to encourage high rates of saving and investment in order to match the PRC's rapid economic growth. High savings rates made it possible to make significant infrastructure investments in China, which in turn increased productivity—the key factor in economic growth. However, the returns on additional infrastructure expenditures in China have significantly decreased, and as a result, there are fewer chances for additional state-led domestic spending. The PRC is still attempting to boost consumption as a potential engine of future growth, but so far its progress has been modest. The PRC also discovered that it has a sizable inventory of low-yielding US Treasury bonds that might be earning more money elsewhere.

The misallocation of Investment, which causes overcapacity and declining returns in a number of Chinese economy sectors, is another effect of this development strategy. Through the 2000s and at least through the end of the 2010s, Beijing generously subsidised China's steel, paper, auto part, and solar panel industries before publicly saying the government will scale back this support to address overcapacity. China has recently been under fire for allegedly actively subsidising industries in high-tech, including semiconductors, electric batteries and automobiles, and robotics.

Although the subsidies given to these sectors can and have given China some competitive advantages, they are increasingly criticised for being a source of low productivity, and the profitability they bring—such as the case of return on equity in Chinese state-owned enterprises (SOEs)—fell by half in the 2010s. Institutional flaws, safeguards for SOEs against market forces, and ingrained bureaucratic interests have all played a role in the relatively delayed adoption of change. The International Monetary Fund (IMF) claims that although extraordinary financial support measures taken in response to the COVID-19 pandemic helped prevent a potential credit crunch, they also contributed to a further rise in already extremely high corporate debt and aggravated pre-existing structural issues by extending the economic lives of non-viable and low-productivity firms, including SOEs, particularly in capital-intensive sectors with overcapacity.

When defining the Soviet state-led economy, Kennan said that “particular aspects of economic life, such as the metallurgical and machine industries, [that] have been pushed out of all proportion to other sectors of the economy.” The BRI

is frequently seen as a means of assisting with the problem of PRC capital misallocation. The BRI “also assists China's state-owned businesses (SOEs) find profitable applications for their excess capacity in the cement, steel, and construction sectors, as well as offering investment opportunities for China's enormous savings reserve,” according to the US Department of Defense. The majority of BRI loans are in dollars, with little over 10% in euros and renminbi, reflecting the PRC's excessive amassing of dollar reserves.

ALLIANCE DEVELOPMENT IN SUPPORT OF PRC POLICY PRIORITIES

As rival formal alliance blocs (such as NATO and the Warsaw Pact) during the Cold War, the United States and the Soviet Union fought bitterly for political sway in the majority-developing nations of the Non-Aligned Movement. Local leaders in the majority of developing nations prefer to keep excellent relations with both the PRC and the US over choosing between them given the high level of economic interdependence they already have with both nations.

However, the PRC is largely utilising the BRI to project economic might while also exploiting its economic clout. Beijing's goal is to strengthen connections with the PRC's expanding network of friendly governments, including Pakistan, Iran, and Russia, as well as numerous African and developing Asian nations. By 2020, the PRC still had “strategic alliances” with 67 states, most of which relied on financial aid and business collaboration. Beijing has enhanced China's international reputation in addition to the BRI and economic involvement through greater diplomatic engagement, student and professional exchanges, and the establishment of official event platforms like the Forum on China-Africa Cooperation.

The PRC aims to make China the undeniable economic centre of the greater Eurasian continent by raising its share of value-added in production and establishing more Chinese multinational enterprises as the lead firms in global value chains through the BRI. One could argue that this arrangement reflects the “tribute system” that prevailed in East Asia from 1368 to 1841. The tribute system was a system of political, economic, and cultural hierarchy in which China was seen as the regional hegemon and other, weaker neighbouring nations were required to kowtow to it in exchange for privileges such as access to the sizable Chinese market. By addressing the already-present and escalating nationalist feelings in Chinese society, regaining what many Chinese believe to be their historical proper place at the top of the regional, and possibly even international, hierarchy will strengthen the CCP regime's legitimacy. Additionally, it would be successful in enhancing China's influence in politics, diplomacy, and the military.

Strengthening international standards of “non-interference” in domestic affairs is a major goal of the PRC and other emerging nations, especially nondemocracies. Also at the top of the list are support for the “One China” policy and



Taiwan's diplomatic isolation. Beijing aims to stifle criticism of the PRC's domestic policies, including censorship, the repression of dissent, the crackdown on democracy in Hong Kong, and China's actions in the Xinjiang region, where it has been charged with violating human rights. In the end, the PRC aspires to have its strategic allies assist Beijing in its efforts to alter international organisations like the United Nations to better serve Chinese interests. The PRC thinks that Western, wealthy countries built international organisations and that they primarily serve their interests. Beijing is creating the PRC's own network to influence international norms by persuading other developing nations to accept this narrative.

UNDERSTANDING THE BELT AND ROAD INITIATIVE

The Soviet Union provided economic aid to emerging nations, which severely alarmed the United States and its allies during the Cold War. Numerous Western observers thought that such aid was politicised and eventually a disruptive and corrupting factor in these nations. The US Agency for International Development (USAID), which at the time had close ties to the Central Intelligence Agency (CIA), was one organisation that the Soviet Union held in the same regard. As mentioned above, China's BRI goals are largely economic, but they also take security and politics into account. This section expands on the previous analysis for comprehending what the BRI intends to achieve and what can be anticipated to achieve toward those grand strategic motivations in three parts around common criticisms of the BRI:

- (1) That it intentionally places developing nations in debt that they cannot afford;
- (2) That it seeks to export Chinese development ideology; and
- (3) That it is an example of a successful grand strategy that considers the long term. Each assertion has some validity, but the reality is more complex, according to this section of the argument.

NUMEROUS DEBTS ARE BEING CREATED BY BRI LENDING, BUT THIS IS NOT "DEBT-TRAP DIPLOMACY"

The West provided discounted loans as part of a system of carrots during the Cold War to prevent these nations from joining the Communist bloc as the United States and the Soviet Union competed for control over the developing world. Moscow made loans as well, but with much less available resources. The developing world's first significant debt wave, which lasted from the early 1970s to the late 1980s, caused the early 1980s Latin American debt crisis and, subsequently, the 1996 World Bank and IMF-launched Heavily Indebted Poor Countries (HIPC) Initiative for debt reduction, mainly in Africa. There was general agreement that during this time, Western donors and institutions, like the World Bank, went too far. Similar to this,

there is growing worry that the PRC is making the same errors, mostly because of the BRI.

China became the largest bilateral lender to the developing world at the turn of the century, making up over 65 percent of all official bilateral financing by 2018. The combined debt of low- and middle-income nations to China, according to the World Bank, was \$170 billion by the end of 2020, more than three times the equivalent amount in 2011. Since over 70% of this debt is not owed directly to governments but rather through local SOEs and some private-sector firms, it is difficult to measure and is not publicly disclosed. 42 nations currently have public debt exposure to China that exceeds 10% of their GDP, according to one assessment. This level of debt was comparable to the multilateral debt owed to the World Bank by developing nations. Nevertheless, even while the majority of PRC lending includes a grant element that averaged 28.4% during the years 2000 to 2017, this is much less than the average grant portion of OECD-DAC lending institutions, which stands at 64%.

There have been accusations that China is engaging in "debt-trap diplomacy," whereby "the creditor country is said to extend excessive credit to a debtor country to extract economic or political concessions once the debtor country becomes unable to meet its repayment obligations." This accusation stems from the growing debt distress in the developing world and the significant role that the PRC and the BRI have played. The Sri Lankan Port of Hambantota is the illustration that is most frequently used to support this claim. However, it appears that the Hambantota Port is the only instance of this kind that might be seen as a Chinese quasi-seizure of a distressed asset in a debt-for-equity swap. Few PRC loans are supported by actual infrastructure; instead, more than 60% of them are secured by liquid assets, insurance, or official credit guarantees. Institutions run by the PRC government have a heightened sensitivity to risk. Additionally, PRC loans were considerably more likely to have collateral in nations with a high risk of corruption and fiduciary failure.

STRATEGIC ECONOMIC ADVANTAGES/DISADVANTAGES FROM BRI INVESTMENTS

Both the Soviets and the Chinese believed that throughout the Cold War there was a common goal among "third world" nations to be freed from Western influences and advance toward communism, which led to a natural alignment. "This idea of cooperation was wrong on both counts," asserts Stephen Walt, quoting Alvin Z. Rubinstein (1990), "which helps explain why Soviet efforts to acquire influence in the developing world were expensive and failed." The PRC sees itself as an integral member of the developing world, the most influential developing country, and a champion of their interests. Given this presumptive convergence of interests, Beijing presumably believes that the PRC can manage the financial and political



risks associated with BRI projects more effectively, providing larger returns.

The PRC expects significant economic advantages from BRI investments, and these investments are paying off in a number of different industries. In order to maintain prosperity, the emerging nations of Asia would need to invest \$26 trillion in infrastructure between 2016 and 2030, according to the Asian Development Bank (ADB). Natural barriers significantly raise the costs of commerce and investment in the BRI corridor region, which has endured years of underinvestment. Greater connectivity with Central Asia will benefit China's lower-income western provinces more than the rest of the country, in line with the PRC's stated goals of eradicating poverty and "backwardness" in these regions. Beijing also presumably feels that rising wages in Tibet and Xinjiang, which have long been the focus of foreign criticism of the PRC, could ease antiregime sentiment there.

The BRI "may help re-orient a significant portion of the global economy toward China if effectively implemented," according to the Center for Strategic and International Studies. This may give China more influence over the laws and customs governing the region's economic activities. In fact, the PRC currently has an outsized influence on a number of important supply chains, particularly those involving key minerals. For instance, the PRC now has extensive control over ports, IT infrastructure, and satellites in a number of BRI nations, providing important business advantages. Naval access agreements that could restrict foreign access to these ports and erect obstacles to market entry could result from contracts with Chinese companies to operate port facilities.

Through the BRI's Digital Silk Road component, Chinese technical standards are becoming more widely used, notably in the telecommunications industry, giving China a considerable competitive edge. The "China Standards 2035" initiative, which Beijing is attempting to use the PRC's influence through BRI investments to create IT networks that depend on Chinese digital infrastructure, is in addition to the "Made in China 2025" initiative. This initiative is less well-known, but may be more significant, than Made in China 2025. Due to a lower baseline of Internet connectivity and rapidly expanding populations, the growth in bandwidth demand will be largest in Africa and developing Asia until 2050. By 2021, the Chinese tech firm Huawei has constructed 70% of the continent's 4G networks. The higher China's market share in these areas, the easier it will be for Beijing to force these nations to rely just on one supplier. In addition to telecommunications, standards also support cloud computing, artificial intelligence, and modern physical infrastructure like high-speed rail. Digital infrastructure, which relies on globally competitive suppliers, is disciplined by the market to a much higher level than traditional physical infrastructure via the BRI.

While it is generally acknowledged that the BRI corridor countries need significant extra funding to modernise their infrastructure, comparatively subpar infrastructure is more of a

symptom than a root cause of greater regional connectivity problems. Increased private investment is generally hindered by project supply issues rather than a lack of demand or funding. Despite the fact that sovereign wealth funds and private investors have invested trillions of dollars in recent years in search of higher rates of return, "regulation, hazards, and cross-border investment regulations typically limit investor appetite for infrastructure projects" in developing nations. The majority of lower-income nations continue to struggle with racial tensions, weak governance, and widespread corruption, which amplify financial risks and discourage investment. 60 percent of BRI member nations have sovereign debt ratings that are categorised as "junk" or have no ratings at all.

Private sector foreign direct investment (FDI) in developing countries has been declining since the global financial crisis (2007–2008), and it further decreased by 42% after the COVID-19 epidemic. Because private FDI continues to yield poorer returns than investment in high-income nations, it is expected that private FDI levels in developing nations will remain low. Between 2016 and 2018, the rate of return on the total stock of Chinese FDI invested abroad was only roughly estimated to be 3.4 percent, which is significantly less than the 5.9 percent rate enjoyed by foreign investors in China. This led some to draw the conclusion that "On the whole, China still borrows expensive money and loans it out cheaply."

Estimates of the BRI's specific global advantages are also not very encouraging. For BRI corridor economies, the World Bank predicted that the decrease in trade costs from full BRI implementation will increase corridor trade by only 2.8 to 9.7 percent. The same analysis discovered that enhancements to soft infrastructure, such as carrying out measures to lessen border waits and liberalising trade, might result in far higher gains. This finding is consistent with the history of multilateral development efforts since the World Bank was established in the 1940s, when it was once thought that poor countries could simply accelerate growth by increasing their stock of capital, largely by investing in infrastructure. This theory was disproved decades ago since research has shown that human capital, effective policies, and strong governance institutions play a more crucial role in long-term economic growth.

State-owned development banks in the PRC are becoming more exposed to their present liabilities, especially given that the majority of BRI nations in Africa are currently experiencing or at high risk of experiencing debt trouble. Liabilities to foreign SOEs and the private sector, in addition to debt to sovereign borrowers, are typically not acknowledged, although until 2019, they were expected to exceed \$385 billion, or 45% of the PRC's total official financial commitments under the BRI. According to the same report, "significant execution challenges, including as corruption scandals, labour violations, environmental dangers, and public protests, have been encountered by 35% of the BRI infrastructure project portfolio." A BRI infrastructure project was predicted to take 36 percent longer to implement than a comparable non-BRI project, which



would also mean higher costs and risks. According to another estimate, there were 185 "troubled transactions" worth \$82 billion, or 25% of China's total BRI investments from 2013 to June 2021. According to estimates made by PRC officials in June 2020, the COVID-19 epidemic "seriously harmed" 20% of BRI projects, while 30–40% were "slightly affected."

Early Chinese domestic development initiatives were successful in large part due to public investment made through SOEs. Decentralization and incentives offered by the regime to local governments to experiment and scale up what worked contributed significantly to the process's success. However, the BRI is entirely controlled by the central government and driven by the interests of sizable, politically influential SOE construction firms like China National Machinery Industry Corporation (Sinomach), with implicit central government guarantees against losses, undoubtedly leading to moral hazard issues. According to the IMF, Chinese SOEs are on average 20% less productive than Chinese private-sector businesses operating in the same industry. The (PRC) party-state "lacks the competence essential to analyse complete vulnerabilities in most (BRI) participating countries," according to US Department of Defense study.

In addition to financial threats, political hazards are rising. The PRC's opaque investments have been used as a political weapon against incumbent governments in many BRI participating countries, including Myanmar, Malaysia, Sri Lanka, Cambodia, and even Pakistan. Oftentimes, this has been done with great success. In response to these demands, the conditions of numerous BRI projects have been modified, and the PRC was a participant in the G20's Debt Service Suspension Initiative.

The decline in funding by the China Development Bank (CDB) and the Export-Import Bank (China Ex-IM) for the BRI from \$75 billion in 2016 to just \$4 billion in 2019—before the start of the COVID-19 pandemic—must be largely attributable to these accumulating risks and poorer realisation of rewards. At the height of lending in 2016, CDB and China Ex-combined Im's loan portfolio totaled \$700 billion, surpassing the balance sheets of all six major multilateral development banks. From an average of more than \$40 billion annually from 2016 to 2019, new BRI investment projects decreased to barely \$20 billion in 2020, and between January and June of 2021, they were anticipated to be worth only \$8.5 billion.

It appears improbable that the PRC is engaging in "the long game" and making methodical, deliberate investments. Instead, Beijing appears to be taking on greater risks through the BRI in the short term with the expectation of receiving disproportionately large returns in order to keep China's economic growth momentum, which supports the legitimacy of the CCP government. While China is attempting to maximise its power through the BRI, John Lewis Gadi and Hal Brands advise caution given historical context: "China may end up creating, through its relationships with insecure and unstable regimes, just the sort of inverse dependency that perplexed the

Cold War superpowers." That might be a recipe for unpredictability because history is rife with examples of how smaller actors have drawn in more powerful players. This knowledge of the BRI's position is taken into account in the following section, which also provides suggestions for a clear US strategic reaction.

CONCLUSION

Economic mismanagement is the main reason why great countries have fallen. In essence, the Soviet Union got bankrupt, which led to its collapse. After careful research into the breakdown of communism at the end of the Cold War, Deng Xiaoping came to the conclusion that economic management was essential to the legitimacy and survival of the CCP. He thought Mikhail Gorbachev had made the error of opening the Soviet Union politically before implementing the necessary economic reforms. The PRC's identity as a developing state dependent on preserving rising living standards for the Chinese people—yet without the need to engage in any unneeded political liberalization—was further constructed by drawing these lessons from the fall of the Soviet Union.

In this context, the BRI must be understood. The PRC is forced to accept riskier investments in search of higher returns necessary to help preserve the economic growth that underpins the CCP legitimacy due to impending demographic pressures, rising public and private debt, and the inherent difficulty of making the transition from middle-income to upper-income status. Early in 2022, the BRI appeared to be in serious jeopardy as dangers brought on by local and international economic developments added to initial political and financial problems. The COVID-19 epidemic was still present, and it appeared that the PRC's borders would remain shut for the rest of the year, making it more difficult to make new investments and putting those that had already been made at risk. The cost of servicing the debt burdens of developing countries, especially BRI projects that are virtually entirely denominated in dollars, will increase due to increases in interest rates set by the US Federal Reserve as a result of inflationary pressures in the US.

The Marshall Plan was the first non-military strategic action taken in the early Cold War era to confront the communist threat posed to Western Europe. The Marshall Plan was heavily influenced by George Kennan, who thought it would be a wise strategic reaction to the severe financial situation in Western Europe because "economic maladjustment... leaves European society subject to exploitation by any totalitarian groups." The BRI shows how poor economic management still leaves the United States with strategic vulnerabilities in the developing countries. It is commonly believed that the Marshall Plan was successful in preventing a regional economic collapse that would have compromised US foreign policy goals in the early postwar years. It achieved success specifically because it intentionally attempted to advance US foreign policy goals through unambiguous guiding principles.



When working on the creation of the Marshall Plan, Will Clayton, the then-Undersecretary of State for Economic Affairs, said, “Let us recognise straight off that our purpose has as its background the demands and interests of the people of the United States. We need markets, large markets, in which to purchase and sell; the Marshall Plan was, in other words, foreign policy for the middle class, decades ahead of its time. Assistance must “come as a joint request... not as a series of isolated and individual appeals,” meaning local ownership must exist and assistance must not be ad hoc. The initiative for assistance “must come from Europe, the programme must be evolved in Europe, and the Europeans must bear the basic responsibility for it.” The Marshall Plan's ultimate goal was to allow the “major European countries to subsist without charity,” which required a defined departure strategy for any foreign aid provided as part of the plan.

Modern US foreign aid programmes usually lack such unambiguous strategic aims. All too frequently, such initiatives lack significant ties to US economic interests, are ad hoc, lack local ownership, are poorly integrated with broader foreign policy goals, and lack clear graduation expectations. These problems pose important concerns about how these programmes fit into the overall US grand strategy.

Even though reconstruction is a very different endeavour from development, properly applied historical lessons can provide insightful guidance for adaptation. The best response to the PRC's BRI is US foreign assistance that is more strategically targeted, rewards partner government commitment to policies that have been shown to produce positive results, strengthens commercial ties with US businesses while benefiting US consumers, and is consistent with American values.

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THE IMPACT OF THE COVID-19 PANDEMIC ON MICRO AND SMALL SCALES BUSINESSES IN KOGI STATE, NIGERIA

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ABSTRACT

Humans have witnessed three deadly pandemics so far in the twenty-first century which are associated with novel coronaviruses: SARS, Middle East respiratory syndrome (MERS), and COVID-19. All of these viruses, which are responsible for causing acute respiratory tract infections (ARTIs), are highly contagious and/or have caused high mortalities. Corona was treated as a simple non-fatal virus till 2002. Coronavirus causes respiratory infections including pneumonia, colds, sneezing, and coughing while in animals it causes diarrhea and upper respiratory diseases. Soon after the outbreak of the COVID-19 pandemic, many governments began extending financial and other forms of support to micro, small, and medium enterprises (MSMEs) and their workers because smaller firms are more vulnerable to negative shocks to their supply chain, labor supply, and final demand for goods and services than larger firms, and this was as a result of the containing modalities for curtailing the spread of this deadly disease. Since MSMEs are diverse, however, the severity of the pandemic's impact on them varies considerably depending on their characteristics. This paper attempts to deepen our understanding of the impact of the pandemic on SMEs, especially their employment, sales revenue, and cash flow in Kogi State, Nigeria. Where the researchers are keen on identifying the coping strategies as well as the possibility of switching over as a survival measure in SMEs. One of the strategic implications of our study is the need to address social protection approaches such as palliative measures, tax waivers, and soft loans, which can help to cushion the effect Covid-19 has on Micro and Small Scales Businesses in Kogi State.

KEYWORDS: COVID-19, Pandemic, Small, Medium scale (MES), Businesses, Government Policies

INTRODUCTION

Millions of people's lives have recently been profoundly touched by the outbreak of numerous infectious diseases^(1,2). In addition to taxing our medical and public health infrastructure, these diseases have put a pressure on economists, scientists, and politicians as they attempt to address the financial difficulties, the development of vaccines, and the public's concerns. The condition is known as COVID-19, or coronavirus disease 2019⁽³⁾. After the emergence of SARS-CoV (severe acute respiratory syndrome coronavirus) and Middle East respiratory syndrome coronavirus (MERS-CoV), SARS-CoV-2 is another member of the coronavirus family that has a strong ability to infect human beings^(4,5). Coronavirus has been known to cause human infections since the 1960s; however, the potential of this virus to cause deadly epidemics came to the fore in the last two decades only. COVID-19 is the third major outbreak of the respiratory disease in twenty years related to coronavirus, which has significantly disturbed the socioeconomic balance of the entire

world. SARS-CoV-2 belongs to the family *Coronaviridae*, which belongs to the order *Nidovirales*.⁽⁶⁾

The first case of the coronavirus was notified as cold in 1960. According to a Canadian study in 2001, approximately 500 patients were identified with a Flu-like system. 17-18 cases of them were confirmed as infected with coronavirus strain by polymerase chain reaction. Corona was treated as a simple non-fatal virus till 2002. In 2003, various reports were published with the proof of spreading the corona to many countries such as the United States America, Hong Kong, Singapore, Thailand, Vietnam, and Taiwan. Several cases of severe acute respiratory syndrome were caused by corona and they're mortally more than 1000 patient was reported in 2003.⁽⁷⁾ In 2012, Saudi Arabian reports presented several infected patients and deaths.^[8-11] COVID-19 was first identified and isolated from pneumonia, patent belongs to Wuhan, China.^[12-13]

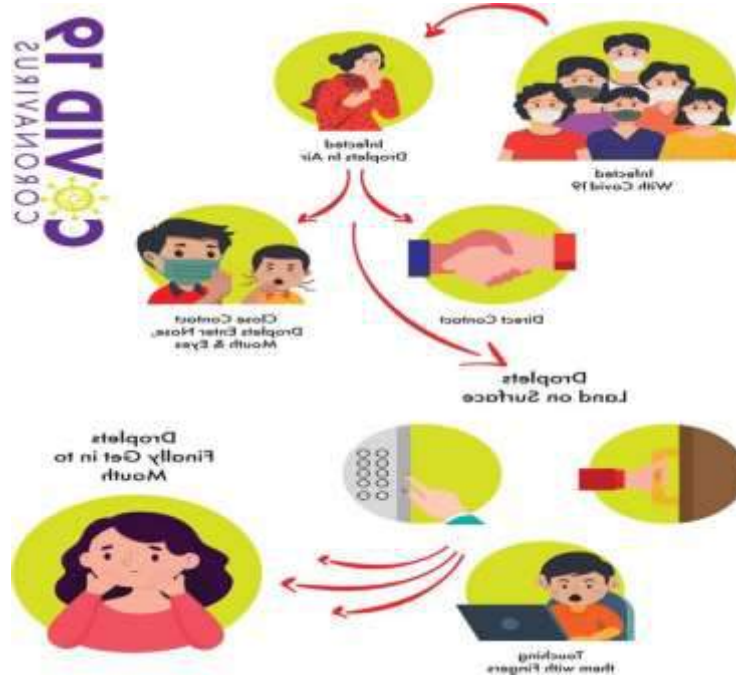
According to a report published on 24 Jan 2020, corona virus-infected patient has many common features such as fever,



cough, and fatigue while diarrhea and dyspnoea were found to be the as uncommon feature. Many of the patients reported bilateral abnormalities. Coronavirus was isolated from bronchoalveolar lavage fluid in China in 2020. It is also detected

in blood samples. Till now, the coronavirus was not confirmed in the feces and urine samples of the patent.^[14-16]

MODE OF TRANSMISSION



Source: Srikanth Umakanthan et al. Postgrad Med J 2020; 96:753-758.

CLINICAL SYMPTOM

According to recent studies and pertinent data from the National Health Commission of China (2020), most COVID-19 patients represent relatively calm cases. The majority of patients had fever and a dry cough, but some also complained of shortness of breath, fatigue, and other unusual symptoms like muscle pain, confusion, headache, sore throat, diarrhea, and vomiting. In more extreme circumstances, it may result in multiple organ failure, pneumonia, and even death.

PREVENTION

There isn't anything that offers comprehensive advice on how to avoid catching the coronavirus, however the WHO and ECDC have provided some recommendations. These rules are for the medical community to establish when caring for a patient who is infected. Since studies about the human-to-human transmission of corona from Wuhan, China, a lot of supporting evidence. Another study claimed that the virus may be transmitted through the air, but no concrete evidence was offered. Health practitioners were unable to offer preventative advice due to a lack of transmission proof. WHO reports that a number of basic recommendations have been made, including confining the infected patient and other family members to one

room, taking contact and droplet precautions, airborne measures, etc. Furthermore, due to the disease's rapid spread, the government has had to take hitherto unheard-of precautions, including travel bans, widespread curfews, the isolation and quarantine of affected people, etc.⁽¹⁷⁾

GOVERNMENTAL POLICY

The PTF-COVID-19 announced the extension of Phase 3 of the Eased Lockdown for four weeks, beginning on October 19, 2020, after assessing the response across the country and coming to the conclusion that Nigeria is not yet prepared for a full reopening of the economy. This is consistent with the following modifications, which address economic, sociopolitical, and health-related issues:⁽¹⁸⁾

- ❖ Maintaining the current 12-to-4 a.m. national curfew;
- ❖ Camps for NYSC orientation are opening;
- ❖ The gradual re-opening of all educational institutions in a phased manner;
- ❖ Maintaining the restrictions on mass gatherings outside the workplace to no more than 50 persons;
- ❖ Removal of the limitation on civil servants allowed to come to work with alternate day arrangements;



- ❖ Re-commencement of sporting leagues, in particular, all outdoor activities such as football;
- ❖ Recreational parks, event centers, and restaurants to open for outdoor service only while bars and nightclubs shall remain closed;
- ❖ Mandatory use of non-medical facemasks in public spaces. **'No mask, no entry. No mask, no service;**
- ❖ Maintaining the **'No Mask, No Voting'** policy with enforcement of guidance on conducting safe elections during the COVID-19 pandemic.

The resultant effect of this policy was that a lot of businesses and even Governmental Organizations were affected, as movement, and contact with people was affected. Though it got lifted not long after, but then, other countries had also done something similar to this, as borders were shot down, thus limiting movement to-and-from other countries and continents. Now, this is no news that most countries and Continents depend on one another for basic needs and things they do not produce in their own country or states.

SMALL AND MEDIUM ENTERPRISES

The term "small office-home office" (SOHO) is useful for describing companies and other entities that fall between the SOHO and bigger enterprise categories. An SME is a legally separate business with no more than 500 employees, according to the European Union. Despite being small, SMEs are crucial to the economy. They are significantly more prevalent than large businesses, employ a sizable workforce, and are typically entrepreneurial, helping to create innovation.⁽¹⁹⁾ Small and medium-sized businesses are referred to as SMEs.

Small and midsize businesses can be found in practically every sector, although they are more likely to be found in those that have lower labor costs and lower up-front investment requirements. Legal services providers, dentists' offices, eateries, or bars are examples of typical SMEs. SMEs are considerably smaller companies that generate the majority of jobs across the economy, as opposed to multinational giants with locations all over the world. Employer enterprises with fewer than 500 employees made up 46.4% of private sector payrolls as of the 2019 U.S. Census (the most recent U.S. Census statistics as of July 2022), while businesses with fewer than 100 employees made up 32.4%.⁽²⁰⁾ Around the world, small and medium-sized businesses are essential to many economies. Successful SMEs are largely attributed to their innovation, adaptability, creativity, efficiency, and proximity. SMEs have established themselves as a significant component of the industry through thoughtful customer behavior, government support, and reliance on one's neighborhood.⁽²¹⁾

Many economists believed that the prolonged presence of small-scale companies in less developed nations was justified until the early 1960s by the lack of capital and managerial expertise. It was frequently stated that small, traditional businesses will eventually be replaced by contemporary large-scale production methods as a result of economic expansion.⁽²²⁾

In Nigeria, small and medium-sized businesses have long been scrutinized for their performance and potency as a tool for economic growth and development. Due to their poor performance and inefficiency, small and medium-sized businesses have come under a lot of criticism, especially when it comes to determining how important they are to the development and expansion of the economy.⁽²³⁾

Small and medium-sized businesses have been credited with driving economic expansion and fostering equitable development. The sector's employment potential at minimal capital cost is by far its greatest benefit. Compared to large businesses, the SME sector has a substantially higher labor intensity. Small and medium-sized businesses have a well-established role in the nation's economic and social growth. The industry is a breeding ground for entrepreneurship, frequently propelled by individual imagination and ingenuity.⁽²⁴⁾

There is no precise definition of what separates a small-scale enterprise from a medium-sized enterprise in Nigeria. In its Monetary Policy Circular No. 22 of 1988, the Central Bank of Nigeria defined small-scale firms as having an annual turnover of no more than 500,000 naira. For the purposes of commercial bank loans, the federal government of Nigeria defined small-scale enterprises as having an annual turnover of up to 500,000 naira or, for merchant bank loans, as having a capital investment up to 2 million naira (excluding the cost of land) or a maximum of 5 million naira. The National Economic Reconstruction Fund (NERFUND) set a 10 million naira limit for small businesses.⁽²⁵⁾ Section 37b (2) of the Companies and Allied Matters Decree of 1990 defines a small company as one with:

- (a) An annual turnover of not more than 2 million nairas;
- (b) The net asset value of not more than 1 million nairas.⁽²¹⁾

The upheaval caused by the spread of COVID-19 is having a devastating effect on small businesses. A recent Goldman Sachs survey (2020) of 10,000 small business owners found that 96 percent have already been impacted by the coronavirus and 51 percent report their business cannot survive 3 months of an economic shutdown. Exacerbating the problem, 67 percent report difficulty accessing emergency funding, and 53 percent acknowledge that their employees cannot telecommute. These statistics are alarming and suggest the economic fallout from COVID-19 will get worse for small businesses and their employees before it gets better.⁽²⁶⁾

Because of its significant contribution to overall economic growth and development, the effect of COVID-19 on small and medium-sized businesses in Kogi State has to be highlighted. In recent years, it has been noted that an increase in SMEs has contributed to a decrease in unemployment around the world. Kogi State is not an exception, however the occurrence of the Covid-19 pandemic has significantly hampered the performance of SMEs in the State. Small and medium-sized businesses are the backbone of every economy in the globe, whether in industrialized or developing nations. Small and medium-sized businesses contribute more than half of the state's GDP and employment creation.



Objectives of the Study

- To assess the size and resilience of small and medium enterprises in Kogi State
- To examine the implications of the covid-19 lockdown on the survival of SMEs in Kogi state
- To assess the level of availability of coping mechanisms in the state business environment
- To recommend appropriate policy options for the survival of SMEs in an ailing economy

MATERIALS AND METHODS

This study used the structured electronic questionnaire (Google form) to gather and analyze data from selected respondents. The focus of this study was by type of business, categorized as:

- Public Limited Company
- Private Limited Company
- Family Business
- Partnership
- Co-operative Business
- One-man Business

The population of the Study

This can be regarded as the total population of the study. The population of the study is mainly small and medium enterprises within Kogi state, using Lokoja, the capital as a case study. They are 680 in number.

Sample Size

Therefore, the sample for the study is calculated thus;

$$n = \frac{N}{1 + N(e)^2}$$

Where,

- n = The required sample Size.
- N = Total population of the study = 680
- e = The expected error (0.05)
- n = 252

Therefore, the required sample size for the study is 252.

Sampling Techniques

This is the process of examining and selecting a representative number of respondents from the total population. The simple random sampling technique will be used for this study. It is a technique that allows all members of the population to have an equal chance of being selected or included in research work.

Instrument of Data Collection

A descriptive survey design was employed for the investigation. CEOs of Small and Medium-Sized Businesses make up the majority of the populace in Lokoja Metropolis, Kogi State. A total of 252 of these respondents will be used at the sampling location. The respondents were chosen using a random sampling procedure. Because they are employees of the chosen station, the respondents for this study were chosen for that reason. A 10-item survey served as the data gathering tool. The reliability coefficient for Cronbach's Alpha was used to assess the internal consistency of the questionnaire's items. The obtained reliability coefficient of 0.74 demonstrates the validity of the study's questionnaire. Some of the questionnaires were delivered personally to the respondents, while others were mailed to them. 100% of the questionnaire responses were received back through their emails to the researchers. Simple percentages were used to evaluate the data. The data will be interpreted analytically, logically, and thoroughly. The results will be addressed.

By contrasting the findings with the research questions guiding the study, the results will be interpreted to reinforce the research problem under investigation. The main method of data collection will be used in this study to obtain appropriate and pertinent data.

Validity of Data Instrument: The research instruments that will be utilized for the study will be put to the test for data analysis in order to get to a reasonable and agreeable conclusion. This will help to collect appropriate and relevant data. In order to guarantee that the results are accurate, true, and reliable, the research's equipment will also be put to the test. The extent to which a test measures what it is intended to measure is referred to as "validity."

Reliability of the data instrument: According to "reliability," reliability cannot be precisely calculated and must instead be determined. Any research tool's capacity to produce the same result after numerous applications or usage is referred to as its reliability.

Data Analysis Method: A straightforward % arithmetic table will be used to examine the data gathered from the questionnaire.

CONCLUSION AND RESULTS

The display and analysis of information gathered and assembled from questionnaires that respondents answered. A social sciences statistical software was used to analyze the data (SPSS).

The questionnaire was sent out using social media platforms and the target audience was 252, and a total of 252 responses were collected from the respondents. These respondents are owners of SMEs around the Lokoja metropolis.



Table 1: What type of SME do you operate?

Variables	Percentage
FMCG	69.04
PHARMACY	21.43
RESTAURANT	5.56
LAW FIRM	3.97
Total	100

Source: Google form survey, 2022

It was gathered from this survey that most of the SMEs were involved in Fast Moving Consumable Goods (FMCG), pharmacies ranked top next, and then Restaurants and Law firms.

Table 2: How old is your establishment?

Variable	Percentage
Less than a year	7.94
A year old	17.06
2 years old	31.75
Above 5 years old	43.25
Total	100

Source: Google form Survey, 2022

A larger portion of the respondents have been in their business for more than 5 years and above.

Table 3: How many employees does your establishment have?

Variable	Percentage
5-10	7.94
10-20	17.06
20-30	31.75
50 Above	43.25
Total	100

Source: Google form Survey, 2022

The fact that most of these establishments have more than 50 employees already qualified them as SMEs

Table 4: Do you consider your business an SME?

Variable	Percentage
YES	87.30
NO	9.92
PERHAPS	2.78
Total	100

Source: Google form Survey, 2022

While 87.30% agreed to if they considered their businesses SMEs, 2.78% weren't sure and of course, 9.92% replied NO.

Table 5: How did your business fare during the COVID-19 Pandemic?

Variable	Percentage
Terribly	88.89
Slow Market	11.11
Just alright	0
Perfect	0
Total	100

Source: Google form Survey, 2022



This is without a guess that businesses would have fared terribly, as evidenced by the respondents.

Table 6: What are the challenges faced by your business during the pandemic?

Variable	Percentage
Low patronage	3.97
Low operation hours	3.17
Inability to access raw materials	92.86
Total	100

Source: Google form Survey, 2022

92.86% agreed that their major challenges were the ability to access raw materials for production.

Table 7: How were sales before the pandemic?

Variable	Percentage
Good	83.00
Averagely good	17.00
Not good	0.0
Total	100

Source: Google form Survey, 2022

When asked how sales were before the pandemic, 83% said it was good, and 17% said it was averagely good.

Table 8: How were sales during the pandemic?

variable	Percentage
Good	5.00
Averagely Good	17.00
Not Good	78.00
Total	100

Source: Google form Survey, 2022

5% said it was good, 17% said it was averagely good and 78% agreed to it not being good when asked how sales were during the pandemic.

Table 9: What coping mechanism did you employ for the survival of your SME during the pandemic?

Variable	Percentage
Practicing social distancing	11.91
No face mask, no entry	14.29
Use of dispatch riders	72.22
Total lockdown	1.58
Total	100

Source: Google form Survey, 2022

The use of dispatch riders became a thing during the COVID-19 pandemic, as many businesses needed them to help deliver goods and services to their clients. As evidenced in this survey, 72.22% of respondents agreed to use the help of dispatch riders,

14.29% said no face masks, no entry, 11.91% admitted to using the social distancing scheme while only a small fragment of 1.58% went on total lockdown.

**Table 10: How available were these coping mechanisms?**

Variable	Percentage
Very much available	83.00
Not readily available	17.00
Not available	0.00
Total	100

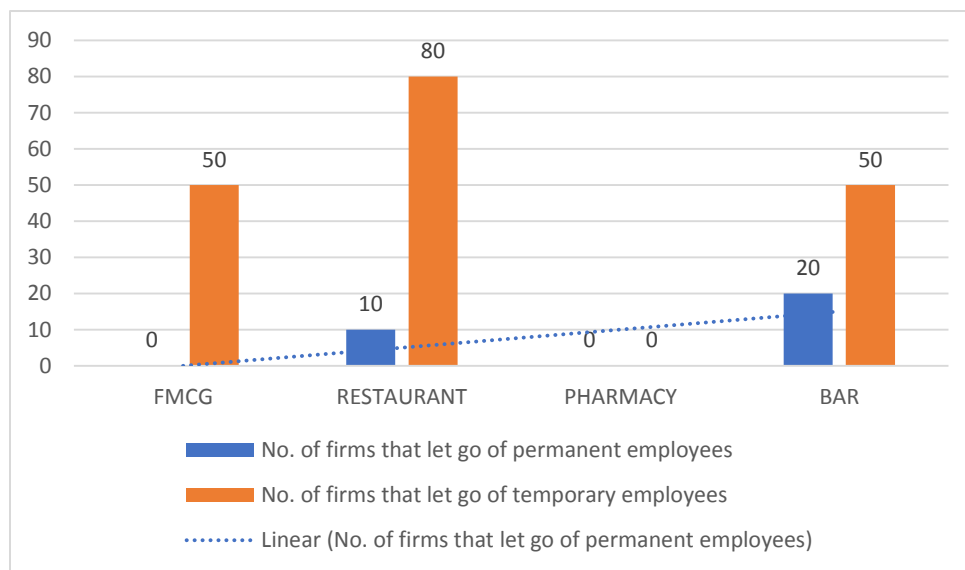
Source: Google form Survey, 2022.

These coping mechanisms were readily available, according to 83% of the respondents, 17% believed they weren't readily available.

EMPLOYMENT AND SALES

Aside from the survey questions above, questions such as their employment, sales, and cash flow during and after the pandemic were also captured in this survey. The SMEs that experienced more severe effects of the pandemic and the related

changes in business environments than others, were captured as well. Our questionnaire included questions such as; "Was there a reduction of permanent employees to be able to manage the establishment"? "What percentage of reduction was required to keep the establishment afloat"? "What percentage of temporary employees were reduced"? Based on the responses of the respondents, Figs 1 & 2 shows the percentage of establishments that reduced their employees, both permanent and temporary, from 100%, 60%, 40%, and 20%

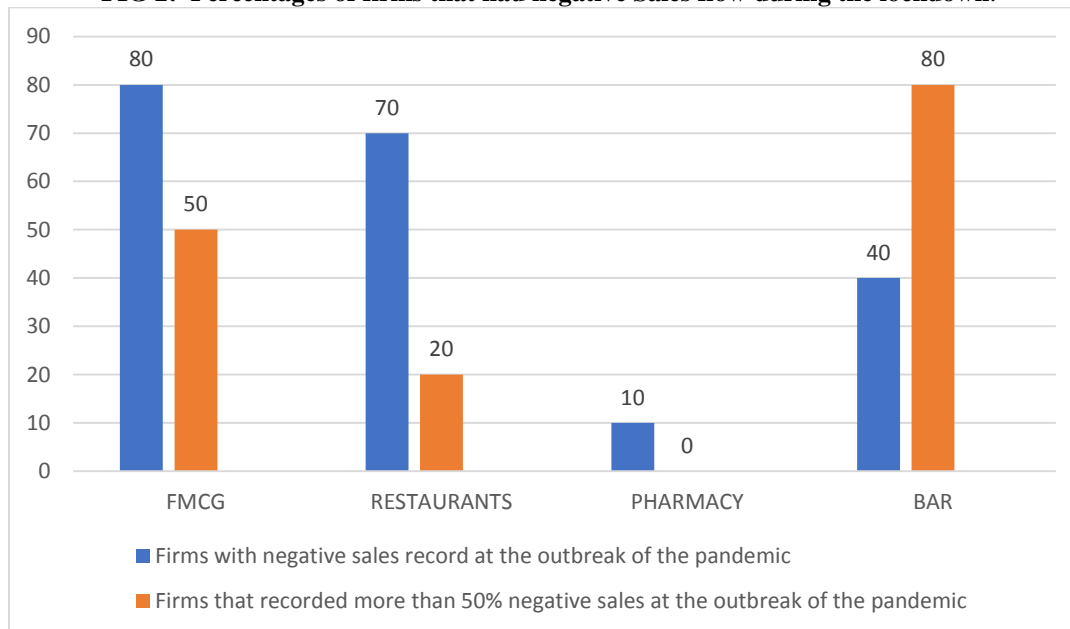
FIG 1: Percentages of firms that reduced their permanent/temporary employees during the lockdown.

During the survey, it was gathered that all the SMEs had to let go a larger percentage of their temporary workers (employees) as a means to reduce their expenses and because their services will

not be needed during the lockdown. Very few of these firms had to let go of some of their permanent employees as the Government policy of lockdown became tighter.



FIG 2: Percentages of firms that had negative Sales flow during the lockdown.



When asked how their cash flow was during the outbreak of the pandemic, a lot of these firms were hesitant to talk about their funds and how their business was faring, but some of them answered affirmatively that sales were reduced at the outbreak of the pandemic and some even answered that they had recorded more than 50% negative sales record, as a result to the pandemic. Which helped to strengthen the reasoning behind the reduction needed for their businesses to survive the pandemic era.

DISCUSSION OF RESULTS

The study has shown the Impact of the COVID-19 Pandemic on Small and Medium Scale Enterprises in Kogi State, a finding that is reflected both in the case studies and in the statistical analysis. Moreover, the analysis of the responses from the questionnaire distributed shows that:

- Most of the SMEs were involved in Fast Moving Consumable Goods (FMCG), pharmacies ranked top next, and then Restaurants and Law firms
- A larger portion of the respondents have been in their business for more than 5 years and above.
- The fact that most of these establishments have more than 50 employees already qualified them as SMEs
- While 87.30% agreed to if they considered their businesses SMEs, 2.78% weren't sure and of course, 9.92% replied NO.
- Businesses would have fared terribly, as evidenced by the respondents.
- 92.86% agreed that their major challenges were the ability to access raw materials for production.
- When asked how sales were before the pandemic, 83% said it was good, and 17% said it was averagely good.

- 5% said it was good, 17% said it was averagely good and 78% agreed to it not being good when asked how sales were during the pandemic
- The use of dispatch riders became a thing during the COVID-19 pandemic, as many businesses needed them to help deliver goods and services to their clients. As evidenced in this survey, 72.22% of respondents agreed to use the help of dispatch riders, 14.29% said no face masks, no entry, 11.91% admitted to using the social distancing scheme while only a small fragment of 1.58% went on total lockdown
- These coping mechanisms were readily available, according to 83% of the respondents, 17% believed they weren't readily available.

CONCLUSION

From this survey, it is obvious that most of the businesses around Kogi state are categorized as Small and Medium Enterprise, as they meet the criterion to be SMEs, and have been in their current businesses for years. While it is nearly impossible to plan for a disruptive event such as Covid-19, the strength and determination needed to propel entrepreneurs are now more important than ever. We certainly do not wish to minimize the financial and psychological effects of this upheaval; as a result, we would rather encourage Small and Medium Enterprises to engage and enhance the efforts and innovative mindset that drove them into these ventures in the first place. After all, "successful entrepreneurs and small business owners are ruthless pragmatists, effectuates, and exploiters of resources. They are nimble, quick to eliminate what does not add value, and are not afraid to make bold decisions or even cut corners" ⁽²⁷⁾.



Secondly, the use of the internet has made it easy and an equal playing field for all inventors, manufacturers, and entrepreneurs to engage with customers alike. These new virtual business channels provide a unique opportunity to reinvigorate the search for product–market fit and the hunt for new business models capable of surviving and thriving in a COVID-19-impacted world.

Again, small and medium business owners should try to assess and identify viable governmental programs that work for them, to rescue and maintain their businesses.

To build trust between the employers and employees, the employers need to be transparent, accountable, and able to over communicate with the employees about changing trends in the business world, their struggles to keep afloat and not run aground, layoffs should be communicated properly and reasons behind it, as employers are experienced with the trends of ups-and-downs in the business world, while the employees are inexperienced.

Finally, they should try to maintain current customer relationships as this is critical, and communicating effectively with existing customers is key to building trust. Small business owners should leverage their websites and social media channels to communicate any changes in business operations (for example, changing store hours or major inventory shifts).

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SOME ECOLOGICAL CHARACTERISTICS OF FRESH-WATER GASTROPODS IN THE UPPER SYR DARYA RIVER BASIN, FERGANA VALLEY

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ABSTRACT

This article studies the indicator properties of gastropods common in the Upper Syr Darya River basin. They are divided into ecological groups according to their habitats. The generally accepted ecological and zoological methods were used in the research. According to the research results, fresh-water gastropods of the Fergana Valley inhabit xenosaprobic, oligosaprobic, β – mesosaprobic, α – mesosaprobic and β – polysaprobic waters. Molluscs are mainly distributed in stagnant water bodies. The substrate of most mollusks are aquatic plants.

KEY WORDS: *gastropods, bioindicator, saprobity, ecological group, pollution.*

INTRODUCTION

Conservation of biodiversity in nature, ensuring ecosystem stability is a global problem today. Environmental changes under the influence of anthropogenic factors are causing the loss of biological diversity, including a decrease in the diversity of animal resources. In this regard, it is important to determine the species composition of mollusks common in natural water bodies, identify factors affecting their populations, preserve rare and endemic species, and study their ecological groups.

Assessment of the environment using the characteristics of living organisms is used in many fields. For example, the state of organic pollution of water bodies, that is, the level of saprobity, can be determined using hydrobionts. Based on the results, the water body can be ecologically assessed.

Fresh-water gastropods are often used as bioindicator organisms (Sladeczek, 1973; Balushkina, 1995; Chertoprud and Chertoprud, 2011). Among hydrobionts, gastropod molluscs are widely used to determine the level of saprobic waters. The purpose of this study is to study some of the ecological features of aquatic gastropod mollusks in the Fergana Valley. In particular, to study the indicator properties of molluscs in determining the level of saprobic waters and to divide them into ecological groups.

MATERIALS AND METHODS

More than 3500 molluscs were collected as material from different regions of the Fergana Valley during 2016-2021. Aquatic gastropods were collected from different water types: rivers, streams, lakes, springs, reservoirs, canals and ditches. Monographs by Kruglov (2005) and Izzatullaev (2018) were used to determine the species composition of the collected materials.

Indicator properties of aquatic gastropods, that is saprobic levels of water pollution, were analyzed by Woodiwiss (1964, 1978), King and Ball (1964), Sladeczek (1973), Chertoprud and Chertoprud (2011) methods. Izzatullaev (2018, 2019) methods were used to classify molluscs into ecological groups.

RESULTS AND DISCUSSION

Molluscs are very common in the Fergana Valley. In the Fergana Valley, 29 species of fresh-water gastropods have been identified, belonging to 2 subclasses, 6 families, 14 genera (Umarov, 2022).

Indicator properties of gastropods. Water bodies can be divided into 6 groups according to their pollution by organic matter: very clean, clean, moderately polluted, polluted, highly polluted and very heavily polluted. The characterization of the level of saprobity of water pollution according to Woodiwiss (1978) index is given in the table below (Tab. 1).



Table 1
Characterization of water pollution by level of saprobity

Water pollution level	Saprob character	Index of Woodiwiss
very clean	xenosaprobic	8 – 10
clean	oligosaprobic	5 – 7
moderately polluted	β – mesosaprobic	3 – 4
polluted	α – mesosaprobic	1 – 2
highly polluted	β – polysaprobic	0 – 1
very heavily polluted	α – polysaprobic	0

Fresh-water gastropods of the Fergana Valley live in xenosaprobic, oligosaprobic, β – mesosaprobic, α – mesosaprobic and β – polysaprobic waters (only *Physella acuta*). However, molluscs were not found in α – polysaprobic waters. According to the indicator characteristics of fresh-water gastropods, it was determined that mainly xenosaprobe and oligosaprobe molluscs live in springs, rivers, streams,

lakes of fishing farms, and β - α – mesosaprobe mollusc species live in reservoirs. The β - α – mesosaprobe pollution of the region's water bodies prevails. Mollusc species belonging to the Lymnaeidae, Physidae and Planorbidae families are widely distributed in them, and it is recommended to use these molluscs in determining water quality groups (Tab. 1).

Table 2
Species composition of indicator fresh-water gastropods found in water types of Fergana Valley

Species	Springs	Rivers	Streams	Fishing farms	Water reservoirs	Water quality limits
1	2	3	4	5	6	7
<i>Kainarella likharevi</i>	o	-	-	-	-	o
<i>Martensamnicola brevicula</i>	k	-	-	-	-	k
<i>M. hissarica</i>	k	-	-	-	-	k
<i>Bucharamnicola bucharica</i>	o	-	-	-	-	o
<i>Sogdamnicola pallida</i>	o	-	-	-	-	o
<i>Valvatamnicola archangelskii</i>	k	-	-	-	-	k
<i>V. schahimardanica</i>	k	-	-	-	-	k
<i>Acroloxus lacustris</i>	o	-	-	-	-	o
<i>Lymnaea stagnalis</i>	-	α	o	α	β	o- β - α
<i>L. goupili</i>	o	o	-	-	o	o
<i>L. subdisjuncta</i>	-	α	α	β	β	β - α
<i>L. tengriana</i>	o	o	o	-	-	o
<i>L. subangulata</i>	o	o	o	β	β	β - α
<i>L. rectilabrum</i>	-	β	β	β	β	β
<i>Galba truncatula</i>	o	β	o	β	β	o- β
<i>G. bowelli</i>	o	β	β	β	β	o- β
<i>Radix auricularia</i>	o	α	β	α	β	o- β - α
<i>R. bactriana</i>	β	β	-	-	-	β
<i>Ampullaceana fontinalis</i>	o	α	α	α	α	o- α
<i>A. lagotis</i>	α	α	-	α	-	α
<i>Physella acuta</i>	α	β (p)	β	α	β	β (p)- α
<i>Ph. integra</i>	-	β	-	-	-	β
<i>Planorbella duryi</i>	-	β	-	-	-	β
<i>Planorbis planorbis</i>	α	β	-	β	-	o- β
<i>Pl. tangitarenis</i>	o	β	-	β	-	o- β
<i>Gyraulus acronicus</i>	β	β	-	β	β	β
<i>Gy. albus</i>	-	-	-	β	-	β
<i>Gy. convexiusculus</i>	-	-	-	β	-	β
<i>Gy.ladacensis</i>	α	-	-	β	β	β - α

Explanation: k – xenosaprobic, o – oligosaprobic, β – mesosaprobic, α – mesosaprobic, β (p) – polysaprobic.



Kainarella likharevi, *Martensamnicola brevicula*, *M. hissarica*, *Bucharamnicola bucharica*, *Sogdammnicola pallida*, *Valvatammnicola archangelskii*, *V. schahimardanica* and *Acroloxus lacustris* species of gastropod molluscs in the valley area were found to live in the cleanest waters.

The most species of molluscs are found in moderately polluted waters, including *Lymnaea stagnalis*, *L. subdisjuncta*, *L. subangulata*, *Radix auricularia*, *Physella acuta*, *Ph. integra*, *Gyraulus acronicus*, *Gy. albus*, *Gy. convexiusculus* and *Gy. ladacensis*.

Species *L. stagnalis*, *L. subdisjuncta*, *A. lagotis* and *Ph. acuta* were observed to be more common in polluted waters. Some species of molluscs can inhabit clean, moderately polluted and polluted waters. For example, *L. stagnalis* and *R. auricularia* are among such species (Pazilov and Umarov, 2021a).

Ecological groups of molluscs. The Fergana Valley stands out in Central Asia for its variety of waters, unique rivers, lakes, springs, streams, reservoirs, ponds and canals. These bodies of water differ in their formation, location relative to sea level, flow velocity, organic matter content, salinity, transparency, temperature, ambient (pH) and other environmental factors (Kholiqov, 2020). Similarly, different ecological groups of molluscs have formed.

All water bodies in the Fergana Valley can be divided into 2 groups (Zhadin, 1952) The first group includes springs, rivers, ditches and canals, which are considered running water or lotic water bodies. The second group includes lakes, ponds, ponds and swamps, which are either stagnant waters or lentic water bodies.

Molluscs that live in lotic water bodies are considered rheophiles, they love dissolved oxygen in water and need a constant supply of clean water. Since lotic water bodies are constantly in motion, they have higher oxygen concentrations than limnic water bodies (Izzatullaev, 2018). For example, the following molluscs live in the water bodies of the Fergana Valley: *Kainarella likharevi*, *Martensamnicola brevicula*, *M. hissarica*, *Sogdammnicola pallida*, *Valvatammnicola archangelskii*, *V. schahimardanica*, *Acroloxus lacustris*, *L. subdisjuncta*, *L. subangulata*, *Radix auricularia*, *Ampullaceana lagotis*, *Physella acuta*, *Galba truncatula*. Species of molluscs living in running water - springs are divided into the crenophilic ecological group. For example, members of the family Hydrobiidae are mostly crenophilic species.

Molluscs can also be divided into ecological groups according to the substrate they cling to (Izzatullaev, 2019). People who stick to plants - phytophiles: *M. brevicula*, *M. hissarica*, *L. stagnalis*, *L. rectilabrum*, *R. auricularia*, *A. fontinalis*, *Ph. acuta*, *Ph. integra*, *Pl. planorbis*, *Pl. tangitarenensis*, *Gy. acronicus*, *Gy. albus*, *Gy. convexiusculus* va *Gy. ladacensis*; those who live clinging to stones - lithophiles: *K. likharevi*, *S. pallida*, *V. archangelskii*, *V. schahimardanica*, *A. lacustris*, *L. tengriana*, *L. subangulata*, and *R. Bactriana*; mud dwellers – pelophiles: *L. goupili*, *L. subdisjuncta*, *L. rectilabrum*, *G. truncatula*, *G. bowelli* va *Planorbella duryi* types include.

Molluscs that live in lotic water bodies are called stagnophiles, and they are common in relatively stable water

types. Molluscs that live in this type of water bodies can be divided into the following groups: living in lakes - limnophile, living in brackish waters - telmatophile, living in swamps – eleophile (Izzatullaev, 1981). Most species of the Lymnaeidae family belong to the limnophilous ecological group. *G. truncatula*, *A. fontinalis*, *A. lagotis*, *Pl. planorbis*, *Pl. tangitarenensis* va *Gy. ladacensis* – telmatophilic species; *Lymnaea stagnalis* – are examples of eleophilic species.

The resistance of molluscs to environmental abiotic factors is also of particular importance. The resistance of individuals to abiotic factors determines whether their ranges are wide or narrow. For example, representatives of the Hydrobiidae family of aquatic gastropods of the Fergana Valley are intolerant to changes in water temperature. They live mainly in springs with cold water (12-16°C). A rise in water temperature will have a negative effect on them. *Acroloxus lacustris* is tolerant to a slight change in water environment (pH) (Pazilov and Umarov, 2021b; Stadnichenko, 2004). For this reason, they are considered stenobiont species. All other species are classified as mesoeuribiont - moderately resistant and eurybiont - broadly resistant. For this reason, species belonging to these ecological groups can be found in biotopes with different conditions.

CONCLUSIONS

According to the results of the conducted research, water gastropod molluscs of the Upper Syr Darya River basin live in xenosaprobic, oligosaprobic, β – mesosaprobic, α – mesosaprobic and β – polysaprobic waters, and among them β - α – mesosaprobic predominate.

It was recommended to use mollusk species belonging to Lymnaeidae, Physidae and Planorbidae families to determine water quality groups.

It was found that aquatic gastropod molluscs are mainly distributed in lentic water bodies in the Fergana Valley. Among them, it was observed that the percentage of cranophilic crane found in springs is higher than in other running water bodies. Since the main substrate of molluscs is plants, it determines the importance of aquatic plants in their distribution.

According to the ecological groups of molluscs, mainly mesoeurybiont and eurybiont species are considered.

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THE BEGINNING OF PROSE WORKS METHODS OF ANALYSIS IN CLASSROOMS

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ABSTRACT

This article provides information on the fact that the prose works presented in primary classes are in harmony with the age of the student and allow them to feel and understand them, as well as have a positive effect on the states of thinking and reflection, and that the texts in them are in a tone specific to children. Prose works are an important factor in increasing the student's interest in books and reading.

KEYWORDS: *Elementary school, mother tongue, prose, writing skills, correct writing.*

Prose works given in elementary grades should be in harmony with the age of the student and should create an opportunity to feel and understand them, as well as have a positive effect on the states of thinking and thinking. Looking at the existing textbooks, it is possible to understand that the texts in them have a tone specific to children. At the heart of this, one can get acquainted with the artistic text of the works that affect the reader's heart and are similar to his worldview and thinking.

By the 20th century, world civilization reached a high level. At the heart of this, the views of human thinking are being renewed and enriched, which in turn made it possible to expand the opinions aimed at understanding the person and having an understanding of existence. The development of the history of national pedagogy formed over the centuries, its place in today's process, problems in reading and teaching, the need to introduce the methods of applying best practices in reading and teaching primary classes, and the modern development has a significant effect.

It is only on the basis of the deep understanding that the implementation of best practices in primary classes today, in the process of determining the effectiveness of the most perfect methods, it is the main task of every intellectual, especially primary school teachers, to shape children's mentality and their views in harmony and it should be noted that the sense of teacher's responsibility is aimed at raising a mature

generation to a level that gives a sophisticated and aesthetic pleasure.

Children in primary grades have a different worldview and reasoning. And this begins to manifest a state of perception. We perceive things and events as a whole, and we perceive certain properties of things. That is why, as noted in the theoretical sources: "Sensations are usually simple, elements are considered mental processes, and perception is a complex mental process. The things we perceive are extremely diverse. These include, first of all, various items, crunchy, buildings, trees, equipment, technical items and hapaos. We perceive music, photographs, paintings and other works of art.

As it is rightly noted, we begin to understand the world and man because of the presence of the ability to perceive, to perceive through our senses. In the same process, along with child psychology, it becomes the basis for studying the efforts made to understand a person, his spiritual and spiritual world, the way of thinking of general education students. In order to awaken the child's imagination, it is necessary to determine his ability to perceive first of all in the process of differentiation.

The reason for noting these concepts is that it is necessary to first of all study the views of elementary school students, to get a good sense of what their concepts are. The peculiarity of the psychology of the



student's youth is that, due to the family conditions, the child generally does not think independently, follows someone behind, and sometimes takes the lead in his actions. Although there is a little in the family, the formation of thoughts and views is one of the main tasks of every parent. In addition to giving birth to a child, his mature way of thinking is one of the main tasks of all of us, and we should not forget that in this process, the teacher, the family, and the psychologist must unite at one point and work in harmony.

"A teacher who aims to educate his students to have high human qualities, first of all, it is permissible to make children interested in their subject, to familiarize them with books. Because the book is such a powerful force that it leads both adults and children who are familiar with it to the high boundaries of humanity without realizing it. However, getting interested in books and reading is not a task that can be accomplished only by giving orders and tasks."

As it was noted, in making students interested in science, in reading works of art, and organizing classes, each teacher should deal with students based on his own experience, not only giving them assignments and controlling them, but also their mental- it is necessary to penetrate into the spiritual world, listen to the independent views of each one, pay attention to them, even if only a little, react to them and encourage them. Only then, one should not forget that the student should not only be interested in science, but also consider their views.

In primary grades, regardless of whether it is a lesson of reading or literature or mother tongue, it is necessary to encourage the student to think independently, thereby, from the first days, to have a significant impact on the psyche of the child. In child psychology, it is necessary to raise individual views that I should think better, act independently. In native language classes, regardless of whether it is text, prose, or poetry, expressive reading, paying attention to the meaning of each word, encouraging the student to think independently opens up an opportunity. At the heart of these views, it is necessary to strengthen the children's memory, take into account the views of each of them.

Each text should be read by the teacher himself to the extent that the children's hearts are "beautified", after that he should teach the children short lines one by

one, insisting that they should explain the meaning of the recorded text and give it orally. necessary. At the heart of this, it is necessary to understand the person, to form the spirit in the child's heart that he should study as beautifully as his teacher. It is necessary to ensure that every lesson is conducted at the level of a beautiful life lesson, based on live communication, using various methods, in a way that shakes the heart and soul of students, and excites them.

"Today's level of educational development requires the teacher to skillfully use modern information technologies, because the same information technologies allow the teacher to enter lecture texts and textbooks into computer memory, conduct various experiments, animation, slides, visual aids allow to create". There are great reasons behind the fact that educating primary school students as mature and well-rounded individuals is recognized as one of the main tasks of today. Therefore, there are grounds for repeatedly proving that it is possible to progress in the future based on their views, only if children try to think independently and enrich their understanding in the understanding of a person.

So, the fundamental reforms implemented in the socio-political, economic and cultural life of our country impose on our society and teachers the task of improving the educational process in all aspects, which is considered one of the priority tasks of the state policy, and educating the young generation at the level of today's global requirements.

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THEORETICAL BACKGROUND OF THE IDEA OF CO-STUDY OF LANGUAGE AND CULTURE

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ABSTRACT

The article describes the language and the culture of speech are different phenomena, but one cannot exist without the other and closely mutually influence each other. Thus, the paper deals with the analysis on language and culture connection, and it states that without knowing the language, we cannot construct a correct statement that meets our communicative goals.

KEY WORDS: education, language speech etiquette, linguoculturological approach, foreign language, co-study of language and culture.

INTRODUCTION

The identification of the nature of human communication by representatives of various communities who use a special system of stable communication formulas in the process of interaction is directly related to the linguoculturological approach to teaching a foreign language speech etiquette. In order to “bring to life the linguistic phenomena we need” [13, p. 24], we turn to the theoretical foundations of the idea of co-studying language and culture.

The concept of co-study of language and culture is based on the ideas of a close relationship between a person, language, speech, culture and society, which were studied in the works of W. von Humboldt, F.Saussure, A.R.Luria, L.P.Yakubinsky, T.P.Lomteva, V.Z.Panfilov and many others.

Since 1980, foreign and domestic linguists and linguodidacticians have been conducting research within the framework of the anthropocentric approach, i.e. personality is at the center of research. Therefore, new linguistic categories appeared in terms of “personality in language”, “linguistic and cognitive consciousness”, “linguistic personality” [9], and others, which have become firmly established in linguodidactics. In linguodidactic terms, “the student is promoted to the rank of the subject of educational activity and the subject of intercultural communication..., the prospects for his personal and linguistic development become the starting point in the design and analysis of the content of learning processes...” [7, p. 13]. At the same time, the national component in the structure of the linguistic personality is especially emphasized [9, p. 49]. Let us answer the question of what exactly the national essence of a linguistic personality can manifest itself in.

LITERATURE REVIEW

It is known that culture is divided into spiritual and material. Culture determines the way of human activity, and this activity reflects the features of the culture of behavior and

worldview. Culture appears in material form as economic, organizational, moral, scientific, pedagogical, etc., depending on the specifics of the segment of social life in which it functions [11]. We believe that for some culture appears, first of all, as the mastery of the wealth of artistic values, for others it appears as morality. And we are interested, first of all, in the question of the relationship between language and culture and how they are reflected in speech.

According to A.K.Baiburin, a person masters culture in parallel with the language, and in the process of mastering, he is likened to the people around him in terms of social behavior. Culture itself begins with the fact that some additional restrictions are imposed on behavior, not motivated by physical or biological criteria, only in this case it makes sense to talk about social behavior [4]. Mastering a new language, a person expands not only his interest, but also the boundaries of his worldview and attitude. At the same time, how he perceives the world, and what he sees in it, is always reflected in the concepts formed on the basis of his (human) source language, and taking into account the whole variety of expressive means inherent in this language.

METHODOLOGY

Moreover, not a single situation, not a single event is perceived by a person impartially. They are assessed by him, as well as the phenomena of other cultures, always through the prism of cultural norms and values accepted in the native linguistic society, through the prism of his own model of understanding of the world.

Thus, language is a socio-psychological phenomenon that contains all the rich variety of spiritual and material forms of human life and is its urgent need. In material terms, communication is determined by the need and the need for the joint participation of people in the production of material goods. In spiritual life, the central place is occupied by the need to form the personality of a new world, the development



of its ideological and moral qualities and the need for a person to acquire social experience, familiarize him with cultural values and master the principles and norms of behavior in society, i.e. in the social environment.

According to T.P.Lomtev, "language is such an entity, the mode of existence and manifestation of which is speech. Language as an entity finds its manifestation in speech. Language is learned through analysis, speech through perception and understanding" [10, p. 58]. However, without knowing the language, it is impossible to build speech, "after all, speech is the application of language, it is language in action" [6, p. 19]. I.Yu.Abeleva rightly emphasizes, reflecting on the unity of language and speech: "these are different phenomena that have different properties and, to a certain extent, are even opposite to each other as a means of communication and its method" [1, p. 9]. Speech is built from language, subject to its laws, but it is not equal to language. Thus, language and speech are different phenomena, but one cannot exist without the other and closely mutually influence each other. Therefore, without knowing the language, we cannot construct a correct statement that meets our communicative goals. And on the other hand, thanks to speech, the development of the language system occurs: after all, it is in speech that those random deviations from linguistic norms arise and accumulate, which can then become regular and be fixed in the language.

The study of the interaction of language and culture has acquired new perspectives within the framework of the theory of intercultural communication in the valuable research of Yu.N.Karaulova, S.G.Ter-Minasova, R.Skollon and S.Skollon, M.B.Bergelson [2] and others. The results of these studies, of course, are and should be fully reflected in linguodidactics. Thus, the term "linguistic personality", introduced by Yu.N.Karaulov, was the basis for developing a model for the formation of a "secondary linguistic personality", proposed by N.D.Galskova [8] and other Methodists.

According to the majority of linguists and linguodidacticians, the linguo-cultural theory of E.M.Vereshchagin and V.G.Kostomarov formed the basis of the theory of intercultural communication in Russia, since in the linguo-cultural direction of linguodidactics, the emphasis is on the cumulative function of the language, on what distinguishes the cultures of speakers of specific languages [17]. On the one hand, it provides information about the country that is necessary and sufficient for adequate communication, on the other hand, it teaches techniques and methods for independently extracting background information from the means of the national cultural nomination.

In the 1990s, the content of linguistic and regional studies was refined and implies the practice of selecting and presenting in the educational process information about the national and cultural specifics of speech communication in order to form communicative competence [14, p. 29]. A lot of works devoted to the linguistic and cultural aspect of teaching a foreign language, as well as Arian, R.K.Minyar-Beloruhev and O.G.Oberemko, G.D.Tomakhin [15, p. 137], who made an invaluable contribution to the methodology of teaching the

linguistic and cultural aspect in the classroom for foreign languages. Within the framework of the linguistic and cultural approach, a methodology for teaching speech etiquette in general education and higher education was developed, as evidenced by a number of dissertation studies. N.N.Bostenova considers the peculiarities of teaching Russian speech etiquette in the Kazakh audience [5]. Positive in this work is the study of the morphological means of speech etiquette and the conduct of a comparative analysis in order to identify the national and cultural specifics of the Russian speech etiquette and the speech behavior of the Kazakhs from the standpoint of each intention of the stable speech etiquette formulas and the intention of the etiquette functions of the grammatical means of these languages.

L.P.Thiessen explores English RE in terms of: "culture of behavior", "culture of communication", "culture of speech behavior", "culture of speech", "culture of language" [16]. It is valuable that the author selected speech etiquette units and determined their methodological typology, and on its basis describes the difficulties of teaching speech etiquette and ways to prevent them. The typology of difficulties in mastering English speech etiquette has been established for Russian students, and the methodology is based on a linguistic and cultural approach.

RESULTS AND DISCUSSION

Issues related to teaching the specifics of speech etiquette were also considered at the level of secondary specialized and higher schools by Yu.N.Kuzminitskaya; R.Avezdzhanova, I.A. Sopar, T.M. Kim, S.I.Kazakbaeva, M.Toshkhanov. In the thesis of Yu.N.Kuzminitskaya reveals the sociolinguistic, psychological and linguo-didactic aspects of the culture of speech communication in order to train Russianists for the Turkmen audience. Speech etiquette acts as a means for the formation of communicative competence in this work and correlates with the culture of speech. Therefore, the author proposes to introduce the course "Fundamentals of speech culture", taking into account the interdisciplinary connection with the "Comparative typology of the Russian and Turkmen languages". Valuable, in our opinion, is the division of the course into blocks that are assimilated concentrically, and the continuity of the study of the culture of Russian speech in linguistic courses is demonstrated. This course uses various communicative universals for listening, monologue, dialogue, polylogue, business writing, writing for understanding. In contrast to this study, we put the work of R.Avezdzhanova [3], where the speech etiquette of the Russian language is analyzed as a linguistic phenomenon in comparison with the Uzbek language and a methodology for teaching these means in the Russian language classes in the national (Uzbek) audience at a pedagogical university is proposed. It is gratifying that speech etiquette has been studied from the standpoint of social characteristics, the degree of acquaintance, personal relationships, and as a grammatical phenomenon. The study assigns a special role to the linguistic and cultural aspect of teaching speech etiquette.

The novelty of the research by I.A.Sopar [12] is a study of Russian speech etiquette from the standpoint of the



history of etiquette clichés, artistic text and folklore as the guardian of etiquette formulas, functions of speech etiquette. The researcher develops a set of exercises that contribute to the mastery of pedagogical skills in the culture of speech. According to the author, turning to history allows students to realize the aesthetic and ethical national and cultural specifics of the speech etiquette of the Russian language. I.A.Sopar proposes to use the set of exercises developed by her in various linguistic courses ("The basis of the culture of speech", "Linguistic analysis of a literary text", "History of the Russian literary language", "Modern Russian language", "Stylistics of the Russian language"). The author also offers reading special courses "Fundamentals of speech etiquette" and "Culture of pedagogical communication".

CONCLUSION

Thus, language and culture interact closely in the process of communication, which leads to the concept of co-study of language and culture. In the course of studying a foreign language, a student not only masters a new language code, but also the way of life, customs, cultural achievements inherent in its speakers, i.e. spiritual culture, therefore culture is also an object of learning, along with language, speech and speech activity. Now let's consider modern scientific concepts that will be the basis for developing a methodology for teaching a foreign language speech etiquette based on a linguoculturological approach.

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INDIA AND G20: STRENGTHENING AND SHAPING GLOBAL GOVERNANCE

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ABSTRACT

For the first time in the history of the G20, India, an emerging power representing 1.30 billion people with a democratic polity, will host the summit from 1st December 2022 and convene the G20 Leader's Summit in 2023. This symbolises that the focus of international development cooperation has shifted towards the Global South, illustrating the growing influence of emerging economies such as India in promoting multilateralism and directing international development cooperation. G20, accounting for 85 per cent of global GDP, 75 per cent of international trade and two-thirds of the world population, is a premier forum for international economic cooperation. India's presidency in this unique global institution presents an excellent opportunity to accelerate sustainable growth within India, in the emerging world, and beyond. India's support for global cooperation, inclusive development, economic stability, and sustainable growth is in line with its national goals and the values espoused by other leaders of the G20. In this background, the paper explores India's core interests in G20 and is confined to a specific question – With Global discord at its peak, what will India's G 20 presidency focus on? It concludes by stating that India's presidency has the potential to assist states struggling to overcome the effects of the covid-19 pandemic, as well as to accept diverse perspectives and opinions regarding the ongoing matters of concern.

KEYWORDS: India, G 20, Global South, sustainable growth, inclusive development, economic stability

INTRODUCTION

As India prepares to assume the presidency of the G20 in 2022, it intends to strengthen multilateralism and global governance further to build a peaceful, sustainable, and prosperous world for all. The principles of inclusion, flexibility, and diversity underlie this multilateral cooperation in the G20. As a founding member of the G20, India has used the forum to address issues of international importance and those that impact the world's most vulnerable populations. Following are some examples that illustrate this point. First, India is the only country among the G20 countries advancing rapidly toward achieving its climate goals mentioned under the Paris agreement. Second, the leadership role played by India in defining the success of the India-France-led International Solar Alliance is well regarded as a pivotal intervention in mobilising resources for the development of renewable energy technologies. Third, as an essential and reliable pillar of the world economy and global supply chains, the 'Self Reliant India (Atma-nirbhar Bharat)' initiative is expected to play a transformational role for "New India" in the global paradigm following the COVID -19 crisis. Fourth, the establishment of the Coalition for Disaster Resilient Infrastructure, comprising nine G20 nations, to develop infrastructure that will help developing and least developed countries cope with the impacts of natural disasters.

Against this background, the paper is structured into three main sections. The first section provides a brief overview of the G20 and its evolution. The second section explores India's core interests during its presidency of the G20. Finally, the third section concludes the study. However, a caveat is in order before I proceed. The paper does not

provide an in-depth analysis of all the core interests that India is focusing on during its G20 presidency. It attempts to provide only a comprehensive overview of India's main interests. Moreover, the study is interdisciplinary in nature as the discourse is based and conceptualised in the historical context with social insights into the contemporary development of events.

G20

Group of Twenty, or G20, is an intergovernmental organisation comprising 19 of the world's major economies, viz. Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the UK, and the US—and the European Union (EU). The G20 Summit is formally known as the "Summit on Financial Markets and the World Economy". Its membership comprises a mix of the world's largest advanced and emerging economies, representing about 90 per cent of the world's GDP, 80 per cent of global trade, and 67 per cent of the planet's population (Bhatia 2022). Each G20 country is represented by its Sherpa, who plans, guides, implements, etc., on behalf of the leader of their respective country. Besides G20 members, it has been a tradition for the G20 presidency to invite guest countries and international organisations to its meetings.

The work of the G20 is divided into two tracks – (a) The Finance track comprises all meetings with G20 finance ministers, central bank governors, and their deputies. They meet several times throughout the year and focus on monetary and fiscal issues, financial regulations, etc. It consists of eight work streams - Global Macroeconomic Policies, Infrastructure



Financing, International Financial Architecture, Sustainable Finance, Financial Inclusion, Health Finance, International Taxation, and Financial Sector Reforms. (b) The Sherpa track focuses on broader issues such as political engagement, anti-corruption, development, energy, etc. Each G20 country is represented by its Sherpa, who plans, guides, implements, etc., on behalf of the leader of their respective country. Former NITI Aayog CEO Amitabh Kant has been appointed India's Sherpa for the G20 months ahead. The Sherpa track consists of 12 work streams: Anti-corruption, Agriculture, Culture, Development, Digital Economy, Employment, Environment and Climate, Education, Energy Transition, Health, Trade and Investment, and Tourism. Furthermore, the G20 also regularly engages with non-government sectors. There are 10 Engagement Groups of private sector/civil society/independent bodies consisting of Business 20, Civil 20, Labour 20, Parliament 20, Science 20, Supreme Audit Institutions 20, Think 20, Urban 20, Women 20 and Youth 20 in the G20 forum.

In terms of the structure and functioning of the G20, the G20 Presidency rotates each year to ensure a regional balance over time. During the selection of the presidency, the 19 countries are divided into five groups, each containing no more than four countries. The presidency is rotated among the groups. The G20 makes an annual selection of a country from another group to serve as president. India is in Group 2, with Russia, South Africa, and Turkey. There is no permanent headquarters or secretariat for the G20. As a result, it is the G20 president who is responsible for developing the G20 agenda in consultation with other G20 members and responding to changes in the global economy. Each year, when a new country assumes the presidency, it works closely with the previous and next presidents. This is collectively referred to as TROIKA. This ensures the continuity and consistency of the group's agenda. Moreover, G-20 is an advisory body, not a treaty-based forum and, therefore, its decisions are recommendations to its own members.

EVOLUTION OF G20

Post-World War II, several initiatives aimed at international economic coordination were initiated. These included the Bretton Woods Institutions - the International Monetary Fund (IMF), the World Bank (WB), as well as the World Trade Organization (WTO). The G20 forum is the latest in this series of post-World War II initiatives that have aimed to coordinate economic policy internationally. The first G20 was announced at the G7 summit in Cologne in June 1999 and formally established at the G7 Finance Ministers meeting on 26 September 1999. Its inaugural meeting was held in Berlin on 15–16 December 1999 and was hosted by German finance minister Hans Eichel and Canadian finance minister Paul Martin.

Historically, G20 as an idea was first conceived in response to a series of massive debt crises that had spread across emerging markets in the late 1990s, beginning with the 'Mexican Peso Crisis of 1994' and followed by the '1997 Asian Financial Crisis', the '1998 Russian Financial Crisis', and eventually impacting the United States, most prominently in the form of the collapse of the prominent hedge fund Long-Term Capital Management in the autumn of 1998. These

crises demonstrated that the G7, G8, and the Bretton Woods system would be unable to provide financial stability in a rapidly globalising world, and a new, broader permanent group of major world economies would be required to provide this stability. In 1999, the finance ministers and governors of the central banks began meeting. The Global Financial Crisis of 2007-08 further solidified the reputation of the G20 as the world's leading crisis management and coordination body.

In 2008, the US, which held the G20 Presidency, promoted the Finance Ministers and Central Bank Governors meeting to that of Heads of State. After the inaugural summit in Washington, DC, in 2008, the G20 leaders met twice annually: in London and Pittsburgh in 2009 and in Toronto and Seoul in 2010. Some of the most durable global reforms were forged at the Washington DC, London, and Pittsburgh Summits: Providing stricter controls on - hedge funds and rating agencies, blacklisting states to combat tax evasion and avoidance, establishing the Financial Stability Board as an effective supervisor and watchdog for the global financial system, proposing stricter regulation for too-big-to-fail banks, and refraining from imposing new trade barriers among its members. But by the time Covid-19 struck in 2020, the G20 had reinvented itself by widening its agenda to include issues such as climate change, jobs and social security issues, inequality, agriculture, migration, corruption, terror financing, drug trafficking, food security and nutrition, disruptive technologies, and meeting the sustainable development goals. At the Riyadh Summit in October 2020, the G20 prioritised four things: fighting the pandemic, safeguarding the global economy, addressing international trade disruptions, and enhancing global cooperation. The Italian Presidency in 2021 had focused on three broad, interconnected pillars of action — People, Planet, Prosperity — vowing to take the lead in ensuring a swift international response to the pandemic.

The 17th Group of 20 (G20) Heads of State and Government Summit will take place in October 2022 in Bali, Indonesia. Under the Indonesian Presidency, the G20 in 2022 will focus on the theme, 'Recover Together, Recover Stronger'. The Leaders' Summit is the climax of the G20 process and the intense work carried out over the year through Ministerial Meetings, Working Groups, and Engagement Groups. Recognising the impact of the COVID-19 pandemic on every aspect of society and many countries' lack of capacity to address the crisis, the Indonesian Presidency will focus on three main pillars for its G20 Presidency: Global Health Architecture; Sustainable Energy Transition; and Digital Transformation (International Institute for Sustainable Development Report 2022). Through the implementation of these pillars, Indonesia hopes to continue to lead the way in ensuring equitable access to COVID-19 vaccines, promoting sustainable and inclusive economic development through the participation of micro, small and medium-sized enterprises (MSMEs), and fostering the digital economy. But the disastrous impact of the ongoing Russia-Ukraine war, India-China border tensions, EU/U.S.-Russia hostility, and deteriorating U.S.-China relations cannot be side-lined. Apart from these, the G20 forum faces two major structural challenges. First is the 'No Enforcement Mechanism', which means that the G20 tools range from simple information exchanges to a common, measurable target and coordinated



action. Apart from peer review and public accountability, none of these is achieved without consensus. Second, decisions are based on discussions and consensus, which culminate in the formulation of declarations which are not legally binding.

INDIA G 20'S PRIORITIES

Recently, a shift in G20 attention has been directed toward the Global South, illustrating the growing influence of emerging economies like India in directing international development cooperation and strengthening multilateralism. With respect to the Sherpas and Finance Track of the G20, India has actively participated in the processes and has been supportive of global cooperation, inclusive development, economic stability, and sustainable growth, which are aligned with its national goals and those of other participants in the process. Shri Piyush Goyal, Minister of Commerce and Industry, as the G20 Sherpa (in 2021), argued that the Covid Pandemic has restructured G20 priorities and has provided unique opportunities to inject an inclusive and equitable agenda into the G20. In addition, he stated that developing countries such as Indonesia and India will lead the G20 forum for the next few years and that we should leverage this opportunity to strengthen global institutions such as the WTO and UNFCCC, as well as build synergies with like-minded partners to formulate a strong climate change policy statement (Ministry of Commerce and Industry Press Release 2022).

Prior to hosting the G20 summit, India hosted large international conferences such as the Non-Aligned Movement (NAM) summit in 1983 and the Third India-Africa Forum summit in 2015.

Nevertheless, hosting the G20 is a unique experience, as it is the world's informal steering committee for global economic issues and entails shaping global decision-making on key global challenges. India will assume the Group of 20 (G20) year-long presidency from December 1, 2022, to November 30, 2023, culminating with the G20 Summit in India in 2023. During its presidency, India will have over 200 meetings in various parts of the country. According to the Ministry of External Affairs (MEA), the G-20 Leaders' Summit will be held in New Delhi on September 9 and 10, 2023, with Bangladesh, Egypt, Mauritius, Netherlands, Nigeria, Oman, Singapore, Spain, and UAE among the guest countries. In addition to regular international organisations (UN, IMF, World Bank, WHO, WTO, ILO, FSB and OECD) and chairs of regional organisations (AU, AUDA-NEPAD and ASEAN), India, as G20 Presidency, will be inviting Bangladesh, Egypt, Mauritius, The Netherlands, Nigeria, Oman, Singapore, Spain, and the UAE as guest countries, as well as International Solar Alliance (ISA), Coalition for Disaster Resilient Infrastructure (CDRI), and Asian Development Bank (ADB) as international guest organisations.

While India's G20 priorities are in the process of being firmed up, the MEA statement on 14th September 2022 said: "Ongoing conversations.....revolve around inclusive, equitable and sustainable growth; LiFE (Lifestyle For Environment); women's empowerment; digital public infrastructure and tech-enabled development in areas ranging from health, agriculture and education to commerce, skill-mapping, culture and tourism; climate financing; circular

economy; global food security; energy security; green hydrogen; disaster risk reduction and resilience; developmental cooperation; fight against economic crime; and multilateral reforms" (Roy 2022). Finance Minister Nirmala Sitharaman, in her meeting on 7th September 2022, with the IMF top boss Kristalina Georgieva to discuss IMF's support for India's G20 presidency, said, "India's presidency period at the G-20 will coincide with a time when the world is concerned about global debt and climate challenges" (Economic times 2022). The two leaders acknowledged that a rise in global inflation caused by the increase in food and energy prices and international debt is disproportionately felt by countries of low income. Additionally, the minister reiterated the importance of coordinated policy measures combined with multilateralism to mobilise adequate funds for climate action, noting that committed funds from the developed economies are yet to be released.

In the upcoming G20 presidency, New Delhi has presented four different proposals focusing on promoting India's national interests, leaving a legacy, and maintaining its primacy as an effective instrument of global governance. Firstly, the G20 presidency offers India an excellent opportunity to showcase its recent achievements, including its ability to combat COVID-19 domestically and abroad through vaccine aid and diplomacy. Further, India should highlight new trends in entrepreneurship, business innovation, the rise of many start-ups as unicorns, and gender progress. Secondly, from December 2021 to November 2025, four democracies poised to become major economic players - Indonesia, India, Brazil, and South Africa - will hold the presidency. This rare opportunity will enable the developing world to advance and assert its collective leadership in the global south. Third, another extraordinary coincidence is that all the three IBSA members, viz. India, Brazil, and South Africa will hold the G20 presidency consecutively in 2023, 2024, and 2025. Since IBSA is not subject to the geopolitical pressures that constrain the BRICS (where these three countries are required to work together with Russia and China), it can develop a cohesive plan to address the priority concerns of the Global South. Fourth, India must prepare itself to become a leading global diplomat. During the period as president of the G20, India will be required to take a broad perspective on the agenda of the forum to accommodate the divergent interests of all stakeholders: five permanent members of the UN Security Council, five G7 members, five members of BRICS, and other G20 members such as Argentina and Mexico. Another objective should be to end Africa's marginalisation through the elevation of the African Union (AU) to become a full member of the G20, thereby putting it on an equal footing with the European Union.

CONCLUSION

While the G20 cannot be a panacea for all the world's problems, it has played a vital role in international cooperation in the past decade. In an era when rising powers seek opportunities to influence and contribute to global affairs, effective global governance through forums such as the G20 is essential. India should utilise the G20 summit as a platform for raising discussions on issues such as the war in Ukraine, India-China border tensions, EU/U.S.-Russia hostility,



deteriorating US-China relations and the promotion of peace and cooperation in the world. Dialogue and diplomacy should be employed to resolve these issues. To conclude, India should promote an inclusive approach to international issues with pragmatic and human-centric solutions at the G20 forum.

Another indication of India's rising power is India's chairmanship of the SCO for the period 2022-2023. India, for the first time, has assumed the annually rotating Chairmanship of this Eurasia-centred organisation. Notably, it is also for the first time in SCO's over two-decade history that it will be headed by a South Asian country. This development gives a South Asian dimension to the SCO presidency and further boosts the prospects of re-establishing linkages between South Asia and landlocked Central Asia, which has been long-envisioned by the two regions.

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STRENGTHENING INDIAN SECURITY IN INDIAN OCEAN REGION

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ABSTRACT

Security dilemmas, according to John H. Herz, are when one state's efforts to improve its security endanger the security of others and have a reciprocal effect. The likelihood of the effect is larger when the prior states' intentions are unclear or have negative effects on the first. Such security complexities have developed in the Indo-Pacific area, where China has combined its expansionist ideas and modernised its navy to handle its security difficulties, but in doing so has also prompted other players in the region to assess their own security concerns. India now perceives a "two-front war" as a result of the arrival of Chinese naval forces in the Indian Ocean region and security concerns coming from both Pakistan and Afghanistan. Several states, including India, have been forced to take action in a region where Chinese regional movements and convictions dominate regional security complexes. This article examines India's security posture in light of China's growing participation, threats from Pakistan, and an unstable Afghanistan, and examines the extent to which bilateral and multilateral agreements aid India in resolving its security issues in the region. This article also aims to provide a solution to the question of what function India might serve in the region in order to encourage the dynamics of regional security.

China and Pakistan have historically been India's two adversaries to the north. In contrast to the former, where relations between India and Pakistan have historically been tense and seem unlikely to improve in the near future, India has taken care not to antagonise China in the case of the latter. However, it appears that China, despite its caution, ignores India's worries about its safety in the area and has been actively inciting hostility because of its revisionist and expansionist ideology. China has consistently contested India's claim to be the dominant force in the region, from stepping up its naval presence in the marine areas surrounding it to making nefarious economic investments there. India has also refrained from participating in the Quadrilateral Security Dialogue (Quad) in order to avoid upsetting China for this reason. India has nonetheless expressed a renewed interest in joining the Quad as a result of the recent turn of events in the Ladakh region and the ongoing standoffs in the border regions along the Sino-Indian border, which also add to China's increasing economic expansionism in the Indian Ocean region (IOR). India has been worried about not prodding China because of China's immense economic and military power. In addition, the security risks posed by Pakistan and Afghanistan could put India in a precarious position in the future with regard to its territorial security. Massive investments have been made in South Asian countries like Pakistan, Sri Lanka, the Maldives, Nepal, and Bangladesh as part of China's Belt and Road Initiative (BRI), which has also assisted China in acquiring bases for sea lines of communication (SLOC) in the Indian Ocean like the

Hambantota and Gwadar Ports in Sri Lanka and Pakistan, respectively. Although India has rekindled its interest in these issues in South Asia, it will be difficult for New Delhi to compete with a superpower like China on the economic and military fronts. India's active involvement in the Quad could lead to a resolution to New Delhi's issues since the Quad has emerged as a counterbalance to China in the Indo-Pacific area. In addition to addressing India's security concerns, New Delhi may revive its "Act East" policy by working with Japan, Australia, and the US to offer assistance, investments, and security to the region.

THEORETICAL FOUNDATION

According to Barry Buzan and Ole Weaver's Regional Security Complex Theory (RSCT), regional security complexes are created inside regional boundaries that are isolated from neighbouring regions by physical barriers. These barriers are readily recognisable and include things like mountains, oceans, and in some circumstances a neutral condition between two places. According to the idea, security issues in each region may differ from one another, and as a result, the security complexes that are prominent in those regions control the security policies and concerns of the nations within those regions. Global powers may also be involved in these locations, and their actions may be influenced by these regional security complexes.

In addition, the Copenhagen School of Thought elevated the traditional security perspective—which had been mostly moulded by military concerns—in its definition of security.



Security complexes have been divided into five categories by the school of thought: military, political, cultural or social, economic, and environmental. According to the hypothesis, every division has had some level of interaction with every other division and plays a significant influence in the security dynamics of a region. Therefore, states must consider safeguarding all five factors when dealing with security-related concerns.

The theory also explains what concerns fall under the category of security, such as what signs indicate that a problem has turned into a security risk. According to each observer's threshold, the scale used to determine when the referent object becomes a security concern also varies. A way to determine the threshold is through major moves being made by the observers, such as major changes in functions or major changes in military expenditure. We may determine that such problems represent security vulnerabilities for observers as a result of these changes. Securitization is another name for these actions.

The Balance of Power (BOP), which will be used to examine regional power dynamics and various bilateral and multilateral agreements to solve the security concerns, can be related to regional security dynamics through the RSCT. This essay will employ the restricted hard balancing under the BOP theory, which sits between between the hard balancing and soft balancing theories. In addition to restricted military coordination, limited hard balancing promotes the use of soft power methods to maintain equilibrium. The regional security complexes will be examined using these ideas, as well as the ways in which India might leverage these bilateral and multilateral agreements to reduce them.

INDIAN THREAT PERCEPTION: CHINESE CONCERN FOR THE INDIAN OCEAN

China has been developing quickly, and its need for crude oil has been rising noticeably. The greatest crude oil importer in the world, China brings in about 10.5 million barrels every day. Nearly half of China's imports come from the Middle East and Africa, which are the main import sources. Due to rising domestic demand and declining domestic oil supply, China must resort to external sources to meet its oil needs. Securitizing its oil sources has become crucial for not just China but for any country, as the strategic ellipses produce 70% of the world's crude oil and 10 of the 14 states there are considered unstable. China developed plans for aid and investment to safeguard its oil supplies, such as peace missions to Mali in 2013 to reduce that country's militant outburst against its oil-rich neighbours or China's participation in South Sudan peace talks. Securing not just the sources but also the SLOCs has grown in importance, and China has responded by setting up a base in Djibouti and deploying a variety of naval units in the Indian Ocean to control the SLOCs there. In contrast, China's geographical position and trade routes have given rise to the "Malacca Dilemma," a new security concern. The issue, which Hu Jintao first used in 2003, highlights the Strait of Malacca's

strategic significance for China and its potential to harm that country's economy when there is a dispute with another country. 60 percent of China's trade and about 70 percent of its crude oil travelled through the Strait of Malacca in 2016, making it a crucial geostrategic site. The military and political facets of the IOR are clearly security issues for China when the RSCT is used to analyse China's security concerns. In addition, the United States' involvement as a regional power has put China in the position of being the leader in the reformation of the global governance system, which has given rise to a variety of military, political, and economic security complexes.

SOUTH ASIA AND BELT ROAD INITIATIVE (BRI) BY CHINA

China has been aggressive in its approach to finding alternative routes for the transportation of its imports as well as structuring its presence in the region by providing aid and investment, as it has done through its BRI, to protect its interests in the Indian Ocean. The BRI's inclusion in the Chinese constitution demonstrates the significance it has for China. According to analysts, the BRI seeks to advance China's soft power globally and foster regional integration, infrastructure connectivity, and economic growth. It also seeks to exert influence over global economic governance.

Since launching the BRI in 2013, China has pushed its goals for the initiative beyond the world, with such investments being visible in South Asia. Pakistan is in the head of the receiving end of the China-Pakistan Economic Corridor, followed by many other port, electricity, and transportation projects in Sri Lanka, Bangladesh, Myanmar, and possibly Nepal. China has made significant investments in infrastructure, oil and gas pipelines, large ports, and transportation in two nations in South Asia: China and Sri Lanka. Through its investment in these nations, China was able to secure a 99-year lease on Hambantota's vital port and a 43-year lease on Gwadar. The ports give China a different way to import goods, reducing its reliance on the Strait of Malacca as a checkpoint for Chinese naval vessels in the area, shortening China's distance from the Strait of Hormuz, and providing a location to refine its crude imports. They also generate income for the country. Massive debts to the recipient countries as well as growing Chinese investment in vital financial, military, stock exchange, electronic, and IT sectors have been brought about by the BRI, potentially tightening China's grip on the economies and politics of the client nations.

In addition, China has been rapidly modernising its naval force, as evidenced by the intermittent expansion of its naval fleet and operations. China has also adopted a resolute position in the South China Sea and has established itself as a formidable adversary of the US Navy and its allies in the area. China has been able to spread its ideas and support on several occasions on various worldwide platforms because to its economic endeavours. In order to secure its position in the region, China



has adopted a number of economic, military, and political measures.

STRING OF PEARLS

Other regional players now face security challenges as a result of Chinese expansionism and its own forays into securing its interests. Due to the region's potential on the economic and geopolitical fronts, this has led to the development of a security complex. As a result, Chinese investments made through the BRI have sparked the geopolitical theory of the "String of Pearls," which contends that Chinese investments in South Asia could obstruct Indian aspirations in the IOR because they could lead to Chinese military dominance in the region—despite the fact that they are currently being made as commercial investments. While many political experts subscribe to the notion, many others think that China's approach is one of "Places not Bases" after reviewing the investments.

The amount of money spent on the bases and the infrastructure expansion needed for these bases to become militarised are far insufficient. Daniel Kostecka examines the low development and installation of defence systems in the pearls in order to discuss the "dual-use logistics facility" or the "Places not Bases" policy. According to the doctrine, China's bases in the region serve to support its soldiers rather than serve as a basis from which China can conduct its military operations. The "Places not Bases" policy is also emphasised by David Brewster, who also issues a warning against the security conundrum that has developed in the Indian Ocean, which has prompted China and India to pursue their own security issues and, in turn, resulted in a more coercive and untrustworthy relationship. He claims that even though China hasn't had a military threat against India in the Indian Ocean, it could eventually develop a different strategy to counter India's presence there and secure its own SLOCs there. The "String of Pearls" policy is also disliked by Christopher Yung, Ross Rustici, Scott Devary, and Jenny Lin, who place more focus on the dual-use logistics facility. However, the study also makes the claim that India and the US should be careful of Chinese naval advancement since, in its opinion, "China's building of naval troops in the IOR would be a better indicator of Chinese military goals in the region than the String of Pearls." In order to protect their interests from an unfriendly Chinese presence in the IOR in the future, should such a situation arise, the researchers advise India to modernise its naval fleet and the United States to strengthen its bilateral and multilateral partnerships in the South Asian region.

Although the proponents of dual-use logistics facilities dispute any allegations of militarised Chinese action from the pearl bases, they do not entirely dismiss the idea that China is implementing an aggressive policy in the IOR. Chinese aspirations in the IOR for India are questioned given the People's Liberation Army (PLA) Navy's rapid modernization, the emphasis placed on its development and application, and China's aim to increase its influence in other countries, which

has been made clear in its white papers. The hesitancy of the host countries to take a strong position against India in the region has been one criticism against China's deployment of pearl bases. Pakistan has been the sole exception, and its animosity toward India might encourage it to continue with this course of action. India's fears are strengthened by Pakistan's recent efforts to secure its bases and the Pakistani military's participation in these efforts. India's concern about insurgency along its borders has increased as a result of the turmoil in Afghanistan. The hypothesis of a two-front conflict has been discussed as a result of the mistrust among Indian policymakers toward Pakistan and China's reasons for acting against India.

A country confronting two opposing forces in two different geographical locations is said to be in a "two-front war" in military parlance. In order to increase their prospects of victory and relieve strain on their own forces and reserves, the joint forces engage in such a war. Conflicts in Doklam, the Galwan Valley, and most recently in Pangong Tso have damaged India's faith in China's acceptance of and consideration of the peace agreements between the two countries. Arunachal Pradesh's ongoing war has also been a source of concern for India because China has strong political and religious aspirations in the area, and their activities along the border pose a serious danger to India's sovereignty.

The conflicts have also sparked discussion about a future two-front war and India's readiness to fight on both fronts. Unfortunately for India, if such a fight materialises, the debates do not have a favourable ending, which prompts additional discussions about the precautions India should take to defend itself from such opponents. As a result, it is now crucial for India to protect itself from China's aggressive actions in order to handle the possibility of a two-front conflict. In contrast to Pakistan, this piece will place more emphasis on the need to counter China. Both militarily and economically, China poses a greater threat to India than Pakistan does. Additionally, the loss of Pakistan's faith in its ability to fight India without Chinese assistance on the second front will have the final impact of balancing China.

The "OP theory is required in this situation. The theory holds that when a country or group of countries feel threatened by the rise in power of another country, they either endeavour to strengthen their own position or try to build alliances with other countries who share their views in order to counteract the former country's dominance. It becomes obvious when the BOP is interpreted using the RSCT that alliances and coalitions must be created to handle security issues on all fronts, including military, political, economic, cultural, and environmental ones. These characteristics can be seen in "The Spirit of the Quad," in which the participating nations affirm their commitment to a free and open Indo-Pacific region where the rule of law, freedom of navigation and overflight (economic), peaceful resolution of disputes (military), democratic values, and territorial integrity are upheld (political). The Association of Southeast Asian Nations (ASEAN) has received backing from the Quad, and



environmental concerns such the manufacturing and supply of vaccines during the COVID-19 pandemic and relief efforts after natural catastrophes are given more prominence. The importance of balancing China through the development of alliances and coalitions has increased as a result of the declining US influence in the area and the rising economic and military power of China. India should therefore proceed with the formation of bilateral and multilateral agreements based on the same vision in order to secure its interests in the area of regional security. India will need to implement both internal and exterior reforms, changes that will provide India the ability to defend itself should hostilities break out, and secondly, changes that will counterbalance China in the Indo-Pacific. The article will mostly concentrate on locations far from India's northern boundaries, including the maritime realm, Southeast Asia, and the other South Asian nations, as India's efforts to balance China in these regions will produce the desired results.

UTILIZING ECONOMIC UNDERTAKINGS TO SECURITIZE INDIA'S INTERESTS

Lending money to the Indo-Pacific area in order to promote infrastructure and technology is one of the goals of the Quad. China's ambitious BRI has been effective in funding significant infrastructure projects in a number of countries throughout the world, including those in the Indo-Pacific. India is concerned about the "String of Pearls" effect these investments have created and needs to take the initiative to counter it by making its own investments to balance out Chinese ones. Chinese economic engagement could successfully balance out India's neglect of its neighbours and the perception that India had assumed a hegemonic role in the region, two factors that made Chinese investments in the South Asian region highly sought. As the political climate in the region has recently changed, China's "deft-trap" diplomacy has drawn criticism from both its international opponents and the recipient governments, making new countries who receive such investments from China wary of falling into a trap themselves. India has begun to follow suit by offering various investments to nations like Sri Lanka, Bangladesh, and the Maldives.

STRENGTHENING ACT EAST POLICY

In the modern era, Southeast Asia has become a focus area for the superpowers. The region is significant for India as well because 40 percent of its trade and its main oil imports both go through the Strait of Malacca. The "Look East" policy, which later became "Act East" under the present ruling administration, can be used to assess the significance of the area for India. India must forge relations with Southeast Asian countries if it wants to realise its ambition of becoming an economic superpower and realise the potential of its northeastern states. Building infrastructure and establishing supply chains will help India connect with its neighbours in Southeast Asia politically as well as economically. Even though India has entered into numerous

agreements with ASEAN countries, including Comprehensive Economic Cooperation Agreements with Singapore and Malaysia in 2005 and 2011, a trade in goods agreement with Japan in 2016, free trade agreements with China, and security dialogues and memoranda of understanding with Australia, it still feels underrepresented in its economic (aid and investment) and security endeavours. Although India has advanced its ASEAN initiative, Bajpae claims that "India has lost its focus on the ASEAN centrality. India has been reluctant to enforce its efforts on security posts within its local borders, and it has been unable to establish commercial ties with the ASEAN because it is just the region's 9th-largest trading partner, with smaller countries like Taiwan and Hong Kong piling up greater numbers. India has pursued other projects to establish ties with ASEAN, including the India-Myanmar-Thailand highway, which is now being planned to encompass Cambodia, Laos, and Vietnam along with Bangladesh, the Kaladan Transit Project, and various other envisioned programmes with member states. India has also excluded itself from the Regional Comprehensive Economic Partnership that could have enforced its "Act East" out of fear of Chinese malpractices. India has been attempting to establish additional economic channels with ASEAN members that do not include China.

ECONOMIC ENTERPRISING WITH REGIONAL ALLIES

In order to accomplish shared objectives in the Indo-Pacific region, India and the United States have also advanced their cooperation. The leaders of the two countries reaffirmed the significance of forging strategic alliances and cooperating with other blocs like ASEAN and the Quad, despite the fact that their shared interests and collaboration have primarily been visible in the defence and security aspects of the relationship. The United States may potentially have a significant impact on India's periphery by working closely with India to improve infrastructure, increase capacity, and revivify a region that is struggling to recover from a pandemic.

Through blue economy initiatives, the Indian Ocean already contributes 4% of GDP; but, as the sector's demand is expected to grow globally, this percentage will grow dramatically. India will need to take the initiative to grow its blue economy sectors in addition to producing infrastructure, maintaining security, and advancing a rules-based system. India and Australia's maritime cooperation has improved in this way. Concerns about tackling the issues of promoting peace, stability, and a rules-based maritime order based on international law while combating terrorism, piracy, drug trafficking, and environmental challenges like climate change and ocean acidification, as well as protecting marine ecology and encouraging resource sharing, have been raised by India-Australian maritime cooperation. In order to protect their interests in the Indo-Pacific area, India and Australia have increased their collaboration.



In addition to bilateral agreements, the region has seen an increase in trilateral agreements, such as the supply chain initiative between Australia, Japan, and India, as well as the Australia-India-Indonesia and India-Australia-France groups. The coalitions will work to address the region's economic, security, and environmental problems while promoting a "free and open," peaceful, and law-abiding Indo-Pacific. In the wake of the COVID epidemic, the India-Japan-Australia Supply Chain Resilience Initiative (SCRI) will concentrate on creating robust supply chains in the petrochemicals, automotive, pharmaceutical, and textile industries.

UPDATING AND INVESTING IN MILITARY CAPABILITIES TO MAINTAIN MILITARY INTERESTS

The United States and India have the most extensive military coordination in the Indo-Pacific region. The United States has prioritised India's position as being crucial to the United States' "Pivot to Asia" as a result of moving its attention to the "Asia-Pacific," as was indicated under the Obama administration. With the completion of three key agreements—the Basic Exchange and Cooperation Agreement, the Communications Compatibility and Security Agreement, and the Logistics Exchange Memorandum of Agreement—the United Progressive Alliance (UPA) government led by Narendra Modi gave the India-US shared vision official recognition in 2015. The three agreements will help both countries supply their chosen military sites with high-tech equipment, protect communication between their troops, and provide intelligence, respectively. Along with the aforementioned transactions, the US also approved sales of the US-P8I patrol plane and Guardian unmanned aerial vehicles, both of which will help India fend off Chinese naval presence, particularly submarine presence, in the Indian Ocean. India must improve its naval capabilities, which the aforementioned agreements have been explicitly created to do, if the United States wants India to support it in its "Pivot to Asia" and if India wants to defend itself in the maritime domain against Chinese aggression. India and the United States have strengthened their capabilities through military exercises in addition to the acquisition of technology and equipment, with India hosting the most military drills with the United States among all of its partners. With Japan formally joining the exercise in 2015 and Singapore and Australia participating in an unofficial capacity, the India-US Malabar exercise, which is primarily focused on joint operations in the maritime domain, has made remarkable strides. With nations in the Asia-Pacific region like Japan, Singapore, Indonesia, and the Philippines, India has conducted a number of additional naval drills in which antisubmarine corvettes, multi-role guided missile stealth frigates, and P8I long-range maritime patrol planes took part.

UTILIZING GEOPOLITICAL RESOURCES

Because to their position, India's Andaman and Nicobar Islands also play a significant role. The islands give India a fantastic geostrategic location from which to conduct its military operations, such as the already formed Tri Service Command, given their proximity to Southeast Asian countries and the Malacca Strait. However, despite these improvements, the island still receives criticism for not being developed to its fullest extent. The islands can be exploited by India's regional allies, including Australia, Japan, the United States, and France, for their naval capabilities given the region's shifting political and strategic landscape. This might materially improve coordination between regional allies, especially in light of the Quad's objectives and reach. By allowing foreign navies access to the islands, India may also upgrade the islands' infrastructure, technology, and intelligence. This is especially true now that the United States has established its new Indo-Pacific Command, which has increased the region's influence.

The Indo-Pacific, from the perspective of Indian interests, stretches from the eastern coasts of Africa to the western shores of America. If India is at the strategic end of one part of the region, then Australia is at the crucial intersection where the Indian Ocean and the Pacific meet. This geostrategic value of both the nations has made the nations realise the importance of each in achieving their goals in regard to the future of the Indo-Pac. By negotiating agreements covering a wide range of interests, including military interoperability, intelligence collaboration, technology cooperation, and maritime capabilities, India and Australia have been able to further their relations with one another.

When it comes to controlling the Indian Ocean, India has a strategic and geographical advantage over China. However, China has been aggressive in establishing economic connections with the Indian Ocean, connections that have been hampered by the arid geographic terrain between the Indian Ocean and China. In the event of a battle between India and China, India would prefer to have it take place in the maritime space, but due to China's growing naval presence over time as a result of facilitating ports and taking part in anti-piracy missions, India needs to find allies among its neighbours. In order to promote the idea of trade, transportation, communication, tourism, counterterrorism, energy, and other areas that could decrease the demand for Chinese investments and increase Indian influence over such countries, India has used its geographic position and leadership to form and lead initiatives like the Bangladesh, Bhutan, India, Nepal (BBIN) Initiative and Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).

CONCLUSION

Along with numerous internal policies and advances to address weaknesses and improve preparedness, India has been deploying a variety of soft and hard balancing options to oppose China in the Indo-Pacific. Major worldwide economic and



political weaknesses have been revealed by the epidemic, and this, combined with the internal and foreign instability already present in India, has sparked new aspirations and endeavours on the part of that country. The Indo-Pacific is divided for India into its immediate neighbours, the western borders of Africa, and east toward Southeast Asia. Through this article, it has been made clear that India must look beyond its immediate neighbourhood and that it has recently begun to place more importance on the larger Indo-Pacific region in light of China's intervention in the area. Additionally, there has been a slight change in India's political position toward China from one of passivity to one of casual activity. In an effort to achieve a limited hard balance against China in the Indo-Pacific, India has begun to adjust its policies and position. India has collaborated with other regional allies to accomplish that goal and will do so in the future. With the help of these agreements, India now has a practical and successful means of countering China without resorting to a direct confrontation, which India is unlikely to desire.

India is securing itself against both conventional and non-conventional threats by putting the RSCT theory and BOP into practise. India has been balancing and thwarting Chinese security concerns in the region through a number of economic, cultural, political, environmental, and military accords. This may work well to address India's potential "two-front war" danger. By forcing China to take India's goals into consideration, we can stop any Chinese aggression on the frontiers. Second, the Indian side would be considerably better off opposing Pakistan without the threat of coercion from China on the second front. India's participation in the Indo-Pacific could be a useful step in achieving its aim of becoming a global power.

Given its immense geographic, economic, military, and cultural might, India could assume a prominent position in the area. Every one of the regional players who share India's mentality has expressed interest in working together. Even the smaller nations have profited from these agreements and have demonstrated a readiness to contribute to such projects, even though countries like Japan, Australia, the United States, and France have similar interests. China-dominated nations like Laos and Cambodia have also been touched through a variety of endeavours. Even while several of these agreements are still relatively new and insufficient against China at the moment, they could develop into a substantial strategy to counterbalance China with continued participation and efforts.

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RUPTURED ACHILLES TENDON, A COMMON INJURY IN ATHLETES

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SUMMARY

Introduction: The Achilles tendon also named calcaneal tendon, can be subjected to tensile loads up to 10 times the body weight. It is located on the posterior aspect of the lower leg and is the thickest tendon. This tendon accounts for 20% of all large tendon injuries. There is discussion on which is the best treatment, among which the percutaneous repair of the Achilles tendon has risk of injuring the sural nerve. When a sharp, explosive and sudden force is exerted on the Achilles tendon, rupture or tears can occur. Most of these ruptures occur during sports; however, sometimes it happens in non-athletes or sedentary people.

Objective: To detail the current information related to Achilles tendon rupture and its treatment, as well as the different approach techniques.

Methodology: A total of 29 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 19 bibliographies were used because the other 10 articles were not relevant for this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish and English were: achilles tendon, Achilles tendon rupture, Achilles tendon treatment.

Results: Achilles tendon rupture is more frequent in adults between the third and fifth decade of life. When it happens acutely they usually present sudden pain in the back of the leg accompanied by a "snapping". This pathology can be falsely diagnosed as an ankle sprain in 20% to 25%. All patients require physical and orthopedic therapy and initial treatment consists of rest, elevation, pain control and functional orthopedic appliances. The advantages of non-surgical treatment are the avoidance of hospital admissions, wound complications and the risk of anesthesia. However, its main disadvantage lies in the increased risk of re-rupture, ranging up to 40%. Return to sporting life can be initiated 9 months after surgery as long



as the patient is able to dorsiflex. Surgical treatment has a new rupture rate of 0.5% while non-surgical treatment has a rupture rate of approximately 40%.

Conclusions: The Achilles tendon is formed by the fusion of the gastrocnemius and soleus muscles in its distal part. The contraction of these two muscles generates a force that causes plantar flexion of the foot. The Achilles tendon is innervated essentially by the sural nerve. Signs of the affected person may include swelling, bruising and/or a noticeable alteration in the tendon. Thompson's test can be used to better assess the picture. In athletics, basketball, diving, tennis, cycling, volleyball, gymnastics and others it is common to see tendon ruptures. If the patient presents with trauma to the lower leg, it is advisable to take X-rays in order to rule out fractures. The diagnosis can be confirmed with MRI or ultrasound. Surgical approach techniques for Achilles tendon repair include open, semi-open or limited open and percutaneous repair, although regardless of the technique of choice, restoration of tendon length must be ensured. Patients with significant medical comorbidities or those with relatively sedentary lifestyles are usually recommended to opt for non-surgical therapy. Surgical treatment mitigates the risk of re-rupture compared to conservative treatment; however, complication rates are much higher, and almost all athletes can return to physical activity without any limitations.

KEYWORDS: Rupture, Achilles, tendon, Achilles injury, rupture.

INTRODUCTION

Achilles tendon, initially named after the mythological and literary character Achilles, is also named calcaneal tendon. It can be subjected to tensile loads of up to 10 times the body weight. It is located on the posterior aspect of the lower leg, being the thickest tendon in humans and very resistant to tensile forces. It also converges with the gastrocnemius and soleus muscles to the calcaneus (1-3).

The Achilles tendon consists mostly of fast twitch type II fibers with great elasticity, type I collagen which gives great strength to the tendon and elastin. The Achilles tendon is surrounded by a paratenon made up of a connective tissue sheath that can stretch 2 to 3 cm with movement (1).

This tendon accounts for 20% of all large tendon injuries. There is discussion about the best treatment, among which percutaneous repair of the Achilles tendon has a risk of injuring the sural nerve (4).

When a sharp, explosive and sudden force is exerted on the Achilles tendon, partial or complete rupture or tears can occur. Most of these ruptures occur during sports; however, it sometimes happens in non-athletes or sedentary people(1).

METHODOLOGY

A total of 29 articles were analyzed in this review, including review and original articles, as well as clinical cases, of which 19 bibliographies were used because the other 10 articles were not relevant to this study. The sources of information were PubMed, Google Scholar and Cochrane; the terms used to search for information in Spanish and English were: Achilles tendon, Achilles tendon rupture, Achilles tendon treatment.

The choice of the bibliography exposes elements related to Achilles tendon rupture in the last 5 years; in addition to this factor, these studies have several important factors related to their different treatments.

DEVELOPMENT

The Achilles tendon is formed by the fusion of the gastrocnemius and soleus muscles in its distal part. The gastrocnemius muscle is born in the posterior part of the femur exactly in the medial and lateral condyles, presenting the medial

and lateral heads and is innervated by the tibial nerve (S1, S2). The soleus muscle arises from the posterior surface of the fibula and the medial border of the tibia and is innervated by the tibial nerve (L4, L5, S1, S2). The superficial posterior compartment of the leg is made up of these two muscles. Contraction of these two muscles generates a force that causes plantar flexion of the foot, which aids in propulsion and locomotion. Cutaneous innervation also comes from the tibial nerve. The Achilles tendon is innervated essentially by the sural nerve and to a lesser extent by branches of the tibial nerve(1).

The Achilles tendon is irrigated by the longitudinal arteries that accompany it in its extension, in addition the proximal and distal section is irrigated by the posterior tibial artery and the medial part by the peroneal artery (5). It must be remembered that the proximal part receives blood from the muscles connected to the tendon and the distal part has the tendon-bone interface(6).

The tendon becomes stiffer as people get older. Achilles tendon rupture is most common in adults between the third and fifth decades of life. When it occurs acutely, they usually present with sudden pain in the back of the leg accompanied by a "snapping" sound at the affected site. Those affected may report a kicking sensation in the lower leg. The injury causes significant pain and disability (6,7).

Signs of involvement may include swelling, bruising and/or a noticeable alteration in the tendon. Occasionally, there may be pain with intact plantar flexion in partial ruptures. The Thompson test can be used to better assess the picture, which consists of squeezing the calf which in a healthy subject produces plantar flexion, this movement may be more tenuous or be eliminated in case of rupture of the Aquilian tendon. In addition, these Achilles tendon injured individuals cannot stand on tiptoe or have very weak plantar flexion of the ankle(1,6).

Achilles tendon injuries occur more in males, in those who are not adequately warmed up and in those who are only intermittently active. This pathology can be falsely diagnosed as an ankle sprain in 20% to 25%. The condition usually occurs between the third and fifth decade, among these 10% show a history of symptoms, in addition to presenting associated risk factors such as previous intratendinous degeneration, steroid



injections, use of fluoroquinolones and inflammatory arthritis(6,8,9).

Other risk factors for tendon rupture are inadequate footwear, training, conditioning and techniques, subtalar hyperpronation, excessive forefoot or rearfoot valgus or varus, lower extremity length discrepancy, inflexibility of the triceps suralis at the muscle-tendon junction, muscle imbalance and fatigue, overweight, obesity, age, prolonged use of corticosteroids and overexertion. In athletics, basketball, diving, tennis, cycling, volleyball, gymnastics and others it is common to observe tendon ruptures. Reasons for Achilles tendon rupture include direct trauma, sudden forced plantar flexion of the foot and long-term tendinopathy or intratendinous degenerative conditions. Achilles tendon rupture is frequently located two to four centimeters above the insertion of the tendon on the calcaneal bone. In left-handed people, it is more likely to rupture the right Achilles tendon and vice versa(6,10,11).

Some systemic diseases are associated with Achilles tendon damage among which we have: infections, diabetes mellitus, chronic renal failure, gout, collagen deficiency, thyroid and parathyroid disorders, lupus and rheumatoid arthritis(6).

Studies have shown that rupture of the Achilles tendon is more common in those with blood group O. Apparently type III collagen is the main collagen manufactured after rupture. Those with a family history of this injury are also at higher risk(6).

If the patient presents with trauma to the lower leg, it is advisable to perform radiographs in order to rule out fractures. The diagnosis can be confirmed with MRI or ultrasound, in cases where there is clinical suspicion and a congruent physical examination (12).

Differential diagnosis: Achilles bursitis, ankle impingement syndrome, ankle fracture, ankle sprain, ankle osteoarthritis, peroneal calcaneal ligament injury, calf injuries, psoriatic arthritis, calcaneal fractures, exertional compartment syndrome, deep vein thrombosis, muscle sprain or tear, fascial tears, plantar tendon tear, retrocalcaneal bursitis, talofibular ligament injury, Haglund's deformity, ruptured Baker's cyst, syndesmosis and Reiter's syndrome (6).

The debate regarding the effectiveness of the treatment of choice for Achilles tendon rupture is constant, especially when we question whether healing in non-surgical management is feasible, if we consider that there is no direct contact between the injured structures, or that late or incomplete healing may lead to calf weakness or risk of a new rupture. Studies have shown good functional results and patient satisfaction with both surgical and non-surgical modalities(6,13).

Healing rates with serial casting and functional bracing are similar compared to surgical tendon anastomosis, however return to work varies and may be later in those treated medically. All those affected require physical and orthopedic therapy to strengthen the muscles and extend the range of motion of the ankle(14,15).

Initial treatment consists of rest, elevation, pain control and functional orthotics. Immobilization in this treatment lasts 6

to 8 weeks in a cast, with the ankle in plantar flexion for 4 weeks and then in neutral position for the remaining 2 to 4 weeks. The rate of recurrence of the rupture is around 12.6% compared to 3.5% for surgical treatment, which can be reduced if the time of immobilization in plaster is reduced and the implementation of early functional rehabilitation is implemented, which according to new studies represents an important axis in the treatment(6,13).

The advantages of non-surgical treatment are to avoid: hospital admission costs, wound complications and the risk of anesthesia. However, its main disadvantage lies in the increased risk of a new rupture, ranging up to 40%.

Surgical approach techniques for Achilles tendon repair include open, semi-open or limited open and percutaneous repair, although regardless of the technique of choice, restoration of tendon length must be ensured to avoid excessive elongation. This is achieved by comparing the healthy plantar tendon during surgery, in case of its absence, the dorsiflexion range of the contralateral foot should be measured. Subsequently, the paratenon that surrounds the Achilles tendon is repaired to avoid infection. The risk of superficial and deep wound complications must be considered despite the good clinical results of the open technique. Patients with significant medical comorbidities or those with relatively sedentary lifestyles are usually recommended to opt for non-surgical therapy(6,13).

One study demonstrated that surgery restores calf muscle strength with a strength difference of 10% to 18% in benefit of surgery at 18 months compared to non-surgical treatment(16).

The large number of complications following Achilles tendon repair led to the creation of new techniques, thus the limited open technique and the percutaneous technique were born; however the risk of injuring the sural nerve remains latent even with the advances in technique in recent years. Some clinical studies prove that the use of the percutaneous technique shows similar results compared to the open technique with no increase in new ruptures or wound complications(17). However, other bibliographies show a higher rate of injury associated with the percutaneous procedure compared to the open technique(6).

Percutaneous repair is performed through several incisions through which the proximal and distal ends of the tendon are knotted together resulting in the tendon being left in position during plantar flexion of the ankle. Given the limited visibility, this technique may cause injury to the sural nerve(13).

This technique can be supplemented by the use of endoscopy to allow visualization of both tendon apposition and to preserve the integrity of the sural nerve. This innovation is supported by a study in which 10% of patients with sural nerve numbness resolved in 1 month and showed that by moving the incisions directly on the lateral border of the Achilles tendon this complication disappears(17).

In order to reduce complications, the mini-open repair technique was also created, in which a smaller incision is made over the rupture site and the subcutaneous tissue is separated,



and then sutures are made to bring the proximal and distal ends of the tendon closer together by suturing with the ankle in dorsiflexion. There are several techniques for the repair of the Achilles tendon, most of them approximate the torn ends, sometimes the repair is reinforced by the plantar tendon or the gastroc soleus aponeurosis(6,13).

Limited open repair results from a combination of techniques, allowing greater visualization of the lesion and ensuring that approximation of the tendon edges is maximized

by percutaneous suturing within the paratendon. A prospective multicenter study of 187 patients treated by this technique showed results without wound complications or sural nerve compromise. Likewise, a prospective randomized study performed in 40 patients compared the open and limited open technique showing similar results in the AOFAS score also called Kitaoka scale and showed decreased skin adhesions, local sensitivity, less scar or tendon thickness in the group with limited open repair(17).

Tabla 1.Kitaoka (AOFAS)

Kitaoka score (AOFAS)	Score
A) Pain	40 points
None	40
Occasional	30
Moderate, daily	20
Severe, almost always present	0
B) Function	
	45 points
1. Activities	
No limitations and no external support	10
No limitations in daily life, but limitations in sport, and no external support	7
Limitations in daily recreational life (crutch needed)	4
Severe limitations even with crutch	0
2. Footwear requirements	
Any type of footwear	5
Only comfortable footwear or insole use	3
Special footwear or orthosis	0
3. Walking (maximum distance)	
More than 2 km	10
Between 1.5-2 km	7
Between 0.5-1 km	4
Less than 350m	0
4. Type of walking surface	
No difficulties on any walking surface	10
Some difficulties on uneven surfaces and stairs	5
Difficulties en on uneven surfaces and stairs	0
5. Limp	
None	10
Mild	5
Obvious	0



C) Foot alignment	15 points
Good: well aligned plantigrade foot	15
Average: plantigrade foot with some degree of misalignment, but asymptomatic	8
Poor: non-plantigrade foot and symptomatic	0
Total	Maximum 100

Source: Úbeda Pérez de Heredia I, Martínez de Renobales JI, García Díaz J, Otaño Aranguren FJ, Sánchez Zapirain I. Measurement of the results of functional treatment of metatarsal fractures using the AOFAS scale and the duration of work incapacity. *Rev Esp Cir Ortopédica Traumatol Engl Ed.* marzo de 2012;56(2):132-9.(18)

Postoperatively, previously, after Achilles tendon repair surgery, immobilization for 6 weeks without weight bearing was the norm until a prospective randomized study showed that the use of early weight bearing by means of plaster orthoses reduced the time to return to walking and stair climbing. A new study in 110 patients also showed that weight bearing in an ankle and foot orthosis at 2 weeks and implementation of early movement exercises mitigates the risk of new ruptures as well as improved quality of life and reduced activity limitations at 6 weeks post-surgery, although no significant statistical differences were reported at 6 months with the control group. Identical results were shown in those patients operated with percutaneous technique and who had early movement exercises after 2 weeks of surgery. The return to sporting life can begin 9 months after the intervention as long as the patient can dorsiflex the ankles with the previously injured limb(17).

Multiple randomized controlled studies show that surgical treatment mitigates the risk of re-rupture versus conservative treatment; however, complication rates are much higher. Although there is an increase in the incidence of Achilles tendon rupture, paradoxically there is a reduction in the number of surgical interventions and this is largely due to the use of functional rehabilitation, despite this, surgical treatment is preferred for athletes and also for those patients who prefer to remain active(19).

The prognosis is usually good in patients with Achilles tendon rupture, however, especially in non-athletes, they may present some residual deficits such as decreased range of motion. Almost all athletes can resume physical activity without any limitations. However, surgical treatment has a new rupture rate of 0.5% while non-surgical treatment has a rupture rate of approximately 40% (6).

CONCLUSIONS

The Achilles tendon is formed by the fusion of the gastrocnemius and soleus muscles in its distal part. The contraction of these two muscles generates a force that causes plantar flexion of the foot. The Achilles tendon is innervated essentially by the sural nerve. Achilles tendon rupture is more frequent in adults between the third and fifth decade of life. When it happens acutely they usually present sudden pain in the back of the leg accompanied by a "snapping". Signs of the affected person may include swelling, bruising and/or a

noticeable alteration in the tendon. Thompson's test can be used to better assess the picture. This pathology can be falsely diagnosed as an ankle sprain in 20% to 25%. In athletics, basketball, diving, tennis, cycling, volleyball, gymnastics and others it is common to see tendon ruptures. If the patient presents with trauma to the lower leg, it is advisable to take X-rays in order to rule out fractures. The diagnosis can be confirmed with MRI or ultrasound. All patients require physical and orthopedic therapy and initial treatment consists of rest, elevation, pain control and functional orthopedic appliances. The advantages of non-surgical treatment are the avoidance of hospital admissions, wound complications and the risk of anesthesia. However, its main disadvantage lies in the increased risk of re-rupture, ranging up to 40%. Surgical approach techniques for Achilles tendon repair include open, semi-open or limited open and percutaneous repair, although regardless of the technique of choice, restoration of tendon length must be ensured. Patients with significant medical comorbidities or those with relatively sedentary lifestyles are usually recommended to opt for non-surgical therapy. Return to sporting life can be initiated 9 months after surgery as long as the patient is able to dorsiflex. Surgical treatment mitigates the risk of re-rupture compared to conservative treatment; however, complication rates are much higher, and almost all athletes can return to physical activity without any limitations. Surgical treatment has a new rupture rate of 0.5% while non-surgical treatment has a rupture rate of approximately 40%.

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SIMULATION OF THE STRUCTURE OF GAS-LIQUID FLOWS IN THE APPLICATION OF THE WATER-AIR MODEL FOR RESEARCH OF THE STEAM-WATER SYSTEM

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МОДЕЛИРОВАНИЕ СТРУКТУРЫ ГАЗОЖИДКОСТНЫХ ПОТОКОВ И ПРИМЕНЕНИЯ ВОДОВОЗДУШНОЙ МОДЕЛИ ДЛЯ ИССЛЕДОВАНИЯ ПАРОВОДОЯНОЙ СИСТЕМЫ

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ANNOTATION

The joint motion of gas and liquid forming a gas-liquid system is considered. The forms of joint motion of gas and liquid are investigated as the motion of two continuous ones interacting along the interface of flows before the movement of the foam flow, in which both phases form a complex, thin and unstable structure. Forces arise on the interfaces, which, even in an isothermal flow, have a significant effect on the fields of flow characteristics. Simulation of the similarity of gas-liquid flows in theoretical terms is presented. Complexes and linear scales of gravitational-viscous interaction of falling films of a viscous liquid caused by molecular viscosity have been obtained.

KEY WORDS: two-phase system, dispersed flow, water-supply model, models, steam content in the water volume.

Аннотация. Рассматриваются совместные движения газа и жидкости образующие газожидкостную систему. Исследуются формы совместного движения газа и жидкости как движения двух сплошных, взаимодействующих по поверхности раздела потоков до движения потока пены, в котором обе фазы образуют сложную, тонкую и неустойчивую структуру. На поверхностях раздела фаз возникают силы, которые даже при изотермическом течении существенно сказываются на полях характеристик потоков. Приводится моделирование подобия газожидкостных потоков в теоретическом плане. Получены комплексы и линейные масштабы гравитационно-вязкого взаимодействия стекающих пленок вязкой жидкости вызываемой молекулярной вязкостью.

Annotatsiya. Gaz-suyuqlik tizimini tashkil etuvchi gaz va suyuqlikning birgalikdagi harakati ko'rib chiqiladi. Gaz va suyuqlikning birgalikdagi harakati shakllari ko'pik oqimi harakatidan oldin oqimlar interfeysi bo'ylab o'zaro ta'sir qiluvchi ikkita uzluksiz harakat sifatida tekshiriladi, bunda ikkala faza ham



murakkab, nozik va beqaror tuzilishni hosil qiladi. Interfeyslarda kuchlar paydo bo'ladi, ular hatto izotermik oqimda ham oqim xususiyatlarining sohalariga sezilarli ta'sir ko'rsatadi. Nazariy jihatdan gaz-suyuqlik oqimlarining o'xshashligini simulyatsiya qilish keltirilgan. Molekulyar qovushqoqlikdan kelib chiqqan yopishqoq suyuqlikning tushayotgan plyonkalarining gravitatsion-qovushqoq o'zaro ta'sirining komplekslari va chiziqli shkalalari olingan.

Ключевые слова: *двух фазная система, дисперсное течение, водовоздушная модель, модели, паросодержания в водяном объеме.*

Калит so'zlar: *ikki fazali tizim, dispers oqim, suv ta'minoti modeli, modellar, suv hajmidagi bug' miqdori.*

Постановка вопроса. Исследованиями многих экспериментов, известно, что при совместном движении газа и жидкости образуется газожидкостная система. Формы совместного движения газа и жидкости чрезвычайно многообразны: от движения двух сплошных потоков, взаимодействующих по поверхности раздела, до движения потока пены, в котором обе фазы образуют сложную, тонкую и неустойчивую структуру.

Газожидкостные системы характерны для многих явлений природы и технологических процессов. Они отличаются от систем жидкость - твердые частицы тем, что форма внутренних границ раздела фаз для них не задана. На поверхностях раздела фаз возникают силы, которые даже при изотермическом течении существенно сказываются на полях характеристик потоков. Надежные теоретические методы для описания таких полей в общем случае отсутствуют. Поэтому физическому моделированию двухфазных потоков уделяется особое внимание. Однако вследствие многофакторности явлений газожидкостных течений точное физическое моделирование достижимо только в частных случаях, а методы приближенного подобия газожидкостных потоков разработаны недостаточно.

Если и качестве основных величин, характеризующих газожидкостную систему при отсутствии термодинамических эффектов, приняты геометрические размеры l , плотность жидкости ρ и газа ρ_g , динамическая вязкость фаз μ , μ_g коэффициент поверхностного натяжения на границе раздела фаз σ , приведенные скорости фаз (отношение объёмного

расхода фазы к полной площади живого сечения двухфазного потока) \tilde{U} и \tilde{V} ,

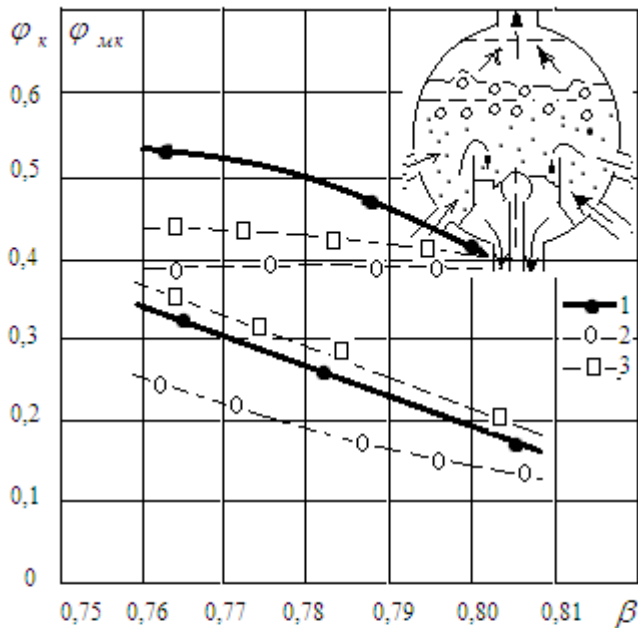


Рис.1. Объемное газосодержание ϕ_k в коробах и в межкоробовом пространстве ϕ_{mk} горизонтального сепаратора в зависимости от объемного расхода газосодержания β при исследовании на пароводяной и воздушно-водяной установках:

1- пароводяная модель, $P=7 \text{ МПа}$, $D=2300 \text{ мм}$
 2 - воздушно-водяная модель, $D = 2200 \text{ мм}$,
 $M_V = 1$; 3 — то же, $M_V = 0,9$

ускорение свободного падения g , то определяющими критериями подобия могут быть, симплексы $\frac{\rho_z}{\rho}$, $\frac{\mu_z}{\mu}$, $\frac{\tilde{V}}{\tilde{U}}$, $\frac{l}{l_0}$ и комплексы, в которые входят характеристики одной из фаз и величины, определяющие межфазовое взаимодействие: $\frac{\tilde{U}_0 l_0}{\nu}$, $\frac{\tilde{U}_0^2}{gl_0}$, $\frac{\rho \tilde{U}_0^2}{\sigma}$. Имея в виду, что эти

комплексы представляют собой критерии Fr , Re и We легко установить, что моделирование газожидкостного потока при геометрических масштабах, отличных от единицы, весьма затруднено. Трудности моделирования еще более возрастают, когда по техническим соображениям приходится использовать на модели жидкости и

газы, существенно отличающиеся от таковых в натуре, например, использовать вместо воды и ее пара при высоких параметрах воду и воздух при нормальных температуре и давлении.

В частных задачах иногда полезно использовать комбинации указанных критериев при условии, что доказана автомодельность по другим. Так, критерий Архимеда записывается в форме:

$$\frac{gl_0^2}{\nu_z^2} \left(1 - \frac{\rho_z}{\rho}\right) = \left(\frac{\tilde{U}_0 l_0}{\nu_z}\right) \frac{gl_0}{\tilde{U}_0^2} \left(1 - \frac{\rho_z}{\rho}\right) \quad (1)$$

Этот критерий характеризует соотношение подъемной (архимедовой) силы, действующей на данный элемент потока под влиянием разности плотностей фаз, и силы сопротивления, вызываемой молекулярной вязкостью.

Комплекс

$$\frac{\rho_2 \tilde{V}_0^2 g l_0^2}{g(\rho - \rho_2) l_0} = \frac{\tilde{V}_0^2}{g l_0} \frac{1}{\frac{\rho}{\rho_2} - 1} \quad (2)$$

может рассматриваться как соотношение подъемной силы и силы инерции.

При составлении критериев подобия газожидкостных систем бывает удобно использовать так называемые внутренние линейные масштабы - комплексы, имеющие линейную размерность и включающие только свойства фаз [1,3,5]. Масштабом линейного размера свободно возникающих пузырей, капель, пленок может служить постоянная Лапласа:

$$\delta_s = \sqrt{\frac{\sigma}{g(\rho - \rho_2)}}$$

При подстановке этой величины в (2) получается критерий вида

$$\frac{\rho_2 \tilde{V}_0^2}{\sqrt{g\sigma(\rho - \rho_2)}}$$

названный С.С. Кутателадзе критерием устойчивости режимов движения и характеризующий деформации поверхности раздела под воздействием динамического напора, архимедовой силы и поверхностного натяжения.

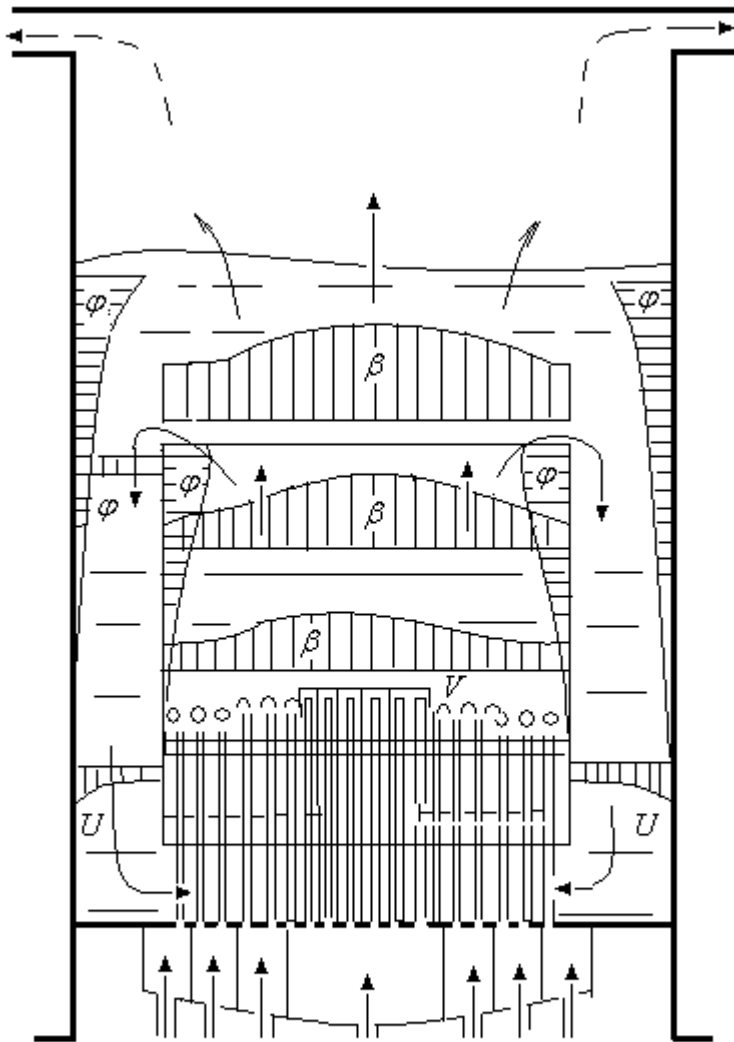


Рис.2. Газосодержание в контуре естественной циркуляции корпусного реактора по данным воздушно-водяной установки.

Гравитационно-вязкому взаимодействию для свободно стекающих пленок вязкой жидкости можно приписать линейный масштаб

$$\delta_v = \left[\frac{v^2}{g \left(1 - \frac{\rho_2}{\rho} \right)} \right]^{\frac{1}{3}}$$

Формулировка условий подобия существенно облегчается в тех случаях, когда внутренние межфазовые границы определены независимо, например, по экспериментальным данным.

Частным случаем здесь являются пузырьковые (или капельные) двухфазные потоки при установившихся размерах пузырей (капель). Важной характеристикой при этом служит гидравлическая крупность (скорость витания) да. Как известно, эта величина является комбинацией критериев Вебера, Архимеда и Рейнольдса. При малом вкладе сил инерции в качестве основного условия подобия можно так же, как для систем жидкости — твердые частицы, в данном случае принять следующее:

$$\frac{U_0}{\omega} = idem (3)$$

Приемлемость этого условия демонстрируется, в частности, и [3,4] применительно к установлению газосодержания в областях рециркуляции в вальце воздуха, захваченного падающей струей, и транспорта его по напорному водоводу. При этом для системы вода - воздух при нормальных условиях рекомендуется принимать $w = 0,25 \frac{M}{c}$. В тех случаях, когда имеется возможность отступить от правила Фруда, условие (52) можно выполнить за счет назначения масштаба U равным масштабу гидравлической крупности.

Условие (3) использовано нами в исследованиях газожидкостных потоков в элементах ядерных перепроизводящих установок на водовоздушных моделях.

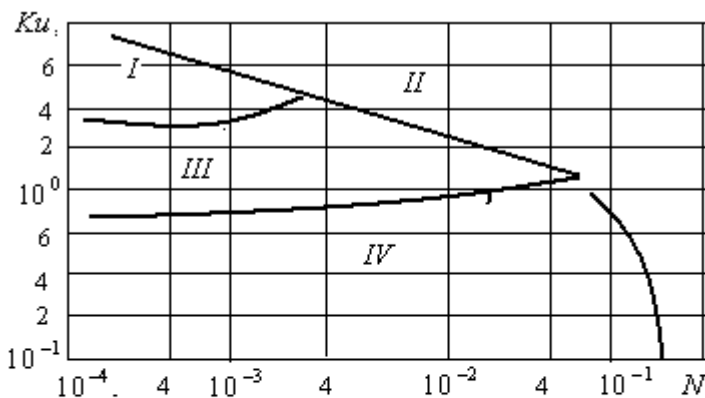


Рис.3. Карта режимов течения газожидкостных потоков в вертикальных трубах. I - устойчивое пленочное течение; II - неустойчивое пленочное течение на стенке и эмульсионное - в центре трубы; III - пенообразное течение; IV - пузырьково-снарядное течение.

Одной из задач исследований была оценка распределения паросодержания в водяном объеме горизонтального сепаратора пара [2,5]. По литературным данным было принято, что средняя гидравлическая крупность пузырей пара в нем в натуре $P = 7 \text{ МПа}, T = 270^\circ \text{ C}$ составляет примерно 0,3 м/с, а для модели (техническая вода и атмосферный воздух при нормальных температуре и давлении) - 0,25 м/с, т. е. $M_w \approx 1$. На рис. 6.8 представлено распределение



истинного объемного газосодержания в водяном объеме на модели в зависимости от масштаба скорости M_U . Здесь же приведены сведения о распределении паросодержания, полученные на специальном стенде, воспроизводящем секцию сепаратора пара в натуральных размерах. Как следует из графика, достаточно точное соответствие результатов получено при $M_U \approx M_w$. Использование водовоздушной модели вместо пароводяной позволило существенно упростить проведение исследования, получить большой объем информации и выбрать оптимальные инженерные решения [3,5].

Применения водовоздушной модели для исследования пароводяной системы является изучение закономерностей естественной циркуляции в корпусном водоводяном реакторе. Исследование, выполненное с использованием соотношения (3), позволило определить тяговые характеристики контура при существенно пространственном течении, условия захвата пара в опускные каналы, рекомендовать инженерные решения, повышающие качества контура естественной циркуляции. Основные закономерности течений, полученные на модели, подтвердились опытом эксплуатации корпусного кипящего реактора. Некоторые результаты исследования представлены на рис. 2.

Существенная часть инженерных задач в энергетике связана с газожидкостными течениями в трубах. Многие практически важные характеристики при этом связаны с тем, какой режим течения (расслоенный, пузырьковый, снарядный, кольцевой, дисперсный и. т. д.) реализуется в рассматриваемом случае.

Поэтому при моделировании течений в трубах, прежде всего важно воспроизвести реальные режимы. Для установления областей существования тех или иных режимов в динамике двухфазных систем используются так называемые карты режимов течения, на которых отмечены границы названных областей в зависимости от двух безразмерных комплексов. Применении такой карты является рис.3. на котором отмечены области режимов вертикального газожидкостного течения в цилиндрических трубах диаметром D в координатах Ku и N :



$$Ku = \frac{\rho_2 V_0}{\sqrt{g \sigma (\rho - \rho_2)}} - \text{критерий Кутателадзе};$$

$$N = \frac{V_0 D \sqrt{g} (\rho - \rho_2)}{4 \sqrt[3]{\sigma^4}} \left[\frac{\sigma}{g (\rho - \rho_2) D^2} \right]^{1,25} \left\{ 1 + \frac{31}{\left\{ \frac{1}{\rho} \left[\frac{\sigma}{g (\rho - \rho_2)} \right]^{\frac{3}{2}} \right\}^{0,55}} \right\}$$

Вывод: Указанные комплексы надежно определяют существование режимов течения, то они могут быть приняты и качестве критериев подобия.

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THE INDO-PACIFIC BELT QUADRILATERAL CRUSADE

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ABSTRACT

The term "Indo-Pacific" refers to a hypothetically crucial and continuous tactical area including the Western Pacific and Eastern Indian oceans. The Quadrilateral Security Dialogue (Quad), which includes Australia, India, Japan, and the US, has defined a harmonious and unifying idea that recognises each country's uniqueness and singularities in their stance toward the Indo-Pacific framework on the realms of conflux. It goes hand in hand with the concept of the genesis. Naval security continues to serve as an anchor for this outlook, but there is a movement toward constructing the Quad's vision in a way that is more generic and relevant to the expanding global geopolitical crises. By achieving this goal, the Quad will be able to present an unambiguous plan and a game plan with appropriate variety at future summits.

HISTORY OF QUAD

The "Tsunami Core Group," which was reportedly an ad-hoc body created in response to the destructive "Boxing Day Tsunami" in 2004, was the focal focus of the QUAD's founding. The four nations are well equipped to coordinate tsunami relief quickly. As a result, they grew larger to meet obstacles.

As Tar, the foreign minister of Japan, proposed the idea of a broad "arc of freedom and prosperity" in November 2006, encompassing the Caucasus, central Asia, north-east Asia, Turkey, central and eastern Europe, and the Baltic states, and enclosing the leaders of those nations with the values of liberty, democracy, a market economy, the rule of law, and respect for human rights. The Prime Minister of Japan, Abe Shinzo, referenced the conjunction of the two seas theory during a speech he gave in front of the Indian parliament in August 2007. This theory is essential for a downright evolution of Asia into a clear network extending across the entire Pacific Ocean, including the US and Australia, and enabling people, goods, capital, and knowledge to flow effortlessly. Then-Indian Prime Minister Shri Manmohan Singh recognised during his visit to Tokyo that both his country and Japan were eagerly awaiting the start of a mutual discussion with a number of "like-minded countries in the Asia-Pacific area" to address the fundamentals of "common interest". Following the assent of the Australian Prime Minister and US Vice President, the dialogue was then given a boost by India's Foreign Minister, Shri Pranab Mukherji. As the ASEAN Regional Forum, only Manila hosted the inaugural QUAD conference in 2007. (ARF). The first QUAD military exercise, which was an expanded version of the US-India MALABAR series, took place later that year in the month of September. The same year also saw the second MALABAR exercise, which involved the Singaporean Navy and took place in the Bay of Bengal. The connection between exercise participants and drill teams during multi-carrier operations and sea control is what stands out. Despite all, QUAD encountered

several unavoidable difficulties in its early stages. Australia chose to withdraw from the QUAD Security Dialogue in 2008 as a result. However, one of the main factors contributing to the collapse of the security conversation was China.

This organisation, however, was disbanded following the task of redemption, restoration, and strengthening; still, the QUAD is intended to deal with the many regional issues.

QUAD 2.0

Recent Chinese behaviour and operations have induced a sense of urgency and opened the way for Quad 2.0's foundational stage. Between QUAD 1.0 and 2.0, a decade passed, providing more than enough time to strengthen ties with the four nations and further time for Asia's tactical stability to increase. The spread of intra-QUAD discussions to the political sphere and the development of conservative joint exercises into tiny joint venture agreements supported the QUAD Nations' advancing paradigm between QUAD 1.0 and 2.0.

The US-Japan-India-Australia meeting in March represents one of the most significant changes to the Indo-Pacific security posture in recent years. It also reveals a clear sprint for the "Quad."

First leader-level meetings of the Quad, the first unified statement from the group, and the first actually large-scale initiative were all firsts at the summit. After QUAD's resurgence in 2017, it started meeting more frequently, including at the level of the foreign minister, but it worked hard to develop a comprehensive story in order to move beyond the ideologically wrapped rhetoric of the Trump administration toward China and to advance Indo-Pacific strategies. The meeting has now reenergized and strengthened the Quad in addition to a comprehensive programme - an innovative vaccines partnership to help Indo-Pacific countries combat a climate change programme, the COVID-19 pandemic, along with the assisting critical and emerging technology, while taking into account the



standards, modulation of equipment and facility suppliers and supply chains. The interim national security strategic guidelines issued by the Biden Administration followed closely on the heels of the Quad Congress. The updated guidance shows a clear desire to compete against China. One of the three main goals is to encourage "a favourable allocation of power" in "important locations". Second, Beijing fears a China-centric regional order, but its assertive foreign policy is boosting the opposition. The irony of this is undoubtedly lost on China's officials, but the recent brutal border conflicts between India and China seem to have particularly overridden India's natural reluctance to push the Quad too far too quickly. Therefore, one obvious—if subliminal—message from the summit is that the Quad members are more determined than ever to counterbalance China's influence in the Indo-Pacific. The Quad will continue to have limitations. It is not an alliance, it is not expected to get institutionalised much, and it is not likely to gain any more members soon (more likely are ad hoc, issue-based coalitions with the Quad at their core). Each member must manage a multifaceted, intricate relationship with China that includes important economic interests. India will probably still want to control how quickly the Quad develops, despite the fact that Modi's approval of the summit sends a positive message to his customarily risk-averse foreign ministry. India will become more at ease with a stronger and more focused Quad that has goals beyond only opposing China as the focus is on regional issues like the pandemic and climate change. Despite these reservations, the Quad meeting shows more clearly than any other recent event how swiftly the Indo-Pacific area is evolving, how regional alliances are changing, and how much competition with China will influence the future.

OBJECTIVES

The Quad was created with the intention of preventing any military or political influence on the important maritime lanes in the Indo-Pacific. Essentially, it is viewed as a strategic alliance to lessen Chinese dominance. Securing a worldwide order based on laws, freedom of navigation, and a free-market trading system is the main goal of the Quad. The group also wants to provide governments in the Indo-Pacific region with alternative debt funding.

THE INDIAN OCEAN

An growing geostrategic and geoeconomic notion that has grown in importance in the international sphere is the Indo-Pacific region.

In our perspective of the world, the Asia-Pacific region has almost entirely replaced other regions. In order to better manage these dynamics, new alliances and gatherings, such as APEC and the East Asia summit, were created. The Indo-Pacific Concept is not meant to replace the Asia-Pacific; rather, it is meant to highlight the fact that, at least for certain purposes, we need to be thinking about a wider geographic realm and broader range of interconnections (Brewster 2016). Additionally, the expansion of ports due to the world economy's strong growth

has increased the strategic importance of the Indo-Pacific region and opened the door for more intense strategic competition amongst the major players. Thus, the American preference for the term "Indo-Pacific" over "Asia-Pacific" is a highly intriguing development. Perhaps the word "Indo" is making a comeback, and in this formulation, India is considered as being significant for the new century. This is similar to the notion of "Heartland" and "Rimland" as defined by the geographers.

The Indo-Pacific is defined variously by the four capitals of the Quad. The western Indian Ocean is neatly divided off by the Indo-Pacific area, which, according to the US National Security Strategy, "stretches from the west coast of India to the western coastlines of the United States."

The area shown on the regional map on the 2017 Australian Foreign Policy White Paper's front cover only barely encompasses the farthest western tip of India before arcing southward to largely omit the western Indian Ocean.

CHINA EFFECT

In 2010, China became Asia's largest economy. Bilateral tensions between China and the Quad nations have risen since 2013, when Xi Jinping became China's president.

China's economic, political, and military rise is one of the 21st century's defining characteristics, along with the rise of US-China strategic competition or rebalancing strategy. The new capabilities that state and non-state actors acquired, unchecked by institutions or habits of cooperative behaviour, have all contributed to the pervasive sense of uneasiness (Menon 2017). Furthermore, it is made quite evident that China's ascent is rapidly changing the geostrategic dynamics in the area. China aspires regional hegemony in the Indo-Pacific in the short term and eventually global preeminence in the long term as long as it maintains its economic and military dominance (DOS, USA 2019).

Based on recent events, it is clear that the USA and China do not hold the majority of power in the Asia-Pacific region today, nor are they able to work together to impose security order or resolve disputes. There is talk of the Thucydides trap for China and the USA, where the fear of rising powers leads to conflict with established hegemony. Cases of this kind have occurred frequently over the past 500 years (Allison 2015). But if there is security to unlock the Thucydides trap for China and the USA, it lies in Asia and its security architecture, and India-China relations are casually centred to Asia-Pacific Security (Menon 2017).

China outpaces each member of the Quad but is militarily inferior to them all combined. By systematically diminishing the ability of ASEAN to stand as one against China in the territorial conflict, China has already enacted a "divide and rule" approach in the South China Sea. Instead, it is working separately with ASEAN members. In a similar vein, China is adamantly opposed to the management of Indo-Pacific security issues by a coalition of other regional powerhouses, particularly India and Japan. In the absence of an alliance with the US, China anticipates being able to resolve its boundary conflicts with



Japan and India on its own terms. A military Quad is the last regional instrument to thwart China's regional and international ambitions because if and when China becomes a revisionist state, the neighbouring nations will inevitably create a military alliance against it.

PROJECT ONE BELT ONE ROAD

China's ambitious One Belt One Road initiative aims to connect and foster cooperation with numerous nations that are mostly scattered over the three continents of Asia, Europe, and Africa. It includes over 80 nations.

It entails developing systems of highways, railroads, ports, power grids, oil and gas pipelines, and other associated infrastructure projects. China has taken the initiative to resurrect the old Silk Road, which helped the member nations of this association thrive socially and economically. There are numerous sub-plans that make up One Belt One Road, including CPEC (China Pakistan Economic Corridor), Bangladesh-China-India-Myanmar, the 21st Century Maritime Silk Route, etc.

The "Quad," or the four nations, have joined forces to try to come up with a shared strategy for dealing with China. These four nations struggle to formulate a cogent and consistent strategy toward China because of their domestic interests. For all of these economies, a stable relationship with China is essential. As a result of their unease with China's resurgence, various conservative groups within the "Quad" frequently wage political or intellectual campaigns against the reemerging nation because it does not entirely share their beliefs.

INDIA

An growing geostrategic and geoeconomic notion that has grown in importance in the international sphere is the Indo-Pacific region. The way India responds to this new geostrategic environment will determine how important it is to the Indo-Pacific region and how important it is to India in the QUAD alliance. Physical boundaries have been established and the significance of ensuring safe seas for trade and the unimpeded movement of trade energy has increased due to globalisation, trade dependence, seamless connectivity of the maritime domain, and the changing nature of the maritime threat becoming more global. These events also happened at the same time as China's spectacular ascent. Its aggressive strategic and economic initiatives, such as the Belt and Road Initiative, have challenged the conventionally international rules-based system that respected the oceans as the common heritage of humanity. These initiatives include its territorial claims in the South China Sea and the East China Sea as well as its quick advance into the Indian Ocean. The maritime sector has always played a significant role in building new and emerging powers and determining regional dynamics. Today's fierce power struggle is no different. As recently acknowledged by India and Australia, "many of the future difficulties are expected to originate in and emanate from, the maritime domain," underscoring the maritime space's resurgence as the arena for geopolitical competition. In 2019, Prime Minister Modi expanded on SAGAR by

announcing the "Indo-Pacific Oceans' Initiative" during the East Asia Summit in Bangkok. India intends to use this Initiative to support the development of a rules-based regional architecture supported by seven pillars: disaster risk reduction and management; capacity building and resource sharing; science, technology, and academic cooperation; trade connectivity; and supply chain management. India has taken action in accordance with these principles through regional and thematic initiatives. India is dedicated to enhancing security and freedom of navigation in the Indo-Pacific by acting as a net security provider, such as in Gulf of Aden anti-piracy operations or peacekeeping initiatives. We have developed partnerships with partner nations across the region by sharing what we can in terms of tools, instruction, and training. In addition to the QUAD, we participate in networks like the trilateral agreements between Australia, Japan, and India, as well as France, France, and Australia.

Indian policy in the Indo-Pacific area reflects its stakes in the current balance-of-power situation, where it is necessary to take into account essential powers, particularly global powers, in order to advance national objectives. The conflicts over regional/subregional stability and security go much beyond the idea of balance of power, thus it would be incorrect, in my opinion, to consider the Indian worldview solely in terms of balance-of-power interactions. Given the propensity of one ocean's (the Pacific) developments to influence another's (the Indian), there is a need to create an adequate formal setup that does not currently exist or is insufficient to effectively handle these concerns. Lack of strategic trust, institutional weaknesses, and the sheer volume of system-weakening threats—such as those caused by climate change, state instability, the revolution in military affairs, and technological change—make it difficult to mobilise an effective response. India must traverse these obstacles by carefully partnering with other powers and utilising its resources and goodwill across a significant portion of this enormous region.

US

The battle between the US and China on a worldwide scale in areas including ideology, commerce, technology, cyberspace, economics, and security has been of particular concern to the US. Because of this, it has given the Indo-Pacific area top priority and included it in its National Security Strategy for 2017. 10 The release of the Indo-Pacific Strategy Report in 2019 came after that, and it indicated an ongoing commitment to a FOIP. 11 The 2019 report highlighted Beijing's efforts to undermine the global rules-based system and labelled China as a revisionist force with predatory economic and coercive tactics. Additionally, it described Russia as a revived bad actor that was also weakening the global system of rules. The South China Sea, the East China Sea, and East Asia have received most of the US's attention in the Indo-Pacific region. In addition to its economic rivalry with China, the US also faces political and diplomatic difficulties, such as China's influence in multilateral organisations, the growing popularity of state-led authoritarian



capitalism, acrimonious power struggles, manipulative narratives, and aiding the decline of democracy. 12 The US is also aware of the changing Indo-Pacific power dynamics and China's expanding military capabilities. 13 In order to support Taiwan and get ready for any military escalation in the Taiwan Strait and Luzon Strait, it has increased its activities in these areas. As a proven tactic for China's gradual annexation and harassment of the South China Sea, grey-zone actions by the People's Armed Forces Militia have been highlighted. 14 The US also wants to improve ties with partners and allies who share its values on an economic, military, and governmental level. Washington, a fervent supporter of the Quad, is eager to increase the military component of the alliance. 15 However, it acknowledges the limitations that now exist—and the necessity to broaden the popularity of the Quad—in order to benignly promote stability. As a result, it has strengthened bilateral ties with the other Quad members, revitalising military alliance arrangements with Australia and Japan in particular. Both nations are conducting a bilateral force posture assessment, and it has begun to deploy and position military equipment in northern Australia. 16 The US is also striving to dispel the notion that it wants to utilise the Quad to maintain its control and extend its power.

AUSTRALIA

Geographically speaking, Australia has a secure environment, but worries about the rise in diplomatic, trade, and security tensions with China have become more prominent recently. It was one of the first nations to assert the legal force of the Permanent Court of Arbitration's 2016 ruling, which rejected China's earlier claims to the South China Sea. It was also the first nation to prohibit Huawei from using the 5G network due to national security issues. 23 Since Canberra implemented the legislation against foreign meddling and Beijing replied by "weaponizing commerce," Australia's relations with China have deteriorated rapidly. The situation has worsened in response to requests for an impartial investigation into the COVID-19 pandemic's causes. Australia has expressed alarm over allegations of Chinese projects in the South Pacific, such as plans to reopen an airstrip from the Second World War in Kiribati's Kanton atoll and efforts to set up facilities on Vanuatu and the Solomon Islands. 24 A Darwin facility's lease to a Chinese corporation is also being examined. 25 The strategic economic talks between China and Australia was put on indefinite hold in May 2021, and for the first time in decades, talk of a potential war between the two nations entered the public sphere.

JAPAN

The Indo-Pacific architecture and the FOIP, which former Prime Minister Shinzo Abe formally unveiled in August 2016, are strongly supported by Japan.

17 Additionally, changes in the region have directly led to a revision of Article 9 of Japan's constitution, which forbids war, and efforts to depart from the unwritten convention that

limits defence spending to 1 percent of GDP. Since about 2010, Japan has perceived China as a greater threat due to historical animosity and rising Chinese assertiveness. As a result of the dispute over the Senkaku/Diaoyu islands' sovereignty, Japan successfully persuaded the US to acknowledge that the US-Japan Mutual Defense Treaty's Article 5 covers the islands' defence. 18 It is also extremely concerned about how the military actions in the East and South China Seas and near Taiwan are developing. Japan is eager to include deterrence and response plans against grey-zone operations in the alliance coordination mechanism with the US. 19 Because of China's efforts to change the regional status quo, the Japanese Defense White Paper 2020 implied that its military forces will play a greater role. 20 Japan has increased its commercial ties with the region's nations and organisations, especially with Australia and the Association of Southeast Asian Nations (ASEAN).

It joined the Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership through delicately balanced near-parallel discussions. The US, Japan, and Australia also agreed to exchange military data in October 2016. 21 In the past ten years, there has also been a notable improvement in relations between Japan and India. Japan has worked to appropriately align the group's goals because it believes the Quad can be a key pillar for advancing the FOIP concept. It also supports a shift to a proactive security posture in the area under a multilateral framework. 22 Japan and India have the same opinion of the Indo-boundaries, Pacific's which are defined as extending from the west coast of the Americas to the east coast of Africa and the Persian Gulf, but Japan's strategy has been more in line with the urgent needs in East Asia.

FUTURE POSSIBILITIES

What are the chances for the Quad? A goal-related challenge currently faces us. The Quad is frequently criticised for lacking a clear mission or substantial objective. 32 Furthermore, none of the goals offered as justifications for uniting the four states belong exclusively to the Quad. For these goals, the region already has additional actors and organisations (e.g. ASEAN-based bodies). The Quad partners need to be able to more clearly explain why they are working together. 33 However, the four states have so far produced a situation in which the Quad's potential advantages are hazy but its disadvantages are plain to see. Attempting to limit Chinese influence, according to Benjamin Zala, "is a very serious negative." 34 In fact, the lingering sense of strategic containment could easily thwart low-key initiatives. For instance, better disaster policy coordination could be thwarted by disputes related to Sino-American rivalry. 35 However, it may now be impossible to sidestep the strategic perceptions surrounding the Quad's ostensible balancing function. This casts doubt on the advantages of encouraging Chinese participation in the Quad. 36 Furthermore, it implies that the Quad's

The logic—or lack thereof—of an emerging Indo-Pacific strategic geography will have the biggest impact on prospects. The idea that a more integrated maritime geopolitical complex is



evolving, one that connects the US, China, and India across the Indian and Pacific Oceans, is where the Indo-Pacific concept can be found, assuming it has any strategic worth at all. 37 The Quad might perhaps assist in their institutionalisation if these connections turn out to be significant. Southeast Asia, particularly Indonesia, is the pivotal geopolitical intersection between the Indo and Pacific subregions. Both the most complicated maritime territorial dispute in the area and its main trade lanes border Indonesia. Additionally, it is democratic, a rising power, and its relations with China are hazy. The updated dialogue's effectiveness as a new component of the Indo-Pacific strategic architecture may be increased if it switched from its "quadrilateral" format to a "pentagonal" one. Indonesia, meanwhile, is usually missing from discussions of the Quad. 38 Its own ambivalence toward the alliance, inclination for non-alignment, or desire to keep at least a friendly relationship with China may be to blame for this. 39 Indonesia's current absence highlights the Quad's underdeveloped state as well as the ongoing concerns about whether the Indo-Pacific is, in fact, a single, coherent region. The Quad is still a concept whose time has not yet arrived.

SUMMIT IN 2023

Australia will host the next physical summit of the Quadrilateral, which will take place in 2023.

CONCLUSION

To summarise the discussion: the Pacific Century cannot simply be an Asian one; it must be based on more than just economic growth; it cannot happen without American assistance; it also still faces a number of intra-regional problems that must be resolved; In summary, the original idea of the Pacific Century is both a myth and a reality (Rumley 2003). In order to balance the power politics amongst the actors' shared interests in the region, the Indo-Pacific is regarded as the most important region in the international arena. A non-official organisation known as the Quadrilateral Security Dialogue was created as a result of the absence of institutional framework. Maintaining the rule-based order in the regional maritime security architecture is the major goal of this framework. The Indo-Pacific essentially envisions new frameworks with the competing and convergent security objectives that are apparent in light of the transfer of global power to the region. The pivot of the Indo-Pacific area is crucially determined by the maritime powers, including the United States, Australia, China, Japan, and India. In order to further their own national objectives, they simultaneously try to dominate and persuade one another. And over time, as both India and China's wealth, interests, and power grow, the two nations are increasingly interacting with one another in the maritime domain; taking into account all the potential opportunities and challenges, how India and China will get along in the shared Indo-Pacific Space may be one of the key strategic challenges of the 21st century. They may cooperate, coexist, compete, or engage in confrontation.

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CHINA'S DISPERSED PEARLS: HOW THE BELT AND ROAD INITIATIVE IS RECLAIMING THE "STRING OF PEARLS"

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The phrase "String of Pearls" was first used in a 2004 report by the US consulting firm Booz Allen Hamilton titled "Energy Futures in Asia." ¹ It was said that the region's friendly nations should build infrastructure to enable an unimpeded flow of energy through the Indian Ocean. The Belt and Road Initiative (BRI), which was introduced by the Chinese president Xi Jinping in 2013, effectively reclaimed the Western narrative of a strategic string of pearls and therefore legitimised China's century-old global connectivity scheme. From the contentious Hambantota Port in Sri Lanka to China's naval station in Djibouti, Beijing has since grabbed headlines with its large investments in maritime infrastructure.

In its drive for supremacy in the Indian Ocean region, China has not stopped at funding the Maritime Silk Route projects, according to a closer examination of the country's growing connections with island and littoral states in the area. Instead, Beijing has taken things a step further by using Chinese state-owned firms and other Chinese organisations to construct and fund more important infrastructure in the area. Periodic high-level visits, gatherings, and trade deals have helped China strengthen its political and economic connections. Beijing has embraced a soft-power strategy that includes generous development assistance, interpersonal and cultural links, and most recently, vaccine diplomacy in the strategically important region. China sent medical teams to Madagascar, sent an experimental medication to eradicate malaria in the Comoros, and held joint naval exercises with Pakistan in the Arabian Sea while the rest of the world was debating China's debt-trap diplomacy. Beijing is gaining governments' support and persuading people to extend China's influence in the Indian Ocean region much further than what was originally planned as the String of Pearls.

The unfavourable conceptions of Chinese expansionism in the Indo-Pacific have received a lot of attention in Western media, which has also referred to Chinese investments in the Global South as "debt traps." As a result, Western governments and media frequently ignore the complexity that certain Chinese involvements in the Global South have really contributed positively to numerous Indian Ocean nations. Despite the fact that these narratives affect how the developing world views China, the nations of the Global South have continued to forge closer connections with that country. The West won't be ready

to confront China's rapidly expanding footprint in the Indian Ocean region unless China's nonregional rivals look beyond their own narrative of a China that is practising "chequebook diplomacy."

With their strategically located naval bases, the nations that were once seen to be a part of the String of Pearls easily fit into the BRI. When one closely examines Chinese activity in the Indian Ocean, it becomes clear that China's interest in the region extends beyond obtaining high-risk investments or key locations, but also includes establishing long-term strategic ties with the governments and people of these countries. One might contend that Beijing has expanded beyond what was initially thought of as a few strategic outposts in the Indian Ocean to secure China's trade and energy supply routes to a grander vision of being a global power that can project power in nations on the other side of the globe, particularly under the BRI. So, it could be argued that China's interest in the Indo-Pacific extends beyond just protecting trade routes or even just ensuring a strategic presence. The developing countries of the Global South will find China to be "an all-weather friend" and "a preferred development partner" if the West persists with the narrative of a debt trap and fails to take the growing expansionism in China seriously. Strategic outposts, expanding markets, and stronger people-to-people ties are just a few of the benefits China would receive in return, all of which would be threats to the current global order that the West and its allies are trying to preserve. The case studies that follow, which range from Djibouti in East Africa to Myanmar in Southeast Asia, only scratch the surface of China's expanding regional influence. They serve to highlight China's growing Indo-Pacific engagement.

CAMBODIA

A secret pact between China and Cambodia that grants China access to the strategically positioned Ream Naval Base in the Gulf of Thailand for 30 years with annual automatic renewals prompted worries in 2019 according to a Wall Street Journal story. The Cambodian government has strenuously refuted allegations of a covert agreement with China, but it has destroyed portions of the naval base that were originally constructed with American assistance in the name of expanding the base. Ream Naval Base improvements and expansion are supposedly supported by China. According to the Prime



Minister of Cambodia, China would not have exclusive access to the Ream Naval Base and the Cambodian Constitution prohibits the establishment of foreign military bases there. Regional powers worry that Ream could end up being utilised by China as a dual-use facility, or a port that serves both military and civilian needs, given China's role in developing the military base.

MYANMAR

While China's engagement in Myanmar has increased dramatically over the past ten years, under the recently deposed State Counselor Aung San Suu Kyi, bilateral connections have accelerated, despite certain difficulties. President Xi visited Myanmar in January 2020 to commemorate 70 years of diplomatic ties between the two nations. The two sides signed a record 33 memoranda of understanding (MOU) and agreements during the first visit by a Chinese president to the southern neighbour in nearly 20 years. These agreements covered a variety of topics, including infrastructure development, industrial and power projects, railways, trade, investment, and human resources.

China had invested \$21 billion in Myanmar through foreign direct investments (FDI) as of March 2020. Myanmar also joined the Regional Comprehensive Economic Partnership (RCEP), a free trade agreement (FTA) among 15 countries in the Indo-Pacific, in November 2020. Beijing has achieved a significant geopolitical win since the RCEP will enable China to profit from increased regional economic integration.

The deal for the Kyaukphyu Special Economic Zone and Deep Seaport Project, which is intended to give China a backdoor to the Indian Ocean, was one of the most important accords reached between the two nations during President Xi's visit last year. Through Kyaukphyu deep seaport, the BRI's China-Myanmar Economic Corridor will link China's Yunnan Province to the Indian Ocean. The Kyaukphyu deepwater port project will be carried out by a Chinese joint venture business with approval from the Myanmar government in August 2020. Concerns have been raised about Kyaukphyu becoming a Chinese facility in the Bay of Bengal given that China's CITIC Myanmar Port Investment Limited owns a 70% part in the joint venture.

BANGLADESH

In 1975, Bangladesh and China established diplomatic ties. Although China initially refused to recognise Bangladesh as an independent state, bilateral ties have since improved, and according to Bangladeshi academic Prof. Imtiaz Ahmed, "now, there are practically any anti-Chinese in Bangladesh, which is a great improvement."

Bangladesh's military employs Chinese fighter jets, Chinese tanks, and Chinese frigates, similar to the services of many other nations in the area. Bangladesh received two submarines from China in 2016. China is currently assisting Bangladesh in building its first submarine station in Cox's Bazar and training Bangladeshi personnel to staff the site and operate the submarines. It's interesting to note that according to

Bangladeshi officials, China has no plans to use the base. In addition to expanding its naval infrastructure, China provided loans totaling \$1.7 billion in 2019 to Bangladesh for the country's sole electricity sector. With an estimated \$12 billion in yearly bilateral trade, China is one of Bangladesh's main commercial partners.

Bangladesh signed numerous BRI agreements in December 2016. The Payra Port's extension and development, which cost \$600 million, was one of these important projects. China State Shipbuilding Corporation was awarded a \$120 million project in 2020 to transform the Payra Port into a significant deep seaport. Sheikh Hasina, the prime minister of Bangladesh, also said in 2019 that the two biggest ports in the nation, Chittagong and Mongla, will be open to use by the southwestern provinces of China in addition to India. As a result, Bangladesh has virtually allowed China access to all of its important ports.

SRI LANKA

Perhaps no other nation has faced the level of international backlash that Sri Lanka has because to its thinning connections with China. Relations between China and Sri Lanka now have existed for more than 50 years. In 1950, Sri Lanka was one of the first nations to acknowledge the Chinese Communist Party (CCP) as the nation in power, and the two nations went on to sign the illustrious Rubber-Rice Pact two years later. The ban and embargo that Western countries had placed on China were lifted in part thanks to this accord. For more over 60 years, Colombo and Beijing have enjoyed close cultural, economic, military, and technical relations. By providing the Sri Lankan government with aircraft, ships, weapons, ammunition, and rockets in exchange for cash or for lenient loans during the war, when many nations had put sanctions on providing military assistance to Sri Lanka, China played a crucial role in helping to put an end to the civil war there in 2009.

Up to 20 bilateral agreements were signed between China and Sri Lanka during President Xi's visit to the island nation in 2014. These agreements covered a variety of topics, including power, industry, sea reclamation, and water supply. China has been Sri Lanka's greatest development partner, working on projects for its transportation infrastructure, including its ports, airports, and roadways. Chinese FDI in Sri Lanka had topped \$7.3 billion by the end of 2018. China remains one of Colombo's major trading partners, with annual trade between the two countries totaling around \$4 billion. In 2019, China accounted for the majority of Sri Lanka's imports. Yang Jiechi, a CCP politburo member and former foreign minister, visited Sri Lanka in October 2020, marking what was thought to be the first overseas trip by a senior Chinese official to South Asia following COVID-19. He did so to express China's importance for Sri Lanka and to announce a \$90 million grant for healthcare, education, and water supplies in the nation's rural areas.



In the maritime sector, China Harbor Engineering Company, which has ties to the Chinese government, is constructing a \$1.4 billion Port City on 269 hectares of reclaimed land next to the Colombo Port, which is thought to be one of South Asia's best connected ports in exchange for the right to share some of the land. It will enlarge Colombo, Sri Lanka's commercial hub, and be governed by a different set of laws, including alluring tax breaks that are allegedly beneficial to investments and business operations. Furthermore, China Merchants Port Holdings Company, which owns an 85% share in the Colombo International Container Terminal (CICT), one of the port's busiest terminals, is under its control. It is the only deepwater terminal in South Asia with a draught of 18 metres that can accommodate the largest ships in the world. Up to 40% of the Colombo Port's total volume was handled by CICT in 2019.

The Hambantota Port In Sri Lanka was eventually constructed with Chinese funding after being initially turned down by both India and the United States. It received harsh criticism both domestically and abroad for being a former president Mahinda Rajapaksa's "white elephant" project and the embodiment of China's debt-trap diplomacy. Huge Chinese loans were used to construct the port. The first phase of the project was financed by a \$306 million commercial loan with a 15-year term and a 6.3 percent interest rate, while the second phase was funded by a \$600 million loan from the Exim Bank of China and a Renminbi Yuan 1 billion concessional loan from the Chinese government. In 2017, the port was leased to China Merchants Port Holdings Company for \$1.1 billion with a 70% ownership for 99 years because it failed to provide the promised return on investments and Sri Lanka could no longer pay the loan.

Hambantota is of strategic importance to China. Indonesia and the eastern coast of Africa are both equally distant from Sri Lanka. One of the busiest shipping lanes in the world, where 275 ships pass daily, is less than 20 nautical miles from Hambantota Port. Hambantota is a key component in the equation because China also imports large quantities of bulk energy and other supplies from Africa. As a result, it is crucial to secure China's sea lanes of communication (SLOC).

MALDIVES

President Xi became the first Chinese head of state to visit the Maldives in 2014, shortly after announcing the BRI a year earlier. The archipelago of islands was once more well-known as a honeymoon destination than a strategic location. Since then, China's involvement in the Maldives has rapidly increased, leading to significant Chinese infrastructure investments like the \$200 million construction of the famous China Maldives Friendship Bridge, also known as the Sinamale Bridge, and the expansion of the Velana International Airport. The bridge, which connects the islands of Hulhulé and Hulhumalé to the nation's capital city of Malé, was the nation's first over-the-water structure.

There are rumours that the people who lived on the Gaadhoo island in the southern Laamu atoll of the Maldives were relocated to the nearby Fonadhoo island so that China could build the Gaadhoo Port nearby the "One and Half Degree Channel," which divides the northern and central atolls of the Maldives from the southern atolls and is situated close to the SLOCs between Africa and Asia. The PLAN cruiser Chang Xing Dao visited the port of Malé in 2014 to deliver fresh water amid a plant failure, and three Chinese warships paid the Maldives a five-day goodwill visit in 2017.

China completed a social housing construction project in the Maldives in 2020 that included 16 residential structures with as many as 7,000 apartment units, housing almost 30,000 of the 540,000 inhabitants. Additionally, China decided to forgive \$25 million of the \$100 million official debt that the Maldives had to pay to China last year. Additionally, given that China sends some 300,000 tourists to the Maldives each year, a number of Chinese businesses have leased islands there to develop resorts.

PAKISTAN

Since 1951, when Pakistan recognised the PRC, the two nations have maintained a close bond they refer to as a "iron brotherhood." China has given Pakistan significant economic, military, and technical support, leading to the development of a strategic alliance between the two nations.

A nine-day combined naval exercise between the fleets of Pakistan and China was finished in the Arabian Sea in January 2020. This particular joint exercise was the sixth. General Wei Fenghe, China's military minister, visited Pakistan in December 2020, and the two nations inked an MOU to expand their relations. China has been Pakistan's top defence supplier for the previous ten years.

Pakistan is geographically significant because it connects western Chinese regions through Xinjiang to the oil-rich Middle East through Gwadar Port, which can reduce transportation costs and distance for shipping goods overland through Pakistan. This is similar to Myanmar, which connects southern China to the Indian Ocean. Additionally, there are long-term ambitions to link Gwadar Port to the Central Asian nations, which have abundant gas and energy resources.

Another strategic gem for China is the isolated Balochistan region of Pakistan's Gwadar Port, which is close to the Strait of Hormuz. Chinese Overseas Port Holdings Limited runs the port, which is controlled by the Gwadar Port Authority, a government-owned entity in Pakistan. The Gwadar Port, which is a crucial component of the \$62 billion China-Pakistan Economic Corridor (CPEC), which connects Pakistan to Xinjiang, received more than 80% of its \$248 million development cost from China. In order to increase connectivity between China and the Middle East, the CPEC also entails plans to build oil pipelines, rail, and road links.

China's expanding relations with Southeast and South Asian nations like Cambodia, Myanmar, Pakistan, Bangladesh, Sri Lanka, and the Maldives are frequently highlighted in the media, particularly in the West, but little attention is given to



China's expanding influence in the island nations of the Indian Ocean off the coast of East Africa. Despite China's presence in Djibouti, these islands are strategically significant for China to protect the SLOCs in the congested Hormuz Strait and Bab-el-Mandeb Strait as well as between Africa and Asia. China has aggressively increased its ties with these Indian Ocean islands, especially over the last ten years.

SEYCHELLES

China and the Seychelles have had diplomatic links for 45 years, and there has been a development in their mutual understanding on economic, trade, educational, and cultural matters. Numerous infrastructure projects in the nation, including the National Swimming Pool, the National Assembly Building, the Palais de Justice, the Anse Royale Hospital, and the Glacis Primary School and Crèche, have received funding and grants from China.

The La Gogue Dam Project, built by Sinohydro Group Limited and intended to increase water security in the nation, and the Seychelles Broadcasting Corporation facility, which is funded by a grant from the Chinese government, are two of China's major projects in the nation. He emphasised China's commitment to work with Seychelles to boost the development of BRI projects in January during the visit of the Chinese state councillor and foreign minister Wang Yi. The Chinese foreign minister announced gifts totaling \$11 million during the visit, including \$4.6 million for a project promoting green energy. China also gave Seychelles multiple batches of anti-epidemic supplies during the COVID-19 pandemic, which was crucial in Seychelles' fight against the disease.

Soldiers from the People's Defense Forces of the Seychelles have received training from China, and Chinese naval warships have frequently called on Victoria Port in the Seychelles. Additionally, PLAN personnel took part in Seychelles' national parade for the first time in 2013 at that time. Jean-Paul Adam, who was the foreign minister at the time, said that his nation had urged China to establish a military facility in Mahé to combat piracy as long back as 2011. The Chinese Ministry of Defense has chosen to seek supply facilities at suitable harbours in the Seychelles in accordance with escort needs and the needs of other long-range missions, despite the fact that China declined the offer. For China to benefit from dual use of Seychelles ports, they do not necessarily need to be Chinese military bases.

MAURITIUS

Since 1972, China has significantly increased its investments in Mauritius, primarily for the construction of infrastructure. Former Chinese president Hu Jintao proposed the modernization of Port Louis airport and the establishment of a special economic zone as early as 2009, during his historic first official visit to Mauritius. As a result, the Jin Fei Smart City project and special economic zone were created. At a cost of \$188 million, China also constructed the Bagatelle Dam, which is south of Port Louis and is projected to help the city and its

environs satisfy their long-term water needs. In preparation for the Indian Ocean Islands Games in 2019, China assisted the Mauritian government at constructing a multisport facility in St. Pierre.

The FTA between China and Mauritius entered into force on January 1, 2021, making it the first FTA between China and an African nation. By signing up to this FTA, Mauritius hopes to act as a liaison between China and continental Africa. Mauritius may serve as China's strategic gateway to the enormous continent of Africa. With 16.7% of all imports into Mauritius in 2019, China is also the country's top importer. While the trade balance is in China's advantage, what is even more significant for Beijing is the strategic position it gets by forging stronger economic connections with the island nation of Mauritius in the Indian Ocean.

COMOROS

In contrast to other Indian Ocean nations, China's participation in Comoros is somewhat different. Malaria is the leading cause of death for all demographics in this island nation. China started implementing the first stage of the Fast Elimination of Malaria by Source Eradication (FEMSE) initiative in 2007, giving the entire nation an experimental anti-malarial medicine. The initiative is now regarded as China's most effective health endeavour in Africa.

Additionally, China is involved in the construction of hospitals and a proposed airport and has, among other things, offered Comoros-made goods a duty-free market of 1.4 billion people. Most recently, in January 2021, China deployed 48 physicians, virologists, and specialists from Guangxi medical services to Comoros and Niger for an 18-month term to address the escalating COVID-19 issue.

China was the first nation to recognise the Comoros' independence and to open diplomatic ties with them in 1975. Since then, China's investments in Comoros have had a huge impact on the people of the island nation, from mosques, schools, and hospitals to major infrastructure projects like airports. Comoros is essentially a strategic gem for China, with a people who are so appreciative of what China has given them.

MADAGASCAR

China and Madagascar have long-standing cultural relations that go back to the middle of the nineteenth century, when Chinese immigrants began arriving in Madagascar to work on French colonial projects. As a result, there have been many intermarriages, and the country has a sizable community of Sino-Malagasy people.

Since the beginning of diplomatic relations between China and Madagascar in 1972, China has dispatched numerous medical missions to that country. China, however, increased its participation in the largest island off the coast of Africa by investing in infrastructure during the 1980s and 1990s.

Several agreements were signed between the two nations in 2017 during the state visit of the former president of Madagascar, Hery Rajaonarimampianina, to Beijing. These



agreements aim to speed up Chinese investment in the construction of ports, airports, and energy and aviation infrastructure. Madagascar was one of the first African nations to sign an MOU on the BRI, and the two nations forged a close alliance. For many years, China has been Madagascar's top importer, largest commercial partner, and fourth-largest export market.

The building of a 240-kilometer motorway connecting Antananarivo with the port city of Toamasina (Tamatave), which serves as the nation's entryway to the Indian Ocean, is being funded by China. The development of the Narinda Bay deepwater port on Madagascar's eastern coast has also been announced by China. Several Ambodifotatra Port redevelopment projects also involve China.

DJIBOUTI

China established its first overseas military post in Djibouti in 2017, claiming it is there to offer "logistical support" for local counterpiracy and escorting operations. Although several other nations, including the United States and France, also have military presence in the Horn of Africa, China believes that having a naval presence in the area is crucial for a number of reasons, including China's growing trade, investment, and aid in Africa, the crucial trade and energy supply routes connecting Africa, Europe, and the Middle East, which pass through the congested Bab-el-Mandeb strait, and the maritime and security challenges in the area, such as piracy off the coast of Somalia.

China has made significant strategic investments in Djibouti, just as it has in other important places in the Indian Ocean. It has provided funding for the Dolareh Port, an addition to the Port of Djibouti that is situated where international trade lanes linking Asia, Africa, and Europe converge. This multipurpose port is situated in a sparsely populated, less commercially active, but strategically significant region with potential, similar to China's substantial investments in ports elsewhere. Another significant Chinese investment in Djibouti is the modernization of the 756-kilometer-long Ethiopia-Djibouti Railway, which was built by China Railway Group and China Civil Engineering Construction Corporation and received up to 70% of its funding from China for the railway's construction in landlocked Ethiopia.

Since the beginning of the millennium, China and Djibouti have developed a strategic cooperation, and in addition to sharing ports, railways, and free trade zones, the two nations also have strong economic and political links. Ismail Omar Guelleh, the president of Djibouti, has made three trips to China in the past three years, with Wang Yi, the foreign minister of China, making his most recent trip in 2020.

China has easy access to the Red Sea, the Suez Canal, the Persian Gulf, the Arabian Sea, and the farthest corner of the Indian Ocean thanks to a sizable naval facility in Djibouti that would have the capacity to house huge warships and China's new aircraft carriers.

CONCLUSION

China has established a pro-active foreign policy and regularly interacts with all of these Indian Ocean governments through high-profile political visits and diplomatic engagements, as well as through large subsidies and donations, which include COVID-19 medical help and vaccinations. China has established Confucius Institutes or classrooms in each of these nations to help overcome the cultural and linguistic divide. While Confucius Institutes are a contentious topic in the West, they offer Mandarin and martial arts instruction in several African nations, much like the American Centers, British Councils, or Alliance Française do with English, French, and other components of Western culture. Some countries, like the Comoros, also offer courses in engineering and information technology for talent development. As a result of the scholarships given to thousands of students from these nations to attend prestigious Chinese colleges, China has gained popularity and a new generation of Sinophiles.

Building ports, roads, airports, and other facilities is only one aspect of infrastructure projects; others involve connecting people, enhancing their quality of life, and facilitating their means of subsistence. There are numerous successful Chinese investments throughout the Indian Ocean region, including the Sinamale Bridge in the Maldives, the Colombo International Container Terminal, and the Southern Expressway that connects Colombo to southern Sri Lanka, and millions of people are appreciative. Their governments and leaders view China as an all-weather friend.

The debate above is not meant to downplay the serious concerns that exist about China's expanding political, economic, and culturally ties in these nations, from Cambodia to Madagascar. It is also not a thorough analysis of China's bilateral relations with any of these nations. Furthermore, none of these nations have tolerated Chinese presence without opposition or criticism. There are accusations that China has violated labour and human rights, over-extracted natural resources, degraded the environment, supported dishonest authorities, influenced local politics in foreign nations, and paid kickbacks to politicians. There have been violent protests in Madagascar against various Chinese ventures, including a gold mining operation in Soamahamanina and a sugar facility in Morondava, despite the fact that China is the nation's main trading partner. In Pakistan, the provincial administration of Balochistan began fencing off 24 square kilometres of the city, which is at the centre of the CPEC project, as recently as December 2020 because Baloch separatist organisations oppose China's presence there."

Despite these accusations, China is seen as a trustworthy friend and a development partner by many Indian Ocean states for a number of reasons. Beijing's loans-with-no-strings-attached strategy does not demand democratisation, reforms to governance systems, or other international best practises, which are frequently prerequisites for traditional donors." As a result, South Asian and African nations now favour China as a partner. These nations look to Chinese funding primarily to advance



regional power balancing and local development objectives. China is a favoured partner for many of these nations because to years of solid relations based on friendship and equality and China's trademark policy of non-interference, which is more or less the norm though there have been exceptions. China is constantly willing to offer assistance in a variety of ways, from grants and loans to joint ventures, to friendly nations in geopolitically significant locations. China is flush with cash and ravenous for strategic assets.

While its adversaries were condemning China for its unconventional diplomacy, China has gone above and beyond what the Booz Allen Hamilton report's authors suggested with its BRI and many other projects outside the BRI. China is currently developing maritime facilities in Ream in Cambodia, Kyaukphyu in Myanmar, Hambantota in Sri Lanka, and Gwadar in Pakistan, all of which have the potential to become dual-use facilities in the future. China has not stopped at the construction of a naval base in Djibouti. Chinese influence has also grown significantly in a number of strategically important island states in the Indian Ocean, including Comoros, Madagascar, the Maldives, Mauritius, and Seychelles.

A covert arrangement to grant PLAN access to these sites during a crisis may result from the close diplomatic and business relations with the host nations. To effectively manage the Indo-Pacific, the United States and its allies must prioritise its contacts with the minor but strategically crucial Indian Ocean states rather than continually harping on about China's "debt-trap diplomacy." While only Djibouti has actually turned into a Chinese military post thus far, it is anyone's guess whether any of these other naval installations will eventually turn into a Chinese military base or a dual-use facility as connections and relations between the two countries grow. They were meticulously picked over many years; they are China's dispersed pearls in the Indian Ocean. The West and its allies' actions—or lack thereof—will determine whether China's stray pearls eventually form China's String of Pearls.

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BRINING OUT TRANSFORMATION IN SOCIO-CULTURAL ASPECTS OF SCHEDULED TRIBES THROUGH DEVELOPMENTAL PROGRAMMES - A STUDY

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ABSTRACT

Though there exists a multiple strand of tribal developmental programs those designed an implementing for empowering the Indian tribal population, there have been braided evidences of material findings that relate to the standards of tribal life. Hence there is an urgent need to verify these developmental programs in both semantic and scientific methods using empirical applications. The legislative mechanism of the state had made strenuous efforts to uplift the status of tribal people in all the nooks and corners of the country and had achieved partial success. In spite of their efforts, the status of tribal people is pathetic and deplorable and the existing situation demands immediate attendance. Thus there is every need to evaluate the effectiveness of developmental programs in bringing out transformation in socio-cultural aspects and adoption of modern methods, hence the present research study was conducted on Scheduled Tribes in Kurnool district of Andhra Pradesh.

KEY WORDS: *Transformation, Socio-Cultural Aspects, Scheduled Tribes.*

1. INTRODUCTION

India is the home to large number of indigenous people, who are still untouched by the lifestyle of the modern world. With more than 84.4 million, India has the largest population of the tribal people in the world. These tribal people also known as the adivasi's are the poorest in the country, who are still dependent on haunting, agriculture and fishing. Some of the major tribal groups in India include Gonds, Santhals, Khasis, Angamis, Bhils, Bhutias and Great Andamanese. All these tribal people have their own culture, tradition, language and lifestyle.

The principle of social justice demands that the marginalized sections of the people be given protection and preferential treatment for furthering their progress and development. The tribals of India constitute one such group who must be supported and protected by the government. As a result of the peculiarity of the Indian social structure, they have been exploited, discriminated against, and ostracized - socially, economically and politically- from as far back as the Vedic times.

In the wake of the scientific advancement of exponential magnitude that humankind has achieved during the past 150 odd years in comparison with what our forbearers did theretofore since the symphony of creation had closed full in man, the wide world we live in has been reduced, as it were, to a sprawling village sans frontiers. The hallmarks of this world are efficiency, productivity, technique, integration and prosperity.

People belonging to different nations are engaged in a fierce struggle to attain socio-economic progress. But the absence of a level playing ground makes this struggle highly iniquitous and excludes the underprivileged sections of the society from taking advantage of the new blessings and choices of the fast moving world order.

The creation of an egalitarian social order with equity for all sections of the society, free from any form of discrimination on grounds of religion, race, sex or place of birth is the cherished goal of our nation enshrined in the constitution. Equity for the weaker sections of the society, therefore, is the moving spirit of the constitutional schema and permeates the same.

The founding fathers of our constitution desired to secure justice, social, economic, and political for all citizens. They realized that the inequitable forces embedded in the socio-economic system and also political organizations, had resulted in deprivation and disadvantages for the poor and the weaker sections of the society. They, therefore, considered it necessary to provide specific safeguards in the constitution for the Scheduled Castes and Scheduled Tribes, who, due to tradition and a combination of circumstances, were the most deprived, weak and vulnerable amongst the various sections of the society. The various safeguards and protective measures sought to ensure for them all round development and freedom from exploitation



and social injustice so that they could form part of the mainstream of the society.

Article 46 of the Constitution of India provides that "the state shall promote with special care the educational and economic interests of the weaker sections of the people, and in particular of the Scheduled Castes and Scheduled Tribes and shall protect them from social injustice and all forms of exploitation". Thus the Constitution of India gives due recognition to the problems and aspirations of the tribals. The policy of reservation forms the central part of the social justice dispensation of the constitution. Reservation is meant to compensate for the unprecedented discrimination perpetrated against them from antiquity thereby empowering and integrating them with the mainstream society. The global initiative of placing people at the centre of development can proceed with added force through the empowerment of the peripheral socio-economic groups, especially the tribals.

The Scheduled Tribes particularly the primitive tribes are placed in the most disadvantageous position in modern India. The backwardness of the tribe is attributed largely to their long isolation from the general society and their exploitation by the non-tribes. Tribals who have contributed to the richness of our culture and heritage have been neglected and isolated particularly during 19th and early 20th centuries. India started her large scale planned development planning in 1951. This development planning derives its objectives and social premises from the 'Directive Principles of the State Policy' set forth in the Constitution of India. The objectives of our development plans are to initiate a process of all round balanced development which would ensure a rising national income and steady improvement in the living standards. Ironically the backlash of these efforts resulted in the suffering of some tribals in the form of displacement and prompted the evolution of planned efforts for tribal development and suitable policies for the protection of their rights. These efforts have initiated the process of social transformation among them. Therefore in the present study an attempt is made to profile the changes in social and economic life in the context of a Primitive Tribe namely Chenchus, who are mostly spread in Kurnool district of Andhra Pradesh.

Tribals are 'Adivasi' or original dwellers, living in the subcontinent from time immemorial and forbidden to the forests by more aggressive settlers - Aryans being the earliest one to socially subjugate them. In order to resist complete domination, tribals evolved their distinct identity through endogamy, their cropping pattern, hunting and food gathering. Above all, in their intensely personal relationship with the forest around them, they formed perfectly balanced rhythms which can best be described as symbiotic (Mehta, 2000).

According to Vidyarthi (1981), the tribe is a social group with definite territory, common name, common district, common culture, behavior of an endogamous group, common taboos, existence of distinctive social and political system, full faith in leaders and self-sufficiency in their distinct economy.

Krishna Iyer (1985) defines "tribe is a social group of simple and kind, the members of which speak a common dialect, have a single government act together for common purposes and have a common name, a contiguous territory, a relatively uniform culture or way of life and a traditions of common descent."

Bardhan (1973) defines the tribe as "course of socio-cultural entity at a definite historical stage of development. It is a single, endogamous community with a cultural and psychological makeup".

According to Majumdar (1961) the tribe is "a collection of families or common group bearing a common name, the members of which occupy the same territory, speak the same language and observe certain taboos, regarding marriage, professions and have developed a well assured system of reciprocity and mutuality of obligations."

Kamala Devi Chatopadhyaya (1978) defines "a tribe ordinarily has an ancestor or a patron deity. The families or groups composing the larger units are linked through religions and socioeconomic functions.". The term 'tribe' has not been defined clearly anywhere in the Indian constitution. Only the term 'Scheduled Tribe' explained as "the tribe or the tribal communities or parts of or group within tribes or tribal communities". These groups are presumed to form the oldest ethnological sector of the people (Constitution of India, Article.342).

2. STATEMENT OF THE PROBLEM

Out of 427 Identified Tribal Communities in India, 33 Tribal groups, who are at different stages of socio-economic development, are living in Andhra Pradesh state. Of the 33 Scheduled Tribes of Andhra Pradesh, 8 tribal groups have been recognized as Primitive Tribal Group (PTG) by the Govt. of India. These 8 tribes (Chenchus, Kolam, Kondareddy, Kondasavaras, Gadabas, Gonds, Porjas and Thotis) are extremely backward tribal groups who are identified as Primitive Tribal Groups because they are at the pre-agricultural stage of economy characterized by low level of literacy and who largely depend on food gathering for their subsistence.

The constitutional machinery had designed various programs and policies that aims at the welfare and social security of these indigenous tribal people in the country. Yet the process of total empowerment of tribal people did not reached the zenith and there have been mixed experiences of effectiveness in the form of quality and standard of these tribal people.

The Tribal people are mainly engaged in the agriculture and other forms of hard labour. The use to collect forest products and their income levels are based mainly on Minor Forest Produce (MFP). Degradation and Deforestation had reduced the income level of tribal people drastically.

Though there exists a multiple strand of tribal developmental programs those designed an implementing for empowering the Indian tribal population, there have been



braided evidences of material findings that relate to the standards of tribal life. Hence there is an urgent need to verify these developmental programs in both semantic and scientific methods using empirical applications. The legislative mechanism of the state had made strenuous efforts to uplift the status of tribal people in all the nooks and corners of the country and had achieved partial success. In spite of their efforts, the status of tribal people is pathetic and deplorable and the existing situation demands immediate attendance. Thus there is every need to evaluate the effectiveness of developmental programs in bringing out transformation in socio-cultural aspects and adoption of modern methods, hence the present research study was conducted on Scheduled Tribes in Kurnool district of Andhra Pradesh.

3. OBJECTIVES OF THE STUDY

1. To measure the effectiveness of developmental programs in bringing out transformation in socio-cultural aspects and adoption of modern methods.
2. To suggest necessary measures in the light of the findings of the study.

4. RESEARCH METHODOLOGY

For the present study, descriptive research design was adopted. The study utilized both primary and secondary data. Primary data was collected through schedule method (Interview + Structured questionnaire) and the respondents were taken on Probability Sampling technique i.e Disproportionate stratified random sampling Technique. The sample size was 150 Households, 75 – Male members and 75 Female members were selected for the study. The sample belong to Chenchu tribe.

5. DATA ANALYSIS AND INTERPRETATION

Table – 1 Effectiveness of Tribal Development Programmes- A Gap Analysis

N=150

S.no	Unit	Tribal Development Programs	Mean	SD	Mean Diff.	t	d.f	Sig.
1	I	Integrated Protection Schemes (E)	4.44	.986	2.59	22.126	299	0.000
		Integrated Protection Schemes (P)	1.85	.986				
2	II	Central Government Grants and Financial Assistance (E)	4.56	.982	2.82	24.712	299	0.000
		Central Government Grants and Financial Assistance (P)	1.74	.982				
3	III	Grants from consolidated Fund of India (E)	4.66	.978	2.88	26.418	299	0.000
		Grants from consolidated Fund of India (P)	1.78	.978				
4	IV	Multi Purpose Tribal Projects (E)	4.76	.948	2.98	29.228	299	0.000
		Multi Purpose Tribal Projects (P)	1.54	.948				
5	V	Special Schemes for the development of Primitive Tribal Groups (PTGs) (E)	4.72	.926	3.14	28.312	299	0.000
		Special Schemes for the development of Primitive Tribal Groups (PTGs) (P)	1.58	.926				
6	VI	Tribal Development schemes for integration (E)	4.16	1.428	1.72	16.256	299	0.000
		Tribal Development schemes for integration (P)	2.44	1.142				
7	VII	Employment Generation through Business Units/ Cottage industries (E)	3.84	.962	2.16	22.315	299	0.000
		Employment Generation through Business Units/ Cottage industries (P)	1.68	.962				
8	VIII	Schemes for Tribal Colonization (E)	4.56	.812	2.74	29.223	299	0.000
		Schemes for Tribal Colonization (P)	1.82	.812				
9	IX		4.49	1.126	2.87	24.295	299	0.000
		Cooperative Farming Societies (P)	1.62	.864				
10	X	Shifting cultivation and better soil management practices (E)	4.72	.966	3.08	26.334	299	0.000
		Shifting cultivation and better soil management practices (P)	1.64	.966				



11	XI	Scholarship schemes and education facilities (E)	4.12	.968	1.86	17.472	299	0.000
		Scholarship schemes and education facilities (P)	2.26	.968				
12	XII	Scheme of Tribal Hostel Facilities for Boys / Girls (E)	3.38	1.468	2.22	18.963	299	0.000
		Scheme of Tribal Hostel Facilities for Boys / Girls (P)	1.16	1.004				
13	XIII	Vocational Training Centers (E)	4.56	1.514	3.12	22.812	299	0.000
		Vocational Training Centers (P)	1.44	1.226				
14	XIV	Special Educational Programs for the Tribal Girls (E)	4.12	1.012	1.96	16.714	299	0.000
		Special Educational Programs for the Tribal Girls (P)	2.16	1.012				
15	XV	Tribal Coaching Centers (E)	4.74	.984	3.11	25.639	299	0.000
		Tribal Coaching Centers (P)	1.63	.984				
16	XVI	Government Departmental Concession (E)	4.96	.872	3.74	34.552	299	0.000
		Government Departmental Concession (P)	1.22	.872				
17	XVII	Tribal Cultural Institutions (E)	4.68	.894	3.06	26.298	299	0.000
		Tribal Cultural Institutions (P)	1.62	.894				
18	XVIII	Reservation Policy in Government Posts (E)	4.48	1.134	2.56	21.184	299	0.000
		Reservation Policy in Government Posts (P)	1.92	1.116				
19	XIX	Credit Enactment Regulation (E)	4.32	.986	2.16	19.326	299	0.000
		Credit Enactment Regulation (P)	2.16	.986				
20	XX	Tribal Welfare Offices (E)	4.64	.946	3.42	31.462	299	0.000
		Tribal Welfare Offices (P)	1.22	.824				
21	XXI	Grant-in-Aid to Voluntary Organizations working for the welfare of Schedules Tribes (E)	4.76	.892	3.08	28.658	299	0.000
		Grant-in-Aid to Voluntary Organizations working for the welfare of Schedules Tribes (P)	1.68	.856				
22	XXII	Large Sized Adivasi Multipurpose Cooperative Societies (LAMPS) (E)	4.12	1.814	2.46	18.132	299	0.000
		Large Sized Adivasi Multipurpose Cooperative Societies (LAMPS) (P)	1.66	1.592				

Source: Computed with primary data

The above table 1 shows the effectiveness of the tribal development program by using gap analysis. The effectiveness was measured by calculating the key value with the help of mean difference, standard deviation and mean value. Each unit was tested for two counts for the expectations and perceptions of the beneficiaries on the identified development programs. In order to test the statistical validity of the proposed hypothesis every unit was examined and its relevancy was tested. The unit wise results are follows:

1. The analysis of unit-1 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.85 and the mean difference is found to be statistically

significant with a t-value of 22.126. Hence it can be concluded that the identified program under unit-1 is very less effective.

2. The analysis of unit-2 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.74 and the mean difference is found to be statistically significant with a t-value of 24.712. Hence it can be concluded that the identified program under unit-2 is very less effective.

3. The analysis of unit-3 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.78



- and the mean difference is found to be statistically significant with a t-value of 26.418. Hence it can be concluded that the identified program under unit-3 is very less effective.
4. The analysis of unit-4 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.54 and the mean difference is found to be statistically significant with a t-value of 29.228. Hence it can be concluded that the identified program under unit-4 is very less effective.
 5. The analysis of unit-5 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.58 and the mean difference is found to be statistically significant with a t-value of 28.312. Hence it can be concluded that the identified program under unit-5 is very less effective.
 6. The analysis of unit-6 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 2.44 and the mean difference is found to be statistically significant with a t-value of 16.256. Hence it can be concluded that the identified program under unit-6 is very less effective.
 7. The analysis of unit-7 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.68 and the mean difference is found to be statistically significant with a t-value of 22.315. Hence it can be concluded that the identified program under unit-7 is very less effective.
 8. The analysis of unit-8 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.82 and the mean difference is found to be statistically significant with a t-value of 29.223. Hence it can be concluded that the identified program under unit-8 is very less effective.
 9. The analysis of unit-9 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.62 and the mean difference is found to be statistically significant with a t-value of 24.295. Hence it can be concluded that the identified program under unit-9 is very less effective.
 10. The analysis of unit-10 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.64 and the mean difference is found to be statistically significant with a t-value of 26.334. Hence it can be concluded that the identified program under unit-10 is very less effective.
 11. The analysis of unit-11 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 2.36 and the mean difference is found to be statistically significant with a t-value of 17.472. Hence it can be concluded that the identified program under unit-11 is very less effective.
 12. The analysis of unit-12 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.16 and the mean difference is found to be statistically significant with a t-value of 18.963. Hence it can be concluded that the identified program under unit-12 is very less effective.
 13. The analysis of unit-13 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.44 and the mean difference is found to be statistically significant with a t-value of 22.812. Hence it can be concluded that the identified program under unit-13 is very less effective.
 14. The analysis of unit-14 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 2.16 and the mean difference is found to be statistically significant with a t-value of 16.714. Hence it can be concluded that the identified program under unit-14 is very less effective.
 15. The analysis of unit-15 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.63 and the mean difference is found to be statistically significant with a t-value of 25.639. Hence it can be concluded that the identified program under unit-15 is very less effective.
 16. The analysis of unit-16 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.22 and the mean difference is found to be statistically significant with a t-value of 34.555. Hence it can be concluded that the identified program under unit-16 is very less effective.
 17. The analysis of unit-17 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.62 and the mean difference is found to be statistically significant with a t-value of 26.298. Hence it can be concluded that the identified program under unit-17 is very less effective.
 18. The analysis of unit-18 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.92 and the mean difference is found to be statistically significant with a t-value of 21.184. Hence it can be



concluded that the identified program under unit-18 is very less effective.

19. The analysis of unit-19 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 2.16 and the mean difference is found to be statistically significant with a t-value of 19.326. Hence it can be concluded that the identified program under unit-19 is very less effective.
20. The analysis of unit-20 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.22 and the mean difference is found to be statistically significant with a t-value of 31.462. Hence it can be concluded that the identified program under unit-20 is very less effective.
21. The analysis of unit-21 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.68 and the mean difference is found to be statistically significant with a t-value of 28.658. Hence it can be concluded that the identified program under unit-21 is very less effective.
22. The analysis of unit-22 shows that the beneficiaries perceived effectiveness is less effective than the average expectations of the beneficiaries with a mean value of 1.66 and the mean difference is found to be statistically significant with a t-value of 18.132. Hence it can be concluded that the identified program under unit-22 is very less effective.

6. CONCLUSION

After analyzing the whole data it can be stated that the identified development programmes were tested on two counts under expectations and perceptions of the beneficiaries and are found to be less effective in terms of perceptions of the beneficiaries and their expectation on the programs are very high as revealed by the beneficiaries and hence there exists a wide gap in between the concepts of expected effectiveness and perceived effectiveness and the same was verified with the help of above applied gap analysis.

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THE PERCEPTIONS AND PRACTICES OF PENTECOSTALS IN RELATION TO THE COVID 19 PANDEMIC IN THE CITIES OF CAMEROON. CASE OF YAOUNDÉ CITY

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ABSTRACT

This study investigates Pentecostals perceptions and practices towards the COVID 19 preventive measures as instituted by the government of Cameroon. In the study we used the case study design emphasizing the qualitative research method with the techniques of observation and interview used to collect data. The sample population was chosen using the purposeful sampling technique. Five influential Pentecostal churches of above 500 congregants each Sunday, with television channels, and/or educational institutions chosen and informants selected from the five churches. At the end of our study, we discovered that the Pentecostals beliefs system and their perceptions of COVID 19 influenced their practices in their control of the pandemic.

KEY WORDS: COVID 19 Pandemic. Pentecostals, perceptions, and practices,

INTRODUCTION

The Corona virus disease named SARS-CoV-2 as suggested by the international committee on taxonomy started in Wuhan-China in December 2019. Ozdemir (2020) notes that the new coronavirus was the reason for the pneumonia cases of unidentified etiology in Wuhan, spread by large droplets resulting from coughing and sneezing by infected persons. Just as these infected droplets can travel for about 1-2 meters before dropping on surfaces, the virus can equally survive on these surfaces for days. But can be destroyed in less than a minute by proper disinfectants. Touching the infected surfaces with the hands and touching the nose, mouth, and eyes within the survival period will lead to the infection with its incubation period expected to be 14 days after exposure. It has been observed that the clinical characteristics of the new coronavirus is fever, dry cough, fatigue, sore throat, dyspnea, nausea, vomiting, and diarrhea (Ojong; 2020). In some cases it develops into pneumonia, pulmonary failure and death with pneumonia being the most common severe manifestation distinguished mainly by fever, dry cough and dyspnea which explains why the control of people is first of all done through temperature checks (UHCR; 2020). According to WHO (2020) recovery time after hospitalization is 2 weeks for mild cases and 3-6 weeks for severe cases, while fatality mostly occurs in elderly patients (50 years and above). The disease from its onset was declared deadly and projections made that 25 percent of Africa will be infected given that epidemiologically they were not ready in terms of medical infrastructure to control infected cases (Banda et al; 2021).

Information on COVID 19 pandemic as a deadly virus coupled with its preventive measures met with controversial

social beliefs and social reactions. Social belongingness was more or less expressed as people were faced with the challenge of following the lifestyle changes that were being implemented by the global respect of the preventive measures of the new coronavirus or maintaining the beliefs of their social groupings. In Cameroon the Pentecostals were found going against government instructions of social distancing, wearing of facemasks, and vaccinating against COVID 19.

The Pentecostal movements have as biblical foundation the coming of the Holy Spirit in the Acts of the Apostles chapter two. According to the apostolic archives, modern day Pentecostal movement began in 1906 with the Asuza street revival, which was a revival meeting that took place in Los Angeles California. It was later spread by Pentecostal missionaries to other parts of the world. In Cameroon it began with the full gospel and the apostolic mission about 5 decades ago but today we recognise that the movement has grown so fast and still grows because they believe they are called to spread the gospel of Jesus Christ as empowered by the Holy Spirit. Their spirituality is based on the interpretation of the scriptures by the Holy Spirit as they teach and preach with energy and efficiency (Dena; 2016). They believe in the holy trinity: God the father in heaven, Jesus who came with his atoning blood to save humanity from eminent destruction and is coming again, and the presence of the Holy Spirit on earth as a guarantee as Christians wait for the second coming of Christ. They equally believe they are saved by grace but living physically in the dominion of Satan and his cohorts of demons and agents manifesting through sickness, poverty, curses, suffering and general misery. Finally they believe in a satanic agenda of having a one world



order which is a system of one world government; a satanic prophetic agenda to oppose the reign of Christ in the hearts of men through the mark of the beast as stipulated in Revelation chapter 13. With all of these in mind, they have as paramount activity to stop the advancement of the kingdom of Satan through faith healing, casting out of demons from demons possessed persons, and resistance to whatsoever they believe opposes the advancement of their cause. They do this by constantly meeting together during weekly worship services, and organizing evangelism and healing crusades. With the constant development of information technology their activities and teaching can reach millions of people through television channels and social media platforms.

The Pentecostal churches in Cameroon were battling with the new coronavirus from its onset. To some, it was satanic agenda to implement the new world order. To others it was the end of time which was a sign that Christ was coming very soon and the pandemic was a call for repentance. This was a sure sign to some others who thought the pandemic was God's punishment for sins (Onyekachi; 2021). Some others thought that it was just a natural occurrence as any other disease just like influenza, malaria, and others. The most controversial teaching came from Christ Embassy with conspiracy theory subscribed by its founder Reverend Dr. Chris Oyakhilome. All of these perceptions drastically shaped the practices of Pentecostal Christians towards the new coronavirus. This study investigates how the various perceptions of Pentecostal churches affected their behavior and practices with the coming of the new coronavirus.

This study was conducted in the city of Yaoundé in Cameroon. It is the administrative capital of Cameroon and the 2nd largest populated city in Cameroon with more than 2.8 million persons after the city of Douala which is the economic capital of Cameroon. Here, is situated the ministry of public health which is the main body dealing with public health system in Cameroon. Though it's a city endowed with numerous health facilities both international, public and private, it was a high risk zone for the COVID 19 pandemic owing to the fact the coronavirus was a new disease meaning health facilities to deal with the specificities of COVID 19 were not available. Secondly, the population density especially popular quarters where more than eight person could be found in a one bedroom flat owing to the socioeconomic crisis in the North West and South West Regions, and the Boko Haram in the northern region of the nation. The influx of refugees from other regions of the country and even from other nations of the sub region such as Central African Republic and Chad has left so many on the streets of the capital city of Yaoundé. Seth et al (2020) in accessing the risk factors for COVID 19 pandemic amongst the ten administrative regions in Cameroon notes that for epidemiological reasons the cities of Yaoundé, Douala, and Bertoua are high risk zones. But the highest number of COVID 19 cases per 100 000 person by September 2020 were declared in Yaoundé and Douala respectively. This because the urban areas of these regions where coronavirus was dominant are densely populated. Meanwhile the East region comes third because of the high level of epidemiological risk

factors of patients with hypertension, diabetes, lung, and kidney diseases.

METHODOLOGY OF STUDY

The case study design used helped us to generate in-depth information to explain the phenomenon at stake in its natural context. For this purpose we used the qualitative research methods and the techniques used for data collection were interview and observation. In this study we employed both the semi structured and structured interview to collect data from five churches in the city of Yaoundé in Cameroon. In order for us to obtain the information needed, we used the purposeful sampling technique to choose the study population. Though there are many new churches in the city of Yaoundé there are not many that have the capacity to influence a great number of persons. These churches; Light World Mission International church, Christ Embassy Cameroon. Communate missionnaire de reveil, Cathedrale des signes et prodiges, and Abundant life faith Center International Cathedral were chosen because they have the capacity to influence more than five hundred people through their church services, TV channels, schools and social media platforms. For this purpose we decided to take 10 informants from each church making it 50 informants both females and males. As per the key informants we had one from each church being the head pastor or residence pastor. We got information from both church leaders and Christians because the leaders we noticed as information transmitters from governing body to the Christians and from Christians because they are called to adjust their behavior as information triggers down. The views of our primary informants were recorded, analysed and presented in this article. The data was analysed using descriptive research method which gives room for detailed analysis free of researcher's bias in the description of the phenomenon

This study was inserted into three theoretical frameworks. The theory of multiculturalism by Lupton, Postmodernism according to Best & Keller (1991, 2001), and the Pentecostal approach according to Jorg Srolz (2011). The Multiculturalism explains how culture affect health behaviour of different populations such as the Pentecostal or new churches, and in tend the use of contemporary health care. The postmodernism on its part prone that discourse on medicine and biomedical sciences be deconstructed and recreated to include new ways of addressing health and healthcare (MALCOLM; 1975) This responded to the fact the Pentecostals or members of the new churches belief that divine healing is an alternative way of health care. The Pentecostal approach explains that healing and miracles are possible by the power of the Holy Spirit and are not only rooted in scripture but are visibly occurring on regular basis both in healing services and everyday life. This enabled us to understand the practice of health care among the members of the new churches.

OUTBREAK OF COVID 19 IN CAMEROON

Sopponntouba (2020) records that the first case of the coronavirus was declared in Cameroon on the 6th of March



2020 and on the 17th of March 2020 government measures to reduce its spread were out. These measures were edited on the 24th of March 2020 and 30th April respectively. But before then, on the 18th of March 2022, the government declared Cameroon's land, air and sea borders closed and so all flights were suspended with the exception of cargo flights and vessels transporting consumer products and essential goods and services. The issuance of entry visas were suspended, public and private training institutions of various levels of education were closed, gatherings of more than 50 persons were banned while school and university competitions were postponed. Social spots such as bars, restaurants and entertainment spots were to be closed after 6:00pm. Meanwhile a system for regulating consumer flow was set in markets. Besides, urban and inter urban transportation were to be taken in extreme necessity as drivers of buses, taxis were to avoid overloading. The logistics necessary for the implementation of COVID 19 response plan was to be requisitioned as required by competent authorities. As per communication, preference was given to electronic communication for public administration in cases where 10 people needed to come together while missions abroad of public and para public employees were suspended. Finally the public was urged to strictly observe hygiene measures recommended by WHO including regular hand washing with soap, avoiding close contacts such as shaking of hands or hugging and covering the mouth when sneezing.

THE EFFECTS OF COVID 19 PREVENTIVE MEASURES ON PENTECOSTAL CHURCHES

The outbreak of the COVID 19 with its preventive measures was a direct opposite of the practices of the Pentecostal churches in the city of Yaoundé- Cameroon. Social distancing of at least one meter square and the ban on meetings of not more than 50 persons affected the number of persons meeting during services. Each Pentecostal church has an average of two meeting days per week and during these meetings, they collect offering, tithes and seeds of faith (financial donation made when trusting God for rapid intervention in a case). So the ban had a negative effect on the income of Pentecostal churches. According to the general overseer of Light World mission International, *This covid 19 has affected the spread of the gospel because we cannot more organise crusades and even go out on group evangelism because close contact is not allowed and people are afraid to gather or even interact. The gospel of Jesus Christ is the gospel of love and we sometimes demonstrate it by giving a hug or/and hand of fellowship during our worship services. Also, during prayers especially during healing and deliverance services we lay hands on people and help catch those who fall under the power of the Holy Spirit so that they will not injure themselves. Now our services are not more charismatic and so lacks the Pentecostal flavor.* Generally, the social distancing especially affected affect most social and religious activities of the church such as weddings, child presentation, family or group thanks giving programs

All of these meet with resistance from Pentecostal's churches to implement the preventive measures but this

equally meant the spread of the virus amongst members of this religious sect and their acquaintances was eminent. But government measures to implement these preventive measures even by coercion was sure, by this the government of Cameroon opted for the release of intelligence officers to spy on Pentecostal churches. In the process the general overseer of Communaute Missionnaire de Reveil was call up for questioning. The threat of banning institutions that will not respect the covid 19 pandemic preventive measures instilled fear resulting in its adherence though denominations like the Christ embassy categorically refused to adhere especially during their worship services.

PENTECOSTAL'S PERCEPTION OF DISEASE AND COVID 19

Illness, disease or sickness explains a state of abnormality in the proper functioning of the body of an individual. It comes with pain, body weakness, and at times deters the mobility of the individual and can even lead to death. Slows down or stop daily activities of the individual. It equally affects family finance and family members for fear of losing a love one in the process. This explains while in every social grouping be it a nation or community, there is a well-structured health care system depending on the culture and belief system of the people. In Cameroon and city of Yaoundé in particular, emphasis is laid on modern medicine visible through its infrastructure of hospitals, health centers and pharmacy found practically in almost every quarter in the city. Its primary health system lays emphases on preventive health care rather than curative. Apart from modern medicine there is also alternative health care systems which is represented by traditional and faith healers. Faith healing here is a health care system practiced by the Pentecostals. So while on earth waiting for their master Jesus Christ to come take them home as written in the book of John 14:2, they equally have to prosper in their health as written in 3 John verse 2. This good health can only be assured through laying on of hands on the sick to recover (Mark 16:17) or praying and anointing the sick with oil for them to get well (James 5: 16). From the organisational structure of all the churches we visited the aspect of healing was clearly visible through healing departments: healing college with light World International Church, healing schools with Christ Embassy and healing prayer lines during crusade or healing altar calls during services. The general overseer of Light world mission international church said that *Christ through the Holy Spirit heals all manner of diseases via the supernatural gift of healing he gives to men.* Given that behind every sickness is a particular spirit, *when we cast out the spirit the illness leaves the human body equally.* It is assumed that by faith in the healing power of Christ, that is faith of the sick person and the faith of the person representing Christ the healer, the patient will be healed. The general overseer of Cathedrale des Signes et Prodiges said *There is no sickness God cannot cure and this can be done through prayers. We are followers of Christ and in many instances in the bible Jesus healed the sick and even raised people from death.*



In the Pentecostal view, illness of all kinds are not God's work but due to evil forces, sin, or devil. Divine healing is made possible because Christ has already suffered for humanity's sins on the cross. He can heal and illness whatsoever be it a small ailment (e.g. a headache), a mental problem (such as depression), or very serious physical maladies (cancer, AIDS) it follows that healing is never just physical but by definition, physical, mental and spiritual simultaneously (Jorg; 2011)

Since the Pentecostal churches belief in divine healing of all type of diseases, they have place a system in place to cater for those that are sick as we earlier said. But the way it is done depends on particular assemblies and the instruction the lord personally to the head pastor as believed. In Christ embassy they believe that healing comes as a result of the patient's understanding what the word of God says on divine healing and the laying on of hands on the patient. This explains the reason for the healing school where patient are taught on the word of God to build up their faith. But in most prophetic churches, they might lay hands, use anointing water, anointing oil, anointed handkerchief or whatsoever the pastor prays on. The Christians have been taught to believe that when pastors pray on these objects, the anointing God has deposited on the pastor will be transferred on the object and when sick persons gets in contact with any of these object, they will be healed as was the case with apostle Paul in Acts of the apostles chapter 19 verse 12; on the other hand, a prayer cell leader in Abundant Life Faith Center International Cathedral healing comes through mind transformation in conformity with the word of God and faith in divine healing. To some Pentecostal churches Covid 19 was not different from other diseases. Though many never admitted having seen their member sick of Covid 19 believed would be healed by Christ if ever they discover the signs and symptoms.

Apart from divine healing, Pentecostals also belief in contemporary medicine and herbal healing. The general overseer of Light World Mission International told the research team that in his organization there are medical doctors and once a while they have counselling meetings with patients with blood diseases and what they must do to leave healthy even as they pray. They also advise them to go to the hospital when they are sick because the hospital treats while God heals. *Here in church we advise that HIV/AIDs patients should continue taking their antiretroviral drugs and also abstain from sexual immorality as well. As per Covid 19 initially we did not believe it was real but numerous deaths made us told our members to wear their face mask (Homemade mask) and wash their hand frequently...* The Pentecostal Christians also believe in herbal healing. The general overseer of light World Mission International also told us that they permit their members to consult herbal healers or do personal herbal healing therapies because these herbs are from the influence of evil spirits and equally because most pharmaceutical drugs come from leaves, backs of trees and grass. So, he advice his Christians to do vapourised covering with herbs. The residence pastor of light World mission

international branch church in Nkolbikonho Awae- Ibikonho Awae-Yaounde admitted that she had Covid 19 attack and was healed by prayer and by a herbal concoction of cloves, ginger, pineapple rinds, and lemon juice.

PENTECOSTAL PERCEPTIONS ON COVID 19 PANDEMIC

The organizational structure of Pentecostal churches in the city of Yaoundé determines how information flow within the organization. The highest authority in the organization is the general overseer or the lead pastor of the organization. He holds absolute power in the kind of information that enters and is served to members because it is believed that he is the person to whom the commission and the mission statement of the organization was given to by God. This means that what the bible has not said and whatever God has not told him during his/her private prayer or fellowship time with God, will not be transmitted to the church members. Though the Bible is the foundation of all teachings in the Pentecostal churches, each church organisation has a specific orientation according to what the main pastor believes is his calling. This means that a particular organization will hold firm only to what is taught and accepted in their ministry by their main pastor. According to their organizational structure, these churches have the capacity to influence many lives through their church services, crusades, schools, television, door to door evangelism, social media platforms, and the continuous establishment of branches of their churches to other quarters of the city, regions and even other nations.

The perceptions and practices of the general overseer related to COVID 19 were what was believed generally to be authentic and transmitted from the general overseer through subordinate pastors, branch pastors, heads of departments, and to the members. As per the COVID 19 pandemic what we noticed was that there were diverse beliefs amongst the Pentecostals and even within same organisations depending on educational levels and members belonging to other social organization such professional organisations. This was evidently noticed as some members were always having their face masks while others had to be reminded in most instances. Those who worked as administrative workers especially in government ministries, the medical core, and the universities were always with face mask and hand sanitisers. We equally noticed that majority of Christians in the Pentecostal churches are school dropouts, job seekers and those working in the informal sectors especially as small business holders. They have limited knowledge to understand crucial societal phenomena especially the Covid 19 and so depended mostly on what their pastor said. This was proven with phrases such as 'our pastor said', 'in our church we believe that', and 'that is not what we do in our church'. During the study we noticed that there were three sets of opinion within the Pentecostals related to the covid 19 pandemic. Those who believe that it does not exist as an identified disease at all, those who believe it exist but can be treated and finally those who believe it exist but can be healed by faith in Jesus Christ.

Those who believe that it does not exist at all relates the realities of the time to a conspiracy by the dark kingdom



through their agents to reduce the population of the world, fulfill end time prophecy as stated in the book of the revelations of John chapter 13 (Tezanu; 2021). When we met the key informant from Christ Embassy she said that *in our organization, we believe that COVID 19 exist but it is man-made and not as fatal as WHO presents it to the world. It is not a pandemic but same as other coronaviruses like influenza (common cold) and also has a cure thereby not requiring all the measures put forward by WHO as preventive measures. The face mask as they say does not prevent the people from contacting the virus but it causes people to die because with the mask people do not breathe well. We believe that the strategy of propagating the disease as incurable causes more people to die out of fear and this substantiate why patients are allowed to die in hospitals because they believe that there is no treatment. Meanwhile 'chloroquine' has been used by many medical doctors with effective result.* Apart from that they equally believe that COVID 19 is not a pandemic but what they call the *COVID 19 fiasco* meaning it is a plan from those who militate for one world government or new world order to control the world. She noted that *there is no pure form or isolated form of the virus through a microscope. This means that nobody has been able to use the microscope to isolate the virus proper to COVID 19. You see all the signs and symptoms that have been brought forward as signs and symptoms of COVID 19 are equally associated with other diseases like malaria, typhoid, and common cold. This means the signs and symptoms are not peculiar to COVID 19.* As per the COVID 19 vaccine, *we believe it is not an ordinary vaccine but an evil agenda, created to alter the DNA of those who take it. The vaccine carries the virus itself, a microchip, and has the potential to edict the human DNA. Moreover, they say it does not prevent people from being infected by the virus and worst still it is an experimental vaccine. This explain why many people who have taken the vaccine behave abnormally while others have died.*

On the other hand, the Abundant Life Faith International Cathedral believed that the pandemic was real and could be prevented as well treated if attended to early by the hospital. With all of these they believed that divine intervention was possible even as other measures were necessary. The general overseer insister on the respect of the preventive measures set by the state. And it was reflected on the wearing of face mask, washing of hand with soap before entering the church.

The last category of Pentecostals are those who believe that even as COVID 19 is true, it cannot infect them because they believe in the saving grace and power of Christ through eternal life in Christ. These category of believers were found in all of the churches. So as they are in Christ through the new birth by faith, they cannot be sick and even if they are sick, they will be healed by the healing power of Christ during prayers. One this set of believers told the research team; *I have faith that I cannot be infected even if the disease exist, I live and walk by faith and not by sight.*

During our study we realized that apart from Christ Embassy many members of other Pentecostal churches do not have proper knowledge on how COVID 19 manifest, it signs and symptoms. But they could easy talk about the control

measures. This shows that COVID 19 within this social grouping was not perceive as a serious threat to the members of the community. it equally explains that their head pastor did not deem it necessary enough to train the members of the organization of the issue of COVID 19. So lack of appropriate knowledge also contributed in their refusal to put in place the control measures with the seriousness it merited.

Lack of COVID-19-related knowledge, positive perceptions, and preventive practices was detected and seems widespread. In particular, 56.6% (95%CI: 45.9-67%) of the health care workers (HCWs) and medical students had poor knowledge about COVID-19 and only 46% (95%CI: 15-77) of the total study sample had positive perceptions towards COVID-19 (Bhagavathula; 2020)

From many studies on perceptions and practices relations to COVID 19 we would realize that lack of adequate knowledge seemed not evident that it could even be traced among health workers as in the case of the study above. When the population is not knowledgeable enough, there are poor practices (Yutong et al; 2021).

a- Pentecostal practices related to COVID 19

In all social groupings people's attitudes and practices are influenced by their habits and beliefs and this is proper to Pentecostals of the city of Yaoundé. From a greater perspective their practices related to the preventive measures to control the spread of covid 19 were influence by their beliefs. From the onset few denominations refused categorically to follow the measures but subsequently had to adjust because they were met with government shutting down stubborn churches.

The first adjustment that was very noticeable in all of the churches were the provision of sanitary buckets, liquid soap and hand sanitisers. Mercy (informant) informed us that for Covid 19 preventive measures, the first reaction of their church was to buy sanitary buckets which were placed at the entrance of the church. Everybody entering the church was asked by the protocol to put on their face mask and wash their hand before entering the church house. Another bucket was sent to the Sunday school while others were placed in front of the rest rooms for toilets that had not initially prevue wash hand sinks. Aghor and Esther (informant) member were always reminded during church announcements to comply with the instructions at the entrance of the church and to regularly put on their face mask. Those who present their facemask at the gate did were not allowed to enter to enter the church premises.

The next adjustment that was observed was to do with the presentation of worship services. The respect of social distance was given priority as chairs were arranged in a one meter square distance from each other as was stipulated by the state. As a result churches increase their number of worship services per worship day. Catheequally commdrade des siges et prodigies move from one service per Sunday to three services. Christ embassy Obili moved from one service



to two services though they did not believe in the existence of the disease but just to observe the rule stated by the state. Light world mission international church went live Facebook and Abundant life faith center international cathedral went live on Facebook during worship services. Equally, Communate Missionnaire des Reveil and Cathedrale des Signes et Prodiges went live on satellite during worship hours. Notwithstanding the adjustment, the number of worshippers during worship services reduced because the partial lockdown restricted a lot of movements. People who were from nearby towns to fellowship in the city could not more freely move.

As person tithes, offerings and seeds of faith, churches opened bank accounts, and mobile money accounts through which these monies could be channeled. During worship services, these account numbers were displayed on screens and announced during church announcement to remind members of their financial responsibilities. In spite this, church finances drastically reduced as Ngong (informant) noted that *during the pandemic, they were unable to pay the rent of the church accommodation and the effects even dwindled down till after the pandemic because some members who left then never came back*. Only the headquarters of the churches were able to adjust effectively but the branches that were not financial stable to go live or Facebook had to bear the consequences of not collecting offerings and tithes from member who could not make it to church. It was equally noted that not all who worshipped off site were motivated enough to send in their monies through mobile money or bank or electronic wallets. However, financial difficulty during the pandemic was not only an issue of Pentecostal churches but also other social groupings, individuals and even the government because of the lockdown. But it was accentuated with those who were getting their income from daily hustle.

Moreover, adjustments were also made the level of church ceremonies and social gathers. Ebangha Esther (informant) told the research team that during the pandemic in their church, wedding ceremonies were suspended except the couples accepted a restricted number of people during the ceremony. Child presentations and baptisms were also suspended since this had to do with direct body contacts and at times require many people to be at ceremony ground. Group retreats for spiritual reinforcement were also suspended. Mercy (informant) told us that in their church, their department stopped meeting once a week for their departmental retreats. Other social gathering in churches were also suspended. An informant in light World Mission told us that the pastor's solidarity meetings for baby showers and other solidarity ceremonies were suspended.

To some Pentecostal denominations all these practices adjust to ignore long time church practices were done in all sincerity but to others it was just a way of acting in order not to attract the sanctions of the state. Pastor Mirabel (informant) said in their church wear face mask just in public places and not during services. What they were actually doing was that they came along in church meetings with their face mask but put it on when they notice government control authorities were around. An informant said *we did all of these*

just to please the government and for our worship services to continue and not that we believe it was preventing us from COVID 19. Our Man of God took time to educate our members on the realities of COVID 19 as I have told you that is why in Christ embassy during services we don't wear face mask and none of our members and even our relations will take that vaccine

CONCLUSION

This study presents the perceptions, attitudes and practices of Pentecostal churches in the city of Yaoundé related to the COVID 19 pandemic. The paper reveals that from the onset of the pandemic, most Pentecostal Churches resisted the preventive measures place by the government to help prevent the rapid spread of the new coronavirus because the preventive measures were a direct opposite of the ways and practices of Pentecostals. Not only that but the partial lockdown did not give them room to operate their services as usual and so they thought it was a spiritual attack on advancement of the gospel of was Jesus Christ. As per their ancient practices Pentecostals the spiritual and financial power of their organisations is in their social gathering and obedience to God through his word and they are ready to do anything to stand against that which has and will come to destroy these belief system.

But later there was acceptance partly because of government intervention and partly because few believed in the existence of the disease. In any case the acceptance was not total as visibly noticeable, not all Pentecostal members were wearing mask during church services. It had to do with both congregational belief system and other individual socialization processes. In the question to accept the changes the Pentecostals had to adjust their practices to confirm to government rules. These adjustments had a negative impact the running budget of the organization (many members could not more pay the tithes and offerings) and memberships (lockdown hindered fluent long distance movement)

In any case, the socio-economic consequences that came with Covid 19 were not proper to the Pentecostal churches alone but became a universal socio-economic crisis (Fagbemi & Along; 2020, Sopponntouba, R.; 2020). Apart from affecting all social groupings, it also affected almost all aspects of life such as household's finances, education, children, women, and even government policy (UNICEF et al; 2021). The significant concern here is that the attitudes and concerns of the Pentecostals are not proper to Pentecostal churches in the city of Yaoundé but an ideology of a particular group of people spreading rapidly beyond cities and nations and even penetrating rural areas through their various organs and continuous missionary or evangelism programs for their impact is felt in every quarter of the globe and every sector of the society⁶. It is evident that perceptions shapes the level of knowledge obtained and finally practices in specific groups. So the collection of data on perceptions and practices related to COVID 19 with specific group cultures might help in setting up educative intervention measures that will depend on the knowledge of community members.



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ARCHITECTURAL MONUMENTS IN KARAKALPAKSTAN AND PROBLEMS OF FORMATION THE HOSPITALITY OF STUDENTS THROUGH TOURISM SERVICES

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ABSTRACT

The given article is about architectural monuments in Karakalpakstan and problems of formation the hospitality of students through tourism services. There are given materials from archive about history and ethnography of the Karakalpaks.

KEY WORDS: *monuments, Karakalpaks, great people, the Aral Sea*

We are going to generalize it with the folk advice “Know your seven ancestors, read what your seven treasures are” that comes from the people's love for our spiritual wealth. Indeed, it is the duty of every person to know his origin, who are his ancestors, their graves, and leave it as a bequest to those who follow him. In addition, the names of the children of the people, who at one time embodied advanced ideas, carried out spiritual enlightenment, strengthened friendship and harmony between peoples, fought for the impartiality of their people, served science, culture, literature, art, and all other branches of our society, every person who lives and works today should be responsible for decorating the grave and perpetuation names of people's children who are no longer among us today.

At the present time, in the efforts to raise the Turkish world to new heights, there is a need to learn not only the Turkish language, but also to learn common literary, cultural and spiritual heritages. That's why the spiritual heritages that we talked about should not be considered as the property of the peoples of the South Aral Sea, but as the wealth of the Turkic peoples.

In developing the formation of our spiritual heritage of the national ideologies of our impartial republic, in educating young people a sense of respect and love for the past of our ancestors, in revealing the related roots of the peoples and cultures of Central Asia

and the East, it serves to create new stages for their rapprochement with each other.

In order to improve and carry out worthy activities in this direction, the “Spiritual and Educational Center”, established in Uzbekistan, and the “Spiritual, Cultural and Educational Center” in Karakalpakstan began their work by the Decree of the President.

In the future, this center will become one of the centers of science and knowledge in our country, dealing with issues of national traditions, innovations and development of programs, culture, ecology and health improvement of the people of Karakalpakstan. Our wise people say that “people enter the world as the same and leave the world as different”. If you really look at our past, who came and who went to the Turan plateau, the ancestral home of the peoples of Central Asia.

In this region, as it were, more than a hundred and more than a thousand great people were born. Among them grew up people who have a special place in the enrichment of world science, knowledge, literature, culture and spiritual heritage: Ahmad ibn Muhammad ibn Kasir al-Ferghani (died in 861), Ahmad ibn Abdallah al-Merwazi (died in 864), Abiu Nasir Muhammad al-Farabi (873-950), Hakim Ulykpan-Abiu Ali ibn Sino (980-1037), Abilqasym Firdowsii (935 — 1020), Mahmud Kashgari (XI century), Khoja Ahmad Yasuiai (XII century), Hakim al Termezii Imam Bukharin,



Muhammad Toragai Ulugbek (1393 — 1449), Khoja Bahouddin Naqshband and others.

One of the centers of science and culture in Central Asia is the the lower reaches of the Amudarya, the homeland of the Karakalpaks, the neighboring Khorezm region and Tashauz region of Turkmenistan. It is known from history that great people were born in this region along the Southern Aral, which was part of the Khorezm state in the early and middle ages.

Among them, Abiy Jafar Muhammad Ibn Musa al-Khwarizmi (790-847), who contributed to the science of mathematics, Abiw Nasr Arrak al Khorezmi (X. A.) is the author of works on astronomy and trigonometry, famous chemist Abulhakim Muhammad Ibn Abdalmalik al Khorezmi (late 10th century, beginning of 11th century), the famous writer and historian Abiu-bakir Muhammad al-Khorezmi (died 933), the author of the encyclopedia “Mafatih al-Ulum” (The Book of Knowledge) is Abiw Abdallah Muhammad Ibn Ahmad Ibn Yusuf al-Kharizmi, Abiu Raykhon Beruni (973-1048), the great representative of worldly knowledge Mahmud Ibn Omar ibn Muhammad al Khorezmi az Zamakhshari (1075 - 1144) Muhammad Ibn Surhab and al Khorezmi and al Kyati and others. In the period 1000 and 1012, scientists of that era gathered at the Mamun Academy, where the great doctor of his time Ibn Sino served, and glorified the Aral Sea to the whole world.

In addition to the above-mentioned great scientists, the great representatives of spiritual culture in the middle ages of Aral appear such as Hakim ata Sulaiman Bakyrqani (XII), Nazhimaddin Kubra (XII-XIII century), Pahlavan Mahmud Piryar baba (XIV century). Sayyed Alawaddin, Mahmud bin Ali Shaykh al-Karderi (14th century).

In addition, sacred and ancient places appeared from early times associated with the names of Sultan Uais Baba, Abu Bakir ash Shibiliy (IX-X), Abdullah Narinjany (XIV) who died in the 8th century on the land of Karakalpakstan. It is clear that there are a lot of historical and cultural monuments of the most ancient, medieval and modern eras in Karakalpakstan region, scientific and public attention has been drawn to these sacred places of our ancestors.

According to the new evidences of Karakalpak scientists, communities and peoples settled along the shores of the Southern Aral, between the Sir Darya and

the Amu Darya, in the Ustyurt region and in the Kizil Kum mountains, the heritage of which is the material and spiritual culture of their ancestors.

It is known that in the kurgan towns of the ancient Khorezm state and Kerder region Topirak kala, Koy-kirilgan kala, Mizdahkan, Khaiuan kala, Tok kala, various symbols found in the old orchard were preserved in the Karakalpak clans.

Along with this, the exhibits, which are an inseparable part of our historical and cultural memories, give evidence that a certain part of the Karakalpaks have been a sedentary people here since ancient times. Every person who passes by these holy and blessed places stops and pays homage and prays to the souls of our ancestors in the past.

Thus, the first steps in studying the traditional places of Karakalpakstan and familiarizing with the spiritual traditions of Muslims are yielding results.

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DEFENCE INTELLIGENCE USING REMOTE SENSING

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ABSTRACT

The research deals with detection of weapons using Artificial Intelligence & Machine Learning. Nuclear weapons are dangerous and life loss is more so the primary target is to detect the Aircrafts, Ships & Missiles which are nuclear powered. So The detection can be done by using the Remote sensing and ML Prediction. Training of the model can be done for prediction by using data. The image source is taking as input for detection.

EXECUTIVE SUMMARY

1.1 Introduction: The model that developed is used in the Defence Intelligence. It is used to detect the aircraft, navy ships, Nuclear Powered Missiles. The detection can be done by our model using Images of Satellite. It will provide the Shield for our fighter jets & Ships by detecting & Giving the details before it reach to the border. It also detects the speed & Properties like length & breadth of vehicle that coming to attach which provides the Selection of Accurate requirement for Defence & offense

1.2 Working Procedure: The model that takes the vedio source or image source from the Satellite. And preduct the objects. The trained model will increases it's Accuracy by continuous detection. The object are Aircrafts, Ships, Missiles etc.

- Step 1: Training Model with available datasets
- Step 2: Adding image source for detection.
- Step 3: Prediction with accuracy
- Step 4: Properties and speed discrimination.

1.3 Usability: It not only useful for the detection of Aircraft's, ships & missiles. But it also useful for rescue the people in Natural disasters like floods. It will be usable for different applications other than Diffense Intelligence operations like women safety, Animal Conservation by detecting endangered species easily, Used for navy, rescue the fisherman when they are in problem.

2. BACKGROUND

2.1 Details of platform : The language that used in the project is python & Editor is Jupiter Notebook. For making Classifier Cascade trainer GUI (version 3.3.1) is used. Dataset images are extracted from Google Earth.

2.1 Source of Input : It will take the satellite images for detection. We can also use this model with Unmanned Aerial vehicle having Webcam and other vedio or image sources for detection.

2.3 Brief note on the Technology : The technology that used for source is Remote sensing and for model making is Deep Learning with convolucional Neural network. In the model default webcam is used.

2.4 Model Architecture :

- #1. The model reads the Datasets with required libraries than it Discriminates the label & features.
- #2. Converting the BGR images to gray scale image. Also by reshaping it into 100/100. and storing the data in numpy array.
- #3. Then divide the numpy array with 255.0 then we wil get 0 or one at that pixel. Then the training is more efficient.
- #4 Convolutional Neural Network can be formed and the flattened dense layer is about 50 nuerons & end with 2 neurons. Maxpooling size of(3*3). Convolutional 2D layer is taken as input.
- #5. Training the model by using crossentropy and rmsprop optimizer. And measuring the Accuracy.

Data Visualization :

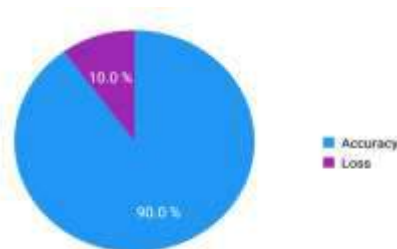


Figure Fig 2.4.1(a) accuracy & loss Visualization

These are the Accuracy & Losses of the Two epoches as shown in fig 2.4.1(a)

#6. Reading the cascade classifiers. Which is made with positive and negative Images. For detection of the objects.

2.5 Predicted Images :

#7. By taking the image source from the default camera. Then it will convert it into the gray scale image and also reshape it to 100/100 then make it into four dimensional array.

By adding the video or image source to the above model. Then it starts predicting as shown in fig 2.5.1(a).& fig 2.5.1(b)

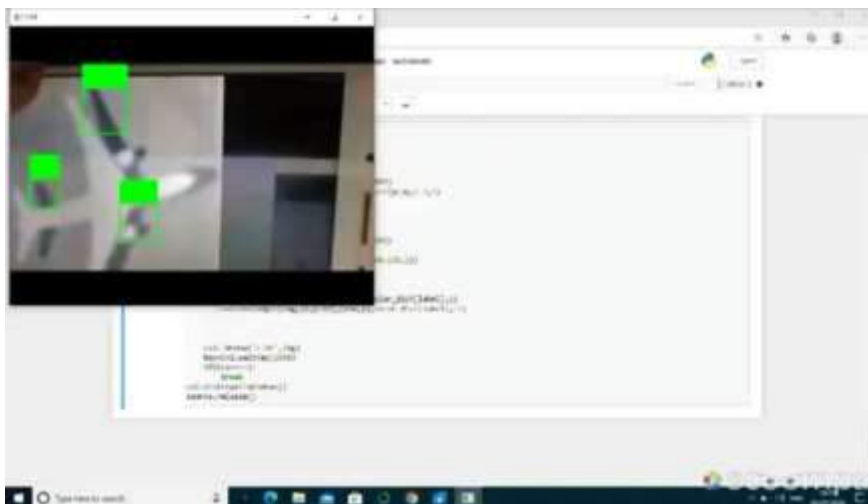


Fig 2.5.1(a) predicted image with 80% accuracy

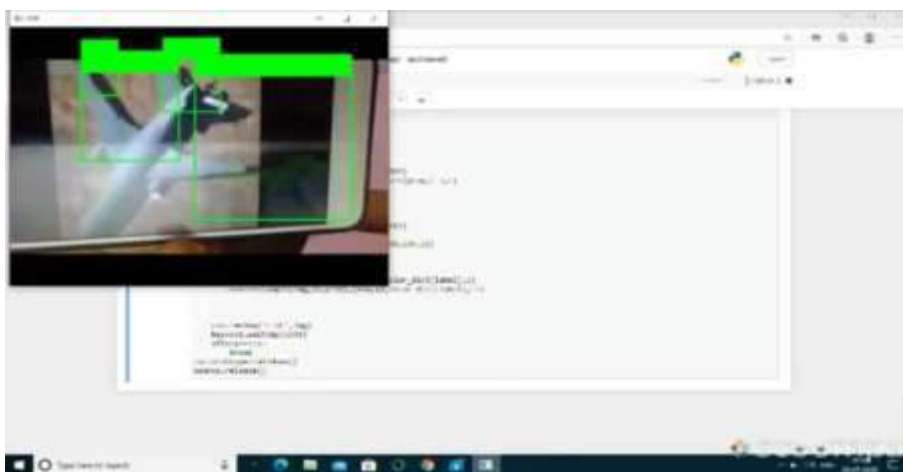


Fig 2.5.1(b) predicted image with 70% accuracy

1.4 CONCLUSION

It will be useful for different applications by changing the training datasets & Source of Input. The advantage of the model it not only predicts but also discriminates the properties. And improve it's accuracy by number of predictions.



AIR POLLUTION AND HEALTH: PARTICULATE MATTER PM_{2.5} MEASUREMENTS IN CANTONMENTS, GHANA

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ABSTRACT

Particulate matter (PM) air pollution research has improved our understanding of major pollution sources and the quantification of their impact. Although several PM studies have been conducted in Accra, Ghana, in recent decades, few have offered an integrated knowledge of PM sources in the various sub-cities. The purpose of this study was to consolidate data and investigate additional aspects of PM investigations of Cantonments, a residential neighborhood in Ghana's capital. There is evidence of poor air quality in Accra, particularly during the dry season (Harmattan season). From December through February, a severely dry, dusty easterly or north-easterly wind sweeps over the West African coast, causing Harmattan. The PM_{2.5} concentrations for Cantonments for two years and the average monthly air quality indices were analysed and discussed. The results reveal the need to regularly check the daily air quality indices and curb their impacts since it has a notable health effect on the general public.

KEYWORDS: PM_{2.5}; Air pollution; Public health; Accra; Ghana

I. INTRODUCTION

Particulate matter, or PM for short, refers to small particles in the air that, when inhaled, can cause major health issues. PM may be classified mostly as PM₁, PM_{2.5}, and PM₁₀, but a recent study has revealed another group, PM_{0.1}¹. PM_{2.5} and PM₁₀ are particulate matters with diameters less than 2.5 and 10 micrometres (µm) respectively. Reports suggest that PM_{2.5} is by far the most harmful since it damages the lung cavity^{2,3}. PM is composed of solid and liquid particles that are released into the atmosphere as a result of diesel usage, vehicle and agricultural dust, and construction emissions⁴. The structural, molecular, physical, and meteorological features of PM are diverse. It remains suspended in the air and pollutes it due to its size, density, heat conditions, and wind speed^{5,6}. Primary PM: this includes soot produced directly into the atmosphere by industrial activities such as electricity-generating power plants, fuel vehicles, and private cars. And secondary PM: is formed in the atmosphere from primary gaseous pollutants like SO₂ and NO₂ gases⁷.

According to the Global Burden of Disease (GBD) research, PM_{2.5} causes 5 million deaths per year. Because of their size, they may amass more than PM₁₀, travel longer distances, get sluggish in the atmosphere, stay in the air longer, and disperse far⁸. The consequences have a detrimental impact on the well-being of humans and other living organisms and the ecosystem as a whole. Long-term exposure causes respiratory disorders^{9,10}, neonatal mortality¹¹, insomnia¹²,

age-related macular degeneration¹³, and even malignancies of different types.

The city of Accra is the capital and also the largest in Ghana. Accra has a land area of 225.67 km² (87.13 sq mi) and a population of 4.2 million people as of 2020. It is divided into 12 local government districts: 11 municipal districts and the Accra Metropolitan District, which is the capital's sole district having city status¹⁴. Cantonments is an upper-middle-class neighbourhood of the city, in the La Dade-Kotopon Municipal District, in the Greater Accra Region of Ghana¹⁵. Several dignitaries in the nation, notably the American, Chinese, Norwegian, Mexican, and Bulgarian embassies, as well as Australian, Sierra Leone, and European Union high commissioners are located in the Cantonments area. Due to the nature of the settlement there, there are no known industrial activities there.

Conforming to the Ghana Living Standards Survey VI, approximately 51% of country homes use firewood, whereas roughly 27% use charcoal. This brings the entire ratio of families using dirty fuels to over 78 per cent, with LPG making for only 17 per cent of the total. More than half (52.5%) of Greater Accra Metropolitan Area (which includes Cantonments) households use charcoal, compared to only 27 per cent in other metropolitan areas around the country. In comparison, firewood is used by more than three-quarters (79%) of rural families, whereas LPG is used by only 4.2 per cent¹⁶⁻¹⁸.



Government and non-government air quality monitoring networks encourage data exchange through network engagement by the public. The Air World Quality Project, for example, gathers and publishes near real-time pollutant concentration estimates on a web-based public platform¹⁹. Under conventional modalities of knowledge creation, data-sharing activities shift the consumer from a passive recipient of air quality information to an integral role in the collection and distribution of air quality data²⁰. The Environmental Protection Agency (EPA) in Ghana frequently analyzes and collects data on air quality. Accra has been one of the most reliable sources of long-term trends in air quality throughout time. However, EPA-Ghana has several challenges in acquiring this data, including funding constraints and malfunctioning equipment, but the current monitoring network has been started since 1997, with only minor interruptions. Furthermore, during the last twenty years, EPA-Ghana has conducted several specialized studies to assess air pollution in specific geographic areas or from specific sources²¹.

EPA-Ghana began measuring the quality of air in Accra in 2011, and by 2015, 24 hr PM₁₀ and PM_{2.5} samples were being taken at about 10–11 roadside stations. Only monthly summaries were provided, and the majority of the PM_{2.5} data was for 2015. The data from March to November (classified as non-Harmattan season) showed PM_{2.5} levels at selected roadside sites namely South Industrial Area and Graphic Road were averaged at 82 µg/m³ and 93 µg/m³, and 88 µg/m³ and 57 µg/m³ for 2015 and 2017 respectively²². The EPA samplers utilized for taking these readings were positioned in cages about 5 meters above ground level with an interval of 3.5 meters away from building structures, trees, and other impediments, often within an arc of 270-360 degrees to allow unobstructed air passage.

Another study presented by Arku et al.²³ featured the measurement of two low-incomed suburbs 5 km from each other in Accra (Jamestown and Nima). In both communities, around 80% of homes utilize charcoal and/or wood as their major source of energy. The major highways and most local roads in both neighbourhoods are paved, however, there are some unpaved lanes. Street food cooking and selling are highly widespread in both places; practically they all utilize biomass fuels. The results reveal that average monthly PM₁₀ levels in these two areas varied from 58 to 94 µg/m³ and PM_{2.5} levels ranged from 22 to 40 µg/m³. The detected values in their study were compared with earlier short-term studies on the African continent, such as PM₁₀ and PM_{2.5} concentrations of 97 µg/m³ and 86 µg/m³ in South Africa. PM pollution is also prominent and intensively researched in other African nations along the Gulf of Guinea coast, including Benin, Nigeria, and Cote D'Ivoire²⁴.

Elevated air pollution emissions are expected to result in increased concentrations of particulate matter PM_{2.5} in the Cantonments area and the city of Accra as a whole, with the average concentration above the suggested guideline limit of 15 µg/m³^{25,26}. From December to March, the Harmattan winds (northeastern trade winds) carry dry air from the Sahara to the country, particularly the city of Accra. During dry seasons (Harmattan season), dust storms that reach deep into vicinities

such as Cantonments predominate the contribution of Saharan dust to air pollution in the form of PM_{2.5}. As a result, PM_{2.5} concentrations are quite high throughout this period. The study aims to determine the extent of particulate matter PM_{2.5} concentrations in the selected Accra suburb (Cantonments) to aid in future planning to avoid a massive increase in PM_{2.5}. And also evaluate the efficacy of the action plans of the previous year.

II. GHANA'S ACTION PLAN INTERVENTIONS ON HEALTH AND AIR POLLUTION

Air pollution affects all and sundry; nevertheless, the poor seem to suffer the most. Intervention measures and investments in air quality control, including investments in waste management, walking and cycling, and green spaces promote clean air as well as generate important health and economic benefits and co-benefits. For Accra, according to WHO Urban Health Initiative, it is anticipated that health benefits, in terms of direct health care costs averted to the public health system and ill-health of people and the loss of income, and also mortality costs would well exceed the total investment costs of interventions to control all key sources of air pollution in the city – from transport to waste management²⁷. As per Mr. Ebenezer Appah-Sampong (Deputy Executive Director/Technical Services of the EPA), the execution of measures leads to a progressive reduction in Accra's ambient particulate matter levels.

Ghana has been committed to aggressive actions related to Air Quality and Health and is acknowledged as the first country in the world to officially include Short-Lived Climate Pollutants (SLCPs) and other air pollutants into their fourth National Greenhouse Gas Inventory submitted to the United Nations Framework Convention on Climate Change (UNFCCC). The country has made progress through a series of ambitious national action plans to control and minimize health risks related to air pollutants. The main laws that govern air quality in Ghana are the Environmental Protection Agency Act 1994 (Act 490), and the Environmental Assessment Regulations 1999 (LI 1652), which focus on regulating industrial activities. In 2018, Ghana also made public the standards for Environment and Health Protection – thus Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236), and motor vehicle emissions (GS 1219)²⁸. These planned actions, regulations, and legislation draw inspiration from Articles 36 (9) and 41 (k) of the National Constitution, which place the responsibility for environmental protection on both the government and the people.

The Environmental Protection Agency (EPA-Ghana) published the Air Quality Management Plan and associated communication plan for the Greater Accra Metropolitan Area (GAMA) to be adopted by the authorities. EPA-Ghana collaborated with the World Bank and the US-EPA to deploy an enhanced air quality monitoring network, including improved data assessment and reporting. Thus according to them, if the city of Accra adopts a new Air Quality Management Plan, many lives might be spared each year from respiratory and cardiovascular illness, as well as asthma-



related medical visits, in 2030 and beyond²⁹. The action plan included proposals for stricter national emissions standards for vehicles and fuels, industry, and waste burning, along with ambient air quality levels. New Analyses also contributed to projecting future health burdens related to air pollution in the region and beyond. "Since 2015, the US-EPA has collaborated with the Ghana-EPA under the Megacity Partnership, establishing capacity to assess the effects of air pollution reduction measures. When these regulations become the basis of the Air Quality Management, they will considerably enhance the health of individuals living and working in Accra," as emphasized by the Head of Environmental Quality at Ghana EPA. However, some challenges persist with the Air Quality Management Plan. These challenges include inadequate funds and logistics for air quality monitoring, pollution-related health studies, education, and awareness creation by health stakeholders among others; damages to roadside air monitoring stations by vehicular accidents, construction works, and theft of portable monitoring equipment, and; poor electrical supplies to the stationary monitoring stations³⁰. For the Air quality monitoring system, air quality is monitored although not in all areas of interest.

As pollution exposures and related illnesses become more prevalent, the Health and Pollution Action Plan (HPAP) was developed to aid governments in identifying, analyzing, and prioritizing current pollution concerns based on health implications. The HPAP also provided extensive information on the key causes of Ghana's pollution problems, as well as recommendations for minimizing their human health implications. A paradigm for addressing pollution was established, within which to pursue an organized approach jointly, following the route of national efforts to combat the issue. To maximize the utilization of resources, there is a need to do away with duplicating efforts, promoting the ability of monitoring and evaluate progress towards the impact of pollution on our health³¹. This habitually will boost the health of our human resources and enhance efforts to build an economically productive and ecologically sustainable society.

In 2016, the first-ever Megacity Partnership between the United States Environmental Protection Agency (EPA) and Ghana EPA presented how decision support tools, such as the BenMAP-CE software, could be utilized in diverse situations to assess the health liability of air pollution. Many of the most rapidly growing urban areas in developing countries experience an amount of health and climate influence from air pollution but have limited data, resources, and capacity to address it³². As a result, the Megacities Partnership was created to help selected nations in developing air quality management strategies that can be adopted across cities in Africa and other parts of the world. Many other African regions may learn from the Ghana EPA's model, which other developing-country cities can replicate for air quality control strategy.

One of the behaviours that contribute to poor air quality is uncontrolled waste combustion. The waste management regulation of 1991 governs the reduction of emissions from the open burning of agricultural or municipal garbage (outdoor). The formation of the Environmental Health

and Sanitation Directorate (EHSD) resulted in the development of the National Environmental Sanitation Strategy and Action Plan (NESSAP) and the Strategic Environmental Sanitation Investment Plan (SESIP). Among other things, the National Environmental Sanitation Strategy and Action Plan (2010) is an action plan designed to reduce the open burning of municipal and/or agricultural trash and to promote revenue mobilisation. To further enhance the environmental quality of urban living, the National Urban Policy Framework and Action Plan (2012) was launched to highlight the necessity for vigorous public education and legal enforcement against repugnant public attitudes and behaviour that contribute to environmental degradation. These implementations are believed to be steps in the right direction, but the problem persists, particularly in rural regions.

Air quality monitoring in Ghana is frequently confined to a few areas, most of which are in Accra. The Environmental Protection Agencies (EPA) are under-resourced, with employees lacking the necessary technical know-how for air quality monitoring. Aside from that, data collected by the EPA is frequently inaccessible to the public, making it difficult to conduct meaningful air pollution research and hampering the impartial evaluation of air pollution management policies³³. Various researchers have highlighted that low-cost sensors might be an ideal chance to overcome the air pollution data gap³⁴. In light of this, the Ghana Urban Air Quality Project (GHAir) was founded in May 2019 with the overarching purpose of closing Ghana's air pollution data and epidemiologic study gap. This initiative has currently installed low-cost sensors, a combination of PurpleAir sensors, Clarity nodes, RAMPs, and Modulair-PM, in five Ghanaian metropolitan areas³⁵. Through these deployments, the initiative has established significant cooperation with metropolitan authorities, particularly the Accra Metropolitan Assembly (AMA).

Indoor air pollution is among the world's major environmental concerns – predominantly for the deprived population in the world who often do not have access to clean fuels for cooking. From the GBD study, 2.31 million deaths were accredited to indoor pollution³⁶. Generally, some Ghanaians depend on biomass sources, particularly wood fuels and charcoal, for household needs (cooking, space heating, etc.). Government statistics place biomass fuel consumption at slightly more than 60% of total energy consumption in Ghana³⁷. Air pollution from indoor sources is the single largest contributor to the negative health effects of air pollution in Ghana. There has not been a policy for indoor air pollution regulated but various interventions including the introduction of a newly improved clean stove; promotion of the use of liquefied petroleum gas (LPG) and subsidized LPG cylinders for rural areas have been put in place³⁸. However, in 2012, Ghana made plans for significant programmes to extend access to LPG in both rural and urban regions. Ghana's Ministry of Energy launched the "Rural LPG Program" which provided free cookstoves and discounted gas to rural populations was launched by the Ministry of Energy subsequently³⁹. All these intervention measures have realistically achievable objectives to control and minimize if not eradicate the current situation

concerning health-related risks associated with air pollution. As emphasized earlier, the burden relies not only on the state but also on the cooperation of the citizens.

The Gyapa project which was initiated in 2002 is one of the longest-running cookstove programmes. The initiative which began in Accra and Kumasi, aimed to reduce smoke and PM levels in urban and rural homes by building a sustainable supply chain for better cookstoves and raising awareness of the health concerns caused by air pollution. Gyapa which means good fire in the Akan dialect (One of the Ghanaian languages) is similar to the Rocket stove concept but has a ceramic liner. The ceramic liner is made from a proprietary composition that combines many clays and binders to improve heat retention, fuel economy, durability, and lightweight. According to the project partners, air quality increased by 40 to 45 %, and children under the age of five were 25 % less likely to die from respiratory disorders⁴⁰⁻⁴⁴.

III. MATERIALS AND METHODS

Cantonments was selected for this study due to recent high levels of PM concentrations observed from real-time monitoring systems. The area is known to have a lot of government offices, diplomatic offices, schools and homes for

various expatriates. There are little or no industrial activities in that environment to make up for the high levels of pollution in the area, especially outside the Harmattan seasons. Figure 1 (a) is the map of Ghana with Accra located in the south. Within Accra, the suburb of Cantonments is enlarged in Fig 1 (b-c) showing both spacial and satellite images. The physical sensors have been reported to have proximity to the United States embassy in the vicinity. The city has a dry equatorial climate with two rainy seasons all year. The first season runs from May to mid-July, while the second runs from mid-August to October. It has the lowest annual rainfall in the country, with an average of 730mm. The relative humidity level is often high, ranging from 65% during the day and 95% at night. The temperature varies just significantly throughout the year. With an annual average temperature of 26.8°C, the monthly average temperature ranges from 24.7°C in August (the coldest month) to 33°C in March (the warmest month)⁴⁵. Data on the PM_{2.5} concentrations for Cantonments were obtained from the online platforms of The World Air Quality Project's website (<https://aqicn.org/data-platform/register/>). The historical data spans from April 2020 to August 2022. The collected data were compiled and analysed for usage with OriginPro and Microsoft Excel.



Figure 1 (a) The location of Accra on the map of Ghana (Generated from Mapz.com); (b) Map of Cantonments (c) Google map satellite images of Cantonments.

IV. RESULTS AND DISCUSSION

The PM values are usually very high during the Harmattan season. Figure 2(a) is the real-time air quality index (AQI) measurements from four stations in the city of Accra as 204, 169, 184, and 183 $\mu\text{g}/\text{m}^3$ for Cantonments, Dzorwulu intersection, Roman Ridge, and Tetteh Quarshie Interchange respectively on the 21st January 2022. The selected date was significant because the Harmattan winds arrived in the city on the said day. The figures are quite alarming showing increases which are about twice the values in just one week. Cantonments is within a very unhealthy region and this is appalling for adults and children with asthma or other

respiratory diseases. The results from the other stations were within the unhealthy region which is also quite baleful. These values change on daily basis and it's solely dependent on the recent levels of pollutants detected by the devices in the various measuring stations. Figure 2(b) gives us the summary of the monthly readings from 2020 to 2022 at the Cantonments measuring station. This information obtained from the Air Quality Historical Data Platform showed an increasing trend in the levels of air pollution within 2 years. These data also confirm the fact that October and May are the cleanest months of the year in the locality. Conversely, the poor air quality measured between December and March is general for the

harmattan season⁴⁶. This confirms the findings by Dionisio et al in 2010⁴⁷. Comparatively, December 2021 had higher levels than December 2020. Reports suggest 2020 has low levels due to COVID-19 lockdowns and restrictions which minimized major vehicular movements⁴⁸⁻⁵¹. The colour codes on the World Air Quality Project’s online platform represent lighted colours for good or fair quality and dim colours for very unhealthy and hazardous respectively. The first colour represents "good" and spans from 0 to 50, and the pollution level is deemed to pose little or no harm. The air quality range of 51 – 100 is satisfactory but may pose a moderate health risk to a very limited number of individuals who are extremely sensitive to these pollutants. People with a history of respiratory disorders are usually advised to restrict their time

spent outdoors for an extended period. The average person is unlikely to be affected between the range of 101 – 150. But some sensitive groups may suffer from health consequences. In addition, the “unhealthy” and “very unhealthy” ranges are denoted by bright red and purple colours that can be felt strongly between 151 – 200 and 201 – 300 respectively. The last group includes air quality indices exceeding 300, which are extremely dangerous for the whole population, regardless of past health issues. The various ranges can be categorised as A,B,C,D,E and F for the intervals 0-50, 51-100, 101-150, 151-200,201-300 and ≥ 300 respectively as depicted in Table 1. The table summarises the average monthly values during the period of the study.

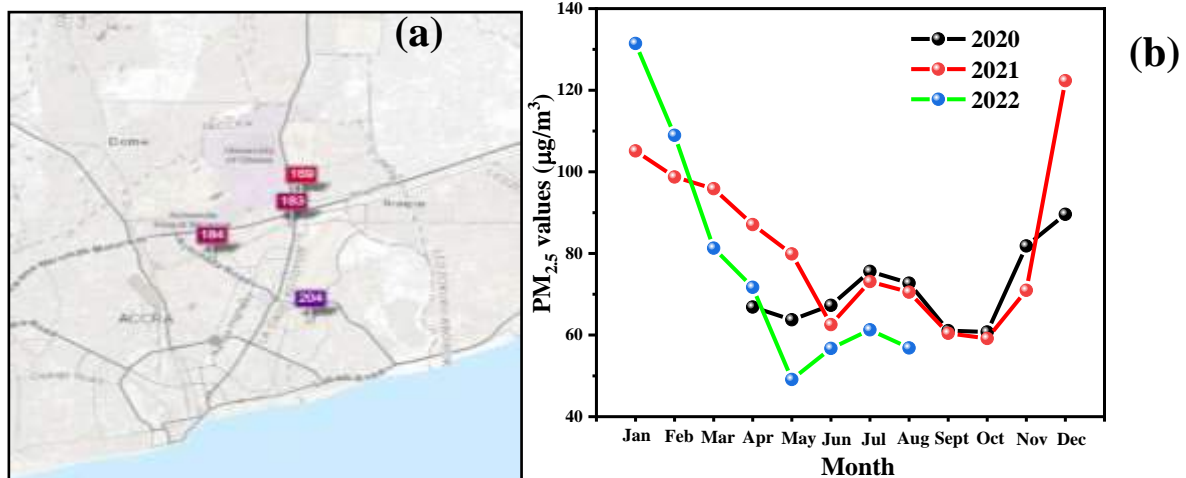


Figure 2. (a) Real-time Air Quality Index of Cantonments and Dzorwulu intersection, Roman Ridge, and Tetteh Quarshie Interchange (Ghana Urban Air Quality Project); (b) Average monthly PM_{2.5} measurements for Cantonments from 2020 to 2022.

Table 1 Average monthly PM_{2.5} measurements for Cantonments from April 2020 to August 2022 and their various air quality categories.

Month	2020	Category	2021	Category	2022	Category
Jan	-	-	105.13	D	131.45	E
Feb	-	-	98.74	C	108.94	D
Mar	-	-	95.87	C	81.29	C
Apr	66.87	B	87.06	C	71.71	D
May	63.74	B	79.87	C	49.10	A
Jun	67.29	B	62.55	B	56.74	B
Jul	75.61	C	73.13	B	61.29	B
Aug	72.71	B	70.50	B	56.84	B
Sept	61.10	B	60.45	B	-	-
Oct	60.74	B	59.16	B	-	-
Nov	81.84	C	70.97	B	-	-
Dec	89.58	C	122.35	C	-	-



The historical data for the other stations in Fig. 2(a) were inaccessible from the online platform. This limitation hindered the long-term comparison, which can be very informative to ascertain the main levels of the other stations all year round. The data for the pollutants such as NO₂, CO and CO₂ were also unavailable. Obtaining this information in the future can be a driving force to also identify the main activities that make Cantonments quite higher than the others during the harmattan season. Figure 3 gives the detail of the daily PM_{2.5} measurements taken from April 2020 to August 2022. This confirms the earlier mentioned observation that December, January and February have the highest readings all year round. The daily readings for January and February recorded $\geq 200 \mu\text{g}/\text{m}^3$. This must have been very uncomfortable and unhealthy for people with various respiratory conditions.

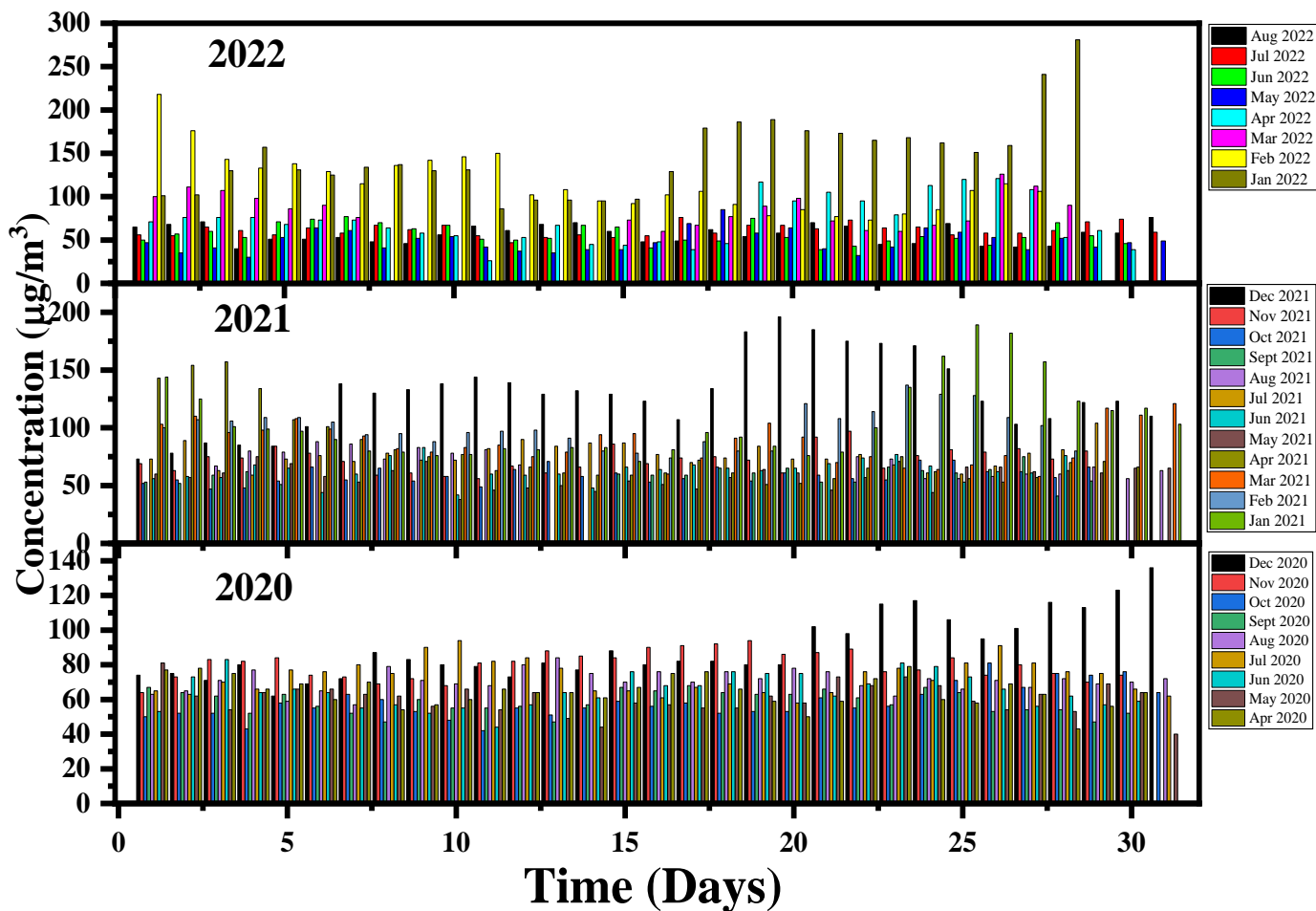


Figure 3. Daily PM_{2.5} concentrations for the monitoring station in Cantonments from 2020 to 2022

V. CONCLUSIONS

There is no dispute that PM_{2.5} has become a major source of air pollution in many fast-growing cities. PM_{2.5} not just pollutes the environment, but also affects public health. Over the last few years, there has been a significant increase in the level of pollutants in the city of Accra, which has had a direct impact on the country's air quality. From the real-time historical data taken for Cantonments, there was an increase in the highest recorded average monthly values: 89.58 – December 2020 and 122.35 – December 2021, and 105.13 – January 2021, 131.45 – January 2022 respectively just for a small portion of a residential area in the city. Many studies that investigated a link found strong and substantial evidence between outdoor ambient air pollution, particularly PM in outdoor air, and ill health and death. Overall, we know that

low- to medium equipment, as well as good maintenance and an emphasis on identifying local sources, may be utilized to define further increases in PM levels in complex industrial and urban regions. Such initiatives can resolve the lack of information on air quality in vicinities in Accra, where pollution levels frequently exceed air quality standards. The deductions from this study which stipulate the levels of PM_{2.5} in Cantonments, also provide substantial support for policymakers as a useful instrument for better understanding and aiming to maximize further action plans for the environment and the development of the country as a whole.

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Conflicts of Interest The authors declare no competing interests.

Compliance with ethical standards

Research involving human participants and/or animals No human participants or animals were involved in this research.

Informed consent No human participants or animals were involved in this research

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MODERN APPROACHES TO ANTIBIOTIC THERAPY FOR CHRONIC LUNG DISEASES IN CHILDREN

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ANNOTATION

Chronic respiratory diseases, which began in childhood, are the cause of disability not only for children, but also for the adult population. Thus, according to the latest data, the incidence of obstructive pulmonary disease has increased by 3.2 times. Some mechanisms for the development of their progression in children have not been fully disclosed. In recent years, the number of antibiotic-resistant strains of microorganisms has increased, which contributes to the progression of lung tissue damage and worsens the prognosis of the disease. In solving the problem of the rationality of antibiotic therapy, an extremely important place is occupied by the issue of creating effective therapeutic concentrations of an antibiotic in a chronic focus of pulmonary inflammation. The effect of antimicrobial therapy is determined not only by the correct choice of the drug, but also by the method, its dose and frequency of administration. One of the effective methods that improve the results of treatment is physiotherapy procedures used in the complex treatment of CLD.

KEY WORDS: *chronic lung diseases, patients, microbial flora, antibiotic therapy.*

For more than 100 years, the attention of pediatricians has been attracted by the problem of treating chronic nonspecific lung diseases and their complications in children [1,5,9,10,13,21]. In modern conditions, the role of rehabilitation is increasing, since the reform of the healthcare system implies a reduction in the length of the patient's stay in the hospital and a shift in the emphasis of medical care to the rehabilitation and outpatient stages [3,7,11,18]. Therefore, works devoted to the search for new treatment regimens for Chronic Lung Disease (CLD) in children are relevant for pulmonology.

Treatment of CLD is complex and includes antibiotic therapy, muco- and bronchodilators, vitamin therapy, kinesitherapy, physiotherapy, sports, and treatment of its complications. [4,6].

According to modern concepts, infection is the cause of exacerbation of CLD in 50-60% [2,14,20]. The problem of antibiotic therapy of chronic inflammatory lung diseases constantly attracts the attention of pediatricians. The detection of the causative agent of a bacterial infection in chronic inflammatory lung diseases is one of the main prerequisites for rational antibiotic therapy [6,8,10]. It should be noted that the spectrum of bacterial flora in chronic inflammatory lung diseases has changed significantly. Staphylococcus was previously the most common causative agent of pneumonia, according to most authors, today it has lost its primary

role [4,10,15].

In the last decade, the results of bacteriological studies carried out in chronic lung diseases in children have shown a variety of isolated flora. Most often, pneumococcus, influenza bacillus, staphylococcus, streptococcus are found in the respiratory tract, less often other types of pathogens [4,16,17].

Studies of bronchial secretion samples, performed by a quantitative method using selective nutrient media for the isolation of pneumotropic pathogens, showed that the main etiological significant pathogen in chronic pyoinflammatory lung diseases in children is pneumococcus, isolated in monoculture and in association in 66% of patients, and coli influenza, which occupies the second place in the frequency of inoculation (45%) and occurs both in monoculture and in association with pneumococcus [19].

As observations show with a mild exacerbation of chronic bronchitis, the most common clinically significant microorganisms are non-typable and non-encapsulated forms of H. Influenzae, S. Pneumoniae, M. Catarrhalis [1,6]. With more severe exacerbations, often requiring hospitalization in intensive care units, the proportion of the above microorganisms decreases and the proportion of H. Influenzae producing β -lactamase, gram-negative bacteria, in particular various species of Enterobacteriaceae, P. Aeruginosa, increases.

According to Ageikin V.A. [1] in the sputum of



patients with chronic inflammatory lung diseases in children, two predominant pathogens are found: Haemophilus influenzae in 60-70% and pneumococcus in 35-40% of patients. In a small number of children (5-10%) Moraxella catarrhalis is sown, which is sown both in monoculture and in associations. The author also claims that Haemophilus influenzae is sensitive to protected penicillins (amoxicillin), as well as cephalosporins of 2-3 generations.

The authors point out that serological research methods were not inferior to microbiological seeding in terms of sensitivity and specificity, and their complex use is most effective for determining the etiological significance of Haemophilus influenzae in the development of exacerbation of chronic bronchitis. The combined use of microbiological and immunological methods makes it possible to detect not only microorganisms, but also the products of their destruction and the reaction of the immune system to the corresponding irritation. Summarizing the above literature data, it can be noted that bacteriological monitoring in chronic inflammatory lung diseases in children is one of the criteria for the severity of the pathological process and helps to choose a rational antibiotic therapy regimen.

Summarizing the above literature data, it can be noted that bacteriological monitoring in chronic inflammatory lung diseases in children is one of the criteria for the severity of the pathological process and helps to choose a rational antibiotic therapy regimen.

One of the reasons for the transition of acute pneumonia to chronic is a decrease in the sensitivity of pathogens to antibiotics. This is due to the widespread use of various antibiotics, in connection with which the selection of resistant forms of microorganisms takes place [19].

Determining the sensitivity of the microbe to antibiotics is of particular importance in chronic inflammatory diseases of the lungs, in which, due to repeated and prolonged antibiotic treatment, the sensitivity of the microbial flora often changes. The data of the above literature once again confirm that antibiotic therapy is the main method of treatment and elimination of exacerbation of chronic inflammatory lung diseases.

The basis for prescribing antibiotic therapy for chronic inflammatory lung diseases is the diagnosis of the infectious nature of the exacerbation, which meets

the criteria of Anthoniesen N.R. et al. [21] the presence of 3 main signs: an increase in sputum volume, an increase in its "purulence" and an increase in shortness of breath (I type of exacerbation). An indication for the appointment of AP may also be the presence of two of the above signs (type II exacerbation), but purulent sputum should be a mandatory sign. The observations made by Stockley R.A. et al. showed that in chronic nonspecific lung diseases there is a close correlation between purulent sputum and the presence of microorganisms in it.

The effectiveness of antibiotic therapy in chronic inflammatory lung diseases remains an urgent problem. At the same time, it is known that the cure of a focal infection can be achieved only if the site of its direct action is adequately provided with an antibiotic. However, it is not easy to create the necessary therapeutic concentrations in the lung in chronic diseases, since drugs hardly penetrate into the foci of chronic infection. This is due to the development of pronounced fibro-sclerotic changes and impaired vascularization of the lung tissue, the presence of persistent bronchial dyscrinia and obstruction. Therefore, it is important to choose a method of therapy that maximizes the focus of inflammation in the lungs with antibacterial drugs.

Taking into account the prevailing pathogens and their drug sensitivity in chronic lung diseases in children, antibiotics of the penicillin and cephalosporin series, macrolides are used [2,6,11,12,18,21].

In the treatment of chronic inflammatory lung diseases in children and adolescents Volkov I.K., Katosova L.K. [13] give preference to parenteral administration of drugs and the appointment of the maximum allowable therapeutic doses. For this purpose, the authors used Rocephin in 67 children with COPD in children at a dose of 50-80 mg/kg once a day intravenously. The duration of the course ranged from 7 to 13 days. During treatment with Rocefin, complete eradication of M. catarrhalis, S. Pneumoniae and S. Aureus was noted. In 8.9% of patients, the seeding of H. infuenzfe remained and in 2.9% of patients - P. Aeruginosae. Side effects were detected in 3% of children who had dizziness on the background of jet administration of the drug, in 3% of children - intestinal dysfunction, in 10.5% of patients an increase in the



amount of *Candida* fungal flora in sputum was noted.

Bronchoscopic and intratracheal methods of drug administration significantly increase the effectiveness of therapy, especially in the bronchiectasis form of chronic pneumonia and in severe purulent lesions of the draining bronchus. In a very severe course of the disease, there is a positive experience with the introduction of antibiotics into the pulmonary artery system.

It has been established that the distribution of the antibiotic in the lungs depends on the nature of tracheobronchial secretion, on the partial binding of the drug to serum proteins and bronchial secretions, on the degree of endobronchitis activity and the individual characteristics of the child's body [11,21]. Inadequate concentration of antibiotics is one of the main components that adversely affect the results of the treatment of chronic lung diseases. [12,18].

In order to develop optimal antibiotic therapy regimens for chronic pneumonia in children during the period of maximum activity of the infectious-inflammatory process in the bronchi, intramuscular antibiotics were used for 10–12 days [2]. At the same time, the same drug in the average age daily dosage is administered endobronchially with an interval of 3 days. As the activity of endobronchitis subsided, the intramuscular administration of the antibiotic was canceled, and the drug was administered only endobronchially at the age-specific daily dosage after 5 days.

Traditional methods of antibiotic therapy do not always provide the desired results. This is due to the difficulty of eliminating the infection from the focus of chronic pulmonary inflammation, frequent relapses of bronchitis, a decrease in the activity of local airway protection factors and an increase in the number of antibiotic-resistant strains of microorganisms (6,12,18). The parenteral route of administration of antibiotics does not allow to obtain the desired result, since the antibiotics circulating in the blood do not penetrate in the required amount through the fibrous-modified lung tissue into the focus of infection. The introduction of large doses of antibiotics does not solve the problem of treating chronic lung diseases in children. This increases the possibility of toxic and allergic reactions [12,21].

In recent years, endobronchial administration, ultraviolet laser irradiation, ozone therapy in

combination with antibiotics, and subanesthetic endobronchial ultrasonic injection-aerosol spraying of antibiotics have begun to be used in the treatment of chronic pneumonia [2,11,19].

However, the widespread use of antibiotics has contributed to significant changes in the nature of the microbial flora. There is an increase in antibiotic-resistant strains of microorganisms and an increase in pathogenic properties and potentially pathogenic microorganisms [6,11,12]. All this requires a periodic review of some principles of antibiotic therapy, among which the principle of the effect of antibiotics on bronchopathogens is of particular importance.

Thus, one of the reasons for the low efficiency of traditional methods of antibiotic therapy is the impossibility of creating the optimal concentration of antibiotics in the lymphatic system, which is the main route for the spread of infection [2,11,18,19]. An attempt to create high concentrations of antibiotics in the lymphatic system by traditional methods is accompanied by toxic and allergic reactions, leading to immunodeficiency [2,12,16]. Therefore, the effect of antimicrobial therapy is determined not only by the correct choice of the drug, but also by the method, its dose and frequency of administration. One of the effective methods that improve the results of treatment is physiotherapy procedures used in the complex treatment of CLD. At present, the impact of ultrasonic (US) waves has become widely used. Ultrasound therapy has an anti-inflammatory effect, affects blood and lymph circulation, the state of nervous regulation, and proliferative-trophic processes in the body.

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A STUDY ON GENDER DIVERSITY IN TOP AND MIDDLE LEVEL MANAGEMENT IN IT SECTORS IN INDIA

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ABSTRACT

Treating men and women equal has been a strive since a long time. When we are talking about Gender diversity in the workplace, it deals with equal opportunities for hiring and equal chance for promotional activities. According to the companies act 2013, the board requires at least one woman as a member. Information technology has been the biggest exporters of India and one of the largest hirers in the private sector. This research brings out the problems women face to continue work and to succeed in it. The current study also sheds light on the situation of gender diversity in Indian organisations and the most recent developments worldwide in the area of gender diversity and inclusion as an important strategic advantage.

KEY WORDS: Gender, diversity, workplace, Gender equality, IT sector.

1. INTRODUCTION

IT sectors now a days are stiving towards diversified skills and knowledge. Female representation is a societal idea that has attracted a lot of interest in the business environment. The board's structure affects an organization's policies and, as a result, how its stakeholders and customers perceive the organisation. The board composition includes the board's size, independence, and gender diversity. The %of women in the workforce and the key success metrics for gender diversity in the workplace are included in this paper's definition of gender diversity in top and middle level management. Female dominance is in the house where as it is the duty of the man to earn the bread and butter for his family. This paper also talks about the reasons women are not able to pursue their career. Gender diversity in organizations help achieve gender equality in different regions of the society as well. It is established through research the when there is equal participation from men and women in the management it has led to positive as successive growth of the company. When gender diversity had to be Implemented according the government rule the boards started pushing women from their house to just be the face. The inside decisions were taken only by the man ruling the organization. This paper talks about what %of women are there in the organizations across the IT sectors. It also deals with aspects leading to lack of women in managerial positions.

2. REVIEW OF LITERATURE

Maran Marimuthu and Indraah Kollandaisamy ,2009 believe that Gender does not have an impact on the financial performance of the company. Investors should be cautious about the unsafe approach of demanding homogeneity in top management. It is related to phenomena group thinking. Since most firms aim for long-term survival in the constantly

shifting business environment, whether regionally or globally, heterogeneity at the strategic level can never be ignored.

Sandrine Devillard, Sandra sancier- Sultan and Charlotte Werner , 2014 in their paper analyse the challenges faced by women to reach the top management and men's thoughts on women being in the top management. They have come to a conclusion that the women leaders can performance better in an organized way which can bring better financial stability for the company.

Vibeke ,2015 Lehmann Nielsen and Mikkel Bo Madsen published their paper stating that There is no significant relationship between gender diversity and satisfaction of the job. The results show that organisational gender diversity among female employees reduces their intentions to leave their jobs, but does not alter their level of job happiness. In general, it has no impact on men's intentions to quit their jobs or their quality of work life. As a result, an unequal influence between gender categories is the general signal. There are, however, distinctions between occupations. Public administration academic staff differentiates from the other professions. When compared to the trend, the relationship between gender diversity and turnover intentions for female academic staff in public administration is in the opposite direction, and for male academic staff in the same field, the association among both gender balance and intentions to leave is significantly inverse.

Tove Sarri and Linnea Troeng , 2015 talk about the methods of achieving gender diversity in top management. Consideration and work, core values and cultural restrictions, shared and genuine commitment and active recruitment phase are some of the factors required to achieve gender diversity in the top management.

According to a survey conducted by the Economics times,2022 IT companies are wanting to increase the female



%in the organization from 30% to 40% with several initiatives. Companies are also looking at hiring and then training female employees to help them attain the required skill set. Although 50% of women are recruited through universities, the %is different when it comes to hiring at mid-level positions. Consequently, there is a particular emphasis on employing across bands.

According to the most recent Nasscom Strategic Review,2022 women make up 36% of the entire workforce in the Indian IT services industry, with over 1.8 million of them employed to date. More than 200,000 women would be employed in FY2022 only, according to the research. Additionally, it states that the greatest employer of female in the private sector is indeed the \$200 billion IT services sector.

In a similar vein, Lyness and Thompson,2000 discovered that women executives reported a lack of cultural fit more frequently than male executives. Women were also

more likely to mention being excluded from informal networks as an impediment to their career advancement.

3. RESEARCH METHODOLOGY

The researcher opted the descriptive research strategy for the investigation. This survey included 150 respondents in total. The research tool used to gather the information as Primary data was questionnaire. The convenient sampling method was used, and ANOVA tool was used to examine, analyse and interpret the data that had been gathered.

4. ANALYSIS AND INTERPRETATION

A questionnaire was created and circulated among those working in the IT sectors.

Table 1: table showing the respondents opinion on the statement **Women are not able to take up a career due to family and parenting reasons?**

S.No	Opinion	%
1	Strongly Disagree	10%
2	Disagree	16%
3	Neutral	26%
4	Agree	39%
5	Strongly agree	9%
Total		100%

We can infer that 39% of the respondents agree that women are not able to take up career due to family and parenting reasons.

Table 2: Table showing the respondents opinion on the statement **Women are perceived to be less committed at the workplace?**

S.No	Opinion	%
1	Strongly Disagree	26%
2	Disagree	48%
3	Neutral	10%
4	Agree	10%
5	Strongly agree	6%
Total		100%

We can infer that 48% of the respondents disagree that Women are perceived to be less committed at the workplace.

Table 3: Table showing the respondents opinion on the statement **Company prefers males to be appointed heads of departments?**

S.No	Opinion	%
1	Strongly Disagree	12%
2	Disagree	41%
3	Neutral	25%
4	Agree	19%
5	Strongly agree	3%
Total		100%

We can infer that 41% of the respondents are disagreeing to the statement company prefers males to be appointed as head of the departments.



Table 4: Table showing the respondents opinion on the statement **The team does not accept a woman to lead the team?**

S.No	Opinion	%
1	Strongly Disagree	21%
2	Disagree	48%
3	Neutral	18%
4	Agree	7%
5	Strongly agree	6%
Total		100%

We can Infer that 48% of the respondents Disagree to the statement **The team does not accept a woman to lead the team?**

Table 5: Table showing the respondents opinion on the statement **Only the male manager can identify the right problem.**

S.No	Opinion	%
1	Strongly Disagree	45%
2	Disagree	45%
3	Neutral	6%
4	Agree	2%
5	Strongly agree	2%
Total		100%

We can Infer that 90% of the respondents Disagree to the statement that **Only the male manager can identify the right problem.**

Table 6: Table showing the respondents opinion on the statement **Only the male manager can take the exact corrective measures for the problem identified.**

S.No	Opinion	%
1	Strongly Disagree	43%
2	Disagree	44%
3	Neutral	10%
4	Agree	0%
5	Strongly agree	3%
Total		100%

We can Infer that 87% of the respondents disagree to the statement that **Only the male manager can take the exact corrective measures for the problem identified.**

Table 7: Table showing the respondents opinion on the statement **The team members implement the suggestion given by the female manager?**

S.No	Opinion	%
1	Strongly Disagree	19%
2	Disagree	56%
3	Neutral	19%
4	Agree	5%
5	Strongly agree	1%
Total		100%

We can Infer that 56% disagree to the fact that **The team members implement the suggestion given by the female manager?**

Table 8: Table showing the respondents opinion on the statement **Company conducts a Mentoring program in the company here to identify and prepare female employees for promotion?**



S.No	Opinion	%
1	Strongly Disagree	11%
2	Disagree	44%
3	Neutral	34%
4	Agree	9%
5	Strongly agree	2%
Total		100%

We can Infer that 44% of the respondents disagree to the statement that **Company conducts a Mentoring program in the company here to identify and prepare female employees for promotion?**

Table 9: Table showing the respondents opinion on the statement **The organizational Culture Supports to Achieve Gender Equality?**

S.No	Opinion	%
1	Strongly Disagree	11%
2	Disagree	44%
3	Neutral	34%
4	Agree	9%
5	Strongly agree	2%
Total		100%

We can Infer that 44% of the respondents disagree to the statement **The organizational Culture Supports to Achieve Gender Equality?**

Table 10: Table showing the respondents opinion on the statement **All my Colleagues adopt to the Gender Diversity Practices?**

S.No	Opinion	%
1	Strongly Disagree	29%
2	Disagree	54%
3	Neutral	11%
4	Agree	5%
5	Strongly agree	1%
Total		100%

We can Infer that 54% of the respondents disagree to the statement **All my Colleagues adopt to the Gender Diversity Practices?**

Table 11: Table showing the respondents opinion on the statement **There are Specific practices to change in your Organization in Gender Diversity?**

S.No	Opinion	%
1	Strongly Disagree	23%
2	Disagree	49%
3	Neutral	16%
4	Agree	10%
5	Strongly agree	2%
Total		100%

We can Infer that 49% of the respondents disagree to the statement **There are Specific practices to change in your Organization in Gender Diversity?**

Table 12: Table showing the respondents opinion on the statement **You must work harder at your job because of Gender Description?**

S.No	Opinion	%
1	Strongly Disagree	0%
2	Disagree	13%
3	Neutral	41%
4	Agree	37%
5	Strongly agree	9%
Total		100%

We can Infer that 41 % of the respondents are neutral to the statement **You must work harder at your job because of**

Gender Description? and no respondent strongly disagrees to the above statement.



Table 13: Table showing the respondents opinion on the statement **Men get promoted more than women at your workplace?**

S.No	Opinion	%
1	Strongly Disagree	14%
2	Disagree	42%
3	Neutral	29%
4	Agree	11%
5	Strongly agree	4%
Total		100%

We can Infer that 42% of the respondents disagree to the statement **Men get promoted more than women at your workplace?**

Table 14: Table showing the respondents opinion on the statement **A strong and positive attitude and confidence would help to achieve gender diversity?**

S.No	Opinion	%
1	Strongly Disagree	15%
2	Disagree	43%
3	Neutral	21%
4	Agree	16%
5	Strongly agree	5%
Total		100%

We can Infer that 43% of the respondents disagree to the statement **A strong and positive attitude and confidence would help to achieve gender diversity?**

Table 15: Table showing the respondents opinion on the statement **The organization supports working mothers with additional benefits?**

S.No	Opinion	%
1	Strongly Disagree	0%
2	Disagree	19%
3	Neutral	54%
4	Agree	24%
5	Strongly agree	3%
Total		100%

We can Infer that 54% of the respondents are neutral to the statement **The organization supports working mothers with additional benefits?**

Table 16: Table showing the respondents opinion on the statement **Men and women both are treated equally in all fields?**

S.No	Opinion	%
1	Strongly Disagree	0%
2	Disagree	11%
3	Neutral	25%
4	Agree	48%
5	Strongly agree	16%
Total		100%

We can Infer that 48% of the respondents agree to the statement **Men and women both are treated equally in all fields?**

Hypothesis: The respondent's opinion on Gender Diversity is significant at 5% level.

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Gender	0.18	1	0.18	0.56	0.46	4.54
Questions	4.77	15	0.32	1.00	0.50	2.40
Error	4.77	15	0.32			
Total	9.71	31				

The calculated value = 2.40

The table value = 2.48

As the calculated value is less than the table value, we accept the hypothesis.



So, we can conclude that the opinion on the differences concerning gender diversity among the male and female respondents are insignificant.

5. FINDINGS

Through the analysis we can say that men and women's perception are different for women not being able to reach the top and middle level management.

- 22% of the respondents felt that their company prefers male to be appointed as their head of the department.
- Only 13 % of the respondents agree that their team does not accept women to lead the team.
- Only 4% of the respondents agree that only the male manager can identify the right problem and only 3% of the respondents agree that only a male manager can take corrective measures. Whereas 90% of the respondents disagree to this statement.
- Only 6% of the respondents are agreeing to the fact that the suggestions given by the female managers are implemented in the organization.
- Only 11% of the respondents agree that the company conducts a mentoring program to promote female employees.
- 46% of the respondents Agree that they must work hard because of their gender description. and 15% of the respondents felt that men are promoted more than women.
- 27% of the respondents agree that the organization supports working mothers.
- 64% of the respondents agree to the statement men and women are treated equally.

6. RECOMMENDATION AND CONCLUSION

- Almost half of the respondents say that the women leadership is not encouraged in the IT sectors. India is a country that motivates women leadership from its Vedic period. Hence, the perception of the organization need to be changed. Work life balance can be promoted along with flexi timing to allow the people to work for the organization at their convenience.
- The demographic shows 65% of male respondents out of which surprisingly 90% of the respondents felt that identification of the problem and taking corrective measures has nothing to do with gender. Hence, IT sector needs to focus on skill development programs by providing training and development to their employees. The members of the organization both male and female can be got on the same skill level using competency mapping process for the role.
- 46% of the respondents felt that the male counterparts are given preference on promotion and only 15% of them say that men and women are treated equally. Hence, transparency in business practices and effective communication needs to be followed. India would achieve complete gender

diversity only when an all women team does not come across as a surprise.

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A STUDY ON STUDENT SATISFACTION ON ONLINE CLASSES AMONG PGDM/MBA COURSES IN SOUTH INDIA

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ABSTRACT

For MBA/PGDM students, the COVID-19 pandemic has been a tough time. The change from offline classroom sessions to online sessions had to go through a lot of factors. The objective of this study is to explore the satisfaction of PGDM/MBA students in South India, that they got from the online classes. The factor consists of “quality of teaching, coursework, testing methods and use of technology by faculty” among a sample size of 120 PGDM/MBA students.

KEYWORDS: Online learning, PGDM/MBA students, coursework, quality of teaching, use of technology by faculty, student’s satisfaction.

I- INTRODUCTION

The recent pandemic outbreak in late December 2019, wrought devastation throughout the world, and education, like any other sector, has been severely affected. It brought a halt to everything and created a new normal. Governments all over globe immediately closed educational institutions. Similar events occurred in India as well, with the Central Government enforcing a highly stringent national lockdown as a result of which students, including those enrolled in school as well as postgraduate and undergraduate students, were impacted. The use of electronic tools to provide teaching materials to learners or students is unavoidable. In order to maintain their adaptability to the new norm, various educational institutions reviewed and revised their processes and shifted those institutions' strategies to the style of instruction toward computerized flexibility and spontaneity. Numerous online educational tech giants have attempted to take advantage of the circumstance by offering free courses online or linking with restrictions on e-learning modules with the requirement that users subscribe to the services following the trial accessibility.

Even while online learning blends teaching and learning from both the provider and the recipient of the services, there are some drawbacks as well. When all communications take place distant across a shaky internet access or other equipment, establishing relationships with classmates, talking with professors, and establishing one's social and personal existence might become difficult or challenging. And as a result, students facing changes in their Academic performances and causing a rise in changes in terms of CGPA, participation in club activities, Internship program, and even in Placement training Online learning is expected to have an impact on more than 1.6 billion college students across 150 countries. According to UNESCO, over 320 million students in Indian schools and colleges were impacted. The widespread acceptance of e-learning over traditional classroom instruction began to take shape as schools and other educational institutions were steadily closing. Although the increase in online learning may not be optimal, it is being considered as a possible emergency measure. The technological gaps are increasingly being filled by institutions.

II-LITERATURE REVIEW

Year of Publication	Author/Affiliation	Title	Contribution
2021	Ram Gopal et al.,	Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19	<ul style="list-style-type: none"> • Researchers studied the various variables which were directly related to students’ performance during pandemic. • The Research findings helps faculty to improve on various variables needed for online instruction.



2021	Wiam Elshami et al.,	Satisfaction with online learning in the new normal: perspective of students and faculty at medical and health sciences colleges	<ul style="list-style-type: none"> • The study pinpoints the variables influencing educational satisfaction. • The result is consistent with earlier American study. • The changes in classes influence satisfaction. This could be another reason for decrease the satisfaction.
2021	Raanadewa et al.,	Learners' Satisfaction and Commitment Towards Online Learning During COVID-19: A Concept Paper.	<ul style="list-style-type: none"> • Inefficiencies in technology, a lack of social support, and a sense of isolation can all reduce the effectiveness of online learning. The elements affect the learner's enjoyment as well as their feelings of wrath, worry, and enthusiasm are lack of social support and feel of isolation. • The study found that enjoying online learning increases one's commitment to doing so. As a result, this study has discovered a number of issues and counterarguments regarding the effectiveness of online learning that affect students' commitment and satisfaction.
2021	Khazi Mohammed et al.,	E-Learning Experience of Management Students in B-Schools During COVID-19 Pandemic - A Primary Survey.	<ul style="list-style-type: none"> • The study comprehend how technology is used in business schools in Electronic City, Bangalore. • The study also emphasizes how the current situation affects decision-makers like educators, students, and the faculty's decision to embrace a strategy in the future. The techniques and strategies that would be used in the ongoing epidemic are the subject of a vague study. The sample frame for the current study is restricted to about 300 students from business schools in Bangalore's Electronic City.

The review of the literature reveals that while numerous researchers have looked at the variables influencing satisfaction level, no study has looked at the significance level of quality of teaching, coursework, testing methods and use of technology by faculty on their satisfaction with online classes on PDDM/MBA students during the Covid-19 pandemic. As a result, this study aims to investigate the variables that influence students' satisfaction with online classes during the COVID pandemic. As a result of the epidemic, professors, students, and universities that they were unfamiliar with had to relocate online. The students weren't psychologically ready for such a change. As a result, this study will be evaluated to determine which factor signifies more to represent in their satisfaction level.

III-STATEMENT OF THE PROBLEM

The students of PGDM/MBA colleges in whole India faced a huge change in their Academic performance because of COVID-19 pandemic, and online classes. And similar for South India also. During the online classes in their program, the factors “quality of teaching, coursework, testing methods and use of technology by faculty” were the major dimension on students’ overall satisfaction. The format of this paper is to identify which dimensions are more significant for student satisfaction.

IV-RESEARCH METHODOLOGY

Research Design: The descriptive design research was adopted by the researchers. The factors “quality of teaching, coursework, testing methods and use of technology by faculty” were considered as a major dimension.



Sampling size: To gather the data, an online survey was conducted through Google form during May 2022 to September 2022. The respondents were PGDM/MBA students in India and there were 120 respondents. There were 68 Male (56.70%) and 52 Female (43.3%) participants. The Random Sampling technique was adopted.

Data Design: There are two sections to the research tool. The first section deals with demographic factors like gender, PGDM/MBA, work experience, and attending the online classes while enrolled in a PGDM/MBA programme. The second portion evaluates the four criteria: "quality of teaching, coursework, testing procedures, and use of technology by faculty."

Statistical Tool: Microsoft -Excel was used for statistical analysis. Major findings were analyses by using correlation, mean value in one way ANOVA.

V. HYPOTHESES DEVELOPMENT

a. Quality of teaching and satisfaction of the student

Quality of teaching with extreme devotion to students' education has a positive impact on their satisfaction. One of the most important indicators of student satisfaction, which affects the outcome of the instructional experience, is the quality of the teaching. Assume the instructor successfully completes the course and motivates the students to enhance their performance in the classroom. In that instance, this method results in satisfied students and improves the teaching and learning process. Hence,
H1: The quality of the teaching signifies the satisfaction of the students.

b. Coursework and satisfaction of the students

Students' comprehension and satisfaction are greatly influenced by the course's system solutions through their expectations for

the coursework. It is important to bear in mind that we build an experience for students with various learning preferences while designing an online course. The coursework qualities could also be developed and used to improve student achievement, according to (Jenkins, 2015). As a result, the study contained the hypothesis that the coursework greatly affects students' satisfaction.

H2: Coursework signifies the satisfaction of the students.

c. Testing methods and satisfaction of the students

Testing or examination method is one of the major factors to students' education and it has an impact on their satisfaction. During the course, it is important for the students as well as for teachers to evaluate the performance of the students through testing. And the method of testing is crucial to taking care of, if that is not proper it will impact on their satisfaction.

H3: Testing methods signifies the students' satisfaction

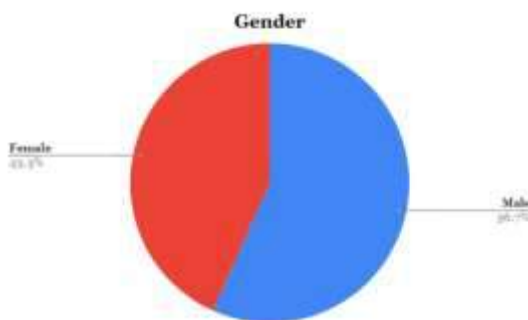
d. Use of technology by faculty and satisfaction of the students

Use of various technologies by the faculty during online classes makes learning more interesting and digestible for the students.

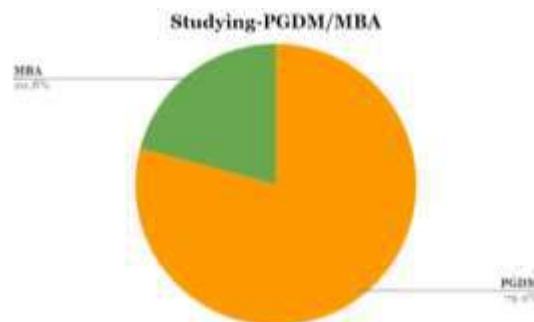
H4: Use of technology by faculty by technology signifies the students' satisfaction

VI. ANALYSIS & INTERPRETATION

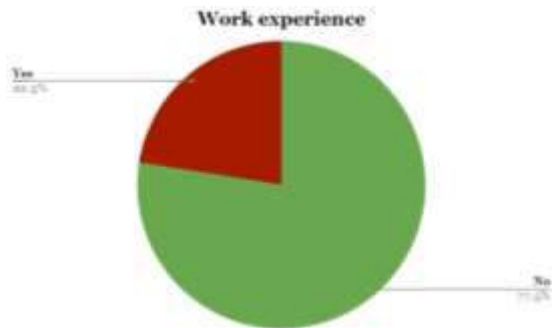
Following figures are the demographic details of the 120 respondents; which includes gender, studying-PGDM/MBA, work experience and attending the online classes while enrolled in a PGDM/MBA programme.



Pie chart:1

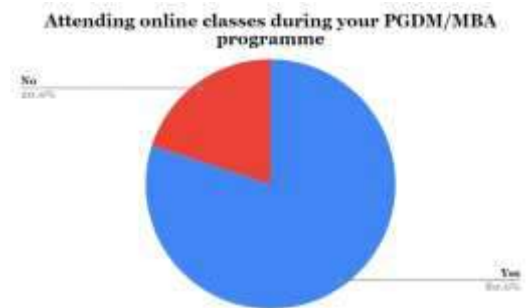


Pie chart:2



Pie chart:3

There were 120 respondents to the survey, which was conducted by online distribution of a questionnaire. According to Pie chart: 1, males (56.7%) made up the majority of responses, with females making up the remaining (43.3%). That, majority of them are studying PGDM (79.2%) and MBA accounts for the remainder (20.8%) as indicated in Pie chart: 2. Of such responses received, some (22.5%) had prior work



Pie chart:4

experience, but the majority (77.5%) were newcomers without prior work experience (Pie chart:3). Due to the COVID-19 epidemic, the majority of them (80.0%) attended online classes during the PGDM/MBA programme, and just a small percentage (20.0%) did not, as indicated in Pie chart: 4.

Table 1: Table showing the respondent's opinion on major dimensions of Online classes

Dimensions	Highly Satisfied		Satisfied		Highly Unsatisfied	
	No of students	Percentage	No of students	Percentage	No of students	Percentage
Quality of teaching	12	10%	59	49.16%	49	40.83%
Coursework	15	12.5%	73	60.83%	32	26.66%
Testing Methods	12	10%	64	53.33%	44	36.66%
Use of technology by faculty	22	18.33%	69	57.5%	29	24.16%

Source: Primary data

There were 120 respondents to the survey, in which only 12 students (10%) are Highly satisfied with the Quality of teaching during online class, 59 students (49.16%) are Satisfied with Quality of teaching and around 49 students (40.83%) are saying that they are Highly Unsatisfied with the Quality of teaching during online classes. Among the respondents, only 15 students (12.5%) are Highly satisfied with the Coursework during online class, 73 students (60.83%) are Satisfied and around 32 students (26.66%) are saying that they are Highly Unsatisfied with the Coursework during online classes. For Testing methods around

12 students (10%) are Highly satisfied during online class, 64 students (53.33%) are Satisfied and 44 students (36.66%) are Highly Unsatisfied with the Testing methods during online classes. And among the respondents, 22 students (18.33%) are saying that they are Highly satisfied with Use of technology by faculty during online classes, around 69 students (57.5%) are Satisfied and only 29 students (24.16%) are Highly Unsatisfied with the Use of technology by faculty during the online classes.

Table 2: Table showing Mean, Median & Mode values are the respondents' opinion on major dimensions of online classes

S.no	Dimensions	Mean	Median	Mode
1	Quality of teaching	1.85	2	2
2	Coursework	1.69	2	2
3	Testing Methods	1.73	2	2
4	Use of technology by faculty	1.94	2	2

Table 2, represents that the Use of technology by faculty having the high mean of 1.94 followed by Quality of teaching is 1.85,

and Testing Methods and Coursework are having 1.73 & 1.69 respectively.



Table 4: Correlation analysis on the Major Dimension

	[Coursework]	[Quality of teaching]	[Testing methods]	[Use of technology by faculty]	Total
[Coursework]	1				
[Quality of teaching]	0.377633922	1			
[Testing methods]	0.35791877	0.68291462	1		
[Use of technology by faculty]	0.358092655	0.535877637	0.370035835	1	
Total	0.675771417	0.85144613	0.787419118	0.745332923	1

From the above table, we can find that all the variables are positively correlated. The strongest positive correlation value was 0.68 followed by 0.53. Hence, the Testing Methods & Use

of technology by faculty are highly correlated with quality of teaching.

Table 3: Regression analysis on the Major Dimension

ANOVA								
	df	SS	MS	F	Significance F			
Regression	4	14.58980369	3.647450923	2.582832786	0.040793996			
Residual	115	162.401863	1.412190113					
Total	119	176.9916667						

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	11.23842609	0.434447891	25.86829474	9.24759E-50	-10.37786843	12.09898375	10.37786843	12.09898375
[Coursework]	0.402019589	0.198350902	2.026809986	0.044994916	0.009124626	0.794914552	0.009124626	0.794914552
[Quality of teaching]	-0.092657599	0.255443245	-0.362732626	0.071470437	-0.598641505	0.413326307	-0.598641505	0.413326307
[Testing methods]	-0.117140879	0.238811433	-0.490516211	0.062403289	-0.590180366	0.355898608	-0.590180366	0.355898608
[Use of technology by faculty]	-0.455307742	0.201987731	-2.254135634	0.026081858	-0.855406563	-0.055208921	-0.855406563	-0.055208921

From the above table, we can find that Use of technology by faculty is significant (P-value= 0.02) followed by Coursework (P-value= 0.04) is significant at 5% level of significance. So, we can say, increase in use of technology by faculty and coursework may decrease the satisfaction level of students and we can reject the hypothesis.

VII. FINDINGS

- a) The PGDM/MBA students rated the “Use of technology by faculty” as a highly satisfied factor during their online teaching learning process, which was followed by “Coursework”.
- b) By the calculated Mean values, we found that the respondent considered “Use of technology” as an important dimension on followed by “Testing Methods”
- c) The dimensions are positively correlated. But, “Testing Methods” adopted & “Use of technology by faculty” are showing the high positive correlation values such as 0.68 & 0.53 respectively.

VIII. RECOMMENDATIONS

By the findings, the researchers could able to draw few recommendations:

- a) The students of PGDM/MBA considered “Use of technology by faculty” as one of the major quality dimensions. Hence, using an effective technology in an efficient way can enhance the satisfaction among the students. The Institution offering such courses can

facilitate such technology & relevant training to this faculty members.

- b) The “Testing Methods” can be focused to the greater extent as it way considered by many as a quality dimension. New & convenient testing tools can be created & implemented for an effective teaching learning process in PGDM/MBA classes.
- c) The “Testing Methods” can be focused to the greater extent as it was considered by many as a quality dimension. New & convenient testing tools can be created & implemented for an effective teaching learning process in PGDM/MBA classes.
- d) Feedback can help students focus on their performance, which improves their learning.

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WORK LIFE BALANCE IN INDIAN HOTEL INDUSTRY – A STUDY

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ABSTRACT

The wellbeing of employees is a priority for modern businesses, who are attempting to provide work-life balance so that employees can balance their lives between work and home. There is a negative impact on employee welfare if there is an imbalance between personal and professional life. Unlike other industries, hotels are known for their in- depth service delivery which can lead to long working hours and over straining of employees. Hotel industry is packed with uncompromising professionalism, ambiguous daily roasters along with sudden work pressure which can lead to physical as well as mental stress. This can lead to acclimatization of your daily life and adjustments psychologically. The study included quantitative research techniques, and a simple random sampling technique was used whereby the participants were 81 working professionals who were single and, in a relationship, male and female, with and without children. According to our findings, women in the hotel industry are the most affected among the population.

KEYWORDS; - work-life balance, hotel industry, employee satisfaction, women in hotel industry, hospitality sector.

1. INTRODUCTION

The work/life balance is becoming a major issue of concern among companies and employees. Work-family was a word that was used more frequently in the past than it is now. The phrase "work-life" is increasingly being used in titles, either to relate to specific support areas or to give the phrase a more general. An individual can demonstrate effective practices in both his personal and professional life, when they can balance work and life. The major goal of any HR manager is to boost his/her employees happiness, knowledge and adoptability to cope up with industry demands. Is this true for hotel sector?

The hotel industry has a high turnover rate because it is a seasonal business which leads to acute shortage of labour.

Employees, particularly women, play two roles in their daily lives, one at work and the other at home, as noted by Tiwari (2017). The hotel industry has a high turnover rate because it is a seasonal business, which contributes to its acute labour shortages. Employees, particularly women, play two roles in their daily lives, one at work and the other at home, as noted by Tiwari (2017). Although it may be a lucrative career option, hotel management does not come without its difficulties. The staff of the hotel units spread throughout India are the subjects of the current study. Several items like work life balance, family life aspects, regions where they work as well as demographic data are employed.

2. REVIEW OF LITERATURE

a. Work Family Balance

AUTHOR	YEAR	FINDINGS
K. Santhana et al	2013	Work-life balance is distorted by four factors: relationship status, work schedules, the demand for agility, additional hours worked, and over time. This is particularly true for women who are committed/married, who lose out on time needed to support the family and other obligations if they take on more work at the company level. The elements mentioned above alone have an impact on more than 38% of the components that make up balance between work and life.
S. Padma et al	2013	The importance of family aid in juggling personal and professional obligations, and the present research reveals that this assistance will be crucial in juggling personal and professional obligations. Compared to workers with younger children, individuals with grown children can balance their lives better. The



		work-life balance of employees who are in charge of looking after their aging parents or in-laws is less favourable than that of their peers. The research came to the conclusion that an unbalanced work environment can increase staff turnover rate, truancy and decrease job fulfilment.
Albertsen et al.	2008	There is a direct correlation between higher work hours and lower levels of work-life balance among women, according to research on the subject. For men, the results were less clear, although in gender-mixed groups, a relationship between overtime work and lower levels of work-life balance was firmly supported. Nonstandard work hours were found to negatively affect work-life balance, and some data even claimed that they negatively affected marital satisfaction and the wellbeing of the children.
Yadav et al.	2013	The respondents' work-life balance was on the average level, and they were generally happy with their jobs. Finding a work-life balance has an effect on job success, according to the study's findings. Because they hinder workers from striking a good work-life balance, managers are considered to be a major factor in predicting the inherent qualities of job satisfaction. The majority of employees claim to enjoy and feel comfortable in their jobs. According to studies, it's critical for employees to strike a healthy balance between their personal and professional life.
V. Madhusudhan et al.	2013	Reliance, adaptability with time, role ambiguity, support from peers, social customs, hours worked, and leadership support are all characteristics that contribute to work-life balance, according to an analysis of these aspects. Management must put a strong emphasis on these factors while maintaining work-life balance.

b. Employee Satisfaction

Zheng Gu, Ricardo Chi Sen Siu (2009), analysed factors evident for job satisfaction in hotels at Macao and pinpointed ways to raise job satisfaction in order to raise output. The study pinpoints issues with work performance that are connected to job satisfaction and suggests remedies. Significant factors influencing job satisfaction included salary and perks, access to training, and encouragement from co-workers and supervisors.

Eva Gallardo, et. al (2010) examined the disparities in job satisfaction across workers in the hotel businesses of two different locations. According to their findings, hotel managers should concentrate on their compensation plans, opportunities for growth/promotions, and the impression of the job status to boost employee satisfaction. It is also beneficial to design retention methods for diligent and productive individuals, particularly in specific areas.

A study was undertaken in 2013 by Asad Mohsin, Jorge Lengler, and Bhupesh Kumar to determine the causes of employee intents to leave their positions at hotels in India. The following factors were considered

- Employees’ commitment for their work and organisation
- Nature of their employment
- How it affects their community and personal life
- How satisfied they are with their degree of job satisfaction in related to organizational commitment
- Rapport with superiors
- Job stability

- Pay and extra benefits.

As per the findings, there is an unfavourable relationship between workplace ardour and views of the job as challenging when contemplating plans to quit the job.

3. RESEARCH METHODOLOGY

The descriptive research approach was employed in this study to identify the influential elements affecting total work-life balance across. A structured questionnaire with 18 questions was administered. Out of 81 respondents, 56 of them were males and 24 of them were females. The sample was chosen using a simple random sampling technique. 70.5% of the respondents came from the southern part of India (primarily Kerala, Tamil Nadu, and Hyderabad), while 29.5% came from the northern part of India (Like Kolkata, Delhi, Chhattisgarh etc.). A large percentage of the sample, 68%, belonged to the age group 22-25 years, with the remaining 19.5% belonging to the age group 18-21 years and 12.1% belonging to the age group 26-29 years. 78% of respondents were single, while 22% were married (Married or in a relationship). The majority of the sample, 41.5%, worked in the food production department, 24.4% in the front office or reception, 19.5% in the food and beverage service department, and others in HR, IT, and other departments. In terms of working hours, 43.9% of the sample works 10-12 hours per day, 19.5% works 12-15 hours per day, and 9.8% works more than 15 hours per day. 46.3% earn between \$10,000 and 20,000 per month, 26.8% earn less than \$10,000 per month, and the remaining earn between 20,000 and 30,000.



The data was gathered using the primary method, and the questionnaire was distributed via social media channels and email. Secondary information was collected from a variety of studies, publications, and websites. The data

was analysed using the statistical method chi square. All of the questions were graded on a Likert five-point scale ranging from Strongly Disagree to 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree.

4. ANALYSIS AND INTERPRETATION

The collected data was edited, coded, tabulated and interpreted using chi square as the statistical method.

Table 1; - Gender of the respondents

S. No	Gender	No.	Percentage
1	Male	56	69.13%
2	Female	24	29.62%
3	Others	1	1.23%
Total		81	100 %

There are a total of 81 respondents out of which 56 are males, 24 are females and 1 from other category where the respondent does not wish to reveal the gender.

Table 2; - Table showing the respondents opinion on the statement “I am able to give priority to my job even after 8 hours of work.”

S. No	Opinion	No.	Percentage
1	Strongly Agree	16	19.75%
2	Agree	20	24.69%
3	Neutral	22	27.16%
4	Disagree	14	17.28%
5	Strongly Disagree	9	11.11%

Out of the respondents, 14 respondents disagree and 9 strongly disagree with the statement that they can prioritise their jobs after 8 hours of work. In contrast, 20 respondents agree, with 16 strongly agreeing, that they can prioritise their jobs even after 8 hours of work.

Considering the Null and Alternative Hypothesis,
 H0; - There is no relationship between the gender of the respondents and the priority given to jobs.
 H1; - There is a relationship between the gender of the respondents and priority given to jobs.

Table 3; - χ^2 (Chi square) Table showing the relationship between dependant and independent variable.

Opinion / Gender	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Male	16	20	12	8	0	56
Female	0	0	10	6	8	24
Others	0	0	0	0	1	1
Total	16	20	22	14	9	81

According to the table, 8 of the 9 respondents who strongly disagreed are females, and 1 is from another category. We can also see that 8 of the 14 respondents who disagreed were men, while 6 were women. All 16 and 20 of the participants who strongly agreed and agreed to the statement were men. No females agreed with the statement that they can prioritise their job after 8 hours of work.

The calculated Σ value is 37.93. Since the degree of freedom is 8, the table value of χ^2 becomes 15.507.

Hence, Calculated value 37.93 > Tabular Value 15.507.

We reject the null hypothesis and accept the alternative hypothesis since the calculated value exceeds the χ^2 critical value at the 5% level of significance. So, we can infer that there is an association between the gender of the respondents and their opinion on giving priority to their jobs even after 8 hours of work.

Table 4; - Table showing the respondents opinion on the question ‘Do you firmly believe that you can maintain a balance between your personal and professional lives.’

S. No	Opinion	No. of Respondents	Percentage
1	Strongly Agree	12	14.81%
2	Agree	23	28.39%
3	Neutral	19	23.45%
4	Disagree	15	18.51%
5	Strongly Disagree	12	14.81%



Out of the respondents, 15 respondents disagree and 12 strongly disagree with the question that they are able to maintain a balance between their professional and personal lives. In contrast, 23 respondents agree, with 12 strongly agreeing, that they can maintain a balance between their professional and personal lives.
 Considering the Null and Alternative Hypothesis,

H0; - There is no relationship between gender of the participants and their ability to balance work and personal lives.

H1; - There is a relationship between gender of the participants and their ability to balance work and personal lives.

Table 5; - χ^2 (Chi square) Table showing the relationship between dependant and independent variable.

Opinion / Gender	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Male	12	21	17	3	3	56
Female	0	2	1	12	9	24
Others	0	0	1	0	0	1
Total	12	23	19	15	12	81

The table shows that 9 of the 12 respondents who strongly disagreed are females. We can also see that 12 of the 15 disagrees were women, while 3 were men. All 12 men strongly agreed whereas 21 of the 23 respondents agreed are men. There are no women who strongly agrees that they are able to maintain a balance between their personal and professional lives.

The calculated Σ value here is 48.11. As the degree of freedom is 8, the table value of χ^2 becomes 15.507.

Hence, Calculated value 48.11 > Tabular Value 15.507.

We accept the alternative hypothesis and reject the null hypothesis as the calculated value is above the χ^2 critical value at 5% level of significance. Therefore, it follows that the respondents' capacity to balance their personal and professional lives and their gender are related.

5. FINDINGS

- The findings of this study shows that women in the Indian hotel business have the hardest time juggling their personal and work life.
- Women account for all 9 of the respondents who strongly disagree that they cannot prioritise their job after 8 hours of work. Men, on the other hand, can prioritise them better. 9 of the 12 respondents are women who believe they are unable to balance their work and personal lives.
- When a woman begins to take on multiple roles, such as mother, wife, working woman, and so on, her outlook and value improve. Women who play multiple roles tend to feel quite cherished about themselves.
- The hotel industry can be unpredictable at times, requiring employees to work double shifts during peak seasons. Such situations may be difficult for a woman who performs numerous responsibilities.
- Extensive workload can also end up causing physical stress in female employees, impacting their professional and personal lives as well.

- Hotel employees face work-life balance issues as a result of their extensive work overload, long hours of work and unrealistic standards.

6. RECOMMENDATIONS & CONCLUSION

There is a need for zesty human capital with a vibrant personality in industries with a strong correlation with customers, which generally belongs to the group of service-oriented businesses, such as the hotel industry. Though some issues at work and in life are inevitable, they must be fair and bearable; or else, they can cause tension and confusion, hindering employees' Work-Life Balance. It typically occurs as a result of heavy workload, prolonged working hours, exhaustion, or even personal responsibilities such as childcare, family, adult care, and so on. Along with work, love and humanity are essential for happiness. Companies are introducing new policies and practices to help employees balance life and work. The Human Resources Department must devise new strategies to address the existing situation of women in the hotel business. Like women in other industries, hotel employees need flexible shift arrangements. Women may also be given less strenuous physical work than men, who may be physiologically stronger, reducing physical tension in female employees. Therefore, this paper aims to address the significance of having a work-life harmony, particularly for women employees.

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IMPACT OF IN-STORE FACTORS ON IMPULSE PURCHASING BEHAVIOUR OF SUPERMARKET CONSUMERS: EMPIRICAL EVIDENCE FROM CHENNAI CITY

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ABSTRACT

There has been a lot of discussion in the marketing literature on how in-store features affect customer impulsive buying, but surprisingly few researches have looked at how in-store elements relate to demographic profiles. Researcher conducted a field study at supermarkets in Chennai, India to understand more about the factors that influence buyers' impulse purchases while they are in the store. A primary survey is conducted among supermarket shoppers in Chennai, India, to identify in-store factors (window display, visual merchandising, sales promotion, and store environment) influencing consumer impulse buying behaviours via demographic variables. A self-administered questionnaire on a Likert scale was developed, and it was used to interview 125 customers who shop at supermarkets in Chennai city. Data analysis was performed using the SPSS program, and an ANOVA was used to validate the study's stated hypothesis. The findings indicated that there is no significant relation between consumer groups' impulse purchasing behaviour and their demographics (gender, age, education, and income) except visual merchandising on both male and female customers.

KEY WORDS: *Impulse buying behaviour, In-store factors, Window display, Store environment, Visual merchandising, Sales promotion.*

1. INTRODUCTION

Impulsive buying is described as "unplanned" and purchase decisions that a buyer makes without first considering the product (Vishnu, Parmar & Raheem, Ahmed, 2013). Understanding consumer behaviour is a critical component of marketing. The Indian retail industry is rapidly expanding, with many key developments such as the arrival of many global businesses, greater adoption of contemporary trade forms, the success of numerous speciality retail formats, and more rivalry in regional marketplaces throughout the world. Malls, hypermarkets, multiplexes, and mega marts are the emerging forms of modern retailing trade environments in India's main cities. As a result, it is critical for marketers and merchants to understand impulsive buying behaviour since it may assist ensure the firm's sales. According to (Pallikkara et al., 2021), external variables such as in-store advertising, appealing offers and discounts, and huge items have emerged as key drivers to impulsive purchasing. Indian retailers strive to entice customers with enticing bargains. Due to this, consumers are now more likely to actively seek discounts and offers at each stage of the purchasing process.

In this setting, the function of impulsive buying behaviour is critical for modern merchants and, by extension, academics. Retailers are doing all they can to get customers to spend as much money as possible. Many in-store aspects, such as sales promotion, window display, visual merchandising, and shop atmosphere, might influence impulsive purchase. According to (Pradhan, 2018), impulsive purchases are rising among customers as a result of an increase in the number of supermarkets, access to online retailers, the joint family structure shrinking to a nuclear size. Numerous studies have been conducted across the world, and it has been found that impulsive shopping occurs often in both grocery shops and retail establishments. To objectively examine the links between all of these affecting factors and impulse buying behaviour, this paper aims to understand the in-store factors impacting customers' impulsive purchasing decisions.

2. LITERATURE REVIEW

(Pallikkara et al., 2021) discovered that impulsive purchases in the retail checkout area are modest and irregular for the majority of product categories. A number of variables, such as the ambiance of the shop, the availability of credit cards, the buyer's mood, in-store promotions, offers and discounts, and wide product options, might impact impulsive purchases at the checkout. In addition, the research revealed that Indian consumers are cautious about impulse buys at the checkout counter and are health-conscious.

According to (Ali & Zubairi, 2020), demographic factors including gender, age, and income have a substantial impact on both pure impulse purchasing behaviour and suggestive impulsive purchase behaviour. Pure impulse purchasing occurs when a product arouses feelings that prompt an unplanned purchase.



(Pradhan, 2018) found that the majority of supermarket shoppers buy impulsively. Most people do not plan ahead of time while going to the market. Personal care goods, groceries, and accessories are more frequently purchased impulsively by respondents than electronics and kitchenware. According to research, product category has no influence on impulsive purchasing.

According to (Vyas & V., 2015), demographic characteristics such as age, gender, professional participation, and educational position influence packaging reaction. Packaging impacts customer reaction to the goods, leading to spontaneous purchases and differentiating the brand.

(Chaturvedi & Yadav, 2015) revealed that Consumer attitudes toward marketing variables such as price element, trial element, friendliness of staff, merchandizing, convenience & shop image—have no strong relation to purchasing behaviour via demographic characteristics like gender, age, and education.

(Abdul & Awan, 2015) reported, demographic aspects of customers have a powerful effect on impulse purchasing. In Multan, Pakistan, demographic indicators (gender, age, income, and education) directly affect consumers' impulsive purchasing behaviour.

According to (Cho et al., 2014), in-store browsing and customer optimism are the most powerful indicators of impulse purchase behaviour. When shoppers are feeling upbeat, they explore more areas and aisles of the store, and it encourages them to take particular groups of people (peers, friends, or family) purchasing with them. This raises the level of shoppers.

(Vishnu, Parmar & Raheem, Ahmed, 2013) discovered that when a retailer gives free products and price discounts, Pakistani consumers are more inclined to buy impulsively. In Larkana, Pakistan, income level and visual merchandising have a substantial impact on consumers' impulse purchasing inclination for FMCG's (items). Furthermore, a well-decorated, pleasant, and quiet retail atmosphere, as well as colourful surrounds, encourages consumers to buy impulsively and create excitement in their minds.

(Ekeng, 2012) noted that demographic variables have a major effect on customers' impulsive purchase behaviour. Because of their spontaneous attraction to and liking fanciful items, female consumers experience the phenomenon of impulse buying more frequently than male consumers do. Similar to this, there is an inverse relationship between customer age ranges and impulsive purchase behaviour since young people are less responsible and have less concern for their financial decisions than adults.

According to (Banerjee & Saha, 2012), sensory signals of sight and visual merchandising have a substantial influence on customer perception and attitude toward impulse purchase. Consumers like shopping without the presence of a salesman.

(Tendai & Crispen, 2009) found that employee behaviour was the second most significant factor in influencing customers' purchase decisions after price. To ensure that store employees strike a balance between being convincing and friendly to customers, retailer employee training programs may be important.

According to (Chen, 2008), product type influences impulse purchases among Taiwan's youthful population. Internet shopping is not tied to spontaneous purchases and involvement with clothing products like traditional retail shopping is. On the other hand, online impulse purchase is favourably linked with product engagement and impulsive purchasing proclivity, but not with traditional stores.

3.OBJECTIVES

- To identify the in-store factors that affect consumers' impulsive purchasing decisions based on their demographic profile, such as gender, age, income and education level.
- To critically investigate the impact of such factors on consumers' impulse purchase behaviour in Chennai.

4. RESEARCH METHODOLOGY

4.1. Research Design

This is a exploratory research that uses quantitative analysis to identify the effect of in-store factors (window display, visual merchandising, sales promotion, and shop atmosphere) on the impulsive buying behaviour of Chennai customers based on their demographic profile (gender, age, education and income).

4.2. Sampling Technique

The convenience based random sampling method is used. In this study, data were collected through survey of 125 respondents using questionnaire who visit supermarkets for shopping in Chennai city.

4.3. Data Collection

To carry out the research, a self-administered likert scale questionnaire was created. The questionnaire is separated into two sections: the first portion asks about demographic information, and the second section asks about in-store factors. Demographic data such as Age [with a ten-year class interval where lower range is less than 25 years and the higher range is more than 46 years. Gender [Male (82), Female (43)], Education [High school (4), UG (26), PG (85), PhD (2), and Other (8)] and Income [Under 150000 (7), 150001-300000 (9), 300001-500000 (71) and Above 500001 (38) of responses. The second section includes questions about in-store factors indicated in the objectives affecting customer impulsive buying behaviour. A total of 15 items are used to collect data on the four previously stated factors. To assess respondents' attitudes on each item, 7-point Likert scale rating questions starting from Disagree entirely =1 to Agree fully =7 are used. Following the collection of completed surveys, data is coded (Male-1, Female-2), high school-1, undergraduate-2, postgraduate-3, PhD-4, others-5. Income level less than \$150,000=1,



150001 to \$300,000=2, 300001 to \$500000=3, 500001 and above=4, and age interval less than 25 years=1, 26-35=2, 36-45=3, 46 and above=4, and then a data sheet was put into the SPSS program for analysis.

5. ANALYSIS AND INTERPRETATION

5.1. Data analysis: All of the data gathered from respondents was tabulated and analysed using SPSS version 22 software.

5.2. Proposition of hypotheses

On the basis of prior results and studies on consumer impulsive purchase behaviour, the following hypotheses have been presented to answer the research question.

- H1: Both male and female customers' impulsive purchase behaviour is significantly impacted by window displays.
- H2: The impact of window displays on customers of various age groups' impulsive purchasing behaviour is significant.
- H3: Consumers at various educational levels' impulsive purchasing behaviour is significantly influenced by window displays.
- H4: Window displays have a significant impact on customers' impulsive purchasing decisions at various income levels.
- H5: Both male and female customers' impulsive purchasing behaviour is significantly impacted by visual merchandising.
- H6: The impact of visual merchandising on customers' impulsive purchase tendencies across age groups is significant.
- H7: Consumers of all educational levels' impulsive purchasing behaviour is significantly impacted by visual marketing.
- H8: Consumers at various income levels' impulsive purchasing behaviour is significantly impacted by visual marketing.
- H9: Both male and female customers' impulsive purchasing behaviour is significantly impacted by sales promotion.
- H10: The impact of sales promotions on customers across age groups' impulsive purchasing behaviour is significant.
- H11: Sales promotions have a major impact on customers' impulsive purchasing decisions at various educational levels.
- H12: Sales promotions have a positive relation on customers' impulse purchasing decisions at various income levels.
- H13: Both male and female customers' impulsive purchasing behaviour is significantly impacted by the store environment.
- H14: The store environment has a substantial effect on shoppers' impulsive purchasing decisions across a range of age groups.
- H15: Consumers at various educational levels' impulsive purchasing behaviour is significantly impacted by the store environment.
- H16: Consumers at all income levels' impulsive purchasing behaviour is significantly impacted by the store environment.

5.3. Data analysis

The ANOVA test is used to measure respondents' attitudes toward impulsive purchasing.

One way ANOVA of window display on impulse buying behaviour by Gender

Table 1: Test of Homogeneity of Variances

Window Display			
Levene Statistic	df1	df2	Sig.
.122	1	123	.728

Table 2: ANOVA between groups and within groups

Window Display					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.212	1	.212	.210	.647
Within Groups	123.788	123	1.006		
Total	124.000	124			

Analysis: According to the results of Levene's test in Table 1 [F (1, 123) =.122, P=0.728], the variances of the groups are equal. The results of the ANOVA analysis from Table 2 between the categorical variables of gender, Male and Female have a significant value (p) of 0.647. Just because P>0.05 we reject the above-stated hypothesis H1 [F (1, 123) =0.210, p=0.647]. This implies that the impact of window displays on impulse purchases is similar for both male and female respondents.

One way ANOVA of window display on impulse buying behaviour by Age

Table 3: Test of Homogeneity of Variances

Window Display			
Levene Statistic	df1	df2	Sig.
.965	3	121	.412

Table 4: ANOVA between groups and within groups

Window Display					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.196	3	.065	.064	.979
Within Groups	123.804	121	1.023		
Total	124.000	124			

Analysis: Based on Table 3, Levene's test demonstrates that the group variances are identical [F (3, 121) =0.965, P=0.412]. As can be seen from table 4, the outcomes of the ANOVA analysis show that there is insignificant link between respondents' impulsive purchasing behaviour and their age factor, with a p-value of 0.979. H2 cannot be accepted as a result [F (3, 121) =0.064, P=0.979].

One way ANOVA of window display on impulse buying behaviour by Education:

Table 5: Tests of Homogeneity of Variances

Window Display			
Levene Statistic	df1	df2	Sig.
.935	4	120	.446

Table 6: ANOVA between groups and within groups

Window Display					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.804	4	.701	.694	.597
Within Groups	121.196	120	1.010		
Total	124.000	124			

Analysis: According to the results of Levene's test in Table 5 [F (4, 120) =0.936, P=0.446], the variances of the groups are identical. The ANOVA test findings from Table 6 demonstrate that respondents with varying levels of education got a p-value of 0.597. This shows that the relationship between impulsive purchases and p>0.05 is not significant. Therefore, H3 [F (4, 120) =0.694, P=0.597] is rejected.

One way ANOVA of window display on impulse buying behaviour by Income:

Table 7: Tests of Homogeneity of Variances

Window Display			
Levene Statistic	df1	df2	Sig.
2.911	3	121	.037

Table 8: ANOVA between groups and within groups

Window Display					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.245	3	.082	.080	.971
Within Groups	123.755	121	1.023		
Total	124.000	124			



Levene's test results from Table 7 indicate that the variances of the groups are not equal ($F(3, 121) = 2.911, P = 0.037$). ANOVA is needed because the homogeneity of variance exhibits substantial importance. The influence of window displays on impulsive purchases of respondents' income level is shown in Table 8 and has a significant value (p) of 0.971. Therefore we reject the presumptive hypothesis H4 [$F(3, 121) = 0.080, P = 0.971$] based on the basis of the results. It indicates that there is no discernible association between window displays and customer impulse purchases across a range of income levels.

One way ANOVA of visual merchandising on impulse buying behaviour by Gender

Table 9: Test of Homogeneity of Variances

Visual Merchandising			
Levene Statistic	df1	df2	Sig.
.137	1	123	.712

Table 10: ANOVA between groups and within groups

Visual Merchandising					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.973	1	3.973	4.072	.046
Within Groups	120.027	123	.976		
Total	124.000	124			

Table 11: Robust Tests of Equality of Means

Visual Merchandising				
	Statistic ^a	df1	df2	Sig.
Welch	4.009	1	83.586	.049
Brown-Forsythe	4.009	1	83.586	.049

a. Asymptotically F distributed.

Analysis: According to the results of Levene's test in Table 9 [$F(1, 123) = 0.137, P = 0.712$], the variances of the groups are identical. As a result, the homogeneity of variance test indicates that it is "non-significant," whereas the ANOVA test from Table 10 indicates that it is "significant" [$F(1, 123) = 4.072, P = 0.046$]. We now look directly at Table 11's Welch and Brown-Forsythe test, which demonstrates great value. Therefore, we agree with the above-stated hypothesis H5. Therefore, it may be concluded that the impact of visual marketing on impulsive purchases varies between male and female respondents.

One way ANOVA of visual merchandising on impulse buying behaviour by Age

Table 12: Test of Homogeneity of Variances

Visual Merchandising			
Levene Statistic	df1	df2	Sig.
1.881	3	121	.136

Table 13: ANOVA between groups and within groups

Visual Merchandising					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.267	3	.422	.416	.742
Within Groups	122.733	121	1.014		
Total	124.000	124			

Analysis: According to Levene's test from Table 12 [$F(3, 121) = 1.881, P = 0.136$], the variances of the groups are identical. The influence of visual merchandising on impulsive purchases of respondents' various age groups is shown in Table 13 and has a significant value (p) of 0.742. Therefore we reject the presumptive hypothesis H_6 [$F(3, 121) = 0.0416, P = 0.742$] based on the basis of the results. It indicates that there is no discernible association between visual merchandising and customer impulse purchases across a range of age groups.

One way ANOVA of visual merchandising on impulse buying behaviour by Education

Table 14: Test of Homogeneity of Variances

Visual Merchandising			
Levene Statistic	df1	df2	Sig.
1.158	4	120	.333

Table 15: ANOVA between groups and within groups

Visual Merchandising					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.375	4	.094	.091	.985
Within Groups	123.625	120	1.030		
Total	124.000	124			

Analysis: According to Levene's test from Table 14 [$F(4, 120) = 1.158, P = 0.333$], the variances of the groups are identical. The influence of visual merchandising on impulsive purchases of respondents' education level is shown in Table 15 and has a significant value (p) of 0.985. Therefore we reject the presumptive hypothesis H_7 [$F(4, 120) = 0.091, P = 0.985$] based on the results. It means that there is no conclusive connection between the impulsive purchasing tendencies of different educational levels.

One way ANOVA of visual merchandising on impulse buying behaviour by Income

Table 16: Test of Homogeneity of Variances

Visual Merchandising			
Levene Statistic	df1	df2	Sig.
.709	3	121	.548

Table 17: ANOVA between groups and within groups

Visual Merchandising					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.584	3	.861	.858	.465
Within Groups	121.416	121	1.003		
Total	124.000	124			

Analysis: According to the results of Levene's test in Table 16 [$F(3, 121) = 0.709, P = 0.548$], the variances of the groups are identical. The influence of visual merchandising on impulsive purchases of respondents' income level is shown in Table 17 and has a significant value (p) of 0.465. Therefore we reject the presumptive hypothesis H_8 [$F(3, 121) = 0.858, P = 0.456$] based on the results. It indicates that there is no discernible association between the effects of visual marketing on customer impulse purchases at various income levels.

One way ANOVA of Sales promotion on impulse buying behaviour by Gender

Table 18: Test of Homogeneity of Variances

Sales Promotion			
Levene Statistic	df1	df2	Sig.
.089	1	123	.766

Table 19: ANOVA between groups and within groups

Sales Promotion					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.874	1	.874	.874	.352
Within Groups	123.126	123	1.001		
Total	124.000	124			

Analysis: According to Levene's test from Table 18 [F (1, 123) =0.089, P=0.766], the variances of the groups are identical. The categorical variable between Males and Females has a significant value (p) of 0.352, which is greater than 0.05, according to the findings of the ANOVA analysis from Table 19. The aforementioned hypothesis H9 is thus rejected [F (1, 123) =0.874, P=0.352]. As a result, it can be concluded that both male and female respondents exhibit a similar effect of sales advertising on impulsive purchasing.

One way ANOVA of Sales promotion on impulse buying behaviour by Age

Table 20: Test of Homogeneity of Variances

Sales Promotion			
Levene Statistic	df1	df2	Sig.
1.102	3	121	.351

Table 21: ANOVA between groups and within groups

Sales Promotion					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.245	3	.748	.744	.528
Within Groups	121.755	121	1.006		
Total	124.000	124			

Analysis: According to Levene's test from Table 20 [F (3, 121) =1.102, P=0.351], the variances of the groups are identical. The influence of Sales promotion on impulsive purchases of respondents' age groups is shown in Table 21 and has a significant value (p) of 0.528. Therefore we reject the presumptive hypothesis H10 [F (3, 121) =0.744, P=0.528] based on the results. It indicates that there is no discernible association between the effects of sales promotion on customer impulse purchases at various age groups.

One way ANOVA of Sales promotion on impulse buying behaviour by Education

Table 22: Test of Homogeneity of Variances

Sales Promotion			
Levene Statistic	df1	df2	Sig.
1.841	4	120	.125

Table 23: ANOVA between groups and within groups

Sales Promotion					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.156	4	.539	.531	.713
Within Groups	121.844	120	1.015		
Total	124.000	124			

Analysis: According to Levene's test from Table 22 [$F(4, 120) = 1.841, P = 0.125$], the variances of the groups are identical. The influence of Sales promotion on impulsive purchases of respondents' education is shown in Table 23 and has a significant value (p) of 0.713. Therefore we reject the presumptive hypothesis H11 [$F(4, 120) = 0.531, P = 0.713$] based on the results. It indicates that there is no discernible association between the effects of sales promotion on customer impulse purchases at various educations.

One way ANOVA of Sales promotion on impulse buying behaviour by Income

Table 24: Test of Homogeneity of Variances

Sales Promotion			
Levene Statistic	df1	df2	Sig.
.980	3	121	.405

Table 25: ANOVA between groups and within groups

Sales Promotion					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.247	3	.416	.410	.746
Within Groups	122.753	121	1.014		
Total	124.000	124			

Analysis: Based on table 24, Levene's test findings indicate that the group variances are identical [$F(3, 121) = 0.980, P = 0.405$]. Table 25 displays the impact of sales promotions on respondents' income levels and impulsive purchases, a significant value (p) of 0.713. Based on the findings, we disprove hypothesis H12 [$F(3, 121) = 0.410, P = 0.746$]. It indicates that there is no discernible association between the effect of sales promotions and consumers' impulsive purchases regardless of their financial level.

One way ANOVA of Store environment on impulse purchasing behaviour by Gender

Table 26: Test of Homogeneity of Variances

Store Environment			
Levene Statistic	df1	df2	Sig.
.070	1	123	.792

Table 27: ANOVA between groups and within groups

Store Environment					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.562	1	.562	.560	.456
Within Groups	123.438	123	1.004		
Total	124.000	124			



Analysis: According to Levene's test from Table 26 [F (1, 123) =0.070, P=0.792], the variances of the groups are identical. According to table 27's p-value for the independent variable for respondents' gender, there is no statistically significant correlation between respondents' impulsive purchasing and gender. Therefore, it cannot be agreed upon that hypothesis H13 [F (1, 123) =0.560, P=0.456]. As a consequence, this study's findings indicate that neither gender has any discernible impact on customers' impulsive purchases.

One way ANOVA of Store environment on impulse purchasing behaviour by Age

Table 28: Test of Homogeneity of Variances

Store Environment			
Levene Statistic	df1	df2	Sig.
.407	3	121	.748

Table 29: ANOVA between groups and within groups

Store Environment					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7.468	3	2.489	2.585	.056
Within Groups	116.532	121	.963		
Total	124.000	124			

Analysis: According to Levene's test from Table 28 [F (3, 121) =0.407, P=0.748], the variances of the groups are identical. Table 29's finding reveals that, at the 5% significant level, there is no positive relation between respondents' impulsive purchasing behaviour and their age demographic. The p-value of 0.056 for the shop environment across different respondent age groups suggests this. H14 is therefore disproved [F (3, 121) =2.585, P=0.056].

One way ANOVA of Store environment on impulsive purchasing behaviour by Education

Table 30: Test of Homogeneity of Variances

Store Environment			
Levene Statistic	df1	df2	Sig.
1.042	4	120	.389

Table 31: ANOVA between groups and within groups

Store Environment					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.799	4	.950	.948	.439
Within Groups	120.201	120	1.002		
Total	124.000	124			

Analysis: According to Levene's test from Table 30 [F (4, 120) =1.042, P=0.389], the variances of the groups are identical. Table 31's ANOVA test findings show that respondents with different levels of education had p-values of 0.439, showing that there is no statistically positive relationship between impulsive spending and education (p> 0.05). Therefore, we disagree with the prediction H15 [F (4, 120) =0.948, P=0.439].

One way ANOVA of Store environment on impulse purchasing behaviour by Income

Table 32: Test of Homogeneity of Variances

Store Environment			
Levene Statistic	df1	df2	Sig.
.834	3	121	.478



Table 33: ANOVA between groups and within groups

Store Environment					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.268	3	.089	.087	.967
Within Groups	123.732	121	1.023		
Total	124.000	124			

Analysis: According to the results of Levene's test from Table 32, the variances of the groups are equal [F (3, 121) =0.834, P=0.478]. Table 33 shows the impact of store ambiance on respondents' impulsive purchasing levels, with a (p) value of 0.967 which is more than 0.05. Based on the findings [F (3, 121) =0.087, P=0.967], we reject hypothesis H16. It indicates that there is no discernible association between shop atmosphere and customer impulsive buying across a range of income levels.

6. FINDINGS

- Consumers' demographic profile (gender, age, education, and income) when visiting Chennai retail malls and supermarkets is unlikely to have a substantial impact on the influence of window displays on their impulsive purchasing behaviour.
- There is unlikely to be a substantial correlation between the effect of visual merchandising on consumers' impulsive purchasing behaviour and their demographic profile (age, education, and income) when they visit Chennai's shopping malls and supermarkets.
- In Chennai, shopping malls, and supermarkets, visual merchandising is expected to have a major impact on both male and female customers' impulsive purchases.
- There is unlikely to be a substantial correlation between the impact of sales promotions on customers' impulsive purchasing behaviour and their demographic profile (gender, age, education, and income) when they visit Chennai's shopping centres and supermarkets.
- Consumers' demographic characteristics (gender, age, education, and income) while visiting Chennai's shopping malls and supermarkets are unlikely to have a substantial impact on how the store environment influences their impulsive buying behaviour.

7. SUGGESTIONS AND CONCLUSION

The goal of this research is to understand how respondents' impulse purchases are influenced by window displays, visual merchandising, sales promotions, and retail environments about their demographic profile, including age, gender, education level, and income. The results show that when using demographic factors such as age, gender, income and education, fifteen of the sixteen hypotheses window display, visual merchandising, sales promotion, and shop environment exhibit an insignificant association with impulse buying behaviour. On the other side, it was found that visual merchandising by gender had a strong association with impulsive purchasing behaviour. Considering the results of this study, customers in Chennai, India, do not contribute significantly to the development of the marketing techniques used by the shops, except for the exception of visual merchandising. In conclusion, it is determined that every in-store factor aside from visual merchandising is unsupported.

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COVID-19 VACCINE HESITANCY IN THE UNITED STATES: WHAT FACTORS ARE CONTRIBUTING TOWARDS VACCINE HESITANCY IN THE US?

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ABSTRACT

In this paper, I take a look at vaccine hesitancy in the United States with regard to the Covid-19 vaccine. A large portion of the population may be hesitant in receiving the new Covid-19 vaccine, posing risks to both the individual and their community, as exposure to a contagious disease puts the individual at risk. These individuals are far more likely to spread the disease to others if they do not get vaccinated. I will also talk about the "3 Cs" vaccine hesitancy model, which consists of confidence, complacency, and convenience.

INTRODUCTION

Defined by the World Health Organisation as a "delay in acceptance or refusal of vaccines despite availability of vaccine services", vaccine hesitancy has existed for as long as vaccines have been around. But in light of the Covid-19 pandemic, vaccine hesitancy has taken on a new meaning. Concerns about the safety of COVID-19 vaccines may contribute to vaccine hesitancy.

The World Health Organisation (WHO) is now coordinating a global campaign aimed at preventing disease, detecting it early, and treating it. The development of a COVID-19 vaccine is crucial for organisations' continued efforts to flatten the infection curve. Vaccine availability, on the other hand, does not guarantee adequate population immunisation, as indicated by vaccine hesitancy (Omer & Salmon, 2009). Because past research has shown that vaccine compliance is unpredictable and variable, successful vaccination against this disease will require widespread awareness campaigns about vaccine safety and efficacy. Vaccine hesitancy continues to be a barrier to widespread vaccination against highly contagious diseases.

The mandated nature of vaccines, their coincidental temporal linkages to negative health implications, lack of familiarity with vaccine-preventable diseases, and lack of confidence in companies and public health authorities are all factors that contribute to vaccine hesitancy. Although vaccination is customary in the United States, over the last decade, the number of parents claiming non-medical exemptions to school vaccination requirements has risen. Vaccine refusal has been linked to outbreaks of many diseases, causing unnecessary suffering in children and wasting scarce public health resources. Vaccine hesitancy is a critical issue that must be addressed since effective control of vaccine-preventable diseases demands the long-term maintenance of incredibly high immunisation rates. The

multifaceted and varied causes of vaccine hesitancy necessitate a diverse set of responses at the personal, provider, health-care system, and national levels. These include standardised measurement tools to quantify and locate vaccine hesitancy clustering and better understand issues of trust; a rapid, independent, and transparent review of an enhanced and appropriately funded vaccine safety system; adequate reimbursement for vaccine risk communication in doctors' offices; and individually tailored messages for parents who have vaccine concerns, particularly first-time pregnant women. Vaccines have never had a greater potential to prevent sickness and save lives. That potential, however, is reliant on parental vaccination acceptance, which demands trust in vaccines, healthcare professionals who suggest and administer vaccines, and the institutions to guarantee vaccine safety.

CAUSES FOR VACCINE HESITANCY

Vaccine hesitancy has existed for as long as vaccines have existed. Smallpox vaccine was received with hesitancy and outright rejection when it was first discovered. There are a variety of reasons why some people are afraid to get vaccinated, just as there were when the smallpox vaccine was first introduced. Smallpox has been eradicated in the modern world as a result of a successful vaccination programme, and vaccinations have effectively controlled many other major causes of illness and mortality. As a result, worry of many vaccine-preventable diseases has evolved to dread of vaccines (Chenn & Hibbs, 1998).

Vaccine hesitancy has been influenced by a number of social factors (Cooper et al., 2008). Trust in vaccine manufacturers and the government, which purchases and promotes vaccines on a huge scale, is at an all-time low. Fear of the "pharmaceutical industrial complex" and improper government-industry connections, as well as mistrust of science and the medical profession, has spurred vaccine



hesitancy among some members of the public (Poland et al., 2009). While strong support for vaccines from paediatricians and other health care providers has been critical to our immunisation program's success, the medical model has evolved significantly over time. Many parents prefer a shared decision-making process with their paediatrician rather than being told what to do for their children's health (Smith et al., 2006). Paediatricians and other healthcare providers are increasingly under pressure to see more patients in less time, and they're dealing with parents who turn to the internet for disinformation and bad research. Furthermore, they are finding it more difficult to properly communicate accurate and impartial information regarding vaccines to parents, as well as to address their individual concerns. Although efforts to provide new tools to healthcare providers have been made, the problem remains unsolved. Vaccine safety concerns are fast crossing national borders and circling the globe in our electronic age.

Vaccines are not just victims of their own success, but they also struggle to sustain public trust due to biases that frequently influence risk perceptions and decision-making. There is typically a "compression" bias (Ball et al., 1998), which causes people to overestimate the incidence of rare dangers such as those linked with vaccination. People are influenced by "ambiguity aversion" to prefer recognised dangers, such as those from diseases, to unknown risks that are less common, such as the likelihood of vaccine adverse reactions. Furthermore, "natural hazards" (illness) are preferred over "manmade risks" (vaccination). "Errors of omission" (risks of not vaccinating) are preferred over "errors of commission" (risks of vaccination). Vaccine adverse event reports are frequently twisted and exaggerated as a result of sensationalistic media coverage and the quick spread of disinformation on the internet. As a result, "accessible" events can lead to an overestimation of frequency. The "compression" heuristic leads to an overestimation of rare risks such as vaccine adverse responses and an underestimation of common hazards such as those from many vaccine-preventable diseases when weighing the risks and benefits of vaccination. These biases increase the difficulty of establishing public trust in vaccines.

VACCINE HESITANCY MODEL

Vaccination acceptance is a behaviour that results from a complicated decision-making process that can be impacted by a variety of variables. The "3 Cs" model is currently the most comprehensive vaccine hesitancy model available.

In the "3 Cs" model, Confidence is defined as trust in - the effectiveness and safety of vaccines, the platform that administers them, including the reliability and expertise of health services and health experts, and the incentives of legislators who decide that vaccines are required.

Vaccination complacency occurs when the risk of vaccine-preventable diseases is minimal and vaccination is not considered a required preventive measure. Complacency about a specific vaccine, or vaccination in general, is influenced by a variety of circumstances, including other life/health duties that are perceived to be more important at the moment. As individuals weigh the risks of vaccination with a particular

vaccine against the risks of the disease that the vaccine prevents, vaccination programme success may paradoxically lead to complacency and, ultimately, hesitancy, as individuals weigh the risks of vaccination with a particular vaccine against the risks of the disease that the vaccine prevents that disease is no longer common. The degree to which complacency dictates hesitancy is also influenced by self-efficacy (an individual's self-perceived or real ability to take action to be vaccinated).

Convenience is a crucial determinant of vaccine hesitancy. Physical availability, price and willingness-to-pay, geographical proximity, awareness (language and health literacy), and attraction of immunisation services affect vaccine acceptance. The degree to which vaccination services are offered at a time and place that is convenient and comfortable, as well as in a cultural environment that is convenient and pleasant, affects the decision to be vaccinated and may lead to vaccine hesitancy.

CONCLUSION

The reasons for COVID-19 vaccination acceptance and hesitancy are still unclear. As additional SARS-CoV-2 variations emerge, adding to the complexity (Karim et al., 2021), and new vaccines enter the market, it will be critical to strike a fine balance between sharing what is known and acknowledging the unknowns. Researchers and pharmaceutical companies should be as open as possible, with research data on COVID-19 vaccinations publicly accessible. International medical journals should ensure that the use of 'expedited reviews' does not jeopardise the peer-review process for important articles on vaccination safety and efficacy, as well as associated research findings. Governments should be open about their COVID-19 response initiatives and vaccine availability, as well as the processes used to make crucial choices. Reporting of adverse events following vaccination is an important part of evaluating vaccination programme implementation, and while it's necessary to document and report these incidents, excessive media coverage may deter people from becoming vaccinated. As a result, the media should report in a responsible and honest manner, presenting viewers with clear and balanced information. Finally, anyone who use the internet and social media (including scientists and clinicians) should do so responsibly to avoid distributing erroneous information or using language that could be misunderstood, potentially increasing vaccine hesitancy.

Although issues of vaccination distribution equity remain a significant challenge for LMICs in need of immediate assistance, the latency in the implementation of COVID-19 vaccines in these countries does provide a window of opportunity for overcoming hesitancy. Prioritising vaccine delivery to LMICs is justified not just on the basis of equality, but also on the anticipation of higher marginal returns in maximising global coverage at a faster rate (Solis Arce et al., 2021). Continued research on COVID-19 vaccine acceptance and hesitancy should be a priority in the battle against this pandemic because the globe shares a joint responsibility in battling this pandemic. Such research should then be used to develop contextualised advertising and information exchange, which will lead to an increase in vaccine trust and uptake.



With the establishment of immunisation regulations in the United States, which ensure that all children are protected by routine childhood vaccines, significant progress has been made in the fight against infectious illnesses. However, these successes in lowering vaccine-preventable diseases are jeopardised by a shift in disease beliefs and increased vaccination safety concerns. Several factors can influence vaccine uptake, including vaccine hesitancy. To build and preserve public trust in vaccines, more effort is required. Tools to aid clinicians in efficiently working with parents who have vaccine concerns would be very useful. Because there is great heterogeneity in the precise concerns of concern as well as the types of messages that might be helpful, messaging to parents must be personalised to match individual requirements. Furthermore, vaccine education tools, as well as support from professional organisations such as the ACIP and AAP, can assist providers in overcoming their personal reservations about the safety and efficacy of routine paediatric vaccinations. This is critical because a unified message from healthcare providers to parents about the benefits of immunizations and their prompt uptake in children is required. Surveillance of vaccination hesitancy trends can provide useful insights into effective interventions and inform the deployment of new preventive measures.

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A STRUCTURAL EQUATION MODEL FOR TECHNICAL WRITING COMPETENCY OF STUDENTS

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ABSTRACT

The general purpose of this study is to investigate the best fit model for the ability of students in technical writing that used structural equation modeling (SEM) as the basis for the design of the instrument in analyzing the relationship between affective factors, teacher communication behavior, vocabulary learning strategies and technical writing competency. A descriptive-causal design and stratified random sampling technique were used to select 400 students. Four questionnaires were used to collect data through an e-survey. Mean, standard deviation, Pearson product-moment correlation and multiple regression analysis were also used to analyze the data collected. It was found that all the variables are at a high level which means that the respondents are often exhibiting them. The affective factors, teacher's communication behavior, and vocabulary learning strategy have a significant relationship with students' competency in technical writing. The most appropriate technical writing competency model is model 5 with attitude and skill indicators. Motivation and self-confidence are indicators of the affective factor. Challenging, encouragement and praise, understanding and friendly are the teacher's behavior in communication. Vocabulary learning strategy with cognitive, metacognitive, memory, and determination indicators. It only indicates that the affective factor, teacher's communication behavior, and vocabulary learning strategy plays an important role in students' technical writing competency.

KEYWORDS: education, affective factors, teacher communication behavior, vocabulary learning strategies, technical writing competency, SEM, Philippines.

INTRODUCTION

Technical writing is a challenging skill that students have to learn in school. Failure to meet this requirement will result in frequent errors in spelling, correct use of words, and grammar. The problems in this skill also include the lack of linguistic skills including grammar, a relation of vocabulary to be used, fear of writing, lack of ideas, and weakness in the structure and organization of sentences. These weaknesses may be the influence of teacher training, ineffective strategy and system of tests, lack of training in reading and writing, a large number of students in the classroom, lack of motivation, and lack of ideas. (Fareed et al. 81-92, Farooq et al. 183-194).

A study revealed that affective factors such as anxiety affect students' high motivation in language learning and macro writing skills (Zayed and Ghamdi 109-112). A study also confirms the main cognitive and motivational forces in the academic domain in technical writing. It was found that their motivation significantly influenced their writing performance. Both cognitive and motivational variables only affect students' writing skills (Graham et al. 82-104).

The teacher needs to know the art of patterns and methods in writing work. It is also necessary for the teacher to have extensive knowledge of the pedagogical perspectives in

teaching this skill to properly teach the aforementioned skill (Nasser 191-203). The study found that the teaching focused on the work of the students to cultivate motivation and academic performance in learning. Teaching styles play an important role in motivation and academic performance for meaningful learning (Anwer 154-170).

Language learning strategies have a positive and significant relationship with students' performance (Uslu et al. 73-78). Vocabulary learning strategy includes sentence construction skills and their unity. Added to this are the frequent problems that interfere with good writing such as technical writing (Wang et al. 176-183).

It was discovered that the most frequent mistakes made by students are in punctuation, followed by spelling mistakes, use of prepositions, articles, wrong aspect of the verb, and wrong use of the appropriate word in the sentence. It has also been proven that the cause of this error is the transfer of Interlingual and intralingual (Khatter 364-381). A study proved also the students' difficulty in developing relevant ideas, lack of understanding of simple present-day aspects, lack of vocabulary, and mistakes in the mechanics of writing (Jayanti 71-94).



Although there are studies that have been mentioned and to the knowledge of the researcher, there has not been much local study to determine if there is a relationship between affective factors, teacher's communication behavior, vocabulary learning strategies, and ability of students in technical writing. Therefore, the researcher was motivated to conduct a study to

OBJECTIVES

This research aims to investigate the best fit model on students' ability in technical writing using the affective factor, teacher's communication behavior, and vocabulary learning

METHODS

This study used a quantitative causal research method using an appropriate Structural Equation Model for technical writing competency. It measures and describes statistical associations of variables with different scale levels (Ullman and Bentler 661). The researcher used the mean, standard deviation, Pearson Product Moment Correlation, and multiple regression

help increase awareness of the writing task, especially the technical type of writing. It will also help to increase the quality of education in the Philippines and make the programs included in it more prosperous. So, this study was conducted to help fill the gaps in students' technical writing-related issues.

strategies as exogenous variables and students' competency to technical writing as an endogenous variable.

analysis for a broader meaningful interpretation and correlation of the variables.

The respondents were selected through stratified random sampling because the population is heterogeneous (Parsons 1-11). Since it is a proportional percentage, the number of respondents from the universities that source the data will be counted from different sections.

RESULTS AND DISCUSSION

Table 1
Level of Affective Factors in Language Learning

Indicator	SD	Mean	Descriptive Level
Motivation	0.55	4.07	High
Attitudes	0.58	4.24	Very high
Self-confidence	0.60	4.22	Very high
Anxiety	0.75	2.39	Low
Total	0.42	3.73	High

Table 1 shows the level of affective factors in language learning of first-year college students of Region XII Universities. It has an overall mean of 3.73 with a descriptive level of high. It means that the students agree with the items contained in motivation, behavior, and self-confidence while they do not agree with the anxiety items because their level is low. It simply indicates that students often exhibit affective factors in language learning other than the anxiety indicator.

Having a high level of language learning has great help to develop the child's language learning process but when it is not monitored, it will cause weakness in learning languages (Khaleghi 185-189). It was found that students' achievement is significantly related to their motivation, attitude, and willingness to learn. Instrumental orientation, motivational behavior, behavior, and perception were found to be predictors of their success in classroom activities. Therefore, the creation of a harmonious classroom environment affects the efficiency of students (Cocca and Cocca 1-10).



Table 2
Level of Teacher Behavior in Communication

Indicator	SD	Mean	Descriptive Level
Challenging	0.66	4.20	Very high
Encouragement and Praise	0.66	3.92	High
Non-Verbal Support	0.71	3.96	High
Understanding and Friendly	0.68	4.26	Very high
Controlling	0.65	4.06	High
Total	0.56	4.08	High

It can be seen in table 2 that the teacher's level of communication behavior has a total mean of 4.08 with a standard deviation of 0.5 with a descriptive level that is high. The overall result of this table has a descriptive level of high which means that the students agree with the items contained in challenge, encouragement and praise, non-verbal support, understanding and affection, and control. It simply means that their teacher often exhibits communicative behavior in teaching.

The relationship between teacher and student is one of the factors that help students learn. Positive interaction creates a

conducive learning environment. A teacher who acknowledges the positive rather than the negative aspects of his students helps his students behave well. Too much emphasis on negative behavior rather than praising them will result to a not good relationship between teacher and student (Agyekum 121-122). The work of the teacher in questioning can maintain, move, and challenge the students and most of all helps them to know the previous knowledge and understanding about thinking, cultivating reason, problem-solving, and forecasting (Olufemi et al. 43-56).

Table 3
Levels of Vocabulary Learning Strategy

Indicator	SD	Mean	Descriptive Level
Cognitive	0.69	3.70	High
Metacognitive	0.67	3.91	High
Memory	0.77	3.87	High
Determination	0.78	3.89	High
Total	0.62	3.84	High

Table 3 describes the level of vocabulary learning strategy with a total mean of 3.84. The overall result of this table is high which means that the students agree with all the items contained in the cognitive, metacognitive, memory, and determination strategies. This simply indicates that they often demonstrate their vocabulary learning strategy.

A high level of vocabulary learning strategy can be linked to an articulation of learning. Vocabulary is very important in language learning and the lack of knowledge in this

matter will cause difficulty in learning. Knowledge here is affected by vocabulary learning strategies (Putra 74-81). Another study also confirms that vocabulary learning strategies such as cognitive, metacognitive, and social strategies are needed to help students produce good writing. In the writing process, it is necessary to think carefully about the topics or themes. Topic sentences, supporting details, and conclusions also need to be thought through. This process is called planning which belongs to the metacognitive strategy (Al-jarrah 199).



Table 4
Level of Students' in Technical Writing Competency

Indicator	SD	Mean	Descriptive Level
Attitude	0.67	3.76	High
Skill	0.67	3.61	High
Knowledge	0.72	3.51	High
Total	0.61	3.63	High

Table 4 shows the level of students' technical writing ability has a total mean of 3.63 with a corresponding standard deviation of 0.61 with a descriptive level of high. This table indicates that students' attitudes, skills, and knowledge in technical writing are high. It simply means that they agree with and often express all of the items contained in this indicator variable.

It has been proven in a study that writing technical writings are just as challenging as writing discourses. It was

found that the students of the University of Anbar do not have much ability in writing discourses because many of them showed errors in lexical, syntactic, semantics, literal translation, repetition of words, cohesion, and anaphoric and cataphoric errors. These mistakes are experienced by students because of the difficulty in learning English as a foreign language (Khalaf and Fadel 521-532).

Table 5
Relationship between the Exogenous Variables and Technical Writing Competency

	Technical Writing Competency			Significance
	Attitude	Skills	Knowledge	
<i>Affective Factors in Language Learning</i>	.587** .000	.414** .000	.361** .000	.505** .000
<i>Teacher Communication Behavior</i>	.592** .000	.482** .000	.364** .000	.532** .000
<i>Vocabulary Learning Strategies</i>	.717** .000	.606** .000	.503** .000	.677** .000

It was found that the teacher's communication behavior had a significant relationship with the students' ability in technical writing. This simply means that the teacher's communication behavior indicators of challenging, persuasion and praise, non-verbal support, understanding and friendliness and control play an important role in students' technical writing ability.

It has been found that giving frequent tests, exams and frequent praise for the writing done by the child can increase the motivation to improve his writing even more (Graham 258-279). It was also mentioned in a study that the result of an essay will be good through the good direction given by the teacher. In addition to this is guidance, feedback, collaboration between teacher and student. The teacher can organize the classroom where the students will write to guide their writing performance (Graham et.al 139).

A study proves that when students use vocabulary learning strategies, they learn quickly and their writing becomes easier. In addition, they can organize their own language learning and are able to write on their own (Fiani 220-233.). It was also proven in a study that the student's efficiency in the development of ideas, organization of the text, orderliness of the text, vocabulary, spelling and presentation of the text is due to the use of cognition and metacognition that are part of the strategy in learning vocabulary. This development is attributed to instructional programs and effective training. Through this strategy, there is also development in communicative intent, proper sentence construction, word relationships and the use of adverbs. He added that metacognition helps improve writing. In other words, the metacognitive condition is able to make progress and achieve a better writing product (Colognesi et al. 459-194).



Table 6
Significant Influence of Affective Factors in Language Learning, Behavior of Communication Teacher, Vocabulary Learning Strategy on Students' Technical Writing Competency

Students' Technical Writing Skills					
Exogenous Variables		B	B	T	Sig.
Constant		.767		3.915	.000
Affective Factors in Language Learning Teacher		.267	.183	4.215	.000
Communication Behavior		.158	.145	2.712	.007
Vocabulary Learning Strategies		.525	.527	10.828	.000
R	.701				
R ²	.491				
ΔR	.488				
F	133.947				
P	.000				

Table 6 shows the significant influence of language learning affective factors, teacher's communication behavior, and vocabulary learning strategy on the technical writing ability of first-year college students in the universities of region XII with an F-value of 133.947, R-value of .701 and R² .491, and p-value of .000 which is well below the .05 level of significance set in this study.

In sum, the affective factor, teacher's communication behavior, and vocabulary learning strategy have a significant influence on students' ability in technical writing. This simply indicates that the exogenous variables are significant and have a significant contribution to students' technical writing competency.

It is confirmed in a study that if students' motivation is low, various problems and situations appear and if students are not motivated to learn, meaningful learning becomes complicated for them (Alizadeh 11- 15). It was mentioned in a study that the relationship between the teacher and the student through different communication skills, whether verbal or non-verbal, brings good learning results. It has been proven in the study that the use of verbal and non-verbal communication in teaching motivates and guides students to pay attention to the lesson (Bambaeroo and Shokrpour 51). The study also found that through pedagogical initiatives by teachers, weak students can be helped to cultivate in them the use of metacognitive strategies to further increase their knowledge of appropriate language use (Qin and Zhang 393).

Table 7
Summary of Goodness of Fit Measures of Five Structural Models

Model	P-value (>0.05)	CMIN / DF (0<value<2)	GFI (>0.95)	CFI (>0.95)	NFI (>0.95)	TLI (>0.95)	RMSEA (<0.05)	P-close (>0.05)
1	.000	10.011	.758	.811	.795	.775	.147	.000
2	.000	6.831	.836	.880	.863	.854	.118	.000
3	.000	6.769	.836	.880	.863	.856	.117	.000
4	.000	4.547	.880	.928	.910	.911	.092	.000
5	.060	1.397	.978	.995	.983	.992	.031	.952

Legend: CMIN/DF – Chi Square/Degrees of Freedom

NFI – Normed Fit Index

GFI – Goodness of Fit Index

TLI – Tucker-Lewis Index

RMSEA – Root Mean Square of Error Approximation

CFI – Comparative Fit Index



The final objective of this research focuses on identifying the best fit model that represents variables as predictors of technical writing competency.

In determining the most suitable model, all indices must be contained in an acceptable number. Chi-squares/degrees of freedom values are less than 5 with corresponding p-values greater than 0.05. The root mean square approximation value must be less than 0.05 and the corresponding p-close must be greater than 0.05. Other indices such as the normed fit index, Tucker Lewis index, comparative fit index, and the goodness of fit index must be higher than 0.95.

The Hypothesized Structural Model 5 was found to show the best fitting data model as indicated by CMIN/DF= 1.397, p-value = 0.060, RMSEA = .031, p-close= 0.952 and indices such as NFI (0.983), TLI (0.992), CFI (0.995) and GFI (0.978). All indices with corresponding values were greater than 0.95 or met the requirements for the goodness of fit measures. Because model 5 developed is the best fit model of technical writing competency, it does not warrant further testing of any models. Therefore, the hypothesis is rejected.

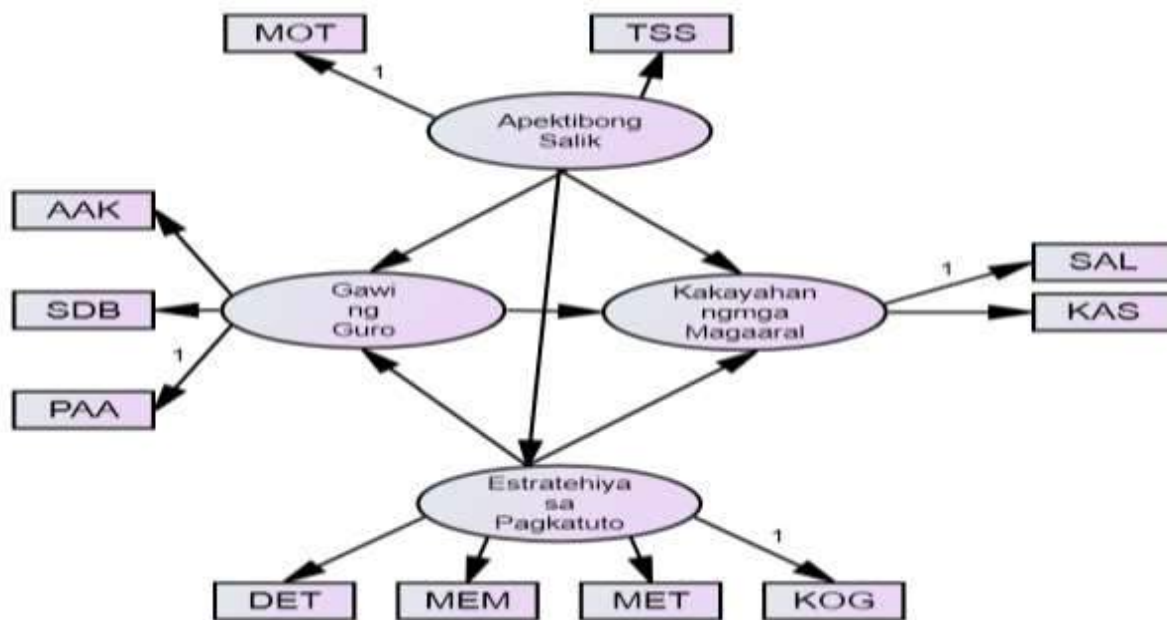


Figure 2. Best Fit Structural Model on Technical Writing Competency



Legend:

MOT-Motivation (Motibasyon)	SDB-non-verbal support (suportang di-berbal)	MEM-Memory (memori)
PAU-Attitude (Pag-uugali)	PAT-Understanding and Friendly (pag-unawa at pagkagiliw)	DET-Determination (determinasyon)
TSS-Self-confidence (Tiwala sa Sarili)	PAK-Controlling (pagkontrol)	SAL-Attitude (saloobin)
PAG-pagkabalisa (Anxiety)	KOG-Cognitive (Cognitive)	KAS-Skills (kasanayan)
PAA-Challenging (Paghahamon)	MET-Metacognitive (metakognitib)	KAA-Knowledge (kaalaman)
PAP-Encouragement and Praise (Paghimok at Pagpuri)		

CONCLUSION

The result showed that the level of an affective factor in language learning, teacher's communication behavior, vocabulary learning strategy, and technical writing competency is high which only indicates that it is agreed and often expressed by the respondents in the first year in college of the universities of region XII, the referred items in this variable.

The variables affective factors, teacher's communication behavior, and vocabulary learning strategy have a significant relationship with students' technical writing competency. So, the null hypothesis was not accepted. Of the five investigated models, model 5 had indices that were consistent and indicated that the data fit best. Therefore it was identified as the most appropriate model. The result of the goodness of fit of model 5 is very acceptable because all the indices meet the set criteria against the obtained value of the best fitting model.

Vygotsky's Social Cultural Theory of Writing supported this by valuing motivation and social influence in the components

of writing. It explains the learning of skills as a social process and how an individual's talents and abilities are derived from society and culture. In addition to this theory, interaction is very important in the development of the mental learning process. Vygotsky introduced the Zone of Proximal Development which states that the learner needs help and interaction to develop self-confidence (Hodge 139-146). It affirmed in behaviorism theory, wherein children are born with the ability to learn and their behavior can be shaped by controlling their environment. Children's intellectual abilities can be enriched and developed with the help of appropriate reinforcements. A behaviorist emphasized that it is necessary to "take care" of intellectual development by motivating and encouraging and strengthening it. There is also a belief that a child can perform any task if he is taught and given the right direction.

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BARANGAY JUSTICE SYSTEM IN THE PHILIPPINES: CHALLENGES AND INNOVATIONS

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ABSTRACT

The main objective of Barangay Justice System is to informally settle cases through the Lupon members acting as mediators. Mediators do not apply the rule of criminal law but they are to facilitate harmonious settlement through agreement of both parties. In this role of the mediators, this study investigated the challenges encountered by mediators during settlement, how did they deal with these challenges and do they have innovations in the Barangay Justice System to respond barriers of successful settlement. This study is qualitative in nature with Focused Group Discussion n(FGD) and personal interview of the Lupon members as the data gathering instrument. Data was transcribed, coded and analyzed themes and patterns. Results shows that that the barangay justice system is effective, the themes that emerge challenging the mediators during settlement are: Disputants Ability to Comprehend, The Challenge of Persuading Disputants who do not Cooperate for Settlement, the of challenge of not Exceeding from the mandated Authority of the Lupon in Execution of Agreement in selected cases and The Challenge of Dealing with Disputants Negative Attitude Towards Barangay Justice System. Innovations in amicable settlement are Coordination with other government or non-government agencies who has specialization with the dispute, On-site Dispute Settlement and single-out counselling of both complainants and disputants and Giving sanctions and reprimand.

KEYWORDS: *Barangay Justice System, Mediators, Amicable settlement, challenges, innovation*

INTRODUCTION

Mediation is a process which a third party acts as mediators who manages other persons' conflict or disagreement. This procedure is universal in application as it can be used to settle disputes among family members, neighborhood, community, business and workplace in any type of issues (us.sagepub.com) Dispute resolution is an alternative to adjudication of a presiding judge of a court or an officer of a government agency, a tool for a speedy trial (Sam and Sam, 2014). It is also used to decongest court dockets and as an instrument to administer a better quality of justice. In this nature of dispute resolution, professionals agree that the discussion of the offending behavior, the effect to the victim and the reparation of the offender has been a long practice resulted to the concept of Restorative Justice today (King, 2008).

In the Philippine tradition, disputes are amicably settled before elders who gained experience in handling cases. They belong to prominent or influential families recognized and respected by the community., and they administer justice based from their experience Sam, R. & Sam, S. (2014). This practice formally became a part of the Philippine Criminal Justice System when President Ferdinand E. Marcos ordered the Presidential Commission to create a law for the institution of dispute resolution system in the barangay. As a result, the Presidential Commission drafted the PD 1508 also known as

Katarungang Pambarangay Law and was signed by President Ferdinand E. Marcos on June 11, 1978 (Tabucanon, G., Wall, J. & Yan, W., 2008). This law mandates every barangay should organize their Lupon Tagapamayapa (LT) consisting 10-20 members, and they shall act as conciliators during amicable settlement (par. A of Sec. 1) Further, this law provides the authority of the LT (conciliation panel) to settle issues punishable by not exceeding thirty (30) day imprisonment and a fine of not more than Two hundred (Php200.00) pesos (par. 3 of Sec. 399).

It was, however, repealed by the *Revised Katarungang Pambarangay Law under RA 7160* effective on January 1, 1992. Substantial changes have been established from PD 1508 to RA 7160 like the authority of the *Lupon Members* to settle complaints punishable by not more than One (1) year imprisonment or a fine of not more than Php5000.00 prior to the filing in court and the procedures in dispute resolution (par. c of Sec. 408). Said cases shall be recognized by the court only when the Barangay Secretary issues a certificate of filing a complaint in court upon compliance with all other requirements set by the law (Sec. 419).

The procedure for amicable settlement was specifically provided under RA 7160, *to wit*:



SECTION 410. Procedure for Amicable Settlement. –

(a) Who may initiate proceeding – Upon payment of the appropriate filing fee, any individual who has a cause of action against another individual involving any matter within the authority of the lupon may complain, orally or in writing, to the lupon chairman of the barangay. (b) Mediation by lupon chairman – Upon receipt of the complaint, the lupon chairman shall, within the next working day, summon the respondent(s), with notice to the complainant(s) for them and their witnesses to appear before him for a mediation of their conflicting interests. If he fails in his mediation effort within fifteen (15) days from the first meeting of the parties before him, he shall forthwith set a date for the constitution of the pangkat in accordance with the provisions of this Chapter. (c) Suspension of prescriptive period of offenses – While the dispute is under mediation, conciliation, or arbitration, the prescriptive periods for offenses and cause of action under existing laws shall be interrupted upon filing of the complaint with the punong barangay. The prescriptive periods shall resume upon receipt by the complainant of the complaint or the certificate of repudiation or of the certification to file action issued by the lupon or pangkat secretary: Provided, however, that such interruption shall not exceed sixty (60) days from the filing of the complaint with the punong barangay. (d) Issuance of summons; hearing; grounds for disqualification – The pangkat shall convene not later than three (3) days from its constitution, on the day and hour set by the lupon chairman, to hear both parties and their witnesses, simplify issues, and explore all possibilities for amicable settlement. For this purpose, the pangkat may issue summons for the personal appearance of parties and witnesses before it. In the event that a party moves to disqualify any member of the pangkat by reason of relationship, bias, interest, or any other similar grounds discovered after the constitution of the pangkat, the matter shall be resolved by the affirmative vote of the majority of the pangkat whose decision shall be final. Should disqualification be decided upon, the resulting vacancy shall be filled as herein provided for. e) Period to arrive at a settlement – The pangkat shall arrive at a settlement or resolution of the dispute within fifteen (15) days from the day it convenes in accordance with this section. This period shall, at the discretion of the pangkat, be extendible for another period which shall not exceed fifteen (15) days, except in clearly meritorious cases.

During amicable settlement, mediators utilize different approaches or strategies. Nevertheless, there is this discussion on the advantage of settling the dispute in the barangay to both

parties than bringing it before the court. It is because the mediators, together with the disputants, aim to come up with a win-win solution and no longer it is difficult to determine who is actually wrong and who is entitled to damages (Tabucanon et al., 2008).

The Philippine Barangay Justice System (BJS) is weakened by the lack of strengthening support for the system, the need to review the role of the Punong barangay/barangay captain in view of the fact that he is an elective/political official, surveys and literature also reveal that many residents do not use the system because of the lack of credibility on the Punong Barangay to render judgment or facilitate dispute resolution in an impartial manner. Also, literatures suggest the need to review the composition of the *Lupon*, members should be elected to raise awareness on its existence while interviews and other literature point to the fact that there is a need to depoliticize the whole system and divert cases away from political figures into more credible members of the community Aquino, R. (n. d.).

Although the law provides the legal procedure that guide the mediators on the steps in the settlement of dispute, *Lupon* members most of the time, should do their functions by discretion, use art and skills to successfully mediate so that both parties must settle and agree for actions that satisfies their demands. This implies that any situation or circumstances that arise not covered by the provisions of the law will be taken into action by discretion. There are studies conducted on the performance of the *Lupon* members in the settlement of dispute, problems encountered in dispute settlement and factors affecting successful mediation however most of these studies are quantitative in nature while only few was conducted in a Qualitative design. Researchers sought the advantage of using Qualitative research design as it enables to study the complex aspect of mediation. In this study it focuses on the challenges in mediation process and their innovations in response to such issues.

METHODOLOGY

This study explored how the *Lupon* members perceived the implementation of Barangay Justice System. It also includes the investigation of the challenges in the amicable settlement of disputes filed in the barangay and the innovations made by the *Lupon* members in response to these issues that may challenge their capacity to settle disputes or on how do they address issues that arise not provided by the law. Qualitative research design was used with the “Thematic style” of analyzing data in search of themes or patterns that arises from the responses of the participants. Braun, V. and Clarke, V. (2006) stated that a theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set. The participants of this study are the members of the *Lupon* who have actual experiences in facilitating amicable settlement in urban barangay particularly in Barangay San Fermin and Barangay District 2 in Cauayan City, Philippines on March 2020. Data



were gathered through Focused Group Discussion (FGD) and personal interview using unstructured interview guide to allow in-depth extraction of relevant data. Part of data gathering procedure is the seeking of permission from the Barangay Chairman for an interview together with the *Lupon* members and the permission to access important file of the Barangay Secretary for the triangulation of results.

RESULTS/FINDINGS

A. Profile of the Participants

There are fifteen (15) participants on this study. Nine (9) are college degree holders and six (6) barely reached the college level. Most of them are serving the barangay as *Lupon* ranging from 5-8 years, 1-2 years and one has been serving for seventeen (17) years already. Most of them are retired from the service in Law Enforcement sector, Academic Sector and Local Government Unit while other members are Businessmen. Documents also shows their outstanding achievement their plaque of being one of the Outstanding *Lupon* Tagapamayapa in the local and national category.

Perception of *Lupon* members on the Implementation of Barangay Justice System

The theme that emerge from responses when participants were asked on how do they perceive the implementation of Barangay Justice System.

Theme 1. Barangay Justice System is well implemented

The *Lupon* members stated that they attend seminars organized by local and national government in different places. Majority of the *Lupon* members attend seminars through the initiative and support of the Barangay Captain. They are also given monthly incentive of Php1000.00 and uniforms. In the implementation of barangay Justice System, the *Lupon* members stated verbally the procedures of amicable settlement, authorities of the *Lupon* and cases under the jurisdiction of the *Lupon* Tagapamayapa. *Lupon* members has no problem in the implementation of the Barangay Justice System and its processes as Kagawad 3 answered “*wala namng problema, naimplement nmn namin ng mabuti at saka nakakaya naman namin na i-settle ang mga kaso*” (there’s no problem we implemented well and we are able to settle the cases). This reaction manifest their confidence that they are compliant with the provisions of the barangay justice System that they can successfully settle disputes applying the Barangay Justice process provided by the law.

B. Challenges in Amicable Settlement by *Lupon* Members

When participants were asked on the challenges in amicable settlement, the following are the themes that emerge:

Theme 1: Disputants Ability to Comprehend

Lupon members found illiterate disputants as a challenge for a successful mediation in their narration specifically Kagawad 8 said “*pinag-uusapan po nmin Mam kasi*

may mga disputants na ang hirap makaintindi cguro dahil illiterate kaya kahit paulit ulit naming ipaintindi ang sitwasyon o pangyayari ay di pa rin nya naiintindihan” (we talk about it Ma’am because there are disputants who hardly comprehend maybe because he is illiterate so even if we repeatedly explain the situation or or cirmstances explain still he can’t understand) it is a struggle for the *Lupon* to deal with disputants who cannot understand or comprehend the facts and circumstances of the issue/dispute or when one of the disputants has low level of thinking due to low level of education. When the participants were asked how do they address the situation similar answers can be drawn from Kagawad 1 as he said “*ginagawa naming ang lahat na ipaintintdi yung sitwasyon, nagbibigay kami ng paliwanag sa kung ano ang proseso at tamang hakbang pero hnd pa rin nya naiintindihan, pinapayuhan naming na humingi muna ng payo sa mga kakilala nya o sa may mga experience na*”(we do everything to let him understand the situation, we give explanation on what process and steps but still couldn’t understand, we advise to ask advise from his acquaintances or to those who have experience). Obviously, the respondents *try* hard to deal with this type of disputants and advise them to ask opinion or ideas from friends or those who had experience the same issue. In this cases *Lupon* members are giving disputants the chance or enough time to analyze the situation or facts of the case and have clearer understanding of the process and nature of barangay Justice.

Theme 2: The Challenge of Persuading Disputants who do not Cooperate for Settlement

The negative attitude towards the law affects the successful settlement of dispute in the barangay. Respondent tends to disregard the authority of summon served to them in their belief that they don’t need to appear before the *Lupon* because they don’t have liability or they consider themselves innocent from the complaints filed. There is the lack of cooperation with the authority and it hampers the dispensation of justice in the barangay as Barangay Captain 1 said “*may mga taong hindi sumisipot sa barangay hearing kahit na may summon na naiserve sa kadahilanang wala daw silang kasalanan*” (there are people who do not appear in the barangay hearing even there is summon served for the reason that they seem have no violation). Under the Barangay Justice System, failure of parties to arrive on the amicable settlement the council will still issue a certificate of filing a case in court indicating that a settlement failed after several attempt of resolving the case in the barangay. The challenge here is how would they persuade the disputants to cooperate. This findings is in consonance with findings of Zhang, Y. and Chen, L. (2017) in China, they concluded that successful mediation is largely dependent on disputants’ motivations. Ramanthan, U. (2013) state that persuading someone to communicate allows the exchange of information thereby discussion of the concerns of both parties leads to successful mediation. *Lupon* as mediators must



Theme 3: The challenge of not Exceeding from the mandated Authority of the Lupon in Execution of Agreement in Unpaid Debt and Prevention of Repeat Offenders.

The Barangay Chairman considers the failure of respondents to comply with the agreement made during the settlement as a problem. It is a manifestation that respondents are not sincere with their oath made before them as Kagawad 2 said “*may mga respondent na paulit ulit na nireklamo dahil sa utang, di tumutupad sa agreement*” (there are respondents who repeatedly complaint because of unpaid debt and did not comply with the agreement). This means that agreement made in the barangay do not guarantee compliance of the respondents. Sec. 417 of RA 7160 states that the amicable settlement or arbitration award may be enforced by execution by the lupon within six (6) months from the date of the settlement. After the lapse of such time, the settlement may be enforced by action in the appropriate city or municipal court. In this provision it does not provide a rule on how would the Lupon members enforce or execute the agreement. They don’t have the authority to impose sanction or punishment for non-compliance of the respondents on agreement made. The challenge now then is how the Lupon members enforce the agreement without exceeding on the power vested in them. This is also the reality on repeat offenders as Kagawad 9 said “*oo Mam, may mga cases na paulit ulit na inirereklamo ang iisang residente dahil sa panggugulo pero ang ginagawa namin kelangan pa rin naming harapin ang reklamo kasi idinulog dto sa opisina nmin*” (Yes, Ma’am there are cases that they repeatedly complaint over the same resident because of making trouble but what we do is we need need to attend the complaint since it is brought in our office) this test how Lupon members would prevent repeat offenders of different cases with different complainants.

Theme 4: The Challenge of Dealing with Disputants Negative Attitude towards Barangay justice System

The amicable settlement of cases not exceeding One (1) year imprisonment or a fine of not exceeding Php5000.00 is a pre-requisite before the filing of such cases in court regardless of the persons’ economic status. However, studies show that the Barangay Justice System is the cheapest and fastest way of attaining justice by the poor. In this provision, Lupon members are challenge in cases were disputants bring with them their political affiliation an influential person drawn from the statement “*may mga iba na pupunta dto sa barangay kasama ang kamag-anak na abogado, graduate ng law or mgpapakilala na kamag-anak ng isang opisyal sa gobyerno*”. These are acts trying to intimidate the Lupon members to influence fair process disputants proceed to the barangay office with their relatives that are lawyers or graduate of law. Lupon members must have to observe maximum tolerance to avoid misconduct. Lupon members are challenged in dealing with them so as not to appear impolite or to maintain harmonious relationship while enforcing fairness and equality in the process. It was also revealed that some economically abled disputants prefer not to settle the case in the barangay because they can afford the expenses as

Rspondent 1 said “*yung iba mag-file lng kaso at ang gusto makakuha lng ng certification lalo na kung kaya nla magbayad ng abogado*” (some just file the case to get certification especially those who can afford to pay an attorney”. It implies that some complainants prefer the court to hear and try their case than in the barangay, there is the dissatisfaction in the barangay justice system. The challenge is that Lupon members have to discuss the objective of BJS and the type of justice it offers.

C. Innovations in Settling Disputes in the Barangay

The participants revealed that during amicable settlement, they have to wear their uniforms before appearing to the hall, they maintain daily details of officers on duty and participants involve themselves in barangay officials program extending their service to the community not just acting as mediators in amicable settlement. Apart from the amicable settlement procedure provided by law, when a complaint filed a case at their office, the disputants automatically have the choice to select their mediators although in the Katarungnag Pambarangay Law it provides that the barangay chairman will conduct mediation before passing it to the Lupon as Barangay Secretary 1 said “*hinahayaan naming na sila ang mamili sa kung sino ang gusto nila na humarap sa settlement, pero mag-iinhibit yung mga Lupon na kamag-anak ng isa sa kanila*”. This ensures that disputants do not have any doubt on the fairness in the discussion during settlement because it is their own choice. It is the disputant’s preference and agreement. Before the start of settlement, it always start with a short prayer.

Theme 1: Coordination with other government or non-government agencies who has specialization with the dispute

Theme 1 is drawn from different responses with similar thought with the statement of Kagawd 10 as he said “*kung ang kaso ay tungkol sa lupa o boundary nagtatawag kami ng taga-LRA sa city hall para sya ang magpapaliwanag sa kaso o kung tungkol nmn sa pagkasira ng ari-arian at kung mgkano ang amountna dapat bayaran dun kami sa mga businessman humihingi ng inpormasyon*” (In n cases of land dispute we call representative from the city land and registration unit to explain the case or if it is about cases involving payment of damaged property and how much amount to be paid w go to businessman and ask information). Also, Lupon Tagapamayapa also hear cases not covered by their authority when both disputants prefer to settle the case at the barangay office like the of Homicide through Negligence drawn from their statement “*may mga kaso na dinadala dto sa barangay na hnd naman naming sakop pero dahil dto nla gusting pag-usapan ang kaso kaya hinaharap naming gaya ng kaso ng aksidente at may namatay*” (there are cases brought in the barangay which is not under the jurisdiction but since they want to about the case here so we face it just like cases of Homicide through Negligence). This shows that the Lupon members coordinate with professionals with field of specialization in cases not under their jurisdiction.



Theme 2. On-site Dispute Settlement and single-out counselling of both complainants and disputants

In heated confrontation were both parties cannot agree, Lupon members use single-out counselling, they hear both sides one by one as Kagawad 1 stated “*kapag nagkainitan ng ulo at hirap sila mgkasundo, ginagamit naming yung single-out counselling, pinapalabas muna naming yung isa. Kakausapin nmin kung ano nangyari para makuha nmin kung ano talaga ang nangyari at kung ano gusto nla na hind naririnig ng kabilang panig*” (when head heated up and they don’t agree, we use the single-out counselling, we send the other one outside, we ask what happened for us to get what was actually happened and what they really want not being heard by the other party). Lupon members also practice onsite-settlement or ocular inspection of the property in dispute “*ginagawa dn naming on-site settlement don kami mismo sa boundary ng pinag-aawayang lupa kami mismo nag-uusap*” (we also do on-site settlement we settle at the actual boundary of the land in dispute). Single-out counseling is the strategy wherein respondent or the complainant tell his side, tell about the facts of the case with the Lupon without the presence of the other complainant.

Theme 3. Giving sanctions and reprimand, petition to temporarily oust the person from the community

In case were respondents do not cooperate or do not appear in the schedule of settlement Lupon members personally visit the respondent at his residence drawn from the statement of Kagawad 11 as “*pinupuntahan naming sa bahay nla at inaalam kung ano ba talaga ang dahilan at bakit di sya sumisipot*”, “*kapag ka hnd sumusunod sa usapan binibigyan dn naming ng sanction kagaya ng pag petisyon na pansamantala munang umalis sa lugar yung respondent, nagco-coccus din kami na mga lupon para pag-usapan yung kaso at kung paano namin harapin yung kaso*”(we go to their house and know what is really the reason of not showing, when he doesn’t abide with the agreement we give sanctions like we petition for the respondent to temporary leave the place, we Lupon have coccus to talk about the case and what to” . In this approach of the Lupon, it is a shift from the traditional strategy in amicable settlement and they don’t rely on issuance of certificate of filing a case in court as a remedy to unsettled case. Lupon members became watchful of community’s criminal behavior.

DISCUSSION

It is implied that the effective implementation of the Barangay Justice System in the barangay is supported by high level of education of the Lupon members that they have a broader knowledge in social interaction and understanding human behavior, the combination of their community group sector from the law enforcement, academe, religious, business and LGU employees. The fact that they are retired from the service they can also give full time in the service as Lupon and they can also apply their experience from their previous work in dealing with related cases. The support given by the Barangay

Captain is at the same time a factor for effective implementation.

The challenges in amicable settlement are the attitude of the respondents and complainant, their willingness to cooperate in the settlement of dispute. This challenge the ability of the Lupon to act as mediators-facilitating the conversation and discussion of the issue and to finally come up with an agreement, the test of maximum tolerance from offensive attitude of the disputants and the need to empathize on the situation of the disputants to understand their emotions. To satisfy a complainant in the barangay, the damage and injury brought by the dispute needs to be considered and repaired this is the common concept between Barangay Justice and Restorative Justice. Irvine, C. & Farrington, L. (2017) discussed the importance of dealing with emotion in mediation they stated that the attempt of maintaining professional distance, the need to be neutral, the need to be rational than emotional during mediation are the potential risk in gathering rich data while Della, N. (1999) proposed that the Individualist and Relational ideological frameworks have material implications for the concept and the practice of fostering empathy between the parties to a mediation: The problem-solving framework fosters a social interaction which can be understood as transactional empathy while the transformative framework fosters an interaction described as relational empathy.

Basically Barangay Justice is justice outside the rule of law that Lupon members should not act as judges to determine who is guilty or innocent but it is implied that broad knowledge on different issues in-dispute is important during mediation based from the Lupon Tgapamayapa innovative responses on the challenges in amicable settlement they coordinate with other government or non-government agencies who has specialization with the dispute. The help of professionals help build trust and confidence of the disputants. This implies that Lupon members believe that they can deliver justice better with the help of these agents. From this context, researchers suggest that the implication of the profile of Lupon to successful mediation be investigated.

CONCLUSION

The traditional concept of amicable settlement under Barangay Justice System is still applicable even in this modern world however challenged by the ability of the implementers to handle different behavior of disputants which requires logical innovative approaches convincing to the senses of disputants to achieve peaceful settlement. The appointment of Lupon members coming from different sector is an advantage as they are a combination of different profession with different skills and experiences fitted to the varied personality and profile of disputants. Moreover, the need to gain the trust and confidence among the Lupon members by the disputant is important.



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A STUDY ON CONSUMER APPAREL BUYING BEHAVIOUR

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ABSTRACT

Due to the proliferation of media, the growth of the smart phone industry, increased internet usage, increased access to information, increased exposure, smaller families, and ambitions for a higher standard of living today, people are more cognizant of their lives now that they have more disposable income. Due to digitization and increase in the number of malls, people are now left with a plethora of choices for apparel purchase. This paper studies the consumer buying behaviour of apparel buyers. With a sample size of 331 selected on convenience basis, the findings of the study revealed that majority of the sample preferred to purchase online over offline modes. Also the buying pattern varies significantly across genders. Moreover it is seen that festive offers have a great influence over apparel customers in a way that if customers finds the offers lucrative, they are willing to go above budget. Also there is a considerable difference in the purchase behaviour across specific age groups with or without festive offers. It is also founded out that the majority of the sample agreed that income has significant influence on their decision to make a purchase.

KEYWORDS:- Consumer buying behaviour, apparels, fashion sector, festive, peer influence, purchase.

1. INTRODUCTION

The global fashion sector is currently one that is expanding quickly in India as well as world. India's fashion sector is at present seen as being thriving. Due to Indians' increasing fashion consciousness over the recent times, the country's fashion business has flourished. The limited lifespan of fabrics in the clothing retail industry, fierce fight, and internationalization all contribute to balanced consumer habits and a variety of marketing issues for retailers. Producers and merchants must create successful marketing plans to flourish in this market. It has been highlighted that fashion trends in India have had a significant impact on the market for fashion garments.

Due to designer brands, customization, promotion, and diversity in the international market, the fashion garment industry has evolved. Fashion apparel producers and merchants will be better equipped to draw in and keep their market segment if they can pinpoint consumer consumption patterns. Even though the literature has extensively covered the multiple aspects of the proposed study of consumer attitude, this research aims to improve the viewpoint of the retailer and the producer in steering buying intentions among consumers in India with variables such as value and prestige, price elasticity, and several other brands.

The West has a massive impact on the contemporary buying habits of middle- and upper-class consumers in metropolitan India, particularly among women. The favourable attitude toward foreign trends is growing. The customers in India has significantly expanded in both receptivity and willingness to try new things. Indian consumers readily embrace international products. Millions

around the world, not just in developing nations, work in the multi-dollar fashion business. Because of this shifting environment, customers are greatly impacted by these abrupt changes..

- Apparel market revenue of 87.60 billion dollars in 2022. The market is anticipated to expand by 5.10% yearly (CAGR 2022-2026).
- Women's apparel will be the leading market sector, with a valuation of 39.51 billion dollars in 2022.
- In a global comparison, most of the revenue comes from the United States (\$312.00 billion in 2022).
- For the total population data, 62.28 dollars per capita income is obtained in 2022.
- The ready-to-wear market is expected to reach 37,646.5 million units. until 2026. In terms of volume, the ready-to-wear market is anticipated to rise by 9.8% in 2023.
- In the apparel industry, the average number per capita is anticipated to be 21.9 in 2022.
- In 2022, 99% of apparel sales will not be luxury.

2. OBJECTIVES OF THE STUDY

- To assess the preference of consumer buying online & offline of apparel product.
- To study the significance influence of gender, age group & their purchase decision with or without festive offers.
- To study the impact of variables genders, monthly income and peer influence on consumer behaviour of apparel.



3. RESEARCH METHODOLOGY

Research Design: The descriptive research design was adopted by the researchers. Both primary and secondary data were collected for the study. The questionnaire consisted of 16 questions was circulated among respondents. 331 samples were collected at random to know about their apparel purchase preferences relating to online, offline and also influence of festive offers on purchase decision.

Statistical tools: To meet the objectives, statistical tools like frequency counts, percentages and chi square test was used.

4. REVIEW OF LITERATURE

- **Ruchika Joshi et al (2020)**, The objective of this research is to understand consumers' purchasing behaviour towards branded clothing and to understand the factors that influence the purchasing decision. Quality, design, exclusivity, comfort and brand image were found to be important purchasing factors, while factors such as status symbols and advertising were considered unimportant.
- **Maran, Badrinarian et al (2018)** used research to analyze consumer behavior towards ready-to-wear by age and income level. The results of the study showed that quality is the most important factor and the other secondary factors are color, design, style, price and comfort. Consumers prefer designer clothes because they meet their expectations. Moreover, the level of income at the time of purchase is also a crucial factor for the consumer.
- **Sreerekha et al (2018)** conducted a study in the city of Coimbatore to investigate the relationship between several variables that determine branded clothing buying behavior. The objective of the study was to examine the garment industry in India and examine the various demographic, psychological and socio-economic factors influencing consumer choice. The researchers also looked at the impact of advertising

activity, gender, and peer influence on consumers. The study showed that consumers consider product quality and price as decisive factors in their purchasing decision. Properly pricing a product based on competitors' prices is crucial for long-term brands.

- **Narayanan. N.R (2018)** in his study “Studying Consumer Attitudes Against Holiday Clothing Sales” found that most consumers prefer trendy clothes and innovative designs during the holiday season.
- **Kumar et al (2017)** showed that age is a key factor in purchasing and has a critical impact on consumption patterns and decisions. The level of income influences the purchasing behavior of consumers. Overall, the study concluded that Ludhiana consumers are attracted to fashion and brands.
- **Namrata Anand et al (2014)** The report emphasises the need of research in the garment industry to harness this potential despite significant consumer demand for apparel and its active role in driving innovation. Acknowledging the purchasing habits of apparel consumers is crucial for apparel suppliers and retailers to be able to more successfully meet this market.
- **Verma, A. P. et al (2011)** This study estimates the segment value of some successful brands in the Indian market. Serve medium to high potential consumers who can appeal to international and domestic brands in an Indian context. The result shows that as revenue increases, people simply discover the brand. Brands and people alike would benefit from being conscious of the nuances of the environment and willing to embrace the possibilities.

5. ANALYSIS & INTERPRETATION

The collected data was edited, coded, tabulated and interpreted using chi square as the statistical method.

TABLE 1; - GENDER OF THE PARTICIPANTS

S.NO	GENDER	NUMBER	%
1	Male	180	54%
2	Female	151	46%
Total		331	100%

There are a total of 331 respondents out of which 180 are males, 151 are females.

TABLE 2:- TABLE SHOWING THE RESPONDENTS OPINION ON THE STATEMENT, “WHERE DO YOU PREFER TO BUY CLOTHES”

S.NO	GENDER	NUMBER	ONLINE	OFFLINE	ONLINE PERCENTAGE	OFFLINE PERCENTAGE
1	Male	180	132	48	40%	14%
2	Female	151	103	48	31%	15%
Total		331	235	96	71%	29%



Out of 331 respondents , 235 prefers to buy online which is 71% of the total sample size and only 96 prefers to buy offline which 29% of the total sample size.

TABLE 3:- TABLE SHOWING THE RESPONDENTS OPINION ON THE STATEMENT “DOES YOUR FRIENDS OR RELATIVE'S BUYING BEHAVIOUR AFFECT YOUR CHOICES AND PREFERENCES TOO”

S.NO.	OPINION	NUMBER OF RESPONDENTS	%
1	Strongly Agree	94	28%
2	Agree	101	31%
3	Neither agree nor disagree	95	29%
4	Disagree	33	10%
5	Strongly Disagree	8	2%

Out of 331 respondents, 33 respondents disagree and 8 respondents strongly disagree with the question that their friends or relative’s buying behaviour affect their own choices and preferences too. In contrast, 101 respondents agree and 94 respondents strongly agree that their friends or relative’s buying behaviour affect their own choices and preferences.

Null and Alternative Hypothesis

H0; - There is no significant difference in the purchase decision across genders with and without festive offers.

H1; - There is significant difference in the purchase decision across genders with and without festive offers.

TABLE 4: - χ^2 (CHI SQUARE) TABLE SHOWING THE RELATIONSHIP BETWEEN DEPENDANT AND INDEPENDENT VARIABLE.

Gender/Opinion	Depends	Purchase it anyway	Wait for Festive Offers	Total
Male	62	69	49	180
Female	55	40	56	151
Total	117	109	105	331

The table shows that out of 180 males, 49 of the respondents wait for the festive offers if they like something to get, 69 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 62 respondents & out of 151 females, 56 of the respondents wait for the festive offers if they like something to get, 40 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 55 of the respondents.

The calculated Σ value here is 6.21. As the degree of freedom is 2, the table value of χ^2 becomes 5.991.

Hence, Calculated value 6.21 > Tabular Value 5.991.

As calculated value is greater than the χ^2 critical value at 5% level of significance, we accept the alternative hypothesis and reject null hypothesis.

So, we can infer that, there is significant difference in the purchase decision across genders with and without festive offers.

Null and Alternative Hypothesis

H0; - There is no significant difference in the buying behaviour across certain age groups with or without festive offers.

H1; - There is significant difference in the buying behaviour across certain age groups with or without festive offers.

TABLE 5: - χ^2 (CHI SQUARE) TABLE SHOWING THE RELATIONSHIP BETWEEN DEPENDANT AND INDEPENDENT VARIABLE.

Age group/Opinion	Depends	Purchase it anyway	Wait for Festive Offers	Total
15 - 20	1	6	7	14
21-25	63	61	51	175
26-30	36	41	27	104
31-35	10	0	16	26
35+	7	1	4	12
Total	117	109	105	331

The Table shows that

Out of 14 respondents from **age group 15-20**, 7 of the respondents wait for the festive offers if they like something to get, 6 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 1 respondent.

Out of 175 respondents from **age group 21-25**, 51 of the respondents wait for the festive offers if they like something to get, 61 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 63 of the respondents.



Out of 104 respondents from **age group 26-30**, 27 of the respondents wait for the festive offers if they like something to get, 41 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 36 of the respondents.

Out of 26 respondents from **age group 31-35**, 16 of the respondents wait for the festive offers if they like something to get, 0 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 10 of the respondents.

Out of 12 respondents from **age group 35 and above**, 4 of the respondents wait for the festive offers if they like

something to get, 1 of the respondents purchase it anyway without any offer or festive and the purchase decision depends for 7 of the respondents.

The calculated Σ value here is 27.96. As the degree of freedom is 8, the table value of χ^2 becomes 15.507.

Hence, Calculated value 27.96 > Tabular Value 15.507.

As calculated value is greater than the χ^2 critical value at 5% level of significance, we accept the alternative hypothesis and reject null hypothesis.

So, we can infer that, there is significant difference in the buying behaviour across certain age groups with or without festive offers.

TABLE 6:- TABLE SHOWING THE RESPONDENTS OPINION ON THE STATEMENT “DOES FESTIVALS OFFERS INFLUENCE YOUR PURCHASE DECISION”

S.NO.	OPINION	NUMBER OF RESPONDENTS	%
1	Strongly Agree	78	24%
2	Agree	130	39%
3	Neither agree nor disagree	78	24%
4	Disagree	28	8%
5	Strongly Disagree	17	5%
TOTAL		331	100%

Out of 331 respondents, 28 respondents disagree and 17 respondents strongly disagree that their purchase decision did not get influenced by the festival offers. In contrast, 130 respondents agree and 78 respondents strongly agree that their

purchase decision get influenced by the festival offers while 78 of the respondents neither agree nor disagree on the question “Does festivals offers influence your purchase decision”.

TABLE 7:- TABLE SHOWING THE RESPONDENTS OPINION ON THE STATEMENT “DOES THE INCOME OF THE INDIVIDUAL AFFECT PURCHASE DECISIONS”

S.NO.	OPINION	NUMBER OF RESPONDENTS	%
1	Strongly Agree	117	35%
2	Agree	121	37%
3	Neither agree nor disagree	71	21%
4	Disagree	12	4%
5	Strongly Disagree	10	3%
TOTAL		331	100%

Out of the respondents, 35% of respondents strongly agree and 37% of the respondents agree that the income of an individual affect the purchase decisions and in contrast 4% of the respondents disagree and 3% of the respondents strongly disagree that the income of an individual doesn't affect the purchase decisions.

6. MAJOR FINDINGS OF THE STUDY

The findings of the study revealed that:

- Over 71% of the total sample size prefer to buy online whereas 29% of the total sample size prefers to buy offline.
- The purchase decisions made by genders with and without Festive offers differ significantly.
- The majority of respondents agreed that a person's income has a significant influence on their decision to make a purchase.

- The majority of those surveyed believe that festival offers affect their purchasing choices.
- There is a considerable difference in the purchase behaviour across specific age groups with or without festive offers.
- The majority of respondents from the entire sample size believe that their social environment and way of life have an impact on their purchasing decisions.
- Well over 50% of respondents from the entire sample size feel that comparing clothes when shopping online is challenging.
- Several respondents from the entire sample believe that if the offers are particularly alluring, they will go above their budget.

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CURRENT ACCOUNT DEFICIT: IS THIS A MAJOR PROBLEM FOR A COUNTRY LIKE INDIA

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ABSTRACT

The Objective of this term paper is to provide a concrete relationship between the Current account deficit and its Factors Affecting Indian economy. We have to carefully examine the various components of it and see its impact on the Indian economy. We'll briefly discuss What is Current Account deficit and In order to support our proposition we will look at Empirical data and see if we find any correlation when in the situation of lower Current Account Deficit the economy Performs better and on the counter with the higher Current Account Deficit economy has to go through a situation a tough spell. We'll try to look in the other developing Countries and see their trends with the Current account and try to connect the dots. We will also try and look through the phases in which developed countries has to go through and seeing is it a alarming situation for country like India which is still in its developing spell and yet to become a Developed country .Some of our studies we'll include (1) Are Current Account Deficit are persistent in other economy as well and they don't have any lasting impact on the economy. (2) Since Post-Reform did Indian Economy fared well since much of the regulation is detached. (3) As well as See if there is any Way that Government intervention helps in reducing Current Account Deficit.

INTRODUCTION

Current Account is an Obscure Economic Concept. But in Our study we have to scrutinize it carefully so that we can see the close examination of their Relationship with the economy and see how it affects it. Current Account Records transactions relating to exports and Imports of services plus unilateral transfers. Current account is a component of a balance of payments account which is a systematic record of all economic transactions between residents of a country and the rest of the world carried out in a specific period of time (financial year). Its other component is capital account. All items of flow nature are included In Balance of Current account and all items expressing changes in stocks are included in the Balance of Capital Account. Our Choice of concern here is Current account. Components of Current Account-

- Exports and Imports of goods.
- Export and Import of Services- Non-factor and factor services (called Invisible trade).
- Unilateral transfers (transfers Receipts/ Payments)
- Investment Income (Factor incomes from land, Bonds, Share abroad).

Arguments Favoring Lower Current account Deficit

For the support Of Our Proposition (1) Let's Go Back to India's Dream run period 2003-2008 since in that Period Growth has accelerated, as during 1994-1997, in both the cases "Success" has been attributed to "Economic Reforms". As the Pace of the Economic Growth is usually regarded as the

Primary indicator of the country's macroeconomic health. During the Period 2003/04-2007/08, the GDP Growth averaged an Unprecedented 8.8 Percent a year. The Previous best Five-Year period for Growth was in 1992/93- 1997/98 at a rate of 6.6 Percent a year. The reason we are discussing this is because this was the period of High growth rates in India and we can see the current account Deficit during the period and bring some correlation to it.

External Balance

Here Speaking of External Balance we are referring to Balance of payments account usually Current Account Balance is single most widely used Indicator of a nation's external balance position. In India too, the rise in the current account deficit to a record 3 percent of GDP of 1990/91. Below looking at the External Balance table, it can be seen that the situation has become a lot better during the period 2000/01-2007/08, Ranging between a high of 2.3percent of GDP in 2003/04 and low of minus 1.5 percent in 2007/08¹.



¹E.g. Source: RBI

Table 1: Balance of Payment Indicators

(Percent of GDP at Current Prices)

Year	2000	2001	2002	2003	2004	2005	2006	2007
Trade balance	-2.7	-2.4	-2.1	-2.3	-4.8	-6.4	-6.9	-7.7
Net invisibles	2.1	3.1	3.4	4.6	4.5	5.2	5.8	6.2
Current Account balance	-0.6	0.7	1.3	2.3	-0.4	-1.2	-1.1	-1.5

There is a marked rise in merchandise trade to GDP ratio from 23 percent in 2000/01 to 35 percent in 2007/08 as well as the Current account Balance shows similar Trends. The Recent trends also show the interaction of the Indian economy with the world economy. Therefore, it gives significance to our theory of a situation where the absence of stress in the Current account balance shows with the high growth rate period. Periods of High Growth can be seen with Low current account Deficit.

There is another perspective through which Current account can be seen and it is Important to see with that mirror too. Current Account is also the difference between national savings (both public and private) and Investment. A current account deficit may therefore reflect a low level of National savings relative to investment or a high rate of investment or both. Therefore, for poor developing countries and more than enough investment opportunities than they can afford to undertake because of low level of domestic savings, a current account deficit may be natural. But theoretically speaking for developing countries a deficit potentially spurs faster growth and Economic

development – although Research does not validate the truth of the statement that the country running Current account deficit grows faster, the reason can be seen with the simple argument that because of their less developed financial economic systems they cannot allocate foreign capital efficiently. Moreover, it was seen that the private capital flows from developing to developed countries. The reason must be because of their better financial economic systems. The empirical studies prove the fact that the advanced economies run a current account deficit, whereas emerging countries and developing countries often run surpluses or near surpluses. Another way to look at Current account deficit is in terms of inter-temporal trade exchanging cloth for wine today. But Looking at inter-temporal trade from another side means a country running a current account deficit is importing current consumption and exporting future consumption or importing goods today and in return, exporting goods in the future . But studies show that there is no reason why a country should not import goods today and export goods tomorrow.

Having a positive current account deficit has its own benefits like if a country is going through a crisis in shorter period of time or say some natural calamity hits it economy that depresses its ability to access its productive capacity,

instead of holding the full burden of the shock immediately, the country can relax itself with the pain of shock with having a short term current account deficit as it eases the pain for them meanwhile. Conversely, research supports the proposition that countries that are subject to large economic shocks, should on average, Run current account surpluses as a form of precautionary saving. During hard times that money can be used as a way of bringing out the economy from the economic shock or natural disaster that it had been bestowed with.

Advanced economies trends can be seen with the period of High Growth Rate the Current account deficit was also quite low. We are taking here the example

² World Bank National Account Data, The Organization for Economic Cooperation and data their National account data files of the united states of America. In the Following year 2011 the U.S GDP was growing at a rate of 3.64 percent at the end of quarter 2011 and was running the Current account deficit of -2.74 percent that end quarter. Taking a time gap at the end of quarter four in the year 2014 the U.S economy was growing at a rate of 4.33 percent in the December quarter. Later that year the Current Account deficit shows -2.32 percent that quarter. And it Supports our study therefore with the period of High Growth rate a country should run a lower current account deficit as it also enables them to export Current consumption and receives future consumption as famously quoted Exporting current consumption and in return importing future consumption.

Now we'll look into the Indian Economic data and see If the situation says something about keeping the Current account deficit is beneficial or not. We'll look at the past trends through which the Indian economy has gone through and discuss their shocks and periods of high growth rate and their correlation with the current account deficit. For a developing country like India whose economy after post Reform is doing much Better and the economy is liberalized and integrated with the world economy.

Our point of Concern here is that is having a current account deficit is a problem for Countries and especially for an developing economy Like India We'll see this by looking at the India's growth rate and its current account deficit over the last 10 Years and see what we have so that we can conclude our argument by let see table for the growth rate and current account deficit.



Table 2: India's Growth rate Year-by-year

(Percent per Year)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
India's growth rate	9.6	9.3	6.7	8.6	9.3	6.2	5.4	7.5	8.0	7.1

Looking at the data we can see India showed a spurt in growth in 2007 and 2008 and some higher growth in 2011 also, later on we can see that much of the period had been of low and high change in growth in the economy. We'll now look in the same period of 2007 to 2016 Current account deficit to GDP

ratio in the same period and try to see if there is any correlation we can see regarding the Current account deficit. Is it creating a hampering effect on the Indian economy? Let us present the table for now:

Table 3: India Current Account to Deficit to GDP Ratio

(Percent per year)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CAD	-1.27	-2.28	-2.8	-2.81	-4.29	-4.8	-1.74	-1.31	-1.06	-0.7

* CAD denotes Current account Deficit

We have a growth rate of 9.6 percent in the year 2007. In the following year we have a current account deficit of -1.27, one of the lowest during that period of time. So here we can see the connection between that an economy prefers a period of high growth rate with a low Current account deficit to GDP ratio. Again going further we can also look at the relative trends as well so let's go further in our analysis year 2011 was also one of the period of high growth in the economy in the recent time as well and looking at the current account deficit during the same time we had it around -4.29 as well one of the highest during that time, what would that suggest us? So again looking at data in the following year we had a GDP growth rate of 6.2 percent, one of the lowest during that period as well. We know that deficit in current account is ³ MINISTRY of Statistics and Programme implementation (MOSPI) being corrected by inflow of funds in the capital account. Seeing a higher Current account deficit lowers foreigner confidence in our economy. Having a higher current account deficit lowers our confidence in the eyes of foreigner of we repaying back their money as well. Later, during the period as well in the year 2015 we had a Current deficit of -1.058 percent as well as India's growth rate of 8.0 percent as well so it shows that having a lower Current account deficit shows boost foreign economy confidence in our economy and shows positive sign as well.

of the Balance of Payment .Economist always try and wants the economy should have a lower current account deficit as it boost foreign confidence in our economy. Persistent and high current account deficit is always a problem for every economy. A deficit of around -3% is always preferred by economists. Anything more than that is always found troublesome by the outsiders of our economy. A country like India should never hesitate to have a negative current account deficit. But a high and persistent current account deficit should always be avoided.

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CONCLUSION

We Looked at developed economy as well as developing economy and see if there is any data that supports our proposition of having a low current account Deficit does have a positive effect on the growth rate on the economy and now coming to the conclusion of our arguments we said that most economy try to avoid a high current account deficit as we have said – A high current account deficit must be corrected by flow of funds (Via Capital account) through other account



UNVEILING THE LIVED EXPERIENCES OF COLLEGE STUDENTS IN TEACHING DEMONSTRATION THROUGH ONLINE PLATFORM: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Online teaching is an introduced platform due to the pandemic brought by COVID-19. College practitioners teaching elementary students are engaged in challenging situations, teaching through the use of online platform. The online technology is an effective learning tool that enhances the preservice teachers' capabilities to teach through the online program. Specifically, this pandemic can cause pressure towards the BEED college students upon to their teaching demonstration and every institution is abruptly shift to online class due to the global health issues. Using a qualitative research design study, this paper aims to explore and to unveil the lived experiences of Bachelor of Elementary Education college students in teaching demonstration through online platform. It is used to describe how college students experience a certain phenomenon. In the study, 8 first year to fourth year college students from the education department were purposely selected to participate. The researcher gathered information from the participants through in-depth interviews. There were seven major themes revealed in this study: boost confidence; build communication skills; difficulty in delivering lesson; unstable internet connection; ask others help; finding alternative ways and back to face to face. Moreover, the study found that unstable internet connection was the major problem encountered by the college students to perform their teaching demonstration through online platform. But the lived experience of the college students in online class should be understood and provide a lending ear and to be heard a voice for building a strong understanding about their learning journey in this pandemic crisis.

KEYWORDS: lived experiences, teaching demonstration, online platforms, college students, internet problems, Philippines

INTRODUCTION

Online teaching is an introduced platform due to the pandemic brought by COVID-19. College practitioners teaching elementary students are engaged in challenging situations, leading through the online platform. Online technology is an effective learning tool that enhances the preservice teachers' capabilities to guide them through the online program. Moreover, the life experience of BEED college students' competency to impart and implement learning and adjust to the new generation of teaching would not be easy. Teaching demonstration through online technology creates different outcomes for the students and the teachers. Due to the pandemic, it was constrained to carry out the activity with students exclusively (Sobaih et al. 2020).

. In global online learning environments, it offers a learner the opportunities for flexibility, interaction, and collaboration (Gedera et al., 2013). 4,600,00 college learners in the United States are currently studying at least one of their classes online, and by 2014, this figure will rise to 18,650,000, according to New Horizon (2012). (para. 10). Integrating educational technologies creates issues and worries related to students' learning. In addition, practitioners should focus on the potentials and applications that educational technologies give people to improve their performance and the constraints of these technologies that impair them.

In the Philippines, practice instructors are given every opportunity to bring out the best in aspiring teachers. They are also required to offer various options for self-reflection that will help one become ready to be a student-teacher. According to Daluba (2013), students taught using the demonstration technique perform much better than those taught using the traditional lecture style. The student teaching experience should also be organized to accommodate changes and created so that student teachers can offer value-added services that will improve student learning. At the same time, they develop the skills needed to get ready for their classrooms and students.

To achieve this goal through practice teaching, the collaborating schools and the Teacher Training Institution—where the content and strategy courses are initially studied—should collaborate. At these institutions, the majority of practice teaching experience is gained.

Furthermore, student teaching is a difficult task that demands the most significant moral, personal, and professional dedication from all who choose to serve. Beltran (2002) pointed out that the improvement of student teachers depends on how the teacher training schools have molded these pre-service teachers. The online platform accentuates that technology does not offer a complete solution for a transformative education; the practitioners should concentrate



on the potential and uses of educational technologies to enhance their performance and the limitations of these technologies that hinder their performance.

With these instances, the researchers are motivated to study the lived experiences of Bachelor in Elementary Education Students of Davao de Oro State College- New Bataan Campus on teaching demonstration through an online platform.

Purpose of the Study

This qualitative research effort aimed to explore and unveil the lived experiences of Bachelor of Elementary Education college students in teaching demonstration through an online platform.

Specifically, this aimed to unfold the encountered experiences and know the benefits and drawbacks of their teaching demonstration through an online program.

Research questions

This paper was intended to explore the life experiences of Bachelor of Elementary Education college students in teaching demonstration through an online platform, specifically; it seeks to answer the following questions:

1. What are the lived experiences of Bachelor of elementary education college students in the application of teaching demonstration through an online platform?
2. What mechanisms are used by Bachelor of Elementary Education students that best cope with the challenges experienced in teaching demonstration through online platforms?
3. What are the learning insights the Bachelor of Elementary Students gained in the application of teaching demonstration through an online platform?

Theoretical Lens

This study was anchored on Social Cognitive Theory proposed by Bandura's Theory which suggested that individuals learn from one another. A procedure known as a teaching demonstration shows students how to complete a task using fundamental tools. The demonstration's effectiveness may be impacted by the audience's age and size (Smith et al., 2013).

Bandura's Social Cognitive Theory provides a center ground between conventional behavior and cognitive learning theories (Bandura, 1999). Individual motivation, attention, and memory are all included in this idea. A student needs their teacher's attentiveness to detail and drive to finish the assignment to imitate a demonstration successfully. According to the Social Cognitive Theory, people learn new skills through imitation and observation (Bandura, 1999). Instructors can model appropriate conduct and task-specific skills by demonstrating them. Students can see the instructor in action, copy what they see, and pick up the technique.

Significance of the Study

This study was undertaken to discover the teaching demonstration experience of Bachelor of Elementary

Education college students through an online platform at Davao de Oro State College. The study was significantly beneficial to the following:

Teachers. The improvements to this approach had a tremendous impact; through this study, the teacher will discover how the college students deliver their ideas and mold their skills in teaching demonstration through an online platform.

Students. As a future educator, the study's results will significantly help me use this experience through an online platform to be more knowledgeable and well-skilled in teaching demonstration.

Futures Researchers. This served as a reference to future researchers who would like to embark similar study that highlights a BEED college who are teaching demonstration through an online platform.

Definition of Terms

Teaching Demonstration. Teaching demonstrations are meant to show how well a candidate can teach those discipline-specific concepts and skills to students who are novice-level thinkers in the discipline. The synthesis of content and pedagogical knowledge is the goal of a successful teaching demonstration.

Online Platform. These education portals enable teachers to deliver live or on-demand course content supported by digital collaboration and learning tools.

Teaching Experience. Throughout a teacher's career, teaching experience is positively correlated with increases in student achievement. The increases in teacher effectiveness brought on by experience are most significant during the first few years of teaching. However, they continue to be considered when teachers enter their second and third employment decades.

Limitations and Delimitation of the study

The study was limited to exploring the experience of Bachelor of elementary education students at Davao de Oro State College-New Bataan upon their teaching demonstration. Further, this study focused on the experiences of BEED students in teaching through an online platform. The study occurred in the first semester of the academic year 2021-2022.

METHODOLOGY

Research Design

The researchers investigated the perception of Bachelor in Elementary Education students of Davao de Oro State College- New Bataan Campus on the experience of BEED college students teaching demonstration through an online platform. The researchers used the descriptive study as the research strategy that indicated the relationship between the theory and research usually emphasizes how the ideas were applied.

Furthermore, the researchers used a phenomenological study. Phenomenology is a kind of qualitative research that emphasizes the shared nature of living experiences in the teaching demonstration experience of BEED college students. Phenomenology is more concerned



with how people perceive their environment. This research employed an approach that illuminated the specific experiences and identified phenomena through how the actors in a situation perceived them.

Moreover, this study employed qualitative methods such as interviews, participant- observation, and navigating the experiences from the participants' perspective. Establishing inclusion and exclusion criteria improves the possibility of obtaining accurate and repeatable results, reduces the risk of injury to the participants, and prevents the exploitation of weaker individuals.

Research Locale

The study was conducted in New Bataan, Davao de Oro. Officially the Municipality of New Bataan is a 1st class municipality province of Davao de Oro, Philippines. There are 16 barangays, and 204 puroks make up the political division of New Bataan. With a total land area of 55,315 hectares (136,690 acres), New Bataan is located west of Maragusan Municipality, south of Municipality of Compostela, and north and west of Davao Oriental Province. New Bataan is also known for amazing and beautiful tourist attractions, including Garden Bamboo Resort, Myk Angelo Inland Resort, Taytayan Hydro Inland Resort, Cualing Inland Spring Resort, and Mossy Forest (White Peak).

Mountain ranges border it, and more than half of its area is covered in forest, which has provided some of the residents there with a means of subsistence via the cultivation of crops including coconut, rice, corn, cacao, abaca, and bananas. Andap, Tandawan, Camanlanganm, and Manurigao are the barangays in New Bataan that have the most forest cover. For the security and safety of everyone during data collection, researchers in this study only selected one (1) community, Barangay Cabinuangan, because it is close by and not too risky.

Role of the researcher

In this study, the researcher's role discussed the participants' prior experiences and their common and shared phenomena during their online teaching experience. Specifically, the researcher gathered data using interview guide questions. Entered the world for an extended period, asking questions, observing, participating, and collecting whatever data were available. However, the data was being collected. The researcher's primary responsibility was to secure the participants and their data. Researchers can put themselves in the participant's shoes and comprehend their distinctive experiences. The researcher's top priority is protecting participants and their data even when it is being collected.

Research participants

It enables researchers to understand the participant's unique experiences by placing themselves in their shoes. The researcher's primary priority is protecting participants and their data while it is being collected.

A researcher must interview participants who were Bachelor of Elementary Education students who were

currently enrolled in Davao de Oro State College- New Bataan Campus. Thus, finding potential participants who had experienced the phenomenon and were willing to share their thoughts.

Random sampling was the technique utilized in this study to collect samples. According to Thomas (2020), random sampling is used to make statistical inferences about a population. It helps ensure high internal validity, and randomization is the best method to reduce the impact of potential confounding variables. Random sampling is where a researcher selects a sample based on the needs of the study. Using random sampling, we will interview eight (8) selected participants from all Bachelor of Elementary Education college students in Davao de Oro State College.

Moreover, the researcher used inclusion and exclusion criteria to determine the characteristics of the subjects or elements in a study. Establishing inclusion and exclusion criteria improves the likelihood of obtaining accurate and repeatable results, reduces the possibility that subjects would suffer damage, and prevents the exploitation of weaker individuals. (Yale, 2022). The inclusion criteria of our study were the following participants: the college students that enrolled in Bachelor of Elementary Education from the first year to fourth-year students, participants were selected that is engaged in teaching demonstration through online platform. The participants can be of any status (single, married, or widow), and participants can be male or female of any age. Additionally, our study's exclusion criteria are the following; the students not enrolled in the Bachelor of Elementary Education are excluded from this study.

Data collection procedure

The methods that the researcher utilized to gather data were in-depth interviews. The researcher is taking and whatever the data collection method that focus to group or one-to-one interviews, in addition to the variety of study methodologies available, there are also different ways of making a record of what is said and done during an interview or focus group, such as taking handwritten notes or video-recording. An interview is an important qualitative research method in which the researcher collects data directly from the participants. In-depth interviews are mostly long-duration, face-to-face interviews conducted to achieve desired goals.

A one-on-one interview, sometimes called an in-depth interview, is a technique for getting more specific information or a thorough grasp of a topic or concept. And with the use of constructivism responses, the research used thematic content analysis made it possible for the researcher to fine common patterns across the research that to unveil the life lived experiences of BEED college students in teaching demonstration through online platform. Once the interviews were collected, they were analysed through open coding. The use of open coding provided the chance to collectively gather participant's responses, recording significant data in regard to this topic on current conditions on delivering experiences of BEED college student during their teaching demonstration through online.



Data Analysis

For this work, it is assumed that interviews were audio-recorded. Although transcription is a laborious procedure, seasoned transcriptionists must convert spoken words to written words to facilitate analysis. The discovery of themes, problems, similarities, and contrasts that the researcher interprets based on participant accounts.

This process enabled the researcher to understand the world from each participant's perspective. Finding patterns or themes in qualitative data is the process of thematic analysis. It is the first qualitative method that should be learned, according to Braun & Clarke (2006), because it teaches fundamental abilities that may be used in many other types of analysis.

RESULT AND DISCUSSION

Lived Experiences in teaching demonstration through online platforms

Based on this study's results, two benefits gained by the participants and two concerns during online teaching demonstrations. The first benefit is they boost confidence in teaching demonstration through online platforms. They boost their self-assurance by showing their abilities and skills in teaching. Moira (pseudonym) participant mentioned that she can build her confidence through demo teaching. Likewise, Luffy (pseudonym) has stated that through teaching demonstration, he boosted his confidence in speaking in front of people. Conforming to these, Blanton et al. (2019) agreed that online demonstration increases confidence in teaching (Bellows et al., 2019), and we agree that education students need to see instructional strategies modelled to gain knowledge and skills needed to teach effectively (Gretter & Yadav, 2018). Research indicates that confidence positively impacts student achievement (Hattie, 2012; Khan, 2011; Ashton, 1984). According to Sheffield et al. (2015), graduate students who took the course were asked to complete pre-and post-facilitation questionnaires that evaluated their knowledge of, comfort level, and attitudes toward online and blended learning. These results showed that the students understood the importance of the online component for their ability to teach in the future and had grown more knowledgeable, competent, and confident about doing so.

The second benefit the students gained was building communication skills in teaching demonstration through online platforms. They enable to understand others and to be understood themselves by listening, speaking, observing, and empathy with other people to have effective communication. A participant named Alyssa (pseudonym) articulated that she is motivated and confident to speak and share her ideas in public through teaching demonstration. Furthermore, participant Kitty (pseudonym) expressed that teaching demonstration is a big factor in building her communication as a good practice and preparation for being a future educator. Accordingly, according to Bower et al. (2011), teaching online improved students' understanding of communication concepts. Students also reported a reduction in communication anxiety and an increase in confidence as a result of the teaching demonstration online, providing evidence for the

interrelationship between the cognitive, behavioural and affective dimensions of communication.

Aside from the benefits of positive experiences gained by participants, they experienced two concerns. The first concern is they found difficulty in delivering a lesson, in which they could not apply their preparations and teaching strategies well in giving knowledge, lectures, and teaching the students the skills through online platform. Alyssa (pseudonyms) admitted that she had the most difficult experience in delivering the lesson by giving knowledge to the listeners. Moreover, Anya (pseudonyms) articulated that she found difficulties in delivering the topic while ensuring that receivers. Many authors have supported the assertion that the majority of education students lack the approaches and competencies required for online and blended teaching and learning, which prevents them from understanding how to design a course environment using an LMS interface and how to instruct effectively online (Hixon, Barczyk, Buckenmeyer, & Feldman, 2011; Lane, 2013).

Moreover, another major concern in teaching demonstration was students' unstable internet connection, which hinders teachers and students from delivering and understanding the topic in the online class. Kitty (pseudonyms) spoken that teaching demonstration online was hard, especially in creating a lesson plan, editing videos, and uploading videos for submission online. Also, Rodrigo (pseudonyms) expressed that teaching demonstrations online was hard for him since he lived in a remote area. Henaku (2020) found evidence to support these concerns, showing that students encounter issues with internet connectivity, gadget issues, financial hardship due to the high cost of internet bundles, and disturbance due to the necessity to help with household chores. Due to the numerous difficulties involved, online learning, according to college students, should be suspended.

Coping mechanisms in teaching demonstration through online platforms

On the other hand, the participants coped through several coping mechanisms. First, they ask others for help when they find difficulties in demo teaching online. For instance, Moira (pseudonyms) expressed that she asks her classmates' ideas for her to gain ideas. Sofie (pseudonyms) stated that she coped with the challenges by having inquiries to persons who were knowledgeable enough to give her ideas to improve her teaching demo. Many researchers solidified these as students seek help from peers or teachers to understand better; this is a good indicator of help-seeking behaviour. Also, students are said to be engaged when they show positive behaviours, such as increasing class participation and attendance; and reinforcing task completion and effort (Fredricks et al., 2011; Miller, Greene, Montalvo, Ravindran, & Nichols, 1996).

Secondly, due to unstable internet connection, participants such as Rodrigo and Luffy (pseudonyms) attested finding alternative ways to find and going to a place where the internet is strong. Since they lived in a place with a slow internet connection, they could proceed to their demo teaching



online. Accordingly, Chung et al. (2020) concluded that most participants explained that their alternative way to the sudden internet interruptions was to download the lecture video and note to the Google Classroom. At that moment, they can listen to it, and if they have any questions or contributions, they either comment in the comment section.

Learning insights in teaching demonstration through online platforms

The participants have mentioned three general notions about language research. The first one is how back to face-to-face. Sansa, Rob, and Jon (pseudonyms) mentioned that they researched to search for existing problems in the language community. The moment they had answers to their inquiry, they believed it would benefit the community and them as future educators. Power and Gould-Morven (2011) noted that “online learning seems paradoxical to be both booming and busting simultaneously” (p. 19). Due to their perception that their educational culture and values are in danger from this transformation, education students have demonstrated resistance to online teaching and learning. Increased workloads, a lack of resources, inadequate technological skills, anxiety or lack of confidence with technology, and pedagogical worries about the success of student learning in an online setting are further issues with online teaching (Bennett & Lockyer, 2004; Hunt, Davies, Richardson, Hammock, Akins, & Russ, 2014; Johnson, Wisniewski, Kuhlemeyer, Isaacs, & Krzykowski, 2012; Power & Gould-Morven, 2011). Education students used to face-to-face instruction report feeling lonely and detached from peers in the virtual setting, and they assume their students do too (Hawkins et al., 2012; Power & Gould-Morven, 2011).

Concluding Remarks

From the results of this study, we can say that education students need training or webinars regarding online teaching, online resources, strong internet connection, adequate technological skills, and pedagogical skills appropriate to online classes. All of these will guide the students to become effective educators not just in face-to-face learning but also in online learning since we all live in the modern era where technology was highly developed and engaged in learning.

From the findings we have gathered in this study, we felt enlightened and emphatic about the experiences of students in their journey in teaching demonstration online. As education students, we encounter such challenges and concerns in online classes, but they also have mechanisms to deal with these, which is also a positive one to them. Moreover, their insights in shifting the online class to face-to-face were their articulations because this will give them more knowledge and skills to apply it in reality or having face-to-face interactions with their students.

This study is anchored and supported by Social Cognitive Theory proposed by Albert Bandura. He suggested that individuals learn from one another. A procedure known as a teaching demonstration shows students how to complete a task using fundamental tools. The demonstration's

effectiveness may be impacted by the audience's age and size (Smith et al., 2013). Individual motivation, attention, and memory are all included in this idea. A student needs their teacher's attentiveness to detail and drive to finish the assignment to imitate a demonstration successfully.

According to the Social Cognitive Theory, people learn new skills through imitation and observation (Bandura, 1999). Instructors can model appropriate conduct and task-specific skills by demonstrating them. Students can see the instructor in action, copy what they see, and pick up the technique. Thus, this theory confirmed the result of the study based on the emerging themes such as asking for the help of others; most of the key informants admitted that one of their mechanisms in dealing with the challenges in teaching demonstration online was asking others for help. Asking others for their knowledge, skills, and strategies will help them to give them an idea of how to deal with the challenges they encounter during teaching demonstrations online.

The contribution of this study lies in the BEED students' lived experiences and standpoints on their ways of demo teaching through online platforms.

Recommendation

Based on the findings and conclusions, the researcher recommends the following:

For the School Institution. They should provide and create alternative ways to meet the needs of education students, such as webinars regarding online teaching, resources for strong internet connection, and technology resources, most especially the students who live in remote areas. They should create plans and strategies regarding the effectiveness of online classes.

For the Teachers. They should provide online resources, adequate technological skills, and pedagogical skills appropriate to online classes to produce an effective educator in online classes as preparation and practice for integrating technology in education.

For the Students. They must continue to improve themselves to become an effective educator by gaining information and experiences from experts or teachers and speakers from webinars. They must learn to effectively adapt and integrate technology and online classroom platforms in class.

For future researchers. The researcher recommended that this also opens future research related to the phenomenon being studied.

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THE GOLDEN AGE OF HINDI LITERATURE IN ALLAHABAD

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In Hindu scriptures, Allahabad is revered as the prayag (confluence) or Triveni Sangam, that is, the confluence of the Ganga, Yamuna, and Saraswati. While the Ganga and Yamuna still flow today, the Saraswati, named after the goddess of knowledge, rests as an invisible force here.

It was likely Goddess Saraswati's influence that spurred Allahabad to become the cradle of the Hindi literary world, attracting writers, poets, and scholars who celebrated knowledge and enlightenment through their art. The 14th of September is celebrated as Hindi Diwas or Hindi Day, commemorating the acceptance of Hindi as one of India's two official languages, along with English. The date was chosen since it was the birthday of Beohar Rajendra Simha, a scholar, artist, and Hindi campaigner whose work in 1949 led to the Constituent Assembly of India granting Hindi official language status.

The centre of my paper, however, is Allahabad, a city steeped in spirituality, history, and Hindi literature. While the city has produced many outstanding Sanskrit and Urdu-Persian writers, Munshi Sadasukh Lal stands out among the first writers of Khari Boli, the mediaeval dialect prevalent in and around Delhi. Lal, born in Delhi in 1746 CE, became the tehsildar (district administrator) of Chunar, a town in the Uttar Pradesh district of Mirzapur. In 1811 CE, he settled in Allahabad and wrote Srimad Bhagwat and Vishnu-Purana in Hindi under the pen name Sukhsagar. In Allahabad, Lal also initiated social reforms through the Hindi language and literature.

Bharatendu Era & Balakrishna Bhatt

Allahabad, a former Mughal and British city, became the centre of Hindi writing in the late 19th and early 20th centuries. This was a period when contemporary Hindi was taking shape. Born in Benaras, Bharatendu Harishchandra (1850–1885) established the groundwork for the 'Bharatendu Era', the first phase of the contemporary age of Hindi literature. Consequently, he is regarded as the "founder of Hindi literature and Hindi theatre."

In this era, the nationalist thought of modern India displaced the orthodox thinking of traditional literature. In the Bharatendu era, Khari Boli enjoyed a renaissance and earned a place of distinction in Hindi literature.

Balakrishna Bhatt |

In 1844 CE, in the Allahabad neighbourhood of Yahiyapur, Pandit Balakrishna Bhatt was born. His contribution to the Hindi literary canon is priceless. In 1876, inspired by Harishchandra, he created the Hindi Vardhini Sabha in Allahabad, and in 1877, he began publishing the renowned monthly journal Hindi Pradeep. Bhatt, who served as the magazine's editor until his passing, set the groundwork for contemporary education, literature, and journalism in Allahabad. In addition to writing essay collections, plays, and novels, he also translated Sanskrit and Bengali plays into Hindi.

Hindi Nationalism & Madan Mohan Malaviya

Allahabad is credited with laying the foundation for Hindi nationalism in India, and Pandit Madan Mohan Malaviya is famous among its pioneers.

Malaviya was born in Yahiyapur, Allahabad, in 1861 CE. After finishing his elementary education at Sanskrit School, he enrolled at Muir Central College, Allahabad, and later graduated from Calcutta University.

AO Hume and Malaviya ji at the second Congress session in 1886, Calcutta since the founding of the Indian National Congress in 1885 CE, he was a devoted Congressman and patriot until his passing in 1946. Malaviya has also contributed significantly to the Hindi language. Due to his perseverance, Hindi was adopted as the official language for court proceedings. In 1910, Malaviya was elected chairman of the first session of the Hindi Sahitya Sammelan in Benaras, and it was as a result of his efforts that a branch was created in Allahabad. The early decades of the 20th century were a time when, under the influence of the British, English was gaining ground in India and organisations such as the Hindi Sahitya Sammelan played a crucial role in establishing Hindi's prestige.

Malaviya, along with Motilal Nehru, Mahatma Gandhi, and then Jawaharlal Nehru, was a pivotal figure in the freedom fight and was always committed to the nation's best interests.

Malaviya went on to co-found the Banaras Hindu University with Annie Besant in 1916. He also founded various institutes in Allahabad dedicated to the service of Hindi, notably the Bharati Bhavan Library. This famous library of Hindi literature is located at Chowk-Loknath in Allahabad, and it plays



a significant role in the freedom fight. Malaviya together with Balakrishna Bhatt and Brijmohan Lal Bhalla formed it.

Hindi Sahitya Sammelan, Allahabad

Purshottam DasTandon, a prominent Congressman from Allahabad, was another figure who strove to popularise the Hindi language and link it to nationalism. Tandon was a lifelong member of the Hindi Sahitya Sammelan, and he is still regarded as the institution's "spirit."

Allahabad: A Center for Publication

The fact that Allahabad was a publishing hub, seizing the mantle from Lucknow and attracting Hindi and Urdu writers from all over the country, was a major factor in Allahabad's rise to prominence as the centre of Hindi literature. In the 19th century, Lucknow was a significant publishing centre in northern India, and the Naval Kishore Press was the most important publishing business. However, when Allahabad became the capital of the province in 1858 CE, the Government Press arrived in Allahabad. Thus, the legendary Pioneer Press was established in 1864 CE. The renowned English author Rudyard Kipling also worked at this publication for a while.

Indian Press, Allahabad

In a short time, numerous small and large printing presses arose in the city, which encouraged Hindi literature. The Indian Press, founded by Chintamani Ghosh in 1884 CE, was one of the publishing enterprises founded at the time. It published all of Rabindranath Tagore's works from 1908 to 1914 in both English and Hindi, including his Nobel Prize-winning *Gitanjali*.

A letter from Abhyudaya | Board of record

The Leader Press and Abhyudaya of Madan Mohan Malaviya are both notable Allahabad publishing houses. In 1910, Purshottam DasTandon wrote the first piece for the inaugural issue of *Maryada* magazine, which was published from the headquarters of Abhyudaya. Female-targeted publications such as Allahabad's *Grihalakshmi* and *Chand* acquired popularity in India.

Sunderlal's controversial and much-discussed book *Bharat Mei Angrezi Raj* (English Raj In India) was published by Onkar Press in Allahabad, and it shook the British administration to its core. Panini Office, located in Allahabad's Bahadurganj neighbourhood, was another renowned publisher.

Dwivedi Era

The Dwivedi Era, named after Mahavir Prasad Dwivedi, is the second period of contemporary Hindi (1864 – 1938). Born into the family of an English company Bahadur soldier in Rai Bareilly, he studied Persian, Sanskrit, and Hindi while working on the railways in Jhansi. Numerous of his works were published, and he was regarded as a prominent Hindi author. After that, Dwivedi settled in Allahabad and devoted himself to

literary service. He was the first Hindi author to be awarded the title "Acharya."

Acharya Mahavir Prasad Dwivedi

The Indian Press launched India's first Hindi monthly magazine, *Saraswati*, in 1900; its popularity and stature expanded after Dwivedi assumed the editorship in 1903. By 1920, *Saraswati* held a position of prominence.

Saraswati is a publication edited by Acharya Dwivedi.

Dwivedi gave the magazine a literary and nationalistic tone, which contributed to the growth of writers including Singh Upadhyay, 'HariOudh,' Maithilisharan Gupta, and Nirala. Dwivedi fostered nationalist ideals through *Saraswati*, but his primary purpose was to promote literature. His greatest accomplishment was promoting the prose and poetry of Khari Boli.

Munshi Premchand

The author Munshi Premchand

Dhanpat Rai Srivastava 'Premchand' was born in 1880 CE in the Lamhi village of Benaras. His elementary schooling was in Urdu and Persian, and he began his career as a writer in 1901. His first well-known Hindi fiction, *Saut*, appeared in the December 1915 issue of *Saraswati*, and his last, *Kafan*, appeared in 1936.

Sharat Chandra Chattopadhyay, a renowned Bengali writer, dubbed Premchand "Upanyas Samrat," or "King of Fiction," and he is still considered as the "founder of modern Hindi fiction." He established the 'realistic tradition' in Hindi literature, emphasising social ills and the struggles of the lower classes. The changes in society were reflected in Premchand's Hindi-Urdu stories, which acted as a mirror.

Although Premchand spent considerable time in Benaras, Kanpur, and Lucknow, Allahabad held a particular place in his heart. Both of his sons, Shripat Rai and Amrit Rai, who eventually developed their own identities in Hindi writing, resided in Allahabad, which prompted Premchand to frequently visit the city.

Premchand, who brought us such classic works as *Namak Ka Daroga*, *Godan*, and *Gaban*, used to say, "Banaras and Allahabad are the most fertile regions for creativity. I shall only be at peace when I take my last breath here. In Allahabad, not only do two rivers converge, but Hindi and Urdu are also commonly spoken. A successful inventor must be born in Allahabad or spend a significant portion of his life there. Unfortunately, he did not pass away at Allahabad; he died in 1937 in Benaras.

Hans Magazine

Saraswati Press, which Premchand founded in Allahabad, and his magazine *Hans* were taken over by Premchand's eldest son Shripat Rai, who aided in their growth and ascent to new heights. Amrit Rai, his second son, was also devoted to Hindi and evolved as a modern storyteller and progressive author.



Chhayawaad (Neo-Romanticism) and Allahabad

Following the Dwivedi Era, the contemporary period of Hindi literature introduced Chhayawaad or Neo-Romanticism. Similar to the romantic period in English literature, which emphasised human sensibility and a love of nature, Neo-Romanticism in Hindi literature centred on a love of nature, female love, humanisation, cultural awakening, and imagination. The four foundations of Chhayawaad were Jaishankar Prasad, Suryakant Tripathi 'Nirala', Sumitranandan Pant and Mahadevi Verma. Three of the four poets, Nirala, Pant, and Verma, achieved literary prominence in Allahabad.

Suryakant Tripathi 'Nirala'

Suryakant Tripathi 'Nirala' was born in 1899 CE in Medinipur, Bengal. His name is at the top of the list of notable Neo-Romantic poets in Hindi literature. After working as an editor in Calcutta and Lucknow for a few years, Nirala resided in Allahabad as an independent writer and translator from 1942 until his death in 1971. He was a talented author of short stories, essays, novels, and translations and a poet, but his fame stemmed primarily from his philosophically profound poems.

Suryakant Tripathi 'Nirala'

His first essay, *Bang Bhasha Ka Uchchaaran* (the Accent of the Bangla Language), was published in 1920 in the Allahabad-based *Saraswati* magazine, and his first collection of poems, *Anamika*, was published in 1923. His major published poetry volumes included *Parimal*, *Geetika*, *Bela*, and *Geet-Kunj*. His most well-known works include *Apsara*, *Alka*, *Nirupama*, and *Jasmine*. *Nirala Rachnavali*, a four-volume compilation of his published and unpublished works, appeared in 1963 under the title *Nirala Rachnavali*.

Sumitra Nandan Pant

Sumitra Nandan Pant is an additional notable poet of the Chhayawaad school. He was born in 1900 in the village of Kausani, Almoradistrict, Uttarakhand. He attended Muir Central College in Allahabad around 1920 and remained in that city for the remainder of his life.

Mahadevi Verma

Another notable and prominent Neo-Romantic poet in Hindi literature is Mahadevi Verma. She was born in 1908 in Uttar Pradesh's Farrukhabad. She was married at a relatively young age, just as she was beginning her education, and she never had children. In Hindi literature, she is therefore described as the "Meera of the modern era."

Mahadevi Verma and Nirala

As a prominent Chhayawaad poet, she possessed a profound comprehension of human emotions and the complexities of life. In addition to her commitment to promote Hindi literature, she was inspired by Mahatma Gandhi and the social reforms brought

about by the liberation movement, and she continued to work in that direction.

The magazine 'Chand' is edited by Mahadevi Verma.

Verma began editing the renowned Hindi publication *Chand* in 1923. In addition, she established the feminist movement in Hindi writing. As a result of her efforts, the *Mahila Kavi Sammelan* or Women Poets' Conference was organised for the first time in India on 15 April 1933 at the Prayag Mahila Vidyapeeth, under the leadership of Subhadra Kumari Chauhan.

Verma's classic poem *Atripta* provides a look into the renowned literary spirit of Allahabad. Her most important lyrical works include *Nihar*, *Rashmi*, *Deepshikha*, *Sandhya-geet*, and *Agni Rekha*. Even now, Verma's prose, articles, speeches, and memoir are read. She was the brightest light in Allahabad's golden age of Hindi literary, and it is nearly impossible to find a poet comparable to her in the modern age of Hindi literature.

The Actor Harivansh Rai Bachchan

Harivansh Rai Srivastava was born in 1907 to a modest Kayastha family in the Babu Patti hamlet close to Allahabad. 'Bachchan' was his nickname, which was a customary local phrase for children, and it persisted even after he achieved literary fame. He earned his Master's degree in English from the University of Allahabad and completed his research on the poetry of W.B. Yeats at the University of Cambridge in England.

During this time, Bachchan was a professor of English literature at the University of Allahabad as well as a renowned poet of Hindi poetry. He was well known for his 1935 poem *Madhusala*, which is still widely read and recited in the Hindi-speaking world.

He released numerous further poems, including *Madhubala* (1937), *Madhukulash* (1937), *Nisha Nimantran* (1937), and *Satarangini* (1937). (1945).

Bachchan, a notable poet of the post-Chhayawaad era, expresses his affection for Allahabad in his poetry, as well as his passionate picture of the Ganges-Yamuna banks. His works are distinguished by their beauty, appreciation of nature, and rustic undertones.

Dharamvir Bharti

Born in 1926 in the neighbourhood of Atarsuiya in Allahabad, Dharmveer Bharti attended the University of Allahabad and conducted research on Siddha literature under the direction of Dr. Dhirendra Varma, a prominent Hindi writer and historian.

Bharti and Ilachandra Joshi co-edited the magazine *Sangam*, and Bharti was later named a teacher at the Hindustani Academy of Allahabad.

In his latter years, Bharti edited the renowned weekly publication *Dharmayuga*.



Bharti's novels *Gunahon Ka Devta*, *Suraj Ka Saatva Ghoda*, *Prarambh Ka Samapan*, etc are evergreen masterpieces. His drama *Andha Yuga* is considered one of the classics of Hindi literature. Bharti will be known for perpetuating the Khari Boli tradition in Hindi literature. In 1997, Bharti breathed his last breath in Mumbai.

Allahabad was the centre of Hindi literature during the Dwivedi and post-Neo-Romantic periods. It was the cradle of Hindi's development and heralded the golden period of Hindi literature. The complexity of Allahabad's literary history makes it nearly hard to construct a list of its authors. Allahabad also boasts a long list of Urdu literary heavyweights, such as Akbar Allahabadi and Firaq Gorakhpuri, who shed fresh light on Urdu literature in India and polished the city's Ganga-JamuniTehzeeb (combined culture).

Amarkant

Amarkant, who was just awarded the Jnanpith Award; UpendraNath Ashk's son, Neelabh Ashk; poet Kailash Gautam; Dudhanath Singh; and Nandal Hitashi, among others, are notable contemporary Hindi authors from Allahabad. Sadly, this illustrious custom is on the decline. Where literary giants once met every evening in one other's homes, publishing houses, or the old

Indian Coffee House, and where major seminars in Hindi were held at the university, a lack of composite identity now exists. Notable Hindi publishing houses have either shut down or are close to doing so. Only a few have survived, including Lok Bharati Publications and Hindustani Academy.

Irony is difficult to miss. While Allahabad was once a confluence or 'prayag' of literary minds that propelled the creation of Hindi literature, this tradition is rapidly fading now that the city's name has been changed to Prayagraj.

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INFLUENCE OF SEED FORMATION CONDITIONS OF CATALPA SPECIES ON THEIR GERMINATION UNDER VARIOUS SALT CONDITIONS

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ANNOTATION

The article discusses the features of the influence of formation conditions on their germination of seeds of 3 species of *Catalpa* in various salinity conditions of Karakalpakstan. Species of the genus *Catalpa* (family Bignoniaceae) are promising woody introduced plants for landscaping in the conditions of Karakalpakstan.

KEY WORDS: soil, climate, conditions, salinity, temperature, seeds, germination.

The Republic of Karakalpakstan is located in the northwestern part of Central Asia and has unfavorable soil and climatic conditions, the extremeness of which has increased due to the deterioration of the environmental situation in the zone of influence of the Aral Sea.

Soil and climatic features of Karakalpakstan - soil salinity, large daily and annual air temperature amplitudes, low air humidity and strong solar heating - place special demands on introduced species. [2].

The species composition of woody vegetation of the natural flora of Karakalpakstan is not rich. For the purpose of landscaping Karakalpakstan, introduced species of plants are used.

Species of the genus *Catalpa* (family Bignoniaceae) are promising woody introduced plants for landscaping in the conditions of Karakalpakstan.

The genus includes about 10 species distributed in North America, Western India, and East Asia [1].

Currently, *C. bignonioides* Walt., *C. speciosa* Ward., and *C. ovata* G. Don are the most common in culture [3].

Catalpa is a beautifully flowering ornamental plant that gives good shade. The root system is taproot, the crown is pyramidal, rounded or tent-shaped, height

15-30 m. The leaf arrangement is opposite or whorled with very large heart-shaped leaves.

The area of natural distribution of *C. bignonioides* southeast North America from Georgia to Florida and Mississippi, usually grows on the banks of rivers, and in species *C. speciosa*, the distribution area of the USA is south. Illinois, Indiana, Kentucky, Tennessee, Arkansas and Missouri and grows along the banks of rivers and reservoirs on sufficiently moist, deep and rich soil and *C. ovata* center. China: Hubei province (from 600 to 1000 m abs. alt.) and Shandong. It grows along the edges of the forest and in open places [1].

Chinese and American *catalpas* usually grow along the banks of rivers, reservoirs and streams, where soils are formed from river sediments and are periodically flooded; they are moist and fertile [3].

We studied the influence of the conditions for the formation of seeds of *Catalpa* species on their germination under various salinity conditions.

According to S.I. Sagitov (1989), under conditions of strong salinity, it was not possible to obtain seedlings of seeds of introduced woody plants in the first and second years, so only one cutting of 120 cuttings of honeysuckle took the most heavily saline area [4].

And according to I. A. Sultanbekova (2012), the laboratory germination of *G. officinalis* seeds in the control is higher - 93.8% than in plants from a saline background - 76.8%, the response of *G. officinalis* plants to soil salinity is the development of lower quality seeds with low germination capacity [5].

Seeds collected in three places: in the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan (Tashkent), in the Botanical Garden. Amir Temur (Buston) and the streets of Nukus 3 species of catalpa: *C. bignonioides* Walt., *C. speciosa* Ward., and *C. ovata* G. Don. (Nukus) on very strongly saline (Cl -

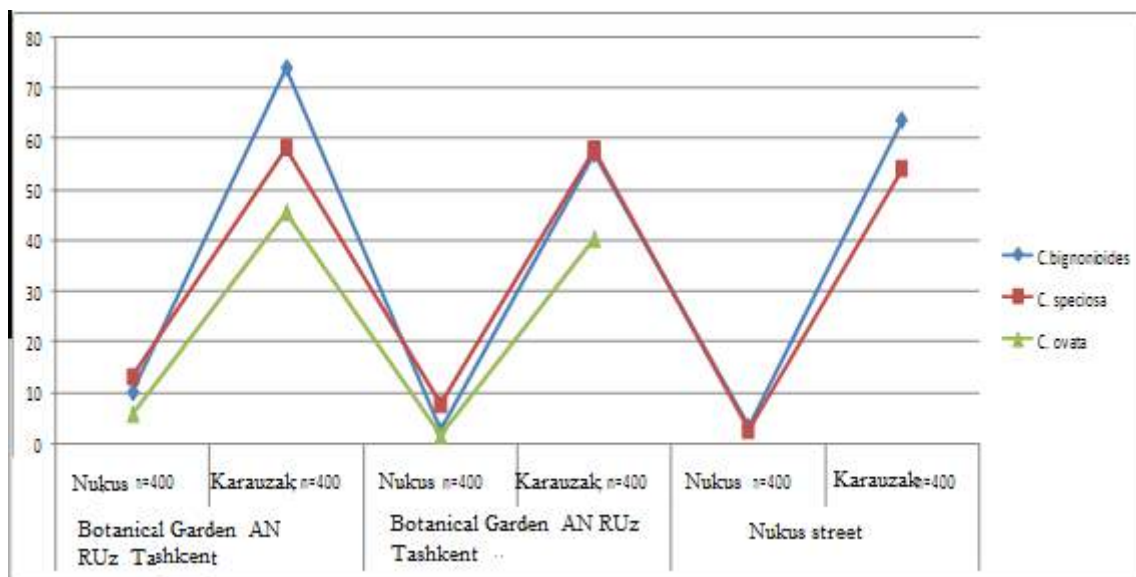
1.065%, SO₄ - 2.28% in 0-10 cm layer) soil. In 18-20 days after sowing, in the 3rd decade of April, the first shoots began to appear from the seeds of these species.

The seeds of the same 3 species were sown on April 12, 2012 in the Karauzyak region on moderately saline (Cl - 0.213%, SO₄ - 0.408% in 0-10 cm layer) soil. 12-16 days after sowing, in the 3rd decade of April, the first shoots began to appear from the seeds.

Among these species, *C. bignonioides* and *C. speciosa* are widespread in North America and *C. ovata* in Western India and East Asia [1]. Seed germination is presented in table. 1. and charts.

Table 1
Seed germination of species of the genus Catalpa, %

№	Species	Nukus, n=400	Karauziyak, n=400	P
Seeds collected in the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan, Tashkent				
1	<i>C. bignonioides</i>	10±1,5	74±2,19	
2	<i>C. speciosa</i>	13,2±1,69	58,2±2,76	
3	<i>C. ovata</i>	5,7±1,15	45,5±2,48	
Seeds collected in the Botanical Garden named after A. Temur, Buston				
1	<i>C. bignonioides</i>	2,5±0,78	57±2,47	
2	<i>C. speciosa</i>	7,5±1,31	57,7±2,47	
3	<i>C. ovata</i>	1,5±0,60	40,2±2,45	
Seeds collected on the streets of Nukus				
1	<i>C. bignonioides</i>	3,2±0,88	63,7±2,40	
2	<i>C. speciosa</i>	2,5±0,78	54,2±2,49	



Rice. 1 Seed germination of species of the genus Catalpa



Table 1 shows that on very strongly saline soils (Nukus city), seed germination was of species of the genus *Catalpa*: in *C. bignonioides* -10%, *C. speciosa* - 13.2% and *C. ovata* -5.7% (seeds collected in the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan, Tashkent), and the Buston seed germination was 2.5% - 7.5% - 1.5% and the Nukus seed germination was 3.2% - 2.5%.

In Karauzyak district, on moderately saline soil, *C. bignonioides* - 74%, *C. speciosa* - 58.2% and *C. ovata* - 45.5% (seeds collected in the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan, Tashkent), and Buston seed germination was 57% - 57.7% - 40.2% and Nukus seed germination was 63.7% - 54.2%.

Thus, under very highly saline conditions, the germination of seeds of *Catalpa* species develops poorly than in contrast to moderately saline soils.

Consequently, *C. speciosa* thrives well in highly saline soils than other species, while *C. bignonioides* thrives well in moderately saline soils, unlike other species.

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UDC 591

DISTRIBUTION AREAS OF THE GROUND BEETLES (*CARABIDAE*) IN THE DESERT LANDSCAPES OF THE TURTKUL DISTRICT

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ANNOTATION

The article discusses the features of the distribution of ground beetles (Carabidae) in the desert landscapes of the Turtkul region. Ground beetles (Carabidae) are one of the largest and most numerous families of beetles. The number of species of the world fauna, according to various estimates, ranges from 25,000 to 50,000; more than 3,000 species are already known in the CIS countries.

KEY WORDS: *FOrmatio*n, *landscape*, *zone*, *biotope*, *region*, *species*, *beetle*, *north*, *region*.

Ground beetles (*Carabidae*) are one of the largest and most numerous families of beetles. The number of species of the world fauna, according to various estimates, ranges from 25,000 to 50,000; more than 3,000 species are already known in the CIS countries. The number of open species is increasing every year. Many different features are used to identify ground beetles: color, body shape, external structure, surface structure, size, genital structure and chaetotaxy are taken into account [3].

The color of ground beetles is very diverse, mostly in dark colors, often with a metallic tint. Often, with black or dark coloring, an iridescent tint is encountered, which is created by micro sculpture from thin transverse lines [3].

Some taxa, mainly at the level of subfamilies and tribes, have a characteristic body shape. Sometimes the body shape is very different from the usual for ground beetles: species of the genus *Omophron* living on sandy beaches, with their rounded shape, resemble ladybugs or some dark beetles; representatives of the genera *Drypta*, *Demetrius* and *Odacantha* living on grass stems have an elongated, stem-like body shape; burrowing species from the subfamily *Scaritinae*, as well as some other groups, are characterized by a neck-like ligation between the anterior and posterior part of

the body, as well as wide, toothed fore tibiae. The body shape is peculiar in species from the genera *Cicindela*, *Elaphrus*, *Notiophilus* and some others [3].

The extraordinary ecological plasticity of the members of the family is the reason for the widespread abundance of these beetles. Ground beetles inhabit almost the entire range of latitudes from cold tundra to deserts and tropical forests; in the mountains they rise to the subnival belt and in most cases are one of the most characteristic components of adnival ecosystems.

The northern part of the Turtkul region is located in the desert zone of the Republic of Karakalpakstan. The number of species found in the desert landscape was less than in other biotopes in the region. Here, in the course of our research conducted from May to September 2021-2022, 24 species belonging to 9 relatives were identified (Table 1), with the most numerous species being *Cicindela auropunctatum*.

In the course of our research, materials were collected using entomological methods in the formations of ephemera, barberries, saxaul and juzgun.

Scarites angustus and *Scarites tetricola* were collected in large numbers. *Scarites bucid*, *Scarites tetricola* were more common in ephemeral formations, *Skarites busida*, *Bembidion (Emphanes) latiplaga* in saxaul formations.



Species characteristic of this zone are *Cicendela auropunctatum* and *Skarites busida*, while *Cicendela auropunctatum* feeds on the seeds of the plant, while

Skarites busida is a predator and feeds on all kinds of arthropods.

Table 1
The distribution of ground beetles in a desert landscape
(2021, May)

№	Species name	Barberry Geurik	Saxaul, juzgun	Ephemeral Pharmacy
1	<i>Megacerhala euphratica armeniaca</i> Cast., 1834.	-	+	-
2	<i>Cicendela deserticole</i> Fald., 1836.	+	+	-
3	<i>C. galatchem</i> Thieme., 1881.	+	+	+
4	<i>C. Lasteola</i> Pall., 1776.	+	-	+
5	<i>C. oblique fasciata</i> Ad., 1817	+	-	-
6	<i>C. auropunctatum subsp. dzungaricum</i> Gebl., 1835.	+	+	+
7	<i>C. imbricatum desertikola</i> Sem., 1897.	+	+	-
8	<i>Dyschirius cylindricos ssp. Transcaspicum</i> Sem., 1906.	-	-	+
9	<i>Scarites angustus</i> Chaud, 1855.	+	+	+
10	<i>S. bucida</i> Pall., 1776	+	+	-
11	<i>S. euraytus</i> F.-W., 1825.	+	-	+
12	<i>S. terricola</i> Bon., 1813.	+	+	+
13	<i>Broscus punctatus</i> Dej. 1823	+	-	-
14	<i>B. semistriatus</i> F.- W., 1823.	+	-	-
15	<i>Bembidion</i> (Ch). <i>Luridicorne</i> Sols., 1874.	+	-	+
16	<i>B. (Notaphocampa) niloticum</i> Dej, 1831.	+	+	-
17	<i>B. (Emphanes) latiplaga</i> Chd., 1850.	+	+	-
18	<i>B. (E.) tenellum ssp. buchariplaga</i> Nat., 1943.	+	-	+
19	<i>Pogonus virens</i> Men., 1849.	-	+	-
20	<i>Pogonistus (Syrdenus) grayi</i> Woll., 1862.	+	+	-
21	<i>Chlaenius (trichiochlaenius) stoveni</i> Quens., 1806.	-	+	-
22	<i>Ch. (Chlaenites) inderiensis</i> Motsch., 1858.	-	+	-
23	<i>Ch. (Ch.) spoliatus</i> Rossi., 1790.	+	-	-
24	<i>Agonum (s. str.) atratum</i> Duft., 1812.	-	+	-
Total		18	15	9



Skarites busida C. *Lasteola*, *C. oblique* fasciat belonging to the genus *Cicendela* are often found in desert landscapes, *S. Euraytus* is rare. As a result of our research, 18 species belonging to 6 genera in the barberry and geurik formations, 15 species belonging to 8 genera in the juzgun formations, 9 species belonging to 4 genera in ephemeral formations were studied.

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FEATURES OF THE PSYCHOLOGICAL DEVELOPMENT OF THE CHILD DURING THE TRANSITION FROM THE OLDER PRESCHOOL AGE TO THE JUNIOR

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ANNOTATION

The article summarizes the features of the psychological development of a child in the transition from older preschool age to younger. Modern forms and methods of work with students of this age are considered. An analysis of the classical approach to the issue under study is given.

KEY WORDS: *age, development, educational psychologist, parents, children, students, game, action, socialization, norm.*

In September 2018, at the initiative of President Shavkat Mirziyoyev, a new department was created - the Ministry of Preschool Education of the Republic of Uzbekistan. Work with preschool institutions (DOE) was singled out as a separate area after a thorough analysis of education, studying a number of emerging problems that indicate that the sphere is lagging behind the requirements of the time. The new pre-school educational program is based on state requirements. Curricula on the social, personal, emotional, speech, mathematical, physical, psychological, physical and creative development of children have been introduced in kindergartens.

Modern trends in the development of preschool education are united by one important and significant criterion - its quality, which directly depends on the level of professional competence of teachers, educators and the pedagogical culture of parents. And although the preschool and the family are two links in the same chain, the kindergarten cannot replace the family, it complements it by performing its special functions. Their common task is the education and upbringing of the future generation, the creation of comfortable conditions for the full development of the individual.

The changes taking place today in the field of preschool education are aimed primarily at improving its

quality [1]. It, in turn, largely depends on the coherence of the actions of the family and the preschool organization. A positive result can only be achieved when considering the family and kindergarten within the framework of a single educational space, which implies interaction, cooperation between preschool teachers and parents throughout the child's preschool childhood. The most important sign of a single educational space and at the same time a condition for its creation are the definition and acceptance by the participants of the pedagogical process of common goals and objectives of educating preschoolers, which are formed in a single program for raising, educating and developing children.

Modern education programs for preschoolers in Uzbekistan [1] are based on the Family Code of the Republic of Uzbekistan [2], the achievements of psychology and pedagogy. However, parents who are social customers of educational services often do not have deep knowledge in this area. Therefore, the goal and objectives of public education should be the subject of a detailed discussion by teachers and parents, during which the teacher needs to convey to the family his vision of the result of raising a child and coordinate it with the pedagogical attitudes of the parents.

The next sign and condition for the creation of a single educational space should be the development and



adoption of uniform requirements for the child at home and in a preschool organization. This contributes not only to the creation of psychological comfort for the child, but also to strengthening the authority of parents and teachers. An equally important sign and condition for the creation of a single educational space is the development of a common approach to solving the problems of education, the identification, generalization and coordination of pedagogical methods and techniques based on the study of the educational experience of the family and the transfer of information to parents about the technologies of the educational process.

During the transitional period from senior preschool to junior school, the child has the first ideas and awareness of himself as a person, a member of society, an awareness of his individuality, the needs of experiences and the first mental processes. There is a change of priorities and contradictions in the understanding of the child. The main thing is the discrepancy between the usual, childish and carefree preschool lifestyle and the new, more responsible, first adult opportunities and responsibilities of children by the age of 7. At this time, there is a change in the social position from a child to an older one, which involves more responsibilities and duties. During this period, there are also physiological changes in the body of the child.

If we study the physiological characteristics of students, then we can distinguish that "in the period of 6-7 years, there is an intensive development and improvement of the musculoskeletal and cardiovascular systems of the body, the development of small muscles, the development and differentiation of various parts of the central nervous system. A characteristic feature of this age is also the development of cognitive and mental mental processes: attention, thinking, imagination, memory, speech. The process of forming attention during preschool childhood is dominated by involuntary attention, and by the end of preschool age, voluntary attention begins to develop. When the child begins to consciously direct and hold him on certain objects and objects.

By the end of preschool age, the development of arbitrary visual and auditory memory occurs. Memory begins to play a leading role in the organization of mental processes.

By the end of preschool age, visual-figurative thinking reaches a higher level of development, and logical thinking begins to develop. This forms the child's ability to highlight the essential properties and features of the objects of the world, the formation of the ability to compare, generalize and classify. By the beginning of school age, creative imagination is developing, this is facilitated by various games, unexpected associations, brightness and concreteness of the images and impressions presented [5].

The child begins to strive for a more adult life, filled with a new social status, duties and responsibilities, as well as opportunities to be more independent and freer, as far as possible, at this stage of personality development in choosing their actions and desires.

He becomes not interested in the old types of activities, the opportunities that he was endowed with at preschool age.

The first class for a former preschooler is a set of new duties, responsibilities and a new stage of socialization and interaction with adults. In the life of a child, social roles change and new ones appear. Now he is no longer a child from kindergarten, a child from school with a new social status.

A new, one of the main adults appears in the child's life - the teacher. He performs the role of a representative of society, a social person who is empowered to teach, give new knowledge and be a guide to a new adult life, so to speak, a guide to adulthood. The teacher also performed maternal functions, provided all the processes of the child's life.

There are also changes in the relationship of children with each other. If earlier it was a relationship built on play and friendship, then at school age it will be a relationship built on shared responsibility and study. Success in academic and extracurricular activities, grades are of paramount importance in the criteria and evaluation by peers of each other and determining the position of the child in the classroom.

When moving from kindergarten to school, the attitude towards the child on the part of adults also changes. He is endowed with greater independence than a pupil of the garden: he begins to allocate time, schedule and daily routine, and fulfill the main duties of his new school activity.



Analyzing the works of L.S. Vygotsky and L.I. Bozhovich on the issues of the child's psyche, it can be noted that, describing the nature of behavior and the causes of the emergence of a crisis in the transition period from senior preschool to primary school age, a child develops a readiness for learning.

L.S. Vygotsky singled out the crisis of 6-7 years. According to his research, the older preschooler is distinguished by mannerisms, capriciousness, pretentious, artificial behavior. The child manifests stubbornness, negativism. Exploring these character traits, L.S. Vygotsky explained them by the fact that children's spontaneity is being lost. In this period, meaningfulness also arises in one's own experiences" [4].

According to L.I. Bozhovich, "the crisis of 6-7 years is caused by the appearance of a neoplasm - the so-called internal position. Until the present age, the child practically did not think about his place in life. But at the age of 6-7 years, these questions become relevant for him. At this age, children have an awareness of their social "I". Children imitate adults, strive to assert their significance.

Also L.I. Bozhovich pointed out that "a child at the age of 6-7 years has a need for activities that ensure his social position. The internal position is in conflict with the social situation in which the child is at the moment. At the heart of the crisis of 6-7 years is a conflict that arises from the collision of new needs that have appeared in the process of development and the child's unchanged lifestyle and the attitude of the people around him. The relationships of the surrounding adults do not allow the child to satisfy the needs that he has. This leads to the emergence of frustration, deprivation of needs, which are generated by the mental neoplasms that have appeared by this time" [3].

The result of mental development, which all preschoolers come to in the transition from senior preschool to junior school age, is the psychological readiness of the child for schooling, communication with new adults and the establishment of his new social role in society.

The main mistake of parents who deprive a preschooler of childhood with peers, that is, deprive a child of kindergarten childhood, is to get a closed, insecure, not independent child who cannot socialize

properly and build high-quality relationships with peers and new adults in his life. It is in the kindergarten that the skills of independence, elementary basic knowledge are laid, sensory standards are instilled in the child, perceptual actions are formed, as well as the skills of communication and interaction with people, both of their age and older. It is a well-constructed stage of preschool childhood, which helps to avoid the difficulties of adaptation at school. It is also necessary to prepare not only the child, but also the parents for the transition from kindergarten to school. Provide them with knowledge about the process of competent and psychologically comfortable adaptation to the school environment and teaching

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STOCK MARKET REACTION TO THE UNION BUDGET ANNOUNCEMENT IN INDIA: AN EVENT STUDY APPROACH

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ABSTRACT

"Beating the market" is impossible, according to the efficient market hypothesis (EMH), because existing share prices always encompass and represent all relevant information. An efficient market builds the boldness of the investors. It states that no individual investor can attain abnormal returns on the announcement of any information because the exchange quickly adjusts itself to the new information. The main purpose of this study is to investigate the impact of the union budget announcement on 1st Feb 2022 by India's Finance Minister, Nirmala Sitharaman on S&P BSE Sensex stocks considering the S&P BSE 500 as a proxy market by applying the event study technique. According to the research, the introduction of the Union Budget had a positive impact on security returns.

KEYWORDS: Union Budget, Event Study, EMH, Abnormal Return, Proxy Market

INTRODUCTION

The announcement of the Union Budget is the foremost significant event within the economy because it's how the new policy initiatives are announced by the govt. of India. These policies and initiatives are geared toward the event of various sectors so impact the financial health of the economy. The union budget announcements may provide support or restrain an industry's development. The Union Budget, which was presented within the design of a finance bill on February 1, 2022, this year, should be elapsed by the house before it comes into force on April 1 once a year (Goyal & Gupta, 2019). The knowledge becomes available to the ultimate public as soon because it's presented within the house. Certain questions must be answered within the study like does this information affect the value of securities and ultimately returns? How quickly the knowledge is absorbed by the security prices. Over the next five years, a 6,000-crore initiative to assess MSMEs and startups would be implemented. The budget proposes 60 lakh employment over the next five years, entrepreneurship opportunities, blockchain-based digital money, financial support for farmers, battery swapping for EVs, a digital platform for the National Health Ecosystem, and ease of doing business are a variety of the announcements which are purported to impact the returns of securities listed in BSE. FAMA divides the Efficient Market Hypothesis (EMH) and empirical tests of the hypothesis into three sub hypotheses based on the knowledge set: (1) Weak-form EMH, (2) Semi-Strong-form EMH, and (3) Strong-form EMH. The EMH's weak shape implies that price changes in the past haven't followed any pattern or trend. Prices in the past haven't had any serial dependencies. As a result, information not included in the value series influences all future price changes (Nadig, 2014). To "detect the presence of weak-form EMH," technical analysis is performed (Reily and Brown, 2012). "The present stock values react swiftly to the final public information," the semi-strong form EMH takes. Because historical information on the market, such as past stock prices and trading volume, is available, the strong form of EMH incorporates the weak form hypothesis. The semi-stronger strong model—the event study was coined by FAMA (1991). To test "adjustment of the prices to public announcements," he employs event studies rather than semi-strong-form (Nadig, 2014). The strong form of EMH posits that all public and private sources of information are completely reflected in stock prices.

REVIEW OF LITERATURE

R. Deepak & N. Bhavya (2014) From 1993 to 2014, R. Deepak and N. Bhavya did a study on market views of union budget announcements. The findings show that there has been no major impact on broad and sectoral indices over time and that investors cannot use trading tactics to make investment decisions in the short term because the market corrects itself in the long run.



Khanna and Gogia (2014) investigated the impact of budget announcements on stock market returns in India, the United States, and the United Kingdom, finding substantial differences in the short run.

Warner and Brown (1985) argue for the use of daily stock returns, their qualities, and their impact on event study approaches in their study. Autocorrelation in daily abnormal returns is recognized in the study, and changes in their variance as a result of an event can be helpful at times.

Gupta and Kundu (2006) looked at the effects of union budget announcements on Indian stock market performance and found that it was only significant in the near term.

Edirisinghe (2017) Using event study methodology, the study investigated the impact of Sri Lankan government budget announcements on Colombo Stock Exchange sector returns from 2005 to 2009 and 2002 to 2013. The study's findings show that in the 15-day event window, there are considerable negative returns.

Goyal & Gupta (2019) In their research on Stock Market Response to the Union Budget Release, 2018 on BSE Sensex Companies, it is found that the union budget announcement had no meaningful impact on stock prices.

Table No. 1 The results of a literature review on the events described.

RESEARCHERS	STOCK	METHODOLOGY	EVENT	FINDINGS
DAHAL AND DAS (2021)	BSE Sensex Companies	Event Study Methodology	Make In India, Demonetization, GST	Make In India: Positive Impact Demonetization: Negative Impact GST: No Impact
Deepak & Bhavya (2014)	23 Market Indices of BSE & NSE	Descriptive Statistics, Event Study Methodology, Stationarity Test	Union Budget Announcement	Pre-Event: Positive Impact Post Event: Negative Effects
Taqi et al., (2018)	BSE Stocks	Event Study Methodology	Demonetization	Negative Impact
Maheshwari et al., (2020)	NSE Sectorial Indices	Event Study Methodology	Union Budget Announcement	No Impact
Pandey & Kumari (2020)	49 Market Indices	Event Study Methodology, Rank Test	Covid-19 Pandemic	Negative Impact
Sharma & Chandar (2009)	Nifty Companies	Event Study Methodology, CAPM	Earnings Announcement	Positive Impact
Singh & Dhall (2020)	Stock Market G-20 Countries	Event Study Methodology, Panel Data Regression	Covid-19 Outbreak	Negative Impact
Goyal & Gupta (2019)	BSE Sensex Companies	Event Study Methodology	Union Budget Announcement	No Impact
Datta et al., (2015)	Nifty 10 Budget Session	ADF Test, Correlation	Union Budget Announcement	Significant Impact
Gupta & Kundu (2006)	BSE Closing Price	T-Test, F-Test	Union Budget Announcement	Significant Impact around Event Day

Source: Compiled by Author



The objective of the Study

The goal of the research is to look at how the stock market reacted to the Union Budget Announcement on February 1, 2022. The research will aid in determining whether or not there were any unusual returns in the days leading up to the announcement date.

The hypothesis of the Study

H_0 = Average Abnormal Return tends to be insignificant around the announcement of Union Budget 2022 in S&P BSE Sensex

H_0 = Cumulative Average Abnormal Return tends to be insignificant around the announcement of Union Budget 2022 in S&P BSE Sensex

DATA AND METHODOLOGY

The present study has taken the thirty (30) largest and actively traded stocks of various sectors forming Sensex.

Table No.2 Samples under study	
Asian Paints	Larsen & Toubro
Axis Bank	Mahindra & Mahindra
Bajaj Finance	Maruti Suzuki India
Bajaj FinServ	Nestle India
Bharti Airtel	NTPC
Dr Reddy's Laboratories	Power Grid Corp of India
HCL Technologies	Reliance Industries
HDFC Bank	State Bank of India
Hindustan Unilever	Sun Pharmaceutical Industries
Housing Development Finance Corp	Tata Consultancy Services
ICICI Bank	Tata Steel
IndusInd Bank	Tech Mahindra
Infosys	Titan Co
ITC	UltraTech Cement
Kotak Mahindra Bank	Wipro
Source: Compiled by Author (bseindia.com)	

The Union Budget announcement date i.e., event day is 1 February 2022. The analysis relied on these companies' daily closing prices, which were obtained from the BSE India official site. For the analysis, the S&P BSE 500 is used as a representative for the Indian stock market. To examine the influence of the various events, the data is divided into two portions for the study: pre-announcement and post-announcement periods.

Event Study Methodology.

It is employed to detect stock price patterns in response to a variety of occurrences (Fama, 1969), (Brown, 1980). The event research identifies and analyzes the importance of the gap between expected and actual security prices. Based on (Peterson, 1989), (MacKinlay, 1997), (Anwar et al., 2017), and (Dahal & Das, 2021), the event research involves the following steps.

Event window

An Event window is a time frame for analyzing the effect of an event. The current analysis takes into account a 21-day timeframe (-10...0...+10).



Here,

“-10 day to -1 day” are the days before the declaration of the event.

“0 day” is the day on which the declaration was done.

“+1 day to +10 days” is the days after the declaration of the event.

Estimation Period

The parameters alpha (α) and beta (β) are estimated during this timeframe. An estimation period of 120 days before the event window is considered in the study.

Here, “-130 day to -11 day” is the estimation period in the current study.

Actual Return calculation

A log return of stock ‘s’ on time ‘t’ is calculated.

$$R_{st} = \ln (P_{st}/P_{st-1})$$

Here, R_{st} = Return of stock ‘s’ at time ‘t’.

P_{st} = Price of stock ‘s’ at time ‘t’.

P_{st-1} = Price of stock ‘s’ at time ‘t-1’.

Model Estimation

The OLS Market Model, also known as the Risk-Adjusted Model of Sharpe (1964), is used to calculate the Expected Return E (R) of the securities.

Expected Return Calculation

$$E(R) = \alpha + \beta * R_{mt}$$

So, E(R) is the expected return, and are parameters estimated from the estimation period, and R_{mt} is the return of S&P BSE Sensex 500.

Calculation of Abnormal Return:

It is the difference between the actual return and expected return.

$$Abnormal\ Return = R_{st} - E(R)$$

Calculation of Average Abnormal Return (AAR) and Cumulative AAR (CAAR):

$$AARs = \sum_{t=1}^N AR_{st}/N$$

Here,

AR_{st} is the abnormal return of security ‘s’ on time ‘t’.

N is the number of firms under study.



$$CAARs(t, t + 1) = \sum_{t=1}^{t+1} AARs$$

As, To quantify the cumulative effect on the sample stocks under research, the average abnormal returns are averaged across all days (from -10 to +10 in this study).

The t-Test Statistics for AARs

$$t = \frac{AAR}{\sigma(AAR)}$$

Where AAR = Average Abnormal Return.

$\sigma(AAR)$ = Standard Error of Average Abnormal Return.

The Standard Error is calculated using this formula.

$$S.E = \frac{\sigma}{\sqrt{n}}$$

Where, S.E = Standard Error, σ = Standard Deviation, n = Number of Observation

The t-Test Statistics for CAARs

$$t = \frac{CAAR}{\sigma(CAAR)}$$

Where CAAR = Cumulative Average Abnormal Return.

$\sigma(CAAR)$ = Standard Error of Cumulative Average Abnormal Return.

The Standard Error is calculated using this formula.

$$S.E = \frac{\sigma}{\sqrt{n}}$$

Where, S.E = Standard Error, σ = Standard Deviation, n = Number of Observation



DATA ANALYSIS AND INTERPRETATION

SECTOR	N	DoF	5% SIGNIFICANCE LEVEL
TOTAL COMPANIES	30	29	-2.045 TO +2.045

Table 3. Critical t-value 5% significance level

Table 3 displays the critical (tabulated) t-values. We examine the estimated t-values to the tabulated t-values at 5% significance levels to determine whether the hypotheses should be accepted or rejected.

Table 4: Impact of Government Budget on Sensex				
DAY	AAR	T STATS	CAAR	T STATS
-10	-0.00062	-1.2107	-0.00062	-0.5091
-9	-0.00027	-0.5287	-0.00090	-0.7313
-8	-0.00229	-4.4556*	-0.00319	-2.6047*
-7	-0.00125	-2.4235*	-0.00444	-3.6237*
-6	-0.00032	-0.6284	-0.00476	-3.8879*
-5	0.00190	3.6993*	-0.00285	-2.3325*
-4	0.00248	4.8146*	-0.00038	-0.3082
-3	0.00030	0.5760	-0.00008	-0.0660
-2	-0.00287	-5.5711*	-0.00295	-2.4084*
-1	0.00066	1.2908	-0.00228	-1.8657
0	0.00464	9.0137*	0.00236	1.9242
1	0.00112	2.1792*	0.00348	2.8404*
2	-0.00153	-2.9660*	0.00195	1.5934
3	0.00068	1.3137	0.00263	2.1457*
4	-0.00094	-1.8174	0.00169	1.3816
5	0.00446	8.6701*	0.00615	5.0269*
6	0.00028	0.5473	0.00643	5.2570*
7	0.00104	2.0157	0.00747	6.1046*
8	0.00082	1.5912	0.00829	6.7736*
9	-0.00057	-1.1132	0.00772	6.3055*
10	0.00384	7.4558*	0.01155	9.4404*
Source: Author's Calculation				
Significant at 5% level (± 2.045)				

The data in Table 4, suggest that the introduction of the budget for 2022 was favorable to investors, as evidenced by the considerable positive CAAR persists even after the announcement date which suggests investors are positive about the economy. The Average Abnormal Returns are maximum and significant on the event day as well as on the 1st day, 2nd day, 5th day, and 10th day later to the announcement of the Budget and also on -the 5th and -4th day before the event day. This shows that the Union Budget 2022 has a significant and generally positive effect on the stocks of Sensex listed Firms, as evidenced by the fact that AAR and CAAR are significant at a 5% significance level around the announcement of the Union Budget 2022 in the S&P BSE Sensex, rejecting the null hypothesis. S&P BSE Sensex gained 848.40 points, an increase of 1.46% to close at 58,862.57 on February 1, 2022 (Source – Indian Express) also which means investors are benefitted from the announcement.

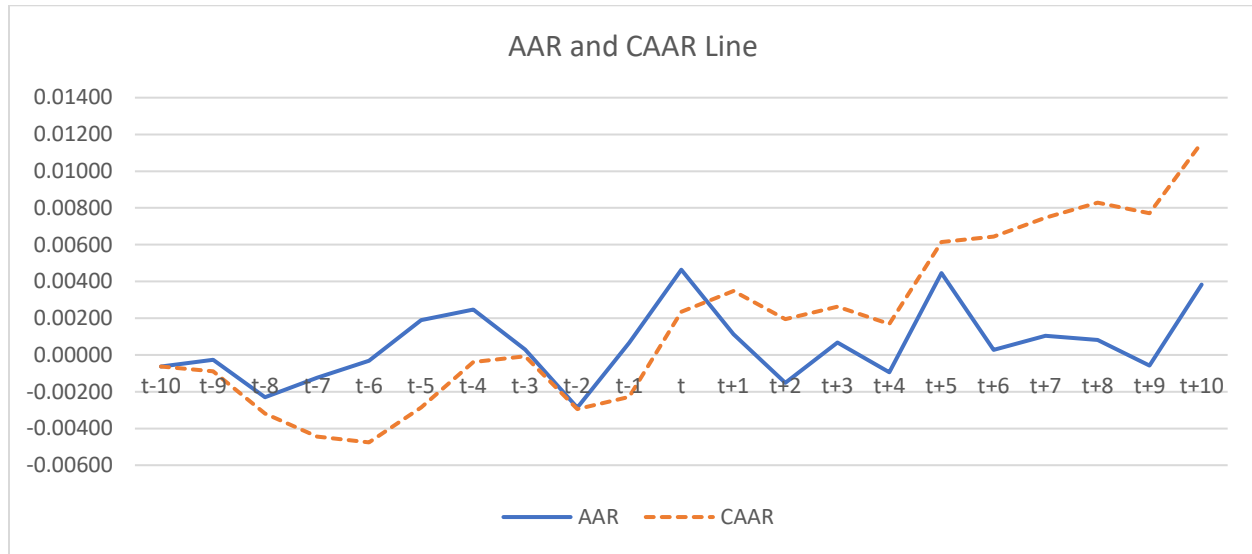


Figure 1. AAR and CAAR-line during the event window

The AARs and CAARs of event is represented graphically in Figure 1. The distance between the AAR-line and the CAAR-line has been increasing from day t-10, recovered on t-2. After the event day, the AAR-line and CAAR-line separate and continue to broaden upward. The large difference between the day after the occurrence and the day following the announcement reflects the impact of the announcement which looks to be quite significant following the incident.

Table 5: Small Window For CAAR		
Window	CAAR	T STATS
-7, +7	0.011	8.709*
-5, +5	0.011	8.915*
-2, +2	0.002	1.659
Source: Author's Calculation		
Significant at 5% level (± 2.045)		

The impact of announcement is tested around small windows of (-7, +7), (-5, +5), (-2, +2). Such small windows provide measure for accurately identifying the impact of the event announced and also information leakage if any. The windows of (-7, +7) and (-5, +5) show that buying securities on 7 and 5 days before the announcement and selling it after announcement on day 7 and 5 would have gained Significant positive returns, to the investors, this window seems to be the best window from an investors point of view.

CONCLUSION

The study looked at how the Union Budget announcement affected the stock market, specifically the reaction of the BSE Sensex. A closer examination of the data reveals that the stock market prices had a major impact during the study period. With the sample of 30 stocks of the Indian Stock Market, we employed the event study method with the widely used market model to examine the stock price reaction to the Union Budget Announcement 2022 on thirty (30) largest and actively traded stocks of various sectors forming Sensex. The statistical results indicate significant average abnormal returns on the event day and later. As a reason, investors should be more careful around the time of the budget announcement, as short-term market volatility is high. As a speculator, you may be able to profit during this time by devising investing methods.

The present study is limited to S&P BSE Sensex. Various other sectoral indices of NSE and broad market index like Nifty 50 can be taken for further study. Also, the individualized return of various companies of different sectors can be taken as an area of future research.



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BRIEF REVIEW OF VIRAL ENCEPHALITIS

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ABSTRACT

Encephalitis is a disease characterised by inflammation of the encephalon. An important element to take into account in this pathology is that it has several causes, among which viral and metabolic are the most important. This clinical picture generally manifests itself with headache, altered mental state, seizures, focal signs, movement disorders, and in some cases also manifested with meningeal or cortical signs, depending on whether it is multi-focal or focal. It is important to consider post-infectious or para-infectious processes in encephalitis. The most important thing is always to take into account onset, progression and speed, together with contact with sick people. In suspected viral encephalitis, aciclovir 10 mg/kg/every 8 hours for 14 days is recommended.

The aim of this literature review is to show how the treatment of viral encephalitis has changed over the years, considering possible elements that may improve or worsen the prognosis.

KEY WORDS: viral encephalitis, central nervous system, herpes simplex virus.

Encephalitis is defined as an inflammation of the brain parenchyma leading to neurological dysfunction which may be caused by infection or an autoimmune disorder. It is confirmed by the identification of inflammation of the brain tissue; it

should be noted that neuroimaging or pleural fluid studies are sometimes used to diagnose this pathology. Encephalitis is characterised by headache, decreased level of consciousness, focal seizures, papilledema, fever, lymphadenopathy,



arthralgias, myalgias, and a duration of 24 to 72 hours. One of the first diagnostic tests to be performed is a simple cranial tomography to rule out an increase in intracranial pressure; after this, and if there is no increase in intracranial pressure, a lumbar puncture can be performed (1). This pathology is important in relation to morbidity and mortality worldwide. Importantly, viral encephalitis can lead to central nervous system involvement, leaving the patient with a severe neurological prognosis. It is believed that the development of this long-term neurological disorder is due to neuroimmune alterations, primarily concentrated at the microglial level, and there is recent evidence that astrocytes play a role in the inflammatory response to the virus (2).

Viral encephalitis remains a global problem, and antiviral therapies remain one of the cornerstones to prevent neurological sequelae. Some patients may not have effective relief and may suffer serious sequelae. Within the central nervous system and microglia specifically, it has been determined that there is a rapid response to various central nervous system disorders including trauma, ischaemia and infections. Some studies have determined that microglia as a benefit and risk for encephalitis; the benefit that microglia can generate is that it detects infection and produces phagocytic activity including the production of type I interferon, thereby inducing autophagy or cytokine secretion. However, microglia causes damage at the membrane level and affects mostly the hippocampus, leading to long-term memory impairment and cognitive dysfunction (3)(4).

As is well known, viral encephalitis is characterised by encephalopathy, commissions, focal deficits and neurological sequelae; in some cases severe complications often lead to death of the patient. This is usually caused by the herpes virus, although other pathogens have been shown to cause this condition. Recent studies in neuroimaging and molecular biology allow more accurate diagnosis of the aetiology, although their benefits need to be confirmed based on clinical guidelines and interpretations. Despite the administration of acyclovir as therapy, in addition to basic care, the consequences remain dismal in 2/3 of patients presenting with herpetic encephalitis, requiring admission to intensive care units, most often in addition to acyclovir treatment, which can be combined with immunomodulatory therapies, including immunoglobulins and corticosteroids (5).

A study called genomic sequencing is a very powerful laboratory technique that allows the detection of various spectra of pathogens that are present. It is clear that this test is being applied for the detection of viruses, especially in cases of suspected infection where the aetiology of the virus is unclear. This technique has been used in patients presenting with encephalitis, especially immune encephalitis (6).

It should be noted that in viral encephalitis, identification of the causative pathogen remains a challenge, and 50% of cases remain undetected. As mentioned above, sequencing techniques have an important value, although their use as a routine diagnostic remains uncertain (7).

A study conducted in 2020 states that the symptoms mostly present in patients with encephalitis, whether viral or

autoimmune, include behavioural and mental disturbances, amnesia, motor disorders, autonomic disturbances, speech disturbances, seizures and altered consciousness (8).

There are certain points of view in relation to reactive cerebral autoantibodies; these do invite importance due to the fact that they mediate alteration in the central nervous system. It is necessary to mention that these have much to do with the generation of pathogenesis. It is important because with this we can analyse the different pathogens that can cause encephalitis, especially the herpes simplex virus. The status of a nervous system disorder of viral origin is determined by neurovirulence. While the patient with a viral infection may recover from neurological dysfunction, some may suffer from post-viral encephalitis, which may be reported within weeks or months after infection. In some cases these reactive brain autoantibodies have been detected in parallel with the onset of the disease, suggesting that autoimmunity is present in encephalitis as an early event. However, it has not yet been established that the virus-associated autoimmune reaction has pathological effects in early stages of the disease (9).

Depletion of microglia, and the colony-stimulated factor 1 receptor blocking signalling pathway, leads to increased viral replication one with severe neurological alterations and increased mortality. Although the mechanism remains undefined, microglial T-cell interactions, together with phagocytosis of infected neurons, apparently play a role. Paradoxically, the production of inflammatory cytokines was increased in several instances following a viral infection in which a depression of brain microglia was generated, suggesting that: Cells that are different from microglia mediate the inflammatory response or that microglia have a regulatory function. Under known circumstances, the antiviral response of microglia contributes negatively to long-term neurological sequelae, although few studies have focused more on this aspect. Moreover, defects in microglia function have been identified as contributing to susceptibility to encephalitis or its sequelae (10).

During homeostasis, the microglia is in most immune cells in the central nervous system. Microglia is characterised by the maintenance of brain cell function and integrity. During virus-induced encephalitis, the microglia are essential for the defence and protection of neurons. The activation of the microglia and antiviral defences are not regulated by neurons, but by milestones and other brain cell types; the microglia also has three mental effects caused directly or indirectly by altered neuronal integrity, all leading to long-term sequelae; understanding the function of the microglia in the brain as it is infected by viruses is essential for the development of current treatments for viral encephalitis. Thus, microglia are immune cells that reside in the central nervous system, plus they have several functions at the brain level related to health, disease. Their response during encephalitis depends on whether or not the inflammation is triggered by a sterile infection or contamination, and obviously depends on the type of infecting pathogen (11).

Rituximab is an antecedent monoclonal antibody 20, which is used in various autoimmune pathologies and in diseases in which there is B-cell malignancy. In the case of viral



encephalitis, it has been used as a maintenance therapy; however, prolonged use of rituximab leads to decreased B-cell function, which contributes to non-neutropenic infections, such as a viral infection causing encephalitis; however, non-neutropenic infections and bacterial infections are common in patients with a common variable immunodeficiency. Rituximab may therefore result in a dose-dependent activation of T-cells, which increases the risk of other infections (12)(13).

Conclusions

Throughout the study carried out in this literature review, the role of some structures and especially some important elements of the central nervous system involved in increasing or decreasing the presence of neurological sequelae, such as the microguide. It is important for us to bear in mind that viral encephalitis has a variable course, there is the possibility of neurological sequelae. It is important to mention this aspect because the techniques and management of this pathology are constantly evolving.

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THE BEGINNING OF PROSE WORKS METHODS OF ANALYSIS IN CLASSROOMS

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ABSTRACT

This article children in primary grades have a different worldview and reasoning. And this begins to manifest a state of perception. We perceive things and events as a whole, and we perceive certain properties of things. That is why, as noted in the theoretical sources: "Sensations are usually simple, elements are considered mental processes, and perception is a complex mental process. The things we perceive are extremely diverse. These include, first of all, various items, chunochi, buildings, trees, equipment, technical items and hakozos. We perceive music, photographs, paintings and other works of art.

KEYWORDS: *Writing skills, correct writing, elementary school, mother tongue, prose,*

INTRODUCTION

Prose works given in elementary grades should be in harmony with the age of the student and should create an opportunity to feel and understand them, as well as have a positive effect on the states of thinking and thinking. Looking at the existing textbooks, it is possible to understand that the texts in them have a tone specific to children. At the heart of this, one can get acquainted with the artistic text of the works that affect the reader's heart and are similar to his worldview and thinking.

By the 20th century, world civilization reached a high level. At the heart of this, the views of human thinking are being renewed and enriched, which in turn made it possible to expand the opinions aimed at understanding the person and having an understanding of existence. The development of the history of national pedagogy formed over the centuries, its place in today's process, problems in reading and teaching, the need to introduce the methods of applying best practices in reading and teaching primary classes, and the modern development has a significant effect.

It is only on the basis of the deep understanding that the implementation of best practices in primary classes today, in the process of determining the effectiveness of the most perfect methods, it is the main task of every intellectual, especially primary school teachers, to shape children's mentality and their views in harmony and it should be noted that the sense of teacher's

responsibility is aimed at raising a mature generation to a level that gives a sophisticated and aesthetic pleasure.

METHODS

Children in primary grades have a different worldview and reasoning. And this begins to manifest a state of perception. We perceive things and events as a whole, and we perceive certain properties of things. That is why, as noted in the theoretical sources: "Sensations are usually simple, elements are considered mental processes, and perception is a complex mental process. The things we perceive are extremely diverse. These include, first of all, various items, chunochi, buildings, trees, equipment, technical items and hakozos. We perceive music, photographs, paintings and other works of art.

As it is rightly noted, we begin to understand the world and man because of the presence of the ability to perceive, to perceive through our senses. In the same process, along with child psychology, it becomes the basis for studying the efforts made to understand a person, his spiritual and spiritual world, the way of thinking of general education students. In order to awaken the child's imagination, it is necessary to determine his ability to perceive first of all in the process of differentiation.

The reason for noting these concepts is that it is necessary to first of all study the views of elementary school students, to get a good sense of what their concepts



are. The peculiarity of the psychology of the student's youth is that, due to the family conditions, the child generally does not think independently, follows someone behind, and sometimes takes the lead in his actions. Although there is a little in the family, the formation of thoughts and views is one of the main tasks of every parent. In addition to giving birth to a child, his mature way of thinking is one of the main tasks of all of us, and we should not forget that in this process, the teacher, the family, and the psychologist must unite at one point and work in harmony.

"A teacher who aims to educate his students to have high human qualities, first of all, it is permissible to make children interested in their subject, to familiarize them with books. Because the book is such a powerful force that it leads both adults and children who are familiar with it to the high boundaries of humanity without realizing it. However, getting interested in books and reading is not a task that can be accomplished only by giving orders and tasks."

In primary grades, regardless of whether it is a lesson of reading or literature or mother tongue, it is necessary to encourage the student to think independently, thereby, from the first days, to have a significant impact on the psyche of the child. In child psychology, it is necessary to raise individual views that I should think better, act independently. In native language classes, regardless of whether it is text, prose, or poetry, expressive reading, paying attention to the meaning of each word, encouraging the student to think independently opens up an opportunity. At the heart of these views, it is necessary to strengthen the children's memory, take into account the views of each of them.

Each text should be read by the teacher himself to the extent that the children's hearts are "beautified", after that he should teach the children short lines one by one, insisting that they should explain the meaning of the recorded text and give it orally. necessary. At the heart of this, it is necessary to understand the person, to form the spirit in the child's heart that he should study as beautifully as his teacher. It is necessary to ensure that every lesson is conducted at the level of a beautiful life lesson, based on live communication, using various methods, in a way that shakes the heart and soul of students, and excites them.

As it was noted, in making students interested in science, in reading works of art, and organizing classes,

each teacher should deal with students based on his own experience, not only giving them assignments and controlling them, but also their mental- it is necessary to penetrate into the spiritual world, listen to the independent views of each one, pay attention to them, even if only a little, react to them and encourage them. Only then, one should not forget that the student should not only be interested in science, but also consider their views.

"Today's level of educational development requires the teacher to skillfully use modern information technologies, because the same information technologies allow the teacher to enter lecture texts and textbooks into computer memory, conduct various experiments, animation, slides, visual aids allows to create". There are great reasons behind the fact that educating primary school students as mature and well-rounded individuals is recognized as one of the main tasks of today. Therefore, there are grounds for repeatedly proving that it is possible to progress in the future based on their views, only if children try to think independently and enrich their understanding in the understanding of a person.

CONCLUSION

So, the fundamental reforms implemented in the socio-political, economic and cultural life of our country impose on our society and teachers the task of improving the educational process in all aspects, which is considered one of the priority tasks of the state policy, and educating the young generation at the level of today's global requirements.

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SURMOUNTING THE BRIM OF MODULAR LEARNING MODALITY: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Pandemic makes a vast change wherein everything outside and even inside everyone's home is in calamity. The closure of educational institutions such as the school in which learning is a shift into a new platform of learning. Modular learning modality mode is used where all instructional materials are printed. It is one way to continue a student's education in-house without risking their health. Parent's serve as the teacher and guide their children in learning while they do house chores and jobs to provide needs. A qualitative phenomenological approach was used to investigate and provide revealing looks and perspectives on the said issues of the parents. The study aims to discover and understand the lived experiences and perspectives of the children's parents who are surmounting the brim of modular learning. In this study, 14 parents were selected. Particularly those parents that have elementary students will be our participants. The researcher gathered information from the participants through in-depth interviews. This research attempts to explore parents' perspectives in surmounting the brim of modular learning, examine its outcomes, and investigate how parents deal with the issue. There are six themes revealed in this study. Interestingly, findings revealed that parents have a hard time in the implementation of modular learning modality. Therefore, parents' lived experiences in modular learning modality should be considered and understood for them to look for an outlet to express and hear their voice on facing this new learning as they work and teach children at the same time. Modular learning parents play an important role in a student's development and progress.

KEYWORD: *parents lived experiences, modular learning modality, handling children in teaching modules, Philippines*

INTRODUCTION

Rationale

Many schools implement the blended learning modality since we are experiencing the deadly virus called CoronaVirus (COVID 19). Many students are unfamiliar with the blended learning format, especially to the parents, since they have never been exposed to the online world. Thus, blended learning is not applicable in rural areas because of no internet access. Online learning is not the only type of distance learning. (Manlangit, Pierce et al., 2020) While the COVID-19 pandemic sent educational institutions scrambling to move classes online, many forget that there are other modes for distance learning. Modular learning is a form of distance learning that uses Self-Learning Modules (SLM) based on DepEd's essential learning competencies (MELCS). The modules include sections on motivation and assessment that serve as a complete guide of both teachers' and students' desired competencies. Teachers will monitor the learners' progress through home visits (following social distancing protocols) and feedback mechanisms and guide those who need special attention.

According to Sejjpal (2013), In the United States, Australia, and many other Western countries, including the Asian region, Modular teaching is one of the most widespread and recognized teaching-learning techniques. Modular is used in almost all subjects like natural science, especially in biology

and medical education, and even in social sciences and computers education. All kinds of subjects are being taught through modules. It is a recent development based on programmed learning, a well-established and universally recognized phenomenon. It considers the individual differences among the learners that necessitate the planning for adopting the most appropriate teaching techniques to help the individual grow and develop at her/his own pace.

In Indonesia, the government should cooperate with the postal service to help teachers distribute printed worksheets and modules for students, drawing from positive experiences in France, AFP (2020). The Ministry of Education and Culture (MOEC) and the Ministry of Religious Affairs (MORA) need to consider distance learning approaches adjusted to regional characteristics. Distance learning exacerbates barriers of vulnerable students to access education, so diversification of the delivery medium beyond the Internet should be considered. Options may include radio programs or postal services for regions with low connectivity.

Blended learning is not new to the Philippine Education System since many colleges and universities around the country already adopted these concepts a long time ago. But DepEd suggested that during this pandemic, traditional approaches shifted into blended learning. The DepEd secretary said to use all alternatives to disrupt the opening of classes this coming SY 2020-2021 (Esquerra D., 2020). The department is also working



with printed self-learning modules for modular learning. Experts from the DepEd prepared and updated previous materials for current use in the new normal (Rodriguez, A., 2020).

Modular learning is the most popular type of Distance Learning. In the Philippines, this learning modality is currently used by all public schools because, according to a survey conducted by the Department of Education (DepEd), learning through printed and digital modules emerged as the most preferred distance learning method of parents with children who are enrolled this academic year (Bernardo, J., 2020). This is also in consideration of learners in rural areas where the internet is not accessible for online learning.

One study reveals that 73% of learners in Baguio City National High School, Baguio City, Philippines stated that they have a reliable internet connection, on the contrary, 67% of students in a mountainous area of the Balbalayang National High School (BNHS) do not have a reliable internet connection. Nevertheless, most of the students from both schools still prefer Modular Learning over Online Learning. Hence, from a total of thirty respondents, twenty-seven of them have chosen Modular Distance Learning. The main challenges that the students have encountered are a self-studying, poor internet connection, lack of sleep and time to answer all the modules due to the great number of activities, distractions, and lack of focus (Dangle, Y. and Sumaoang, J., 2020).

Parental support is a key component of student success in an online environment (Black, 2009). However, providing support may be difficult because the parents may be unfamiliar with the format, as they themselves may never have been exposed to online learning. Even if they have taken a college course in an online or blended format, they most likely have never taken a course online at the K-12 level.

This phenomenological study discovered the lived experiences and perspectives of the parents who are facing the new normal learning, which is the modular learning adopted at every school in our country and specifically here in Camanlangan Elementary School, Camanlangan, New Bataan, Davao de Oro, and described how the parents who have children enrolled to these school addresses the modular learning on how they overcome with it.

Given these scenarios, the researcher finds it necessary to conduct the study to find out how parents deal with experiencing modular learning to their children facing the new normal situation.

Purpose of the study

This study aimed to discover and understand the lived experiences and perspectives of the children's parents who are surmounting the brim of modular learning. This research employed a qualitative phenomenological approach to thoroughly investigate and to provide revealing look and perspectives on the said issues of the parents at Camanlangan Elementary School, Camanlangan, New Bataan, Davao de Oro.

Specifically, this research attempted to explore parents' perspectives in surmounting the brim of modular learning; and examine its outcomes, and investigate how parents dealt with the issue.

Research Questions

Specifically, this study sought to answer the following questions:

1. What are the challenges faced by parents in the implementation of modular learning?
2. How do parents cope with the challenges experienced?
3. What are the insights they experience in surmounting modular learning?

Theoretical Lens

This study is anchored in Self-determination theory (SDT) by Ryan and Deci (2000). It is a broad theory of human personality and motivation concerned with how the individual interacts with and depends on the social environment. SDT defines intrinsic and several types of extrinsic motivation and outlines how these motivations influence situational responses in different domains and social and cognitive development and personality. SDT is centered on the basic psychological needs of autonomy, competence, and relatedness and their necessary role in self-determined motivation, well-being, and growth. Finally, SDT describes the critical impact of the social and cultural context in either facilitating or thwarting people's basic psychological needs, perceived sense of self-direction, performance, and well-being.

SDT theorists suggest that students experience intrinsic, integrated, and/or identified forms of motivation when they are in educational settings, they perceive to support autonomy, competence, and relatedness (Deci et al., 1991). However, using behavioral modification techniques that focus on token rewards and punishment are the epitome of controlled environments.

Parental attitudes toward academic institutions can act as strong socializing agents for their children and influence a host of learning variables, including motivation (Wentzel, 2002). On the other hand, parents' negative attitudes toward school environments could easily undermine their children's motivation for academic pursuits, especially in the school context (Campbell & Verna, 2007). Past research has revealed that parental involvement, especially with homework, can create teacher-parent conflict and have negative associations with a child's academic achievement (Epstein, 2001).

Parent's perspectives are important to this study if how are they going to react to the situation. The parents of this study identified a combination of autonomy-supportive and controlling strategies to develop academic motivation at home. Many of the strategies that parents highlighted within the Scaffolding theme, such as recognizing academic interests and using reasoning or logic, have been documented as autonomy-supportive and linked to self-determined forms of motivation (Reeve, 2002; Reeve et al., 2004).

The study's goal was to understand the participants' views and gain a better understanding of their perspectives on how they overcome the brim of modular learning. Research questions were developed for the researchers to find answers to how parents overcome and deal with the situation. Participants have different lived experiences and perspectives, which



influences how they interpret and respond to the problem. Hence their realities and thoughts may differ from one another.

Furthermore, the researchers are confident that the result of the study will be beneficial to the parents to deepen their understanding of the implication of modular learning modality and widen their knowledge on how to keep going to pursue their dreams and to children's dreams in life.

Scope and Limitations of the Study

This study was limited to the 14 parents since they are experiencing today's modular learning modality of their children. Particularly those parents that have elementary students will be our participants in the said study. Students and teachers are not included as our participants.

To our personal observation of the researchers and personal responses of the 14 parents with elementary students in Camanlangan Elementary School, at Barangay Camanlangan, Municipality of New Bataan, and Province of Davao de Oro. We will conduct the study in April 2021 for the Academic year 2020-2021.

Significance of the study

The study benefited the following fields and individuals who may be related to surmounting the brim of modular learning modality.

Department of Education Officials. May help improve and strengthen the implementation of modular learning, having found the perspectives of parents that they were facing.

Teacher education institution. Can use this study as information to understand parents' perspectives to find room for improvement in delivering learning materials.

Parents. This study may benefit parents because they play an essential role in a student's educational success. Also, this will help parents to immerse in modular learning as a parent, their role remains constant regardless of the formats.

Future researcher. This study may help future researchers to provide further understanding and new development to the current trends locally and globally.

Definition of Terms

Modular learning modality. It is a form of distance learning that uses Self-Learning Modules (SLM) based on DepEd's most essential learning competencies (MELCS). The modules include sections on motivation and assessment that serve as a complete guide of both teachers' and students' desired competencies.

Surmounting. It refers to dealing successfully with a complex problem.

Phenomenology. It is an approach to qualitative research that focuses on the commonality of a lived experience within a particular group. The fundamental goal of the approach is to arrive at a description of the nature of the particular phenomenon.

METHODOLOGY

Research Design

Qualitative research focused on understanding a research query as a humanistic or idealistic approach. This method is used to understand people's beliefs, experiences, attitudes, behavior, and interactions (Pathak et al., 2018).

Phenomenological research is typically conducted using in-depth interviews of small samples of participants. By studying the perspectives of multiple participants, a researcher can begin to generalize regarding what it is like to experience a certain phenomenon from the perspective of those that have lived the experience (Arnett, 2017). This research is qualitative in nature. We employ qualitative research, which according to (Denzin and Lincoln, 2012), as cited by (Davies and Hughes., 2014), is the study of things in their natural setting, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them.

This study utilized a qualitative phenomenological approach since it studied a particular phenomenon concerning the students' parents in Camanlangan Elementary School, Camanlangan, New Bataan, Davao de Oro. This was to reveal a broader range of issues that helped us provide how parents struggle with the modular learning implication and how they overcame it. Furthermore, an inductive approach was used in this study as it was supported by its outcomes and the data collected in the research.

Research locale

In this study, the site of interest was Camanlangan, New Bataan Davao de Oro. Camanlangan is a Barangay in the Municipality of New Bataan, Province of Davao de Oro, Philippines. The early tribal group originally called it 'Kamang Bahalag Malangan' (continue, just crawl even if you will be delayed). There are several tribal groups in Camanlangan; Manaka and Mandaya.

This study's participant is the parents who have child or children enrolled in Camanlangan Elementary School, Camanlangan, New Bataan Davao de Oro. The participants are currently live in Purok 2, 3, 10, 11, and 12, and they are presently overcoming the implementation of modular learning delivery mode. We conducted this research to determine parents' live experiences, insights, and how they cope with the implementation of modular learning delivery mode.

Role of the Researcher

Today, parents are facing and experiencing struggles in modular learning as the focus of the study was for discovering and analyzing parents' perspectives on how to overcome the brim of modular learning. A qualitative phenomenological approach was used. The parents' response to our research question was studied to have findings in overcoming the implication of modular learning.

We underwent an interview method to gather the data, next was selecting the data gathering procedures and tools to be used. We considered in-depth interviews and group discussions in order to gather sufficient data in the study.

The main research setting was in our hometown, we had our data to collect from the parents who have elementary students enrolled in Camanlangan Elementary School. This was



to set aside relevant aspects of ourselves to avoid biases, assumptions, and expectations that may affect the study. Therefore, to have the best results, we chose research informants who give comprehensive information regarding those concerns.

On the other hand, here are the inclusion criteria of our study: participants of our study are from Purok -3 Camanlangan, New Bataan, Davao de Oro; participants are parents who have children from Camanlangan Elementary Schools; parents are either solo parent at any age. The exclusion criteria are the parents who lived in Purok 1,4,5,6,7,8,9,13,14,15, 17, 18, and 19.

We also structured an interview that outlines themes to be tackled in the discussion. The focus group was composed of parents. Participants were selected so it would be easy to analyze, compare and contrast.

In addition, in-depth interviews were carried out separately or individually to provide a more comfortable environment where the research and informants can freely express feelings and thoughts. Before gathering, data was analyzed and organized to be more comprehensible. Interpretation of data was followed next to determine answers to the research questions.

After transcribing, data were coded, and each research participant was given an option to write their name to hide their identities. Also verifying, moreover came next was testing the generalizability, reliability, and validity of all stages of the research process. In the undergone stages, we can say that the study was reliable and valid for it, yielding consistent results, and was able to investigate what it is intended.

Research Participants

In this study, we found and selected subjects that can be the participants, particularly those parents who have direct experiences, directly involving surmounting the brim of modular learning modality. Therefore, we used the purposive sampling technique, also known as selective or subjective sampling. This technique relies on the judgment of the researcher when choosing who to ask to participate.

We interviewed parents who have a child that enrolled in Camanlangan Elementary School. Hence, there was a limited number of participants, particularly those 14 parents who were currently experiencing surmounting the brim of modular learning modality.

Data Collection

An in-depth individual interview was used to collect data for this phenomenological study. According to (Creswell and Poth, 2018), interview questions are used to entice participants to open up about their experiences. Participants answered an open-ended question in a semi-structured interview setting. Follow-up questions were asked when more information or clarification was needed.

As a researcher, we took careful steps in the data collection procedure.

First, participants were identified with the use of the purposive sampling technique. We ensured that those who were selected really have an experience of the phenomenon being studied.

Hence, we dug information for the participants that suited to the study, and came up with the prospect list participants.

Second, the individual in-depth interview took place at the specified time and venue only after the participants signed the informed consent and were informed of the study's objectives. We used our prepared open-ended questions to conduct the individual in-depth interview personally. A voice recorder was used to ensure validity and reliability, which are very significant in the conduct of the study.

Third, we recorded and encoded their answers or responses on the laptop and cell phones for the translation since all participants used vernacular. Answers were transcribed verbatim to ensure a greater degree of accuracy during data analysis. In line with that, we made transcription references to ensure accuracy and avoid missing essential details.

Fourth, thematic analysis was done. Our adviser assisted us in ensuring that our participants' responses were analyzed carefully based on the core ideas.

Data Analysis

The researchers recorded the interviews via a password-protected cell phone and a password-protected laptop in case one technology failed. Interviews were recorded to ensure that transcripts were complete and accurate and allowed the researcher to facilitate the process better, observe, and take notes. A secure transcribing service was used to transcribe the interviews from the digital files. Recordings were destroyed once they were transcribed and the transcription validated by the researcher. All transcripts were stored digitally and password protected on the researcher's computer. Thematic analysis was used to analyze the results and checked the differences and likeness of all participants that were gathered. This was where responses were categorized and organized into themes.

RESULTS AND DISCUSSION

The objective of this phenomenological study was to generate findings on the lived experiences and perspectives of the children's parents who are surmounting the brim of modular learning through in-depth interviews.

Challenges faced by parents in the implementation of modular learning

Two main themes emerged from the data collected on the participants' experiences and perspectives: 1.) Difficulty in Teaching; and 2.) Short Attention Span of Learners.

Difficulty in Teaching

Most of the participants in the study emphasized their challenges experienced are very difficult to handle in teaching since they are the parents. They are the one who will teach their child or children to the modules provided by the school. Sometimes they are the one who answers the modules to their child or children because the children have no knowledge in modules and they don't have the background of it since it didn't introduce in their time and it is their first time to encounter it.

According to Dangle, R.P and Sumaoang, JD, (2020), some parents have difficulty understanding and answering the modules of their child/children. Some said that they do not have



enough time to guide their kids due to work and other responsibilities. Some modules do not have clear instructions and explanations, so students have a hard time answering them. The pictures in the modules are not clear, and the provided answer lines are too short. The modules have a lot of exercises, and the students lack motivation and focus.

In addition to the author, related problems are more caused by parents' readiness to become teachers at home. Parents are required to facilitate the online learning needs of children at home, providing gadgets/notebooks or sharing gadgets with children; additional expenses to purchase the data plan. Parents must manage and divide their time between doing daily tasks and accompanying children in learning at home and, ultimately, parents acting as teachers for their children (Wardhani & Krisnani, 2020; Yoenanto, 2020).

Short Attention Span of Learners

Children have less attention to answer their modules since there is a lot of interruption in modular learning delivery mode, unlike in face-to-face, as shared by our participants. With the cause of modular learning, short attention spans become shorter since everyone is in their comfort zone; they tend to doze off quickly and multitask frequently. With less interaction during module time, one's attention can be snatched by using smartphones, pets, and deliveries rather than the ongoing class lessons Amadora and Friedman, (2020).

It will result in uncertain deadlines, misleading assignments, and exams challenging for students to learn (Nell et al., 2020).

Cope with Challenges Experienced

Four themes emerged out of the analysis of data of research ques

tion number two. The coping mechanisms mentioned by the participants are the following: 1.) Allocate Time; 2.) Motivate and Encourage Learners; 3.) Relying to Answer Key; and 4.) Research.

Allocate Time

In answering modules, time management is essential for the learners to become more productive. The manner of time availability for learners at home is allocated between playing and answering or from the perspective of the children's interests. As shared by our participants, it is important to give the children free time and set time to answer their modules.

According to Schmidt (1983) argues that this finding can be explained by the fact that the intensity of study varies so much among students that the assumption of time homogeneity is strongly violated or that such a time variable is overly aggregated, as students not only allocate scarce time among courses and leisure but also ration time among alternative study modes within a course.

Motivate and Encourage Learners

Motivation is an influential factor in the teaching-learning situations, especially in this modular learning delivery mode. The success of learning depends on whether or not the learners are motivated. Motivation drives learners in reaching learning goals. It is important to recognize the fact that inspiring

learning is a central element of good teaching. As shared by our participants, they should motivate and encourage their child or children to learn and become successful in the future. Because according to Bakar (2014) that motivation is a complex part of human psychology and behavior that influences how individuals choose to invest their time, how much energy they exert in any given task, how they think and feel about the task, and how long they persist in the task. Bakar also added that motivation reflects students' choices of learning tasks, the time and effort they devote to them, their persistence on learning tasks, and coping with the obstacles they encounter in the learning process.

Motivating students to learn in school is a topic of great concern for educationists today, and encouraging students to succeed in school is one of the greatest challenges of education. Student motivation is an essential element that is necessary for quality education. Thus, Hadre et al. (2007) argued that motivation is among the most potent determinants of school success or failure. Spurring students' motivation to engage in academic activities is part of teachers' teaching-learning strategy if the teacher wants to see consistent and quality results in the learning sphere.

Relying to Answer Key

In every module given, there are always answer keys at the back except in the assessment paper. As shared by our participants, they always rely on the answer keys at the back of the modules because they don't know the answers to the given questions. It shows that having an answer key at the back of the modules allows parents to be guided. Academic progress was one of the concerns of parents. Eventually, parents did not want their children to fall behind. Parent worries about a lack of connection, socio-emotional engagement with peers, peer collaboration, and learning that typically occur in a teaching environment, Garbe, A., Ogurlu, U., and Cook, P. (2020)

Research

Due to changes in the new set-up of the educational system, especially in modular learning, searching for answers in the online information is essential for all students and to the parents of elementary grade because they are the ones who will teach the child or children as well as to answer on it. As shared by our participants, they will strive hard to search for the answer in the net. According to Jadhav et al. (2011) that search engines are the programs that are used to explore the information on the World Wide Web and FTP servers by using keywords. Parents rely on searching for answers in the google app.

However, according to Crof (2015), the term search engine refers to the hardware used for text search. Still, currently, search engines refer to the use of software systems for information retrieval systems from massive databases using a set of queries.

Insights they experience in surmounting modular learning

We came up with two essential themes after gathering, transcribing, and analyzing the participants' experiences. These are 1.); Learning is not evident and 2.) Learners become dependent.



Learning is not evident

Many people say that because of modular learning, most of the students never learn. Learners didn't understand much what is in the modules, and they have difficulty understanding the lessons. As shared by our participants, their children don't have learning in the modular. Previous research findings indicate that students generally prefer face-to-face learning in class rather than home learning with modular learning because it is easier to understand the material when the teacher explains it directly (face to face), unlike in modular, learners don't have learning. In the classroom, they can interact and learn together (Megawanti et al., 2020).

Moreover, students are enrolled not because they want to learn but also because they don't want to be left behind. They answer their modules not because they want to learn but because they need to comply with these requirements to level up or get diploma, Adorador (2020).

Learners become dependent

Due to the implication of modular learning delivery, learners become dependent, as shared by our participants. Learners are always reliant on the answer keys provided at the back therefore, they are not answering the modules based on their thoughts and ideas. Since education is no longer held in school, parents serve as partners of teachers. Parents play a crucial role as facilitators. Their primary part in modular learning is establishing a connection and guiding the child, FilpScience (2020).

Furthermore, learners become dependent on parents; this includes greater self-discipline and self-motivation required for students, increase preparation time and lack of concrete rewards for teachers and staff, and greater administrative resources needed to track students and operate multiple modules, Nardo, M.T.B (2017)

Implication for Modular Learning

Parents have a huge part in every child's education success. Due to this Covid-19 outbreak, our educational system changed into new normal learning, and parents deal with the modular learning delivery mode. The result of the lived experiences of parents surmounting the brim of modular learning delivery mode are the following implication for practice are offered.

First, difficulty in teaching as emphasized by our participants, it implies that parents should also be a teacher academe in children's learning development for children's success in their education. Parents have a wide range of influences in every child, especially in primary schools, such as good academic skills, positive attitudes towards others, and social competence.

Second, as emphasized by our participants, motivating and encouraging learners implies that parents should encourage children to do their task in answering the modules for them to have good grades and have learning despite many challenges in the implication of modular learning. Give encouraging words and real-life situations to the child to realize that he/she must work hard for his/her future betterment. Aside from cheering up, parents and learners must set a time for making the modules

of the child, as to be resulted that not only the child or children is learning but also the parents.

Third, as learning is not evident shared by our participants, it implies that parents have to used varied strategies that can use in their children's learning because they are obliged to educate their child or children. Parents must always insist to child or children that they should focus on their school works to have learning and understanding about each subject. Seeing parents involved in the education of their children is a good thing because it improves academic performance. Learners become more focused on their schoolwork and better understand the lessons and answer their queries. This will result in learners not giving up quickly when they do not understand a particular topic because parents always support and teach them.

The result of the study implies that parent's involvement in their child's education, especially in this new educational set-up, the modular learning delivery mode is essential. Parents are a big part of every child's education success by showing their child or children concerned about children's academic performance, showing dedication in every child's learning by motivating and encouraging them to understand the child's school performance better. Monitor every child's challenges and difficulty in answering their modules, and follow-ups their children to answer their modules.

Recommendations for Further Research

This study aims to discover and understand the lived experiences and perspectives of the children's parents who are surmounting the brim of modular learning. Nevertheless, the result of this qualitative exploration is limited only to the experiences of selected parents who have children or children enrolled from grades one to six of Camanlangan Elementary School, Camanlangan, New Bataan, Davao de Oro.

To get more extensive answers to the questions of this study, it is recommended to conduct further research using a large number of participants. It should cover a wider range of parents.

Furthermore, it is recommended to research further about the experiences of both children and parents in relation to dealing with the implication of modular learning. To the Department of Education must help to improve and strengthen the implementation of modular learning to found out the parents perspectives facing the this kind of situation. And also to the school institution must have the proper information to understand parents' perspectives to find room for improvement in delivering learning materials for students.

Concluding Remarks

Parents play an important role in their child's education. Parents are the one and most important supporters in every child's success. They must work together to fulfill their both goals to achieve their dreams.

We used an in-depth interview to generate the experiences of the selected participants. The primary source of data is the transcript of the participant's answers to the given questions. During the interview, I was challenged to get and convince the participants to share their experiences, and luckily, they are very much willing to do it.



During the conduct of this study, we experienced how it feels to be a researcher. We took all the necessary measures to make this research a successful one with the encouragement of our adviser. It is indeed a demanding task because it requires more time, patience, and perseverance to gather quality and relevant data that will support our study.

Parents must be equipped with the necessary skills in teaching the child to address the different needs of their child's learning at home. A home composed of children in different levels of grades and have other lessons to do with; parents are challenged not just to do chores but also to manage their child in answering the modules.

Therefore, parents are not just relying on teachers in teaching their children, doing house chores and making money but also teaching their children in their modules at home. The parents inside at home are the ones who manage their children to answer the modules. Teaching children at home needs parents to be more extra patient and have prior knowledge to help the children in answering the modules.

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IMPACT OF DIGITALIZATION ON ECONOMY IN UTTAR PRADESH IN INDIA

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ABSTRACT

This evaluation paper affords information concerning the impact of digitalization on the economic system. By gathering and compiling studies articles related to the impact of digitalization and statistics and communiqué technology on the financial system in Uttar Pradesh in India. The digital economy isn't in reality about transferring business transactions from head-to-head to online, but it's approximately remodeling the various facets of enterprise interactions and transactions and enabling innovations too. From the reviews, the variables are Pricing, Speed, Unemployment, GDP, FDI, Money, Governance, Infrastructure, and many others., have found essential on this.

Problem: *Uttar Pradesh is a developing nation and dealing with many financial troubles with more or less 70% of the population dwelling in the rural elements of India it is barely difficult to educate them about the Digitalization and its influences of it. India is developing in many aspects like usage of the net and many others however making them use inside the right direction, which could assist them in increasing their productiveness and adds a fee to the money the front and making them financially literate is the main demanding situations in advance.*

INTRODUCTION

The basic plan of digitization is to shape the complete use of ICT centers for gaining access to international assets and beneficial for society at an equal time. Going virtual is the need of the hour, to live in surroundings healthful and secure. Varied groups place unit worried in digitizing their cloth they continue to be stimulated by the long-lasting charge of such assets for studying. Digitization additionally raises the name of the establishments as international users will draw close to the institutional collection and utilize those sources from distant places. The foremost reasons to digitalize area units are to boost get admission and enhance preservation. By digitizing their assortment, institutions will create facts reachable that changed into antecedently accessible to a chosen cluster of users. Digitization may even facilitate maintaining substances creating outstanding virtual snapshots available electronically and will cut again wear and tear on brittle and fragile documents. The outcomes of the traits within the technicalities of statistics and Communication Technology introduce the idea of digitization. The transformation from print to digital media for communiqué of facts to the larger network is resulted from the enlargement of the internet and currently allows the brilliant amount of facts reachable to all of us. By the technique of digitization, data to an ever-larger quantity is being made, processed, communicated, and preserved digitally. The social technology related to the concept of digitization is two-fold. The primary one, however, is economic is the method of digitization and 2nd, its effect on

the economy of the United States. Digitalization refers back to the system of changing something to digital form and the Integration of digital technologies into everyday existence, Digitalization is the use of different eras/strategies to trade commercial enterprise strategies. India is the quickest growing economic system in the world and we can see the up and down in the Indian financial system, one of the reasons for the alternative of the Indian economic system is "Digitalization". All the sectors which are contributing in the direction of India's GDP are dependent on Digitalization without virtual generation no activities may want to occur. Activities such as making railway reservations online, shopping for Air tickets, bus tickets online, ATMs, cashless transactions the use of Credit Card, Debit Cards, and many others. Every aspect is digitalized after the release of Digital India all sports are transacted online. After the introduction of Digital India, the dependence on Digitalization has gained greater significance. Digitalization initiative made all services to each citizen on their internet portals or electronically, to make the transactions transparent and easy and also helped to reduce corruption and assist in taking public services to the residents of the U . S . A . Digitalization has performed a vital function in bringing achievement in Indian financial system via imparting job possibilities for teenagers, a tremendous push to the younger generation to begin new startups through creative ideas. Indian authorities additionally encourage Indian citizens to go cashless and reduce coin transactions. The reason is to make India a Digital India with the aid of adopting digital bills.



Digital transactions assist us to comply with a legal route which is beneficial to flourish a better economic system.

NEED FOR DIGITIZATION

The simple concept of digitization is to make full use of ICT facilities for gaining access to worldwide sources and useful for society at an equal time. Going digital is the need of the hour, to stay surroundings wholesome and secure. Various corporations are concerned about digitizing their material because they continue to be inspired by the iconic value of such assets for studying. Digitization additionally increases the popularity of the establishments as worldwide users can realize the institutional series and make use of these resources from distant places. The main motives to digitize are to enhance get admission and enhance renovation. By digitizing their collection, establishments can make information reachable that turned into previously most effective available to a pick-out group of users. Digitization can also help maintain materials making outstanding virtual photographs available electronically and can reduce wear and tear on brittle and fragile documents. The main objectives of digitalization:

1. To realize how the virtual India concept facilitates to improve the high-quality of existence.
2. To find out how the authority's offerings can work efficiently with realistic answer tasks and innovative thoughts to translate the vision of a virtual India.
3. To discover how the benefits of workout of virtual India and its effect on the economic system.
4. To draw out a few necessary proposals to make Digital India fruitful. Method and Data: The facts used for this research paper is secondary information Such as database, journals, and various magazines. Impact of digitalization On the Indian economic system: In the generation of business international the core elements of digital adjustments are clean advertising and marketing, customer pride via presenting the best services, and increased level of expertise.

Challenges Are –

1. The high degree of digital illiteracy is the biggest task in the fulfillment of the digital India program.
2. Making Digital India is a scheme known and developing recognition amongst not unusual masses approximately its benefits is likewise an amazing assignment.
3. It isn't always clean to make sure every panchayat of India hooks up with a functional extensive band with an optical fiber community.
4. The difficulty bearing on taxation and regulatory pointers has proved to avenue block in figuring out the imaginative and prescient of Digital India. Some of the commonplace policy hurdles encompass a lack of readability in FDI policies that have impacted the growth of e-commerce.
5. The biggest assignment confronted by the Digital India program is sluggish and not on-time infrastructure development. India's virtual infrastructure is comprehensively insufficient to tackle developing growth in digital transactions.

6. personal participation in government initiatives in India is terrible due to lengthy and complex regulatory strategies.
7. Many request proposals issued with the aid of government are not picked up by way of in a position personal sector groups given that they are no longer commercially viable.
8. There is an extensive digital divide between cities and rural India. Till now funds have not been deployed effectively to meet the cost of infrastructure creation in rural regions

LITERATURE REVIEW

Saima Khan, Dr. Shazia Khan, Mohsina Aftab (2015), Digitalization and its Impact on Economy:- Discuss the repute of the Digital conversion of print assets has improved rapidly within the past few years. Conversion is the social transformation started by using the huge adoption of digital technologies to come up with, procedure, proportion, and manipulate virtual data. Conversion is a complete technique of renovation and gets right of entry to by that all the institution's assets are reworked into digital and making notable copies in virtual layout. .

Moinak Maiti, Parthajit Kayal (2017), Digitization: Its Impact on Economic Development and Trade:- The performance of the services area stepped forward extensively since 2000 ahead. Development in IT and ITES alter and automated the enterprise approach. This ended in typical development in every generating and services sector. India's provider region and MSME phase have the high ability for a destiny boom with digitization. The complete increase of every India's offerings region and MSME phase will give a boost to the degree of change and India's proportion with the assistance of digitization.

Dr. Mansi Shukla, Ms. Shilpi Bose (2017) Impact of Digitalization in Economy and the effects of Demonetization:- Digitalization isn't regarding concerning the commercial enterprise dealing from head to head to online, however, it is regarding the transformation of several sides of the commercial enterprise interactions and dealings and fragmented up into innovations too. Growing era advances, large customer strength, and expanded opposition mean all industries face the chance of improvement. India stands on the sting of growth in net and e-commerce hobby. The digital financial system has modified the running of enterprises in nowadays global.

Mrinalini Kaul, Purvi Mathur (2017) Impact of Digitalization on the Indian Economy and Requirement of Financial Literacy Impact of digitalization on a rustic may be assessed on the idea of its effect on the government at the financial system and consequently the society. We have seen a vast amendment in each region with the emergence of digitalization. Digitalization has created new activity possibilities, have caused innovation in terrible area and conjointly led to the growth of the economic system i.e. Have helped the gross domestic product increase of the USA



Kaul,2017. How can the digitalization and making the citizens financially literate change the face of a growing state like India, being digitalized will make the destiny transactions happen through the internet for that each - every character have to be financially literate to make sensible selections and implementation of diverse packages to make it viable.

Rybarczyk,2019. The readiness of the industries in changing the gears from the traditional machine to the digitalized gadget and knowing the distinction between Digitization & Digitalization in their industries

Pranjali,2017 Impact on the technological improvements like industry 4.0 within the manufacturing sector and its capacity to trade the phase of the economic system and the hurdles confronted within the direction of implementation

Maiti,2017 Impact of the digitalization on MSME(Micro Small and Medium Enterprises), able to see an amazing future growth but still dealing with many challenges because of the access to finance and the abrupt alternate in technology and not capable of seizing the current trend.

Kumar, 2019 Impact of the Information technology (IT) and the IT-enabled offerings in the various sectors, particularly in the MSME & provider sectors which can grow and lead the financial system inside the front line which has a primary effect on the Indian Trade

Aftab,2015 Impact of Digitization on Indian financial system and the adjustments needed to adapt to make relevant inside the current international and the way the GDP, unemployment, FDI, and so on are impacted

Khan,2019 ICT (Information and Communication Technologies) have revolutionized each-every region and how digitization helps the industries to function in the fee effective way and Socio-Economic and ecological blessings of digitizing the statistics.

How can India become the 3rd largest economy?

There are so many elements that are favoring the purpose of India to move the GDP of 5\$ trillion USD and grow to be the fastest developing country in the global and all the predictions are supporting and displaying the fantastic signal.

- Consumer market by myself is expected to grow and reach \$three.6 trillion via 2025 from \$1.Nine trillion in 2019.
- We have proven an extensive increase in the Ease of doing enterprise index.
- Saw the surge in FDI investments.

Despite many financial hurdles dealing with by way of the country, 2nd term BJP authorities under the management of Modi, the economic outlook seems wonderful and is predicted to develop at 7% yearly from 2019-2023. But the present situation due to Covid 19 pandemic affecting the economy globally, the projections and increase will be reconsidered as soon as the arena is out of the global economic misery. Reforms announced via the authorities ought to be focused to increase the shopping energy of the individuals to

grow the demand and bring returned the economy on the right track.

CONCLUSION

Digitalization brings innovation, smooth operation, new job possibilities, and an increase in the economic system. It allows carrying transparency within the gadget and a whole lot of clean place unit the go with the flow of finances in the economic system much less is the drawback of non-payment, parallel economy, and so forth. However, with those advantages obtainable it moreover makes it important for the oldsters to personal primary economic statistics and pushes closer to the significance of financial attainment. Digitalization additionally performs a completely critical position in the movement of this intention because it can have a bigger attain to the folks. By this, we are capable of attaining a conclusion that the brand new technology has to manage nicely and for this, it's not the supply but additionally the statistics to use it and accumulate blessings from it. Digitalization improves the effectiveness and efficiency of the work being executed. Digitalization of governance activities, i.e., e-governance, complements the high-quality of life of its citizenry by multiplied transparency in Government departments and easing carrier delivery. It will increase the pace and decreases the time duration necessities for acting various activities and features. Cutting expenses and expanding marketplace span enhances income margins and consequently can intensify returns inside the sectors. Automation of agricultural region reduces uncertainties within the sector and higher utilization of to-be-had sources. Automation of industry leads to better product designs and accelerated profit margins thereby leading to wholesome opposition and growth of the world. Digitalization of offerings will lead to better consumer satisfaction and step forward in carrier excellence using the timely and wider reach of carrier delivery. Also, the digitalization of the carrier quarter throws open extensive scope and arenas for improvement and growth of the world. Digitalization additionally affects the employment state of affairs in the country. To shift the Indian Economy from a growing economy to a developed economy, several paintings need to be performed; enhancing and promoting digitalization within the country is one step towards that intention. Various steps need to be taken to put off barriers and obstacles from the route of digitalization. Proper implementation of the digital India program will result in higher agricultural go back according to capita, higher cost output ratio of business products, and higher carrier excellence. It permits transparency in all of the structures and techniques thereby improving the excellence of existence.

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ANKOLI CONSULTANT: A CASE STUDY ON THE USE OF BOTTOM-UP BETA AND MARKET VALUE OF DEBT FOR ESTIMATING THE COST OF CAPITAL OF A FIRM

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ABSTRACT

This Case study discusses corporate valuation using Capital Asset Pricing Method (CAPM). CAPM provides an initial framework to answer the relationship between the risk and the expected return of an investment. The Beta calculated is the systematic risk affecting the firm, varying from security to security. CAPM has multiple applications, including allocation of capital for the real asset, financial investment, capital expenditure, corporate restructuring, and portfolio evaluation. In this case, we are trying to understand the firm's valuation for merger and acquisition. To have a systematic understanding, we will use the CAPM model, and the Beta will be calculated from two different methods Historical and Bottom-Up beta. In addition, applying market value weights for the cost of capital is also used.

KEYWORDS: Capital Asset Pricing Method; CAPM, Historical (levered) Beta; Bottom-Up beta; Market Value Weight.

INTRODUCTION

Corporate valuation has evolved from a normative to a positive approach which explains how to estimate companies' values as a significant part of corporate finance. The capital Asset Pricing Model is a simple linear relationship between the anticipated return and the systematic risk involved in a security or portfolio [11]. CAPM is favoured for its simplicity and efficient tool for understanding the concept of portfolio theory and asset pricing. It predicts the return which is expected on securities. Return on security is a positive linear relation of the market Beta. The market Beta explains the cross-section of expected returns [1]. It identifies two types of risk affecting the firm. Systematic risk is affected by the market, and unsystematic risk is specific to the company. The systematic risk is measured by Beta, which shows the sensitivity of return on security to the market return. The level of sensitivity differs from security to security [7].

Multiple uses can be derived from CAPM. It helps to allocate capital for real investments like machinery and factories and financial investment. It can assist in making decisions regarding capital expenditure, corporate restructuring, financing, investment, and judging a portfolio [2]. This model is being applied by a consultancy firm named Ankoli Consultant to assist their client Mr Ahuja regarding the firm's valuation to suggest decisions regarding merger and acquisition accordingly.

Ankoli Consultant is a renowned equity research firm with having far and wide reach of clients. Most of the clientele of Ankoli have a long-term perspective toward equity investments. They have earned their reputation as a client-driven fundamental

equity research firm with a nonsense policy. Investors with Ankoli have cherished fine-tuned advice from the firm to decipher the nitty-gritty of identifying undervalued and overvalued stocks. The main USP of Ankoli is to provide information on the overpriced stock with the equal vigour and interest that people usually have for sharing information on undervalued securities. Over the years, the firm earned its reputation and was quite popular among its niche clientele. The business was consistent and doing fine, but they are not at the peak of performance.

One of the prominent investors among the clients of the firm is Mr Ahuja. He sees some potential in a firm named Zebra Line Limited. He wants to invest in the firm. Zebra Line Limited which is in some rough straits for some time and may be open for sale in the future. However, Ankoli's main business is never Mergers and Acquisitions. But when requirements demand, they never shy away from contributing by providing their valuation tips to them. Ahuja is a client who wants Ankoli to value the Zebra in their peculiar style using fundamentals.

Zebra line's main business is auto ancillary manufacturing unit. The other line of business is battery manufacturing, and the third area of business is the inverter (for power backup). The sales distribution is 50, 30, and 20 (all in percentages) in the three lines of business.



LITERATURE REVIEW

In the present times, corporate valuation is of great importance. Knowing the worth of an enterprise is of fundamental importance not only to the management but also to the investors, owners, and market observers. The company valuation helps in the negotiation of the price of an enterprise while conducting a commercial transaction [5]-[6]. The shift towards value-based management has caused an increase in demand for corporate valuation. This situation is essential in a market driven by mergers and acquisitions, ever-increasing transaction volume, false evaluation, and misinterpretation [4]-[8]. Contemporary enterprise financial management is concerned about maximizing its value.

The Capital Asset Pricing Method is considered one of the most widely used and essential contributors in finance. The expected return is determined by their corresponding level of systematic risk or Beta [1]-[3]. The foundation of this model is laid by Markowitz and Tobin. Markowitz was the first to establish a system to gauge portfolio risk and find out a portfolio's anticipated risk and return [2]. The CAPM explains the tradeoff

which exists between the risks and the return. It measures the risk of an asset as the covariance of its return on the overall market [9]. The model predicts that the expected return on two assets is linearly related to the covariance of the return on the given asset with the return on the market portfolio [10].

DATA

The following additional information is provided for Zebra Line Limited.

- The risk-free rate is 6.5%, and MRP is 4%. The corporate tax rate is 25%.
- Beta (market levered Beta) is 1.1.
- Lambda for the Zebra Line is .32. Inflation in the US is 2% and in India is 6%. A 3.5% rate can be taken for US risk-free rate and 5.23% for US Equity Risk Premium. The country risk premium for India is 3.23%.
- Tax rate 25%
- The current D-E ratio is 50%.
- Data for Bottom-up beta calculation

BL1: Auto-ancillary Unit		
Firm Name	D/E Ratio	Levered Beta
Leo Ltd	.65	2.10
Royal Enterprise	.78	1.90
FCA Tech	1.20	1.85
Lexus Engineering	.59	1.65
Isuzu	.90	1.78

BL2: Battery M/F Units		
Firm Name	D/E Ratio	Levered Beta
Lento Enterprise	.85	.75
Amara Batteries	.89	1.50
Su-Kam Power	.75	2.00
Base Corp	1.22	1.85
HBL Power	1.30	.86

BL3: Invertor M/F Units		
Firm Name	D/E Ratio	Levered Beta
Renutron	1.10	1.10
Sharp	1.25	1.20
Enertech	.74	.98
Voltronix	.69	.85
Maxicon	.86	.99



ISSUES TO BE SOLVED

Consider you are a Senior Analyst working in Ankoli Consultant. Analyze and suggest to the client whether they should go ahead with the Merger and Acquisition of Zebra Line Ltd. Use the Capital Asset Pricing method to validate your suggestion.

Question 1: Compare Beta estimated by both the methods

- Historical levered Beta (given)
- Bottom-Up beta

Question 2: Use both the estimate of Beta in the following methods of estimating the cost of equity. Compare the results of the cost of equity.

- Equity Market Premium (EMP) or Market Risk Premium (MRP) from the given data (regarding S&P BSE 500 as the market index)
- EMP using country risk premium

Question 3: Calculate the cost of debt if the interest coverage ratio is 3.2 (for Zebra Line).

Question 4: If the annual interest expense is 11.50 cr, the Face Value of accumulated debt is 110 cr, average maturity period of the debt is 11 years, calculate the market value of the debt.

Question 5: Calculate discounting rate for Zebra Line if the market value of equity is 625 cr.

Question 6: Revise the discounting rate if the Sales Mix is as follows (45, 35, and 20% in the three lines of business, respectively).

Question 7: Revise the discounting rate if the target capital structure (Debt ratio) is 55%.

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INTERNATIONAL CHILDREN'S DAY

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ANNOTATION

International Children's Day is celebrated annually in more than 30 countries around the world and is one of the oldest international holidays. In Uzbekistan, International Children's Day is celebrated annually, as well as throughout the world, this holiday is very loved in our country. International Children's Day has its own flag. On a green background, symbolizing growth, harmony, freshness and fertility, stylized figures are placed around the sign of the Earth - red, yellow, blue, white and black. These human figures symbolize diversity and tolerance. The sign of the Earth, placed in the center, is a symbol of our common home.

Its main goal is to protect the rights, life and health of children, to draw public attention to real children's problems. This idea is directly present in the name of the holiday.

In fact, in the depths of the protection of the rising young generation lies the preservation of life, its duration. And every concern for it is considered a solid foundation for the development of the country. One of the wise men said: "The future of a nation can be known by looking at its children." The care rendered today to the young generation is considered an important factor for educating them to be devoted to the Motherland, physically and spiritually developed people.

KEY WORDS: *children, International Day of Protection, health, cultural events, children's rights.*

Various fun and cultural events are held in all countries of the world on this day: children's concerts, competitions, exhibitions, festivals of colors, sports competitions, children can take part in creative master classes in pottery, dance, robotics, etc. Children paint with colorful crayons asphalt, clear sun and flowering meadows - everything that lives in a child's imagination, and that is understandable without words to every little citizen of any country. In our country, traditionally on this day, all children's parks work in a festive mode: rides are free for children, and kids are treated to ice cream, drinks, and sweets.

The decision to celebrate Children's Day was made in 1925 at the World Conference in Geneva on the welfare of children. The holiday itself was officially established in November 1949 in Paris by the decision of the Congress of the International Democratic Federation of Women. After the Second World War, when the problems of maintaining the health and well-being of children were more urgent than ever, many of them lost their parents and shelter, so they were forced to live on the street, beg or steal. Some of the kids died of hunger, some of diseases. And of course, such a situation could not fail to attract the attention of caring people.

At this congress, the slogan of the constant struggle for ensuring peace on earth, which is a guarantee of a happy life for children, was sounded. And they began

to celebrate the holiday as early as next year: in 1950, events dedicated to this day were held in 51 countries of the world.

The UN supported this initiative and declared the protection of the rights, life and health of children one of the priorities of its activities. The declaration on the rights of children, adopted by the UN General Assembly in 1959, reflects the freedom and equal rights of children in the field of upbringing, education, social security, physical and spiritual development, regardless of skin color, nationality, social origin, property status, etc.

The first and main international legal document, in which the rights of the child were considered at the level of international law, was the Convention on the Rights of the Child, adopted by the UN on November 20, 1989. The convention was signed by 61 countries on July 13, 1990.

It contains international requirements and a number of proposals - countries around the world must protect the rights of children.

Children in different countries face different challenges. Thus, in Europe and America, the negative impact of television and the Internet is considered a big problem. But in the countries of Africa and Asia, children are threatened by hunger, AIDS, military conflicts and illiteracy. Children are dying there from a lack of doctors and medicines. Not surprisingly, in such countries, the



infant mortality rate is many times higher. In addition, they do not receive the necessary education due to the lack of educational institutions. In some countries, children are used as free labor and even sold into slavery.

Unfortunately, the health of children around the world is deteriorating. All this is due to poor environmental conditions, as well as malnutrition, a lot of stress in the modern world. Over the past decade, the number of children suffering from various mental disorders has increased significantly. Among children and adolescents, cases of aggression, vandalism and suicide have become more frequent. It is no secret that children in the modern world are very early accustomed to smoking, begin to use alcoholic beverages and drugs. The number of juvenile drug addicts is constantly growing.

The problem of abandoned children and orphans is very acute for many countries today. Our country is no exception. Our orphanages are overcrowded, children are abandoned, and parents are often deprived of parental rights because of their antisocial lifestyle - drunkenness, drug addiction, etc. Not all children know what life is like in a normal complete family, when there is a mom and dad who sincerely love you.

The State Inspectorate for Supervision of Consumer Rights Protection and Human Welfare pays special attention to the issues of creating a favorable living environment for children, providing children with high-quality and safe food and children's products. One of the most important are the issues of catering for students in educational institutions, since they are directly related to maintaining the health of children and adolescents.

Gospotrebnadzor is carrying out large-scale work to update the normative documents regulating sanitary and epidemiological requirements in the field of childhood. New sanitary and epidemiological requirements have been developed and implemented for preschool educational organizations, preschool groups located in residential premises of the housing stock, organizations of additional education. The requirements for the conditions and organization of training in educational institutions have been updated. Sanitary and epidemiological rules and regulations for tent camps, SanPiNs for stationary organizations for recreation and health improvement of children, requirements for the transportation of children by rail have been developed and implemented.

Gospotrebnadzor specialists, together with experts from the Association of Children's Goods Industry Enterprises, advise consumers on the quality and safety of children's clothing, footwear, toys, as well as current regulatory hygiene requirements for this category of goods.

The actions of modern state bodies are aimed at improving the situation with children around the world. Thus, thanks to the active and successful activities of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the children's situation has significantly improved over the past ten years, 100,000 children's lives have been saved, and millions of children have been able to have a decent childhood.

Attracting the attention of the general public to the problems of children, protecting their rights, enabling them to live in a protected world, have a happy childhood and grow up to become full and peaceful citizens of their country is the main task of Children's Day.

All over the world, including in Uzbekistan, there are charitable foundations that carry out various actions aimed at improving the lives of children, designed to help and support orphans and disabled children. They raise funds to help lonely children around the world, to help them gain at least a little of what they were deprived of at birth or during the years of their still short life. After all, every child has the right to a happy childhood. It is necessary to show your own child how much his parents love him, it is even more important to tell that not all children live happily, and together with him to take part in some kind of charity event, donate clothes, books and toys to the orphanage. And, most importantly, you need to teach your own child not only to be happy, but also to make those around you happy.

UNICEF was founded in 1946. The main purpose of its creation was to help children who suffered during the Second World War. Since 1953, this organization began to provide charitable assistance to children around the world who find themselves in a difficult life situation. Particular attention is paid to children from disadvantaged and developing countries. She has been working in Russia since 1997. It should be noted that this organization in terms of funding is completely dependent only on voluntary donations. We must clearly understand that with the opening of each new school, children's clinic, hospital, orphanage, the future of the entire planet is being built.



International Children's Day is a reminder to adults of the need to respect the rights of children to life, to freedom of opinion and religion, to education, recreation and leisure, to protection from physical and psychological violence, to protection from the exploitation of child labor as necessary conditions for the formation of a humane and a just society.

Thus, in fact, in the depths of the protection of the rising young generation lies the preservation of life, its duration. And every concern for it is considered a solid foundation for the development of the country. One of the wise men said: "The future of a nation can be known by looking at its children." The care rendered today to the young generation is considered an important factor for educating them to be devoted to the Motherland, physically and spiritually developed people.

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ANTIDIABETIC AND HEPATOPROTECTIVE EFFECTS OF COMBINED AQUEOUS LEAF EXTRACT OF *Azadirachta indica* AND *Mangifera indica* IN ALLOXAN MONOHYDRATE-INDUCED DIABETIC WISTAR RATS

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ABSTRACT

This study was aimed at assessing the antidiabetic and hepatoprotective effects of combined aqueous leaf extract of *Azadirachta indica* and *Mangifera indica* in alloxan monohydrate-induced diabetic Wistar rats. Fresh leaves extract of *Azadirachta indica* and *Mangifera indica* were prepared using distilled water in appropriate stock concentrations and used in a 14-day treatment. Acute toxicity studies of the combined extract conducted in rats showed no toxicity up to 5000mg/kg. Experimental animals were acclimatized for 14 days while diabetes was induced using alloxan monohydrate (150mg/kg) intraperitoneally. After 14 days of treatment of diabetic rats with 300mg/kg, 500mg/kg 700mg/kg respectively as well as with 150mg/kg metformin, there was increase in weight, the blood glucose levels decreased significantly ($p < 0.05$) when compared to untreated diabetic rats (diabetic control). Also, there was a significant ($p < 0.05$) reduction in serum aspartate aminotransferase (AST), alanine aminotransferase (ALT) and alkaline phosphatase (ALP) levels of rats treated with different doses of the extract compared to the diabetic control. A dose dependent antidiabetic and hepatoprotective effect was observed and the combined extract had a close similar effect as the standard drug metformin. Therefore, combined aqueous leaf extract of *Azadirachta indica* and *Mangifera indica* exhibit antidiabetic and hepatoprotective and this is due to the presence of phytochemical constituents in the leaf part of the plants.

KEY WORDS: *Azadirachta indica*, *Mangifera indica* combined aqueous leaf extract, diabetes, hepatotoxicity, Bioactive constituents

INTRODUCTION

Diabetes mellitus is the most common endocrine disorder that affects more than 100 million people worldwide. It is a chronic metabolic disease caused by an absolute or relative lack of insulin and or reduced insulin activity, which results in hyperglycemia and abnormalities in carbohydrate, protein and fat metabolism. Over time, uncontrolled diabetes can lead to serious damage to the various body systems (Bajaj and Madan, 1995; Rambhade *et al.*, 2010). Diabetes was described more than 2000 years ago. For the past 200 years, it has featured in the history of modern medicine. The management of diabetes mellitus is considered a global problem and successful treatment is yet to be discovered. Type 2 DM is the prominent form of diabetes worldwide, accounting for 90% of cases worldwide. An epidemic of type 2 DM is under way in both developed and developing countries. According to World Health Organization (WHO) the prevalence of diabetes worldwide is 180 million and will reach the 300 million in 2025 (Bennet, 1998). In Nigeria, the current prevalence of DM among adults aged 20–69 years is reported to be 1.7% (International Diabetes Federation, 2017). The prevalence of diabetes is rising because of increase in the life

expectancy as well as a substantial increase in obesity and sedentary life style. The factors for this steep rise include genetic predisposition, urbanization, ethnicity, insulin resistance and central obesity (Zargar, 2002).

Antidiabetic medicines lack rigorous control on DM and exhibit different troublesome adverse effects. Therefore, medicinal plants and food wastes are explored for pronounced antidiabetic activity and less severe adverse effects (Akhtar *et al.*, 2016; Fatima *et al.*, 2019). The attention to the use of plants is due to the presence of bioactive constituents present in them capable of antidiabetic effects. Medicinal plants and their bioactive constituents are used for the treatment of diabetes mellitus throughout the world. Search for antidiabetic molecules from natural sources are going on. Hence, this research work was aimed at assessing the synergistic potentials of aqueous leaf extract of *Azadirachta indica* and *Mangifera indica* in lowering blood sugar as well as liver protective effect in alloxan-induced diabetic rats.



MATERIALS AND METHOD

Collection of Plant Materials

The leaves of the plants *Azadirachta indica* and *Mangifera indica* were collected from Abuja Campus of the University of Port Harcourt in Obio/Akpor Local Government Area of Rivers State and identified in the herbarium of the Department of Plant Science and Biotechnology in the University of Port Harcourt by Dr. Chimezie Ekeke of the Department of Plant Science and Biotechnology.

Preparation of Aqueous Extract

The leaves of the plants *Azadirachta indica* and *Mangifera indica* were pulverized and air dried for three weeks after which the leaves were ground into fine powder using an Electric Blender. 25g of *Azadirachta indica* and 25g of *Mangifera indica* powder were combined and soaked in 500ml of distilled water and stirred intermittently and was left over night. The macerated pulp was dried at reduced temperature. The dry mass served as combined aqueous extract of leaves of *Azadirachta indica* and *Mangifera indica* for experimentation.

Toxicity studies of Combined Aqueous leaf extract of *A. indica* and *M. indica*

Acute toxicity method by Lorke (1983) as described by Okoli *et al.* (2010) was used.

Phytochemical Screening of Combined Aqueous leaf extract of *A. indica* and *M. indica*

Alkaloids, tannins, saponins, flavonoids, phenol, Terpenes, steroid and anthraquinones were quantitatively determined using standard methods (Harborne, 1973; Van-Burden and Robinson, 1981; Obadoni and Ochuko, 2001, and Uahomo *et al.*, 2022).

Experimental Design

Thirty (30) male rats were randomly selected into six experimental groups of 5 animals each.

Group	Treatment
Group I	Non-diabetic rats. They received only water and normal rat chow.
Group II	Untreated diabetes rats.
Group III	Diabetic rats treated with 150mg/kg body weight of Metformin
Group IV	Diabetic rats treated with 300mg/kg body weight of combined aqueous leaf extract of <i>Azadirachta indica</i> and <i>Mangifera indica</i>
Group V	Diabetic rats treated with 500mg/kg body weight of combined aqueous leaf extract of <i>Azadirachta indica</i> and <i>Mangifera indica</i>
Group VI	Diabetic rats treated with 700mg/kg body weight of combined aqueous leaf extract of <i>Azadirachta indica</i> and <i>Mangifera indica</i>

The rats in group III were given oral dose of 150mg/kg daily for 14 days. A safe oral dose of metformin HCl for rats is 100-200mg/kg (Quaile *et al.*, 2010). Rats in group IV to VI were given an oral dose of 300mg/kg, 500mg/kg and 700mg/kg combined aqueous leaf extract of *Azadirachta indica* and *Mangifera indica* respectively daily for 14 days. All 6 groups of rats were sacrificed on last day (14th day) of treatment after 12 hours of fasting and given a chloroform anesthetic. Blood was collected by cardiac puncture into heparinized sample bottles for biochemical estimations. Body weights of all the animals were recorded prior

Procurement of Animal

For this investigation, adult Wistar rats of either sex weighing 140–210g were used. They were acquired from the Animal House of the Department of Pharmacology at the University of Port Harcourt in River State, Nigeria, and were acclimatized for two weeks. They were kept in a conventional laboratory environment with 28°C temperature (28±2°C), relative humidity (46±6%), a 12-hour light/dark cycle, and adequate ventilation. The animals were given access to water and a commercial feed (Vital Feed Nig. Ltd.) *ad libitum*. Twelve hours prior to the experiments, food was withheld, although water was always available for free.

Drug Purchase and Preparation

Metformin hydrochloride (MET) by Pfizer was obtained from Alpha Pharmacy and Stores, a licensed pharmacy in Port Harcourt, Rivers State, Nigeria. In order to prepare the powder for administration to the test animals, the tablets were crushed into a fine powder and the proper concentrations produced in distilled water. Alloxan monohydrate, another substance utilized, was also bought from the same pharmacy to cause diabetes in rats. All chemicals and solvents used were of analytical grade.

Induction of Diabetes

Alloxan monohydrate, freshly made with distilled water as the vehicle, was diluted to a concentration of 150mg/kg body weight and administered intraperitoneally to rats to cause diabetes. Three days later, diabetes was identified in alloxan-induced rats with Random Blood Glucose (RBG) levels ≥200mg/dL. Glucose levels were monitored using a hand held glucometer (Accu-CHEK) to test blood samples taken from the tail vein.

to the treatment and sacrifice. Blood glucose level was determined using a hand held glucometer (Accu-CHEK) before and 48 hours after alloxan monohydrate administration, for the confirmation of the diabetic state of animals.

Biochemical Assay

Glucose was determined using methods of Malloy and Evelyn (1937) as modified by Tietz (1996), while serum lipids including total cholesterol, total protein and triacylglycerol were determined using the method of Tietz (1990). The method of



Reitman and Frankel (1957) was adopted for the ALT and AST assay. ALP was estimated using the method of King and King (1954) as adapted by Cheesbrough (2000).

Ethical Clearance

All procedures carried out during this research were done in accordance with the guiding principles of research involving animals as recommended by the Research Ethics Committee of the University of Port Harcourt and NIH guidelines for care and use of laboratory animals.

Method of Data Analysis

Data were analyzed using SPSS version 23.0. All data obtained were expressed as Mean \pm SEM. One-way analysis of variance (ANOVA) was used to compare the means between and within the groups and a *p*-value <0.05 was considered significant. A *Tuckey's* post-hoc test was also applied to assess significant differences between groups.

RESULTS

Acute toxicity test on combined aqueous leaf extract of *A. indica* and *M. indica*

Even at the greatest dose tested (5000mg/kg body weight), no mortality was seen over a period of 24 hours using Lorke's (1983) methodology. However, at dosages of 3000 and 5000mg/kg body weight, certain symptoms of listlessness, shivering, and mouth scratching were seen in experimental rats. As a result, it was evident that the extracts were acutely non-toxic to experimental animals.

Quantitative phytochemical analysis of aqueous leaf extracts of *A. indica* and *M. indica*

Phytochemical analysis of both plants showed the presence of contained alkaloids, tannins, saponins, flavonoids, Flavonoids, terpenoids, and phytosterol.

Table 1: Phytochemical (quantitative) analysis of the plants

Metabolites	Test	<i>A. indica</i>	<i>M. indica</i>
Alkaloids	a. Mayer's test	+	+
	b. Dragendorf's test	+	+
	c. Wagners reagent	+	+
Tannins	a. Lead acetate	+	+
	b. Ferric chloride test	+	+
Saponins	a. Frothing test	+	+
Flavonoids	a. Ferric chloride test	+	-
	b. NaOH test	+	-
	c. Shinoda test	+	+
Phenols	a. Ferric chloride test	+	-
Terpenoids	a. Lieberman-Buchard	+	+
	b. Salkowski test	+	+
Steroids	a. Lieberman-Buchard	-	-
Phytosterol	a. Salkowski test	+	+
Glycosides	a. Keller-Killians test	-	+

Key: + presence of constituent, - absence of constituent

Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on the body weight of diabetic rats

Body weight loss was observed in untreated diabetic rats (Table 2) which is one of the threats associated with DM. Treatment with

combined aqueous leaf extract of *A. indica* and *M. indica* extract (300mg/kg, 500mg/kg and 700mg/kg) showed signs of recovery as comparable with the standard drug metformin .

Table 2: Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on the body weight of diabetic rats

Group	Pre-Treatment	Day 7	Day 14
Normal Control	160.05 \pm 5.11	164.55 \pm 4.62	171.18 \pm 5.22
Diabetes Control	153.62 \pm 6.25	138.90 \pm 7.42*	127.82 \pm 5.89*
150mg/kg Metformin	154.62 \pm 5.23	166.50 \pm 6.10*#	172.80 \pm 5.86*#
300mg/kg Extract	152.48 \pm 4.94	162.55 \pm 7.10*#	170.20 \pm 7.65#
500mg/kg Extract	155.26 \pm 5.18	164.33 \pm 5.52#	169.78 \pm 6.12*#
700mg/kg Extract	152.47 \pm 5.29	167.15 \pm 6.85*#	171.66 \pm 6.13#



Each value represents mean \pm SEM, values marked with (*) differ significantly from normal control group (* p <0.05) while those marked with (#) differ significantly from diabetes control group (# p <0.05).

Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on blood glucose levels in alloxan induced diabetic rats

In untreated diabetic rats, there was a significant (p <0.05) rise in blood glucose level when compared with untreated non-diabetic rats. Results of this study showed that 14 days treatment with combined aqueous leaf extract of *A. indica* and *M. indica* extract (300mg/kg, 500mg/kg and 700mg/kg) produced a significant (p <0.05) decrease in blood glucose level in experimental rats. A dose-dependent reduction in blood glucose level was observed with the extract dose of 700mg/kg as the most effective dose. Hence, the combined aqueous leaf extract of *A. indica* and *M. indica* extract showed dose-dependent hypoglycemic effect by lowering the blood glucose (Table 3).

Effect of Metformin on blood glucose level in alloxan-induced diabetic rats

Metformin produced significant (p <0.05) decrease in blood glucose levels in alloxan induced diabetic rats. With 150mg/kg the blood glucose levels was 4.92 ± 0.61 mmol/L compared to blood glucose levels of 13.88 ± 3.16 mmol/L in diabetic control animals (Table 3).

Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on lipid parameters in alloxan induced diabetic rats

There was a decrease in total protein and total cholesterol values and an increase in triglyceride value in untreated diabetic rats. The treatment with combined aqueous leaf extract of *A. indica* and *M. indica* extract (300mg/kg, 500mg/kg and 700mg/kg) caused a significant (p <0.05) increase in total protein value and a significant (p <0.05) decrease in total cholesterol and triglyceride values when compared with untreated diabetic rats. The effect of the combined aqueous leaf extract of *A. indica* and *M. indica* extract was dose-dependent and had a close similar effect as the standard drug, metformin (Table 3).

Table 3: Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on some lipid profile parameters of alloxan-induced Wistar rats

Groups	Glucose (mmol/L)	Total Protein (g/L)	T. (mmol/L)	Cholesterol	Triglyceride (mmol/L)
Normal Control	4.43 ± 0.48	61.50 ± 3.42	4.15 ± 0.26		1.55 ± 0.39
Diabetes Control	$13.88 \pm 3.16^*$	$48.00 \pm 3.16^*$	$6.80 \pm 0.85^*$		$2.58 \pm 0.28^*$
150mg/kg Metformin	$4.92 \pm 0.61^{* \#}$	$61.88 \pm 2.84^{\#}$	$4.12 \pm 0.18^{\#}$		$1.48 \pm 0.72^{\#}$
300mg/kg Extract	$9.08 \pm 2.26^{* \#}$	$52.02 \pm 3.46^{* \#}$	$5.45 \pm 0.66^{* \#}$		$1.90 \pm 0.18^{* \#}$
500mg/kg Extract	$7.10 \pm 1.86^{* \#}$	$55.25 \pm 2.28^{* \#}$	$4.46 \pm 0.49^{* \#}$		$1.88 \pm 0.39^{* \#}$
700mg/kg Extract	$3.96 \pm 0.32^{* \#}$	$63.60 \pm 2.97^{* \#}$	$3.64 \pm 0.55^{* \#}$		$1.34 \pm 0.38^{* \#}$

Each value represents mean \pm SEM, values marked with (*) differ significantly from normal control group (* p <0.05) while those marked with (#) differ significantly from diabetes control group (# p <0.05).

Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on Liver enzyme parameters of alloxan-induced Wistar rats

There was an increase in liver enzyme markers such as AST, ALT and ALP in untreated diabetic rats. The administration of the

combined aqueous leaf extract of *A. indica* and *M. indica* extract (300mg/kg, 500mg/kg and 700mg/kg) significantly (p <0.05) brought back almost to normal the levels of AST, ALT and ALP when compared with the untreated diabetic rats. The effect of the combined aqueous leaf extract of *A. indica* and *M. indica* extract on liver enzyme markers was dose-dependent and had a close similar effect as the standard drug, metformin (Table 4).

Table 4: Effect of combined aqueous leaf extract of *A. indica* and *M. indica* extract on some Liver enzyme parameters of alloxan-induced Wistar rats

Groups	AST (IU/L)	ALT (IU/L)	ALP (IU/L)
Normal Control	8.75 ± 1.50	9.00 ± 2.58	45.52 ± 3.68
Diabetes Control	$23.20 \pm 3.15^*$	$21.20 \pm 2.28^*$	$91.16 \pm 6.23^*$
150mg/kg Metformin	$8.82 \pm 2.23^{* \#}$	$10.06 \pm 1.50^{* \#}$	$46.08 \pm 4.15^{* \#}$
300mg/kg Extract	$19.50 \pm 3.42^{* \#}$	$15.08 \pm 2.58^{* \#}$	$68.44 \pm 5.02^{* \#}$
500mg/kg Extract	$13.41 \pm 2.33^{* \#}$	$12.40 \pm 2.60^{* \#}$	$56.11 \pm 4.56^{* \#}$
700mg/kg Extract	$8.20 \pm 1.09^{* \#}$	$10.40 \pm 1.67^{* \#}$	$46.90 \pm 3.87^{* \#}$

Each value represents mean \pm SEM, values marked with (*) differ significantly from normal control group (* p <0.05) while those

marked with (#) differ significantly from diabetes control group (# p <0.05).



DISCUSSION

A. indica and *M. indica* are two plants that have been researched for their hypoglycemic activities (Kemasari *et al.*, 2011; Basha *et al.*, 2011; Anggit *et al.*, 2014; Arika *et al.*, 2016). *A. indica*, also known as neem tree, was reported to have various biological and pharmacological activities, including antiplasmodial, antitrypanosomal, antioxidant, anticancer, antibacterial, antiviral, antiulcer, spermicidal, anthelmintic, larvicidal and fungicidal activities (Atowadi and Atowadi, 2009). Previous researches have reported that most of the active compounds of *A. indica* include flavonoids, phenolic compounds, tannins, saponins, alkaloid, glycoside, reducing sugars (Ujah *et al.*, 2021, Hikaambo *et al.*, 2022). *Mangifera indica* which is native to Asians and it is a member of the Anacardiaceae family. It is widely grown in different parts of Africa, especially in the southern part of Nigeria. *Mangifera indica* is used medicinally to treat ailments such as asthma, cough, diarrhea, dysentery, leucorrhoea, jaundice, pains, malaria (Madunagu *et al.*, 1990) and diabetes (Muruganandan *et al.*, 2005). Phytochemical study on different parts of *M. indica* has revealed the presence of phenolic constituents, triterpenes, flavonoids, phytosterol, and polyphenols (Saleh and Ei-Ansari, 1975; Kharn *et al.*, 1994; Anjaneyulu *et al.*, 1994; Selles *et al.*, 2002; Singh *et al.*, 2004). This species is purposed to possess numerous therapeutic uses including analgesic, anti inflammatory (Garrido *et al.*, 2001), immunostimulant (Makare *et al.*, 2001), antioxidant (Martinez *et al.*, 2000; Sanchez *et al.*, 2000), spasmolytic, anti diarrhea (Sairam *et al.*, 2003), antilipidemic (Anila and Vijayalakshmi, 2002), antidiabetic (Aderibigbe *et al.*, 1999), antiamebic (Tona *et al.*, 1998), anthelmintic, antiallergic (Garcia *et al.*, 2003) and anti bacterial applications.

Phytochemical analysis of both plants, showed the presence of contained alkaloids, tannins, saponins, flavonoids, Flavonoids, terpenoids, and phytosterol. These phytochemicals help to explain some of the effects of using these plants as herbal remedies.

The antiglycemic effect of plants is believed to be through different mechanisms (Chakravarthy *et al.*, 1980). Plants exhibiting antidiabetic effects stimulate beta-cell in the pancreas by activating regeneration of pancreatic cells (Boppana *et al.*, 1997; Chorvathova *et al.*, 2000). Fiber of plant also interferes with carbohydrate absorption, affecting blood glucose level. Studies show that chemical induction of diabetes by intraperitoneal administration of a diabetogenic agent, alloxan monohydrate induces Type I diabetes in experimental animals (Viana *et al.*, 2004; Etuk, 2010). Alloxan monohydrate is derived from urea and induces diabetes by selective necrosis of pancreatic beta-cells of Langerhans (Iranloye *et al.*, 2011). This therefore, affects endogenous insulin synthesis and release making it biologically unavailable or insufficient and thus results in hyperglycemia (Nastaran *et al.*, 2011). The toxic alloxan confers its toxicological effect on pancreatic beta cells through inhibition of glucokinase enzyme, generation of free radicals, disturbances in intracellular calcium homeostasis and oxidation of essential sulphhydryl (-SH groups) (Dunn *et al.*, 1983; Szkudelski, 2001; Dhanesha *et al.*, 2012). The underlying mechanism of action

involves the selective uptake of the compound due to its structural similarity to glucose as well as highly efficient uptake mechanism of the pancreatic beta-cells (Lenzen, 2008).

Body weight loss was observed in untreated diabetic rat which is one of the threats associated with DM. Treatment with combined aqueous leaf extract of *A. indica* and *M. indica* extract showed signs of recovery as comparable with the standard drug metformin. This is agreement with the study by Basha *et al.* (2011) and Kemasari *et al.* (2011).

Administration of alloxan significantly increased the level of glucose when compared to normal control rats, which might account for the cytotoxic effect of alloxan on beta-cells. Alloxan is relatively toxic to insulin producing pancreatic beta cells because it preferentially accumulates in beta cells through uptake via the transmembrane carrier protein glucose transporter 2 (Vuksan and Sievenpiper, 2005). This cytotoxic action is mediated by reactive oxygen species (ROS) source of generation of ROS is dialuric acid, a reduction product of alloxan. These radicals undergo dismutation to hydrogen peroxide (H₂O₂). The action of ROS with a simultaneous massive increase in cytosolic calcium concentration causes rapid destruction of beta cells (Szkudelski, 2001; Omeodu *et al.*, 2022) thereby decreasing the secretion of insulin, which in turn increase the blood glucose level.

In the present study there is increase in blood glucose in untreated diabetic rats (alloxan induced) when compared to normal control group, which account for the cytotoxic action of alloxan. Administration of combined aqueous leaf extract of *A. indica* and *M. indica* extract remarkably reduced the altered sugar level. It has been reported that in diabetic subjects the levels of HbA1C increases (Paulsen, 1973; Sokiprim *et al.*, 2022). This is as a result of reaction of excess of blood glucose with haemoglobin leading to the formation of HbA1C (Koenig *et al.*, 1976). Administration of combined aqueous leaf extract of *A. indica* and *M. indica* extract for 2 weeks reduced the blood glucose at a dose-dependent level by the normalization of fasting blood glucose levels. This suggests that the combined aqueous leaf extract of *A. indica* and *M. indica* may possess insulin-like effect on peripheral tissues by either promoting glucose uptake or metabolism, by inhibiting hepatic gluconeogenesis (Ali *et al.*, 1993) or absorption of glucose into the muscles and adipose tissues (Kamanyi *et al.*, 1994), by the stimulation of a regeneration process and revitalization of the remaining beta cells (Shanmugasundaram *et al.*, 1990). The combined leaf extract at a dose of 500mg/kg and 700mg/kg appeared to have similar potency as the reference drug (metformin) in reducing the blood glucose level.

Reduction in plasma total protein and increase in total cholesterol and triglyceride levels were observed in alloxan induced rats. The decrease in protein may be due to microproteinuria which is an important clinical marker of diabetic nephropathy (Tuvemo *et al.*, 1997; Makare *et al.*, 2001) and may be due to increased protein catabolism (Almdal and Vilstrup, 1988). Lack of insulin also reduces RNA and mRNA, which is another factor for the reduction of total protein (Fu *et al.*, 2013). The finding of this study correlates with the above findings and



hence agrees with the study by Kemasari *et al.* (2011). Treatment with combined aqueous leaf extract of *A. indica* and *M. indica* extract for 2 weeks reduced was able to cause an increase in total protein and a decrease in total cholesterol and triglyceride values and this can be attributed to the presence of phytochemical constituents in the plants. Hence, the potentials of the combined extract of *A. indica* and *M. indica* to exhibit antidiabetic effects bringing about normalization of body weight, blood glucose and serum lipid markers such as total protein, total cholesterol and triglyceride can be attributed the presence of phytochemicals.

AST, ALT and ALP are the specific markers to assess hepato-cellular damage leading to liver cell necrosis (Amacher, 1998). In present study, the activities of AST, ALT and ALP were assessed as they are the specific index of liver cell damage in experimental animals (Mitchell *et al.*, 1974). High level of these liver enzyme markers indicates hepato-cellular damage and lowering of these enzymes content in serum is an indication of hepatoprotective action of a drug. Activities of AST, ALT and ALP in serum were increased in untreated diabetic rats but the treatment with combined extract of *A. indica* and *M. indica* afforded a significant protection against alloxan induced increase in the serum enzyme level. The combined extract of *A. indica* and *M. indica* may induce accelerated regeneration of liver cells by reducing the leakage of AST in to blood there by lowering its value to normal levels. ALT is more specific to the liver and a better parameter for detecting liver damage (Chandiran *et al.*, 2011). In the present study, increased ALT level was brought back to normal by the administration of combined extract of *A. indica* and *M. indica*. This agrees with the study of Kemasari *et al.* (2011). The ability of the combine extract to bring to normal liver enzyme markers can be attributed to the presence of phytochemicals such as terpenoids, flavonoids and phytosterols which have hepatoprotective effects. The finding of this studies suggest that the combined extract of *A. indica* and *M. indica* can be very beneficial in diabetes management and its associated complications, holding hope of the new generation antihyperglycemic drug.

CONCLUSION

The results from this study indicated that combined extract of *A. indica* and *M. indica* possess hypoglycemic and hepatoprotective effects in alloxan induced diabetic rats, thus scientifically validating the possible use of the leaves of both plants in folkloric medicine in the management of diabetes mellitus and hepatic diseases. These actions were exhibited due to cumulative effect of phytoconstituents present in the extract including free and bound alkaloids, tannins, saponins, flavonoids, Flavonoids, terpenoids, and phytosterol. However, further investigation should be done in order to isolate the constituents responsible for the antidiabetic effect of this plant through bioassay guided fractionation so as to corroborate the findings of this study. Moreover, the organic solvent extraction for this plant should also be done to compare the antidiabetic and hepatoprotective activities of the combined aqueous and organic fractions.

Conflict of Interest

The authors declare no conflict of interest.

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UGNAYAN NG KUWENTONG PAMBATA AT KUWENTONG PANGKALIKASAN

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Malaking suliranin ang *climate change* dahil nakasalalay sa nakasanayang *pattern* ng klima ang maraming hayop at halaman. Kung hindi sila makaangkop sa bilis ng pagbabago ng klima mamamatay sila. Ang *climate change* ay napapalubha ng *Global Warming* o ang patuloy na pagtaas ng pangkalahatang temperatura ng daigdig.

Gamit ang mga kuwentong pambata, naniniwala ang mananaliksik sa kasabihan na kung ano ang itinuro sa bata ay bitbit niya hanggang sa kanyang pagtanda, kung kaya't mas mabuting ituro ng mas maaga ang pagbabasa ng mga maikling kuwentong pambata na makapagbubukas sa kanilang pang-unawa at kamalayan sa mga paksang tumatalakay sa mga panlipunang usapin at partikular sa pagbabago ng klima o *climate change*.

Ginabayan ng Ekokritisismo ang pagsusuri sa mga aklat pambata. Tinutukoy ng ganitong dulog sa pagsusuri ang “pag-aaral sa ugnayan ng kapaligiran at panitikan” (Dobrin at Kidd 2004,3) Nakatuon ang ganitong panunuring pampanitikan sa kalikasan. Dagdag pa, “aplikasyon ito ng mga konsepto sa ekolohiya sa pag-aaral ng panitikan” (Rueckert 1978, 107). May gabay na tanong sina Cheryl Glotfelty at Harold Fromm (1996) kaugnay sa Ekokritisismo. Ito rin ang ginamit na panukat ng mananaliksik kaugnay sa pagsusuri ng mga aklat pambata ukol sa kapaligiran.

Makakalikasan ba ang mga halagahan sa teksto? Paano sinisipat ng teksto ang kapaligiran? Paano nakakaimpluwensiya ang mga talinghaga sa lupa sa pagtrato natin dito? Ano ang namumutawing pananaw sa kalikasan? Paano ito nagbabago sa pagdaloy ng panahon? Tinalakay ba ng mga teksto ang napapanahong usaping pangkapaligiran?

Tinalakay rin ang Implikasyon ng Pagtuturo ng mga Kuwentong Pambata sa DepEd *Core Values*, Maka-Diyos, Makatao, Makakalikasan at Makabansa.

Susing salita: Kuwentong Pambata, Kuwentong Pangkalikasan, Maka-Diyos, Makatao,

Makakalikasan, Makabansa

PANIMULA

Malaking suliranin ang *climate change* dahil nakasalalay sa nakasanayang *pattern* ng klima ang maraming hayop at halaman. Ang paglihis ng klima mula sa nakasanayang *pattern* ng klima ay naitala daang taon na ang nakalipas simula ika-20 ng siglo. Kung hindi sila makaangkop sa bilis ng pagbabago ng klima mamamatay sila. Ang *climate change* ay napalulubha ng *Global Warming* o ang patuloy na pagtaas ng pangkalahatang temperatura ng daigdig. Nagkakaroon ng *global warming* dahil sa pagbunga sa atmospera ng mga *Green House Gas*. Sa kasalukuyan, ito ay isa sa pinakamalubhang suliraning kinahaharap hindi lamang ng ating bansa. Ang kasalukuyang *global warming*, *climate change* ay inabot na ang antas ng pagkasira ng kapaligiran at nag-ugat sa isang pandaigdigang sistema ng produksyon na ang layunin ay pagkamal ng tubo (profit-driven).

Mula sa nabanggit na kalagayan, tinangka ng mananaliksik na humanap ng solusyon kung papaano makatutulong upang ang malawakang problema ay mabigyan ng bahagyang solusyon. Isa ang pananaliksik sa pagtatangkang humanap ng mga solusyon sa problema, kung kayat ang nasa akademya ay patuloy na nagsasagawa ng pag-aaral. Sinasabi na kung ano ang itinuro sa bata ay bitbit niya hanggang sa kanyang pagtanda, kung kaya mas mabuting ituro ng mas maaga ang pagbabasa ng mga maikling kuwentong pambata na makapagbubukas sa kanilang pang-unawa at kamalayan sa mga paksang tumatalakay sa mga panlipunang usapin at partikular sa pagbabago ng klima o *climate change*.

Matagal na ang usapin patungkol sa *climate change* ngunit wala pa ring kalinawan sa kung paano ba ito ipaiintindi sa mga batang mag-aaral upang maging bukas ang kanilang kaisipan, bagamat may ilang aralin na pahapyaw na tinatalakay sa klase. Ayon kay Duque (2008), mahina pa ang kampanya sa pagpapalaganap ng mga impormasyon hinggil sa *climate change*.

Ang pokus ng pag-aaral na ito ay suriin ang mga maikling kuwentong pambata na tumatalakay sa *climate change*. Ang maikling kuwentong ay isang *universal* na kultura. Nagdudulot ito ng repleksyong mula sa tiyak tungo sa



pinakamataas na diwa upang maging makabuluhan ang karanasan ng sanlibutan. Nasabi nina Kraentel at Wallen (2003) na ang maikling kuwento ay nakapagdudulot ng mga pagbabago sa buhay. Ang mga aral, mensahe at tema ay naging gabay sa mga gawaing araw-araw at naging bukas sa anumang hamon sa buhay, naging batayan din sa pagdesisyon at nagsilbing repleksyon sa mabubuting tahakin sa buhay.

At dahil dito, ang pagsusuri at pagtuturo ng mga maikling kuwento na may kinalaman sa usaping *climate change* ang isa sa paraan upang maipakilala sa mga batang mag-aaral, sapagkat kung maagang mamumulat ang mga bata sa mga impormasyon hinggil sa usapin ng *climate change* ay malaki ang kasiguraduhan na maidala at maikintal nila ito sa kanilang isipan hanggang sa kanilang pagtanda. Ayon sa aklat na “*Book Smart: How to Develop and Support Successful, Motivated Readers*” nina Cunningham at Zibulsky (2013) isa pang kritikal na aspekto ng pagbabasa para sa mga bata ay ang pagkakaroon ng potensyal na mabago ang kanilang pag-iisip, pakikipag-ugnayan sa kapwa at maintindihan ang mundo. Inilahad din ang iba pang kaisipan tungkol sa pagkatuto ng mga bata sa pagbabasa na binigyang diin bilang *domino effect* sa kanyang pagbabasa na kung saan paunti-unting nalilinan ang kanyang pag-unawa sa bawat baitang sa elementarya.

Samakatuwid, tunay na malaki ang pangangailangan para sa paglalangkap ng kamalayang sa *climate change* na lalong higit na makatutulong ang mga maikling kuwentong pambata sa pagbubukas ng mahalagang kamalayan sa mga batang mag-aaral. Ang pananatiling buhay ng kalikasan ang tinutukoy na moral na obligasyon ng bawat Pilipino sa kaniyang kapuwa at sa susunod na henerasyon (Camacho 2004).

METODOLOHIYA

Ginabayan ng Ekokritisismo ang pagsusuri sa mga aklat pambata. Tinutukoy ng ganitong dulog sa pagsusuri ang “pag-aaral sa ugnayan ng kapaligiran at panitikan” (Dobrin at Kidd 2004,3) Nakatuon ang ganitong panunuring pampanitikan sa kalikasan. Dagdag pa, “aplikasyon ito ng mga konsepto sa ekolohiya sa pag-aaral ng panitikan” (Rueckert 1978, 107). May gabay na tanong sina Cheryl Glotfelty at Harold Fromm (1996) kaugnay sa Ekokritisismo. Ito rin ang ginamit na panukat ng mananaliksik kaugnay sa pagsusuri ng mga aklat pambata ukol sa kapaligiran.

Makakalikasan ba ang mga halagahan sa teksto? Paano sinisipat ng teksto ang kapaligiran? Paano nakakaimpluwensiya ang mga talinghaga sa lupa sa pagtrato natin dito? Ano ang namumutawing pananaw sa kalikasan? Paano ito nagbabago sa pagdaloy ng panahon? Tinalakay ba ng mga teksto ang napapanahong usaping pangkapaligiran?

Dagdag pa rito, naglatag din si Lawrence Buell kaugnay sa mga akdang makakalikasan:

The non human environment is present not merely as a framing device but as a presence that begins to suggest that human history is implicated in natural history. The human interest is not understood to be the only legitimate interest.

Human accountability to the environment is part of the text's ethical orientation.

Some sense of the environment as a process rather than as a constant or given is at least implicit in the text.

Nakatuon ang pag-aaral na ito sa nosyon na dapat turuan ang bata ukol sa kalikasan dahil May Kuwento ang Klima; May Klima ang Kuwento. Inilarawan ng mga kuwentong pambata na sinuri ng mananaliksik na dapat turuan ng leksyon ang bata sa paglapastangan at pag-abuso sa kalikasan. Nilayon ng mga kuwentong ito na ibahagi ang kapangyarihan ng kalikasan at ang katangian nitong maghiganti. Napagtitibay ang paniniwala sa ugnayang kabataan-kapaligiran.

ANG KUWENTONG PAMBATA

Ang kuwento pambata sa pangkalahatan ay nakatuon sa mga nasa walo o sampung taon gulang pababa o sa tinatawag na *beginning readers*. Anong klaseng mambabasa ang mga batang nagsisimulang magbasa? Sino ang “batang mambabasa”? Maaaring hindi pa sila nakapagbabasa nang mag-isa o nagsisimula pa lamang sila makakilala sa ugnayan ng mga titik at tunog ng mga salita. Maaaring nakauunawa na sila ng mga salita o pangungusap mula sa pakikinig sa wikang pasalita ngunit marami pang konsepto at kahulugan ang kailangan nilang maintindihan. Hindi ito nangangahulugang wala o kulang ang kakayahan nilang umunawa sa mga bagay na nararanasan nila. Mas angkop sabihing ang mga batang kabilang sa ganitong kategorya ay may natatangi at sarili nilang paraan ng pag-unawa. Wala pa silang sapat at lubos na kakayahan para maituring na *literate individuals*. Ayon kay Piaget, ang paraan ng pag-unawa ng mga bata sa ganitong edad ay maituturing na *animistic*. Sa unang mga taon ng paglaki ng bata, hanggang sa walo o sampung taon, ang bata ay maaari lamang magkaroon ng napakapersonal na pag-unawa sa mga bagay na kanyang nararanasan. Bilang mambabasa, maaaring kailangan pa nila ng matatanda para magbasa sa kanila. Mas mahilig silang makinig sa mga kuwentong binabasa sa kanila. Kahalili ng nasyonalismo ang ekolohiya sa panitikang pambata, ginagamit na simbolo ang Inang Kalikasan bilang katumbas ng Inang Bayan. Masisipat ang ganitong tumabasan sa Si Emang Engkantada at ang Tatlong Haragan at Si Inggolok at ang Planeta Pakaskas ni Rene O. Villanueva. Sa panitikang pangmatanda, ang punto-de-vista at itinatanghal bilang bida o bayani ay matatanda; sa panitikang pambata, bata ang itinatanghal na tagapagligtas at tagapangalaga ng daigdig.

ANG KUWENTO NG PAGBABAGO NG KLIMA

Bakit may tinatawag na *climate change* o pagbabago ng klima? Natural ba itong nagaganap sa kalikasan o may kontribusyon dito ang tao? O ang Sistema ng lipunan? Dapat alamin at unawain kung bakit nagaganap ang *climate change*. Ano-ano ang epekto ng *climate change* sa buhay ng tao, sa bansa, sa buong mundo? May magagawa ba tayo? May magagawa pa ba? May mga paraan, tulad ng tinatawag na *adaptation at mitigation*. Ang adaptation (o pakikibagay) ang kakayahan ng



isang sistema upang makibagay sa pabago-bagong panahon upang mapangasiwaan ang maaaring maidulot na pinsala, at kayanin ang anumang kahihinatnan ng pabago-bagong klima.

Ang *global warming* ay pagtindi ng init ng temperatura ng mundo kaysa karaniwan dahil sa mga aktibidad na kagagawan ng tao (anthropogenic), tulad ng pagdami ng pagbuga (emission) ng *greenhouse gas* (GHG) o yaong nakakulob na init sa mundo.

Ano ang *greenhouse gas*? Alamin muna natin kung ano ang *greenhouse*. Sa malamig na bansa, may tinatawag silang *greenhouse*, isang istruktura ito kung saan nakatanim ang mga halamang nangangailangan ng init upang tumubo. Palibhasa, malamig ang lugar nila kaya di basta tutubo ang halaman. kaya kinakailangan ng isang kulob na lugar, tulad ng *greenhouse*, para doon palakihin ang mga halaman, na pinapainitan nila upang lumago. Kumbaga, imbes na araw, artipisyal na init ang pinagagana nila rito. Ito ang *greenhouse*. Itinayo ito upang protektahan ang halaman sa tindi ng lamig o init, sa ipuipong alikabok (dust storms) at niyebe, at mailayo sa peste. Dapat tama ang timpla ng temperatura ng init, dahil pag sumobra ang init, tiyak na masisira ang mga halaman. Dito kinuha ang salitang *greenhouse effect*. Itinulad ang buong mundo sa *greenhouse* at ang init ng araw ang batayan ng *greenhouse effect*.

Syempre, may atmospera sa mundo na nagtitiyak ng balanse ng init ng araw. Nakadisenyo ang atmospera para maging lagusan ng tamang timpla ng init ng araw sa mundo. Kaya pag nabutas ang atmospera (o yung ozone layer), tiyak na iinit lalo ang mundo, dahil sa tindi ng radyasyon ng araw. Kumbaga, sobrang init kaya nakakasira ng natural na takbo ng klima.

Ang dahilan ng pagkabutas na ito ng atmospera ay ang tinatawag na *greenhouse gas* (GHG) mula sa aktibidad ng tao. Ang GHG ang gas sa atmospera na sumasagap at nagbibigay ng radyasyon. Nagmula ito sa transportasyon (13.5%), kuryente at init (24.6%), pagsusunog ng langis (9%), industriya (10.4%), mga tagas na emisyon (3.9%), prosesong industriyal (3.4%), pagbabago sa paggamit ng lupa (18.2%), at lupaing agrikultural (6%).

Ang batayang mga GHG sa atmospera ng mundo ay ang alimuom ng tubig (water vapor), carbon dioxide, methane, nitrous oxide, at ozone. Ayon sa agham, matindi ang epekto ng GHG sa temperatura ng mundo; dahil kung wala ito, ang ibabaw ng daigdig ay nasa 33 °C (59 °F) na mas malamig kaysa kasalukuyang temperatura. Di kakayanin ng mundo ang labis-labis na konsentrasyon ng GHG sa atmospera, kaya dapat tayong kumilos upang mabawasan ang GHG na ito.

Walang katulad sa kasaysayan ang bilis at tindi ng pagkasira ng kapaligiran nang pumasok ang daigdig sa yugto ng modernong kapitalismo. Sisirain nito ang natural na balanse ng kapaligiran. Titindi ang antagonistikong relasyon sa pagitan ng tao at kalikasan, gayundin, ng tao sa tao dahil sa pagkontrol ng iilan sa kalikasan at mga pakinabang dito. Ang pagkamal ng tubo ang siyang magiging dahilan ng paggamit sa kalikasan.

Ang maliliit na islang-nasyon at maraming komunidad sa Asya at Pasipiko ang dumadanas ngayon ng matinding epekto ng pagtaas ng tubig-dagat. Tataas pa ito lalo't sa pagtaya ng mga syentista ay magiging "ice-free" na o ganap na matutunaw na ang yelo ng Summer Artic sea sa pagitan ng mga taong 2015-2030.

Ang katumbas nito ay sea level rise ng hanggang 0.9 metro pagdating ng taong 2100 (datos ng IPCC). Tinatayang nasa pagitan ng 70-200 milyong katao ang maapektuhan ng matindi at malawakang pagbaha kapag inabot ang ganitong pagbaha kapag inabot ang ganitong lebel ng pagtaas ng tubig-dagat.

Ayon kay Holdren (2007) na ang sangkatauhan din lang ang siyang may kagagawan kung bakit naging malala ang sitwasyon at ito ay isang malaking panganib na nakaambang mangyari.

Ang paghabi ng maikling kuwento ay isang paraan ng pagsupil sa mga takot o pagkabahala ng tao sa kanyang kapaligiran at pag-unawa rito. Sa pamamagitan ng mga kuwentong pambata na sinuri ay maaring gamitin bilang kaagapay na kagamitang panturo sa mga mag-aaral upang maging mulat sa tinatawag na *climate change*, naniniwala ang mananaliksik na ang mga bagay na nagsimula sa maliit ay may malaking epekto.

Dagdag pa, "There is a sort of common-sense belief that children, or at least a young people, are way ahead of adults on environmental issues" (Coward 1996,355)

Ngunit bakit nga ba malapit sa bata at sa panitkang pambata ang usaping pangkalikasan? May dalawang namamayaning paniniwala sa ugnayang ito. Una, may nosyon na may pribilehiyong ugnayan ang bata sa kalikasan. Mangyari kasi'y tila natural ang koneksyon ng mga bata sa kalikasan. "The natural world makes intelligible the voice of God, we still feel that it is somehow "good for" children to get in touch with grass, tress, streams, ocean waves, tall mountains, and furry animals" (Rahn 1995,149-150).

Ikalawa nama'y ang nosyon na dapat turuan ang bata ukol sa kalikasan. Sang-ayon nga kina Dobrin at Kidd, "even if the child has a privileged relationship with nature, he or she must be educated into a deeper- or at least different- awareness" (2004,7). Sa pamamagitan ng edukasyon at oryentasyong makakalikasan sa mga bata, makukuha ang simpatya ng susunod na henerasyon. Magkakaroon ng kapangyarihan ang mga batang iyon sa kaniyang pagtanda- kapangyarihang makaboto at mapagpasya, kapangyarihang pinansyal, at kapangyarihang itaguyod at ipagtanggol ang kalikasan (Rahn 1995, 163-164).

UGNAYAN NG KUWENTONG PAMBATA AT KUWENTONG PANGKALIKASAN

Ang pagkakaroon ng magandang kalikasan ay biyaya ng Poong Maykapal, kung kaya dapat na ang tao ang siyang tagapangalaga at taga pag-ingat sa biyayang ito. Sa kuwentong Si Emang Engkantada inilawaran ang magandang bakuran ni Emang Engkantada, siya ay may pambihirang galing. Inilarawan ang bakuran na maraming prutas at gulay, maraming ibon at hayop, malinis ang hangin at tubig iyan ang paraiso na dati'y ipinagkaloo ng Poong Maykapal. Sa ngayon, malaki na ang ipinagbago ng ating mundong ginagalawan. Ang hindi mapigilang pagtaas ng populasyon ay nagdudulot ng maraming suliranin. Hindi na mabilang ang mga taong nagugutom. Marami ang walang tirahan. Kasabay pa nito ang kurasyon ng mga lider ng bansa na siyang dahilan ng pananalitang mahirap ang bansang Pilipinas. Bukod pa sa mga suliraning ito. Tila hindi na pansin



ang suliranin sa ating kapaligiran. Sa Pag-aaral ni Evasco (2007), maiuugat ang nangingibabaw na *environmentalism* sa panitikang pambata dulot ng magkapanabay na pagsusulong ng karapatang pambata at pangangalaga sa kapaligiran ng bansa noong mga huling taon ng dekada 1980.

Lumitaw na paraan ng paggalang at pagtupad sa karapatan ng mga bata ang paghahandog ng bansang may malinis na hangin, kabundukang may mga punong-kahoy, malinaw at rumaragasang ilog, asul na dagat, at mga halaman at hayop na kinagisanan ng mga naunang henerasyon.

Gumalaw bilang mga tauhan sa kuwento sina Pat Kalat bilang hari ng basura, kalat dito, tapon doon. Ito ang ugali niya. Si Pol Putol ay kaaway ng mga halaman. Putol dito, bunot doon. Ito ang libangan niya. Si Paz Waldas ay reyna ng aksaya. Aksaya sa tubig, waldas sa kuryente. Ito ang gawain niya. Ang pag-uugaling ipinakita ng mga bata sa kuwento ay kasalukyang naobserbahan sa mga pag-uugali ng ilang mga bata sa kasalukuyan, kung kaya't nararapat na ipaalala sa kanila na ang pagpapahalaga at pangangalaga sa kalikasan. Ayon nga kay Camacho, (2004), ang pagpapanatiling buhay ng kalikasan ang tinutukoy na moral na obligasyon ng bawat Pilipino sa kanilang kapuwa at sa susunod na henerasyon.

Mga salbahe ang imahen ng mga bata sa kuwento, kung kaya't galit na galit ang mga tao sa tatlong haragan. "Mga salbahe" "Wala na kayong ginawang mabuti!" Galit na galit ang mga tao sa tatlong haragan. At hinabol ng mga tao ang tatlong haragan. Nakarating ang tatlong haragan sa magandang bakuran ni Emang Engkantada.

"Ang sarap sirain," sabi ni Pol." Sige, sirain natin," sabi ni Pat. "Sirain natin nang todo," sabi ni Paz. Dumating si Emang Engkantada. Binawalan niya ang tatlong haragan. Tumawa lamang sila nang tumawa habang sinisira ang magandang bakuran. Nagalit si Emang Engkantada.

May dumating na malakas na hangin. Umikot ang malakas na hangin sa tatlong haragan. Nahilo ang tatlong haragan. Sa ganitong tagpo, nararapat na maipaliwanag ng guro ng epektibo ang maaring maging bunga ng mga di magandang pagkilos at pag-uugali ng mga bata. Higit na nagiging magaling at epektibo ang guro kung kasabay ng pagtuturo ang paghubog sa mga pagpapahalaga at wastong pag-uugali ng mga batang kanyang tinuturuan, mahalagang maikintal ang pagpapahalaga at kagandahang asal. Ang nosyon na dapat turuan ang bata ukol sa kalikasan. Sang-ayon nga kina Dobrin at Kidd. "even if the child has a privelegde relationship with nature, he or she must be educated into a deeper- or at least different- awareness" (2004,7) sa pamamagitan ng oryentasyong makakalikasan sa mga bata, makukuha ang simpatya ng susunod na henerasyon. Magkakaroon ng kapangyarihan ang mga batang iyon sa kaniyang pagtanda -kapangyarihang itaguyod at ipagtanggol ang kalikasan (Rahn 1195, 164-165).

Napunta si Pol sa isang lugar na puro buhangin. Walang halaman sa paligid at mainit ang sikat ng araw. Ang lugar ay parang isang disyerto. Naghanap ng puno si Pol para sumilong. Walang halaman sa paligid at mainit ang sikat ng araw. Ang lugar ay parang isang disyerto. Naghanap ng puno si Pol para sumilong.

Walang puno sa paligid. "Ganito pala pag walang halaman," sabi ni Pol.

Nauhaw si Pol at naghahanap ng tubig. Walang tubig sa paligid. "Ganito pala pag walang puno at tubig," sabi ni Pol. Gusto ko ng puno. Gusto ko ng tubig. Maawa na kayo," sabi ni Pol.

Napunta si Pat sa tambakan ng mga basura. Mabaho at madumi sa tamabakan ng mga basura. Marami ang langaw, ipis, at daga. Malaki ang langaw, ipis, at daga. Hinabol si Pat ng maraming langaw, ipis, at daga. Takot na takot si Pat. "Ganito pala pag masyadong marumi," sabi ni Pat. "Ayokong kainin ng daga. Ayokong magkasakit, "Iligtas ninyo ako," sabi ni Pat. Napunta si Paz sa isang madilim na siyudad. Puro usok sa siyudad. Payat na payat ang mga tao. Naghanap ng ilaw si Paz. Walang kuryente. Naghanap ng gripo si Paz. Walang tubig. "Mamamatay ako sa usok at dilim. Mamamatay ako pag walang ilaw at tubig. Maawa na kayo," sabi ni Paz. "Hindi na po ako magkakat," "Hindi na po ako maninira," sabi ni Pol. "Hindi na po ako mag-aaksaya," sabi ni Paz. "Maawa na po kayo, "sabi ng tatlong haragan. Naawa si Emang Engkantada sa tatlong haragan.

"Kailangang matutuo kayong maglinis. Kailangang matutuo kayong magtanim. Kailangang matuto kayong magtipid," Sabi ni Emang Engkantada sa tatlong haragan.

Kung minsan bunga ng padalos-dalos na gawa ng mga bata ay hindi napupuna ang kanilang mga maling gawa. Kadalasan sa mga kuwentong pambata malinaw na naipapakita at nabibigyan ng aral ang mga bata sa pamamagitan ng pagbibigay parusa ng isang engkantada upang bigyang ng aral ang mga maling gawa. Kailangan bigyan ng tuon ang pagpapahalaga at pagmamahal sa kalikasan sa pamamagitan ng pangangalaga at pagpapaunlad ng kaalaman sa kalikasan at ito'y nakasaad sa Preamble sa kontitusyon ng Pilipinas.

Malinaw na ipinakikita ang nais ipaunawa ng kuwentong pambata sa pamamagitan ni Emang Engkantada na nararapat na ituro ang mga pagpapahalagang binibigyan diin sa *core values* ng DepEd na Maka-Diyos, Makatao, Makakalikasan at Makabansa. Ayon nga kay (Quisimbing, 1994), "*Values education is a process by wich values, attitudes, and habits are formed as the learner with the environment under the guidance of a teacher. Education is not just limited to acquiring knowledge-based fact and ideas but also imbibing proper values since the heart of education is the education of the heart (Quisimbing, 2002). Quisimbing added that values education is a necessary component of a holistic citizenship education and added that it's not just merely teaching about values but involves a deeper understanding of these values and internalixing and putting it into actions.*

Matatandaang mahalaga sa progresibong kuwentong kalikasan para sa mga bata na itanghal ang batang tauhan bilang tagapangalaga ng kapaligiran at hindi bilang sanhi ng problema. Malagim ang mensahe ng kuwentong Si Inggolok at ang Planeta Pakaskas. Ito ang Planeta. Nakakain ang lahat sa Planeta Pakaskas. Ang mga bundok matamis na gulaman. Ang mga bahay ay gawa sa sapin-sapin. Ang mga ilog ay masarap na gata. Ang dagat ay matamis na tsokolate. Nguyamyam ang tawag sa mga nakatira sa Planeta Pakaskas. Mahilig kumain ang mga



Nguyamyam. Wala silang tigil sa kangunguya. Kinakain nila ang mga bundok. Kinakain nila ang mga bahay at kalsada. Iniinom nila ang mga ilog at dagat. Malapit nang maubos ang Planetang Pakaskas. Napansin ito ni Inggolok. Mga Kaibigang Nguyamyam tigilan na natin ang sobrang pagkain sa ating planeta, hindi naman ito nadadagdagan.” Maiuugnay agad sa bahaging ito ang sitwasyong pangkapaligiran sa bawat bansa: nawawala ang mga gubat, tinatapyas ang bundok, winawasak ang mga bakawan, naglalaho ang mga sapa at ilog. Iisipin ng mambabasa, paano pagyayamanin ang yaman ng kanilang pagkain? Walang pagkakataon para magtanim. Hindi ipinakita sa mga ilustrasyon na maaaring palaguin ang mga biyaya ng Pakaskas. Mangyari’y kahinaan ng kuwento na gawing pagkain ang paligid ng nilikhang daigdig na ito.

Ngunit walang nakinig kay Inggolok. Natakot si Inggolok. Mauubos na ang planeta. “Wala na tayong magagawa, kailangan na nating iwan ang ating tahanan. Bakit hindi ipinanukala ang pagtanim sa kanilang planeta imbes na iwan ito at hayaang maglaho? Kahinaan muli ang kalikasan. Mangyari ang pagkain ay mahalaga sa panitikang pambata at hindi dapat ginagawang problema. Sa Katunayan, “*it has been suggested that in classic children’s literature food replaces sex as principal source of excitement and sensual pleasure.*” (Lurie 2003, 176). Lilikha ng kalituhan sa mga batang mambabasa kung ang pagkain ba ay ikaliligaya o dapat na katakutan dahil magdudulot ito ng katapusan ng daigdig.

“Malungkot na sabi ni Inggolok sa kanyang mga anak. Lumipad sina Inggolok sa kalawakan. Pagsilip nila sa bintana, nalungkot sila sa kanilang nakita. “Kalahati na lang ang Planeta Pakaskas!” Sigaw ni Inggolok. Lumapag sila sa isang maliit na planeta. Kitang-kita nina Inggolok ang Planeta. Si Inggolok ay napaiyak nang maglaho ang Planeta Pakaskas. “Wala na ang Planeta. Nag-isip ng mabuti si Inggolo. “Ang planetang ito ay hindi mauubos tulad ng Planeta Pakaskas.” Sabi ni Inggolok sa kanyang mag-anak. “Ang planetang ito ay ating tahanan. Ang planetang ito ay ating alagaan. “Ang pangako ni Inggolok”. Mapapansin na lantarang pagkukulang ng nasabing aklat ay ang hindi pagbibigay espasyo para kumilos ang mamamayan.

Lantarang nangangaral ang mga nabanggit na akda. Marapat iwasan ang ganitong pamamaraan sa pagtataguyod ng kalikasan. Ayon nga kay Suzanne Rahn, “*a children’s book can communicate a loving respect for nature and wild creatures without an explicit “message” of the type common in environmentalist children’s books today*” (1995, 163). Dagdag pa ni Ernest Thompson Seton, higit na epektibo sa panghihikayat ang isang kuwento kaysa sa anumang lekturang makalikasan sipi kay Raphn 1995, 163). Ibang kaso kung nagiging lektura na ang mga kuwento ukol sa kalikasan tulad ng aklat na *The Gathering* na hindi nadiskaril ang daloy ng kuwento dulot ng mga siyentipikong pagpapaliwanag ukol sa sanhi at bunga ng mga problema sa paligid tulad ng pagmimina, pagtotroso, pagpaslang sa mga hayop, *siltation*, at pagkawasak ng mga korales. Sa madali’t sabi, malaking bitag sa mga kathang ito ang suliranin ng didaktismo. Pansinin ang wika ni Emang Engkantada sa tatlong bata, “Kailangang matuto kayong maglinis. “Kailangang matuto kayong magtanim.” “Kailangang matutong kayong magtipid”.

Sa Kuwentong Si Inggolok at ang Planeta. Ang planetang ito ay hindi mauubos tulad ng Planeta Pakaskas.” Sabi ni Inggolok sa kanyang mag-anak. “Ang planetang ito ay ating tahanan. Ang planetang ito ay ating alagaan. “Ang pangako ni Inggolok.” Kinokondisyon nito ang mambabasa na ang musmos na kamalayan ng mababasa na huwag nilang gagawin ang pagkakamali ng naunang henerasyon sa kanilang pagtanda, sa pagpapakita ng unti-unting pag-ubos ng planeta, direktang ipinakikita nito ang bunga ng pag abuso sa mga yamang ibinigay dakilang lumikha.

Dagdag pa rito ang tagpong, lumipad sina Inggolok sa kalawakan. Pagsilip nila sa bintana, nalungkot sila sa kanilang nakita. “Kalahati na lang ang Planeta Pakaskas!” Sigaw ni Inggolok. Lumapag sila sa isang maliit na planeta. Kitang-kita nina Inggolok ang Planeta. Si Inggolok ay napaiyak nang maglaho ang Planeta Pakaskas. “Wala na ang Planeta. Nag-isip ng mabuti si Inggolo. Bakit kailangan pang ipakita na kalahati na lang ang Planeta Pakaskas? Kailangan pa bang may mawala bago kumilos ang tao? Kailangan pa ba ng kalamidad bago makilala ang kapangyarihan ng Inang Kalikasan? Sa ganitong talakay, mapapansin ang didaktibong udyok ni Villanueva sa pagsulat ng naturang katha. At dahil sa didaktibong teknik sa pagkatha, hindi ring maiwasan ang tonong matanda na nananakot sa isang bata. Pananakot ito dulot ng kapangyarihan ng mga matanda batay sa edad, karanasan, at kaalman sa daigdig. Pinagsanib na siyentipiko at moral na awtoridad kung bakit inilalarawan ng may-akda sa mga batang mambabasa ang posibleng maging sanhi ng kapabayaang sa mga likas-yaman.

Bilang sentro ng pagtuturo, ang tao ay maraming dimension. Siya ay isang aktibong indibidwal na nakikiag-ugnayan sa kanyang sarili, sa kanyang kapuwa at sa kanyang pamayanan. Binigyang-diin sa nerebisang “Values Education Framework” ng DepEd bilang batayan sa pagtuturo ng pagpapahalaga noong 1987 na hindi lamang ang mga pangunahing pagpapahalaga ng nakasaad sa saligang batas, kundi maging ang mga pagpapahalagang kinakailangan ng ating bansa sa kasalukuyan gaya ng pagmamahal sa bayan, pagkamagiting o pagkabayani, kamalayang pang-sibiko at aktibong partisipasyon, sinserong pamumuno, at pagkakaisa. Ang usapin sa kuwentong pambata ay usaping pangdaigdig, ang suliranin sa labis na pag-abuso sa mga likas na yaman kung kayat unti-unting nauubos dahil sa labis na kapabayaang at pagiging iresponsable ng mga tao.

IMPLIKASYON NG PAGTUTURO NG MGA KUWENTONG PAMBATA SA DEPED CORE VALUES

Ang edukasyon sa pagpapakatao ay isang asignaturang napakahalaga upang gabayan ang bawat mag-aaral na magpasya at kumilos ng may pananagutan tungo sa kabutihang panlahat. May kasabihan na “Madaling maging tao, mahirap magpakatao.” Ang mga hamon ng edukasyon sa mga batang mag-aaral ay ang makapagpasya at kumilos nang may pananagutan tungo sa kabutihang panlahat. Magabayan ang mga mag-aaral na matutuhan ang kabuluhan ng kanyang buhay, ang papel niya sa



pamilya at sa lipunan upang makibahagi siya sa pamayanang pinaiiral ang katotohanan, kalayaan, katarungan at pagmamahal.

Maipapakita ang pagpapahalaga sa mga kuwentong pambata sa pamamagitan ng pag-uugnay sa mga itinuturo sa bata sa pamamagitan ng impak nito sa kanila. Nakapaloob ito sa *Core Values* o mahalagang pag-uugali.

Maka-Diyos- Ang pangangalaga sa mga biyaya ng Diyos ang siyang higit na pagpapahalaga na dapat maipamulat sa mga bata. Ang pag-unawa sa konsepto at gawang nagpapakita ng pananagutang pansarili, pagmamahal sa kapwa, kalikasan, sa bansa at sa Diyos tungo sa maayos at masayang pamumuhay. Ayon sa Pilosopiya ni Aristotle, ang mabuting buhay o “good life” na may kasanib na panloob na kaayusan. Aniya, ang tunay na kaligayahan ay ang pagkakaroon ng kapayapaan na nagmumula sa panloob na kaayusan at mula sa katamtaman (moderation) hindi sa makamundong kasiyahan (earthly desires). Tinutumbok ng mga kuwentong pambata ang pagpapaalala na ang anumang nasa paligid natin, mga kasaganaan na mula sa likas yaman ay biyaya ng Poong Maykapal, kung kaya’t dapat na maituro sa bata na pahalagahan, ingatan at pagyamanin pa ito, huwag hayaang patuloy na maubos, masira dahil sa kapabayaan at labis na pag-abuso sa mga ito dahil sa kasakiman ng tao. Dagdag pa ni Aristotle, para sa kanya, ang mabuti, makatarungan at tamang buhay ay “isang mabuting buhay”, kung saan mayroon kang kapayapaan ng isip na dulot ng pagkakroon mo ng isang mabuting buhay.

Makatao- Ang mga kuwentong pambata na sinuri ay nagpalutang ng mga kaisipang ang nagpapabuti sa tao ay ang pagtataglay at ang pagsasabuhay ng mga mabuting gawi kapag siyay nakaranas nang balik ng kalikasan. Nakapaloob sa pilosopiya ni Plato, na nararapat ipagpatuloy ang mabuti at tama batay sa ganap at hindi tiyak o pabago-bagong pagpapahalaga. Halimbawa, ang katanungan ay tumutukoy sa anumang mabuti para sa buong lipunan at mabuti rin sa indibidwal. Ang katarungan, aniya, ay panloob na kaayusang masasalamatin sa isang mabuting buhay. Ayon kay Sarte, ang tao ay walang mga tiyak na pantaong kalikasan o “human nature” kaya’t wala rin itong likas na pagpapahalaga. Sa puntong ito lalo’t higit na tunguhin ng pag-aaral na ito na mahalagang maituro sa mga bata ang kanilang magagawa upang ang *climate change* o suliranin sa *global warming* ay unti-unting maituro upang maging malay sa epekto nito lalo’t higit pa sa susunod na henerasyon. Una munang namumuhay ang tao at sa pamamagitan ng mga karanasan sa pagpili at pagdesisyon, gumagawa siya ng kanyang kalikasan sa pagpapahalaga.

Makalikasan -Ang mga kuwentong sinuri ay patungkol sa kalikasan. Malaki ang paniniwala ng mananaliksik na sa pamamagitan ng pagmulat, pagtuturo sa mga bata gamit ang mga kuwentong pambata hinggil sa kung ano ang epekto ng *climate change* at *global warming* sa ating bansa at sa buong daigdig, ay unti-unting magiging ganap ang pag-unawa sa kung bakit dapat may kamalayan ang mga bata sa usaping pangkapaligiran. Dahil ang usaping *climate change* at *global waring* ay usapin at problema hindi lang sa ating bansa maging sa buong daigdig, mga suliraning kapag hindi nahanapan ng solusyon ay maaaring maglaho ang lahat ng mga bagy sa ipinagkaloob ng dakilang

Maykapal. Ayon kay Hobbes ang tao ay likas na masama at makasarili at kailangan ng mahigpit na pagbabantay dito sa kanyang pakikipamuhay sa lipunan. Sinalungat naman ito ni Rousseau sa kanyang pilosopiya, sa palagay niya, ang tao ay isinilang na mabuti at ang pagiging masama ay nagmumula sa pag-unlad ng mga lipunan. Kung kaya’t nararapat na maituro ang mga wastong pagpapahalaga sa mga bata, dahil kung ano ang kanilang kinamulatan sa pagkabata ay dala-dala nila sa kanilang pagtanda.

Makabansa- Ang Kuwentong Si Inggolok at ang Planeta Pakaskas ay inihalintulad ng mananaliksik sa bansang Pilipinas. Ang lahat ng likas-yamang nasa loob nito ay unti-unting nauubos dahil sa kagustuhan ng mga tao para sa sariling kapakanan halimbawa, ang pagbebenta ng mga likas na yaman. Kung kaya’t sa pamamagitan ng mga kuwentong pambata matatalakay ang mga bunga ng kapabayaan at pag-abuso sa mga likas na yaman. Mahalaga na maituro sa mga bata ang pagmamahal sa pag-aari ng bansa, at mahalagang maituro na anumang aksyon ang kanilang gagawin ay may kahihinatnan masama man o mabuti. Sa Utilitarianismo may paniniwalang ang kabutihan ng mga gawa ay dapat mataya sa kanilang kahinaan o ibubunga. Ang mga gawa, ayon dito ay maaring magdulot ng kapakinabangan o pagkasira o maaari naming parehong may pagkasira at pakinabang. Tulad ng nangyari sa kuwentong Si Inggolok at ang Planeta Pakaskas, nagpapakita ito ng katulad sa pilosopiya ni Bentham na ang kapakinabangan o pagkasira ng isang bagay, gawa o pangyayari ay matataya kung gaano kasakit o kainam ang dulot nito.

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ROLE AND PERFORMANCE OF PUBLIC DISTRIBUTION SYSTEM ON HOUSEHOLD FOOD CONSUMPTION IN ODISHA, INDIA

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ABSTRACT

The Public Distribution System (PDS) in India is the largest distribution network in the world. Odisha is one of the most backward states in India where the food security status of most of the households are appalling. The present study attempted to examine the association between household quantity consumption of food items from PDS and Non-PDS sources by using the data of National Sample Survey Organization (NSSO). It has been shown that there is a significant difference in quantity consumption between PDS and non-PDS sources of food items, while the household consumption of food grains from non-PDS sources is higher than the PDS sources. On the other side the PDS systems have a positive impact on household food consumption. But still, complete food security has not been provided to the beneficiary's families as they were more dependent on non-PDS sources. In this study the rural households were found to have a major share in PDS consumption of rice which was about 54.4% where as urban sectors share which was about 17.9% only. On the other hand, lower Monthly Per Capita Consumption expenditure (MPCE) households have the highest average quantity consumption of PDS sources and the quantity of consumption has been declining with the increase of the households MPCE.

KEYWORDS: PDS, Non-PDS, Household Food Consumption, Odisha.

1. INTRODUCTION

The Public Distribution System (PDS) in India is the largest distribution network in the world. The PDS was introduced during the Second World War as a measure of public rationing in wartime. Before the 1960s, distribution through the PDS was generally dependent on food imports. The system was expanded in the 1960s due to the current food shortages. Subsequently, the Indian government established the Agricultural Price Commission and the Food Corporation of India to improve the domestic food supply and to maintain the buffer stock for PDS. The PDS had become a universal subsidized food distribution system in 19970s. In the 1990s, the program was revised to improve access to food for people in hilly, remote, and inaccessible areas where a significant portion of the poor lived. A restructured Targeted Public Distribution System (TPDS) was launched in 1997, under which households were classified as Above Poverty Line (APL) or Below Poverty Line (BPL), based on the economic status of householders. While BPL households have continued to receive subsidized foodgrains through TPDS, the subsidies for APL households have gradually been phased out. The Government of India also introduced the Antyodaya Anna Yojana (AAY) in December 2000 to provide highly subsidized food to millions of the poorest families, and the Annapurna Yojna in 2001 for those persons not enlisted for the National Old Age Pension Scheme (NOAPS) who are entitled to receive 10 kg of foodgrains (6 kg of wheat + 4 kg of rice) per month free of cost as a Food Security measure. Eligible households are given a ration card that entitled them to buy fixed rations of selected commodities.

The products are offered through a network of shops at a fair price (FPS). The main products distributed via FPS are wheat, rice, sugar, and kerosene, which are supplied to rural and urban populations. Surpluses of foodgrains generated by increasing crop yields are also managed through the Food Corporation of India (FCI), which was established under the Food Corporation Act 1964. The FCI procures foodgrains under its minimum support prices (MSP) systems and levy schemes, and stores, preserves and maintains PDS food stocks, while supplying foodgrains to the States/Union Territories, by the broad national policy on food security. The PDS can therefore be regarded as one of the most important and stable elements of food policy, in India's fight against hunger and poverty. The main objectives of the PDS system are threefold: (a) to provide foodgrains to the poor at affordable prices; (b) to support farmers by purchasing foodgrain stocks from them at reasonable prices, and (c) to maintain national food security by holding stockpiles of food grains for the future.

Odisha is one of the most backward states in the country where the food security status of the people, especially Scheduled Tribes (ST) and Scheduled Castes (SC) are appalling. There are 45 percent of the geographical area of Odisha has been declared as a scheduled area. According to the report of the Planning Commission (2008), the incidence of poverty among ST and SC was 46.4 percent compared to 27.5 percent of the national population of ST, SC are poor in both rural and urban areas. However official poverty line figures, 17.29% of the urban population and 35.69% of the rural



population were poor in 2011-12 (Planning Commission, 2013).

The India State Hunger Index, 2008, reports that Odisha is suffering from "alarming" levels of hunger (Menon et al., 2009). High levels of food insecurity are manifested in the form of higher mortality and malnutrition, particularly among ST and SC people. Against the overall 43 percent of the children being highly underweight in the state, the share of the ST and SC was found to be much at 59 percent and 59.4 percent respectively (World Food Program & Institute for Human Development, 2008). In rural areas, the incidence of poverty among STs was the highest in Odisha was 46.4 percent. As per the Planning Commission of Government of India, 32.6 percent of the population lives BPL line in Odisha and 52 percent population of the state were dependent on the PDS for rice consumption (Planning Commission 2011-12). The per capita income in Odisha is one of the lowest among 17 major states (Food Security Atlas of Rural Odisha, 2008). Besides all these food insecurities, Odisha is facing chronic poverty and the state has been placed in the category of the "severely food insecure" regions. For this reason, the PDS was set up to provide the poor and vulnerable parts of society with certain essential products for daily use at subsidized prices. This system, in turn, will stabilize the market price of various essential goods, the availability of food crops and distributive justice.

2. LITERATURE REVIEW

The present paper associated with some important article and government reports. Following are some important and relevant studies have been reviewed in this regard. Some of the study has been found that PDS has a positive impact in Bihar, Tamilnadu, Maharashtra and Andhra Pradesh i.e (Kumar et al. 2016, Arora 2013, Chandanshiv 2013, Jha 2013, Sawant 2013). In the same way in Odisha, there has been seen significant improvement in the implementation of the PDS between 2004 and 2010 (Khera 2011b; 2011c). But the people Odisha still they are facing food insecurity and malnutrition due to less attention to conduct quality research in the field of food security. Kumar et al. (2015) documented the success of the PDS to tackle the double problem of poverty and malnutrition. However, there has been a positive and significant impact of PDS on food security and nutritional intake (Kumar et al., 2012; 2017). In the same way in Odisha, there has been seen significant improvement in the implementation of the PDS between 2004 and 2010 (Khera 2011b; 2011c). The PDS system is having a significant impact on malnutrition in India by household per capita consumption of calories and proteins, where the efficiency has a different effect on different regions in the country (Jha et al., 2010). In another comparative study on PDS by the same authors (Jha et al., 2013) based on factors such as food subsidies, income transfer, and poor participation, the program was not targeted and the poor benefited from subsidies. Radhakrishna et al. (1997) noted that the PDS welfare gains in income transfer were very low and that the impact on poverty and nutrition was also low. The ineffectiveness of PDS is existing due to the corruptions are occurring in the black market (Jha and Ramaswami, 2010). Ahluwalia (1993) investigated PDS issues that revealed that about one-third of the food grains and sugar and more than half

of the edible oil that feeds the PDS are exiting the program. Parappurathu et al. (2015) showed that the households with access to PDS have a greater dietary diversity score. FPS's are the most easily available source of food grains, especially for rural beneficiaries (Balasubramanian, 2015). The impact of the PDS and the elasticity of income transfers do not correspond to the amount of money transferred to non-food items (Dreze 2010, Khera 2011a). There is a positive impact on food security on population, where government expenditure on rural development maintains as a macro variable (Applanaidua et al. 2014). The National Food Security Act (2013) focuses primarily on ensuring food security through the expansion of PDS. However, to what extent this would lead to food security depends on how families respond to the availability of cheap grain. For instance, families that depend on PDS for buying cheap cereals save money to buy other nutritious foods like milk, fruit, nuts, and perhaps eggs and meat (Bhargava, 2014). This should significantly improve the income diversification opportunities of rural households by an optimum combination of interventions to enhance food security Abafita and Kim (2014). Rahman (2016) has found that the calorie intake and food security have improved by PDS through food subsidies and the PDS system has a positive impact on households' nutritional intake. The availability of food followed by the food accessibility a study has been done in rural household's food security of 20 regions from Africa and Asea (Bashir and Schilizzi, 2013). Prosekov and Ivanova (2018) have studied that hunger does not occur as a consequence of food grain limitation but due to the scarcity of income sources of households in most of the developing countries making food products inaccessible for a large number of households.

3. HYPOTHESES OF THE STUDY

1. There is no significant difference in quantity consumption between PDS and Non-PDS sources.
2. There is no significant association between PDS and household food consumption.

4. METHODOLOGY

In this study, the data has been used of household consumer expenditure surveys corresponding to household quantity consumption in which improved governance and expansion of the PDS could be adequately captured. The data has been used from the level and pattern of consumer expenditure of Odisha based on state sample data of the 68th round conducted by the National Sample Survey Organisation (NSSO). The household data is based on quantity consumed of PDS items, quantity consumption from other than PDS, and consumer expenditure values on sources of food items which has been taken from the NSSO survey data under the 68th round covering in the year 2011-2012.

4.1 Methods Used

In this paper we have used independent t test and linear regression to determine the impact of PDS items on household food consumption. The independent t test has been used to know the contribution of PDS sources and Non-PDS sources to total household consumption. In this test dependent variables are quantity consumption of food items such as quantity from



PDS and quantity from another source. Secondly, a linear regression model has been run to test the significance level between PDS items and households overall food consumption. In this model-independent variable are the sources of the quantity of food consumption while the dependent variable is the total quantity consumption of foods. Based on the above explanation we have specified the following equation as:

$$TQC = \alpha + \beta_1 PDS_BPL/AAY + \beta_2 OTHER_PDS + \beta_3 NON_PD + UI$$

Where,

TQC = Total Household Quantity Consumption of food grains
PDS_BPL/AAY = Quantity Consumption by BPL/AAY Card Holder Only

OTHER_PDS = Quantity Consumption by other PDS Beneficiaries

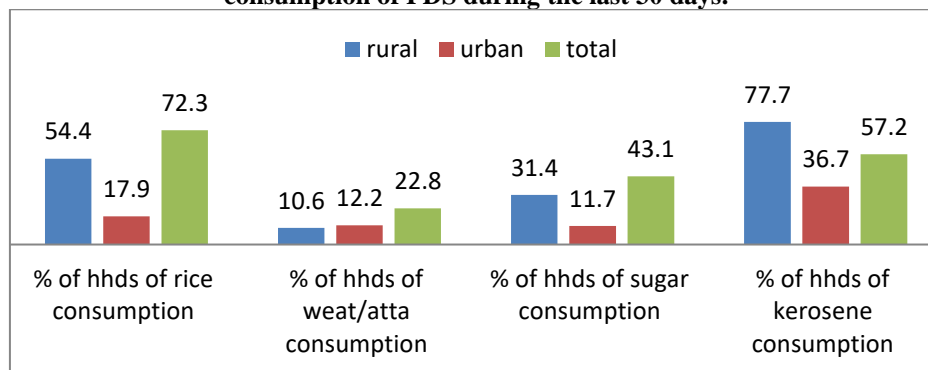
NON_PDS = Quantity Consumption from Non_PDS Sources

5. RESULTS AND DISCUSSION

5.1 Descriptive Statistics

Odisha is one of the predominant states of India in rice consumption (Figure No. 1). The percentage of PDS rice consumption of households in 2011-2012 was about 54.4% in the rural sector and about 17.9% in the urban sector. The PDS items consumption percentage in all items in the rural sector has consumed more as compare to the urban sector. Kerosene and rice have been consumed in the highest percentage of households in the rural sector of Odisha. As per this data, the rice consumption in both rural and urban sectors in Odisha is highest as compared to wheat/atta consumption.

Figure 1: Rural and urban household's difference in the percentage of share in rice, wheat/atta, sugar, and kerosene consumption of PDS during the last 30 days.

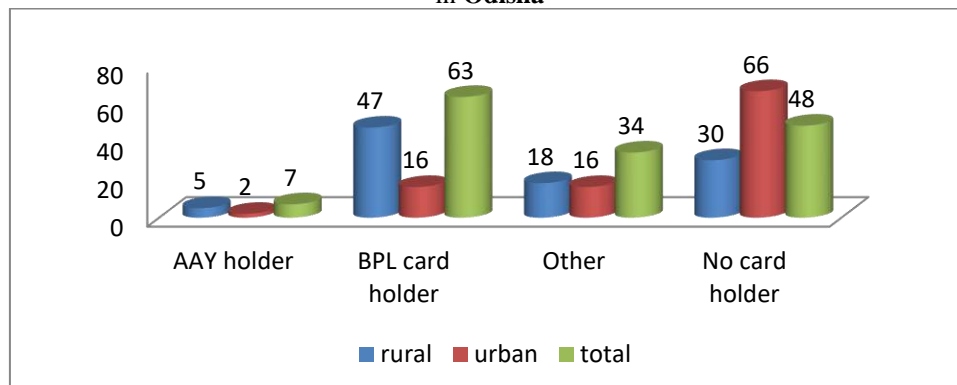


Sources: NSSO report 68 round 2011-12

In the rural area, ration card possession is higher as compared to an urban area (Figure No. 2). Around 47% of households possess BPL ration cards in the rural sector Odisha which is higher than in the urban sector, BPL households have possessed the highest number of PDS ration cards (63%) as compared to other beneficiaries. The lowest ration card holders are AAY, where only 7% of households have possessed the AAY PDS

ration card. Out of 7% of AAY cardholders, 5% of households are from the rural sector and only 2% have possessed in the urban sector. There are about 34% of households are other PDS beneficiaries. As per, this report there are about 48% of households have no ration card out of which 66% in the urban sector and 30% in the rural sector of households.

Figure 2: Percentage distribution of households in a different type of ration card possessed in both rural and urban sector in Odisha



Sources: NSSO report 68 round 2011-12

**Table 1: Per 1000 distribution of rural households of different social groups by type of ration card possessed in Rural Odisha**

Social Group	AAV	BPL	Other	No. ration card	All
ST	46	598	76	281	1000
SC	59	539	151	251	1000
OBC	58	412	205	325	1000
Others	52	319	298	331	1000
All Odisha	54	469	177	300	1000

Sources: NSSO report 68 round 2011-12

Table 2: Monthly household consumption of rice, wheat/attack and sugar from PDS and Other Sources in the study area of Odisha

Deciles class of MPCE	Quantity Consumed (0.00Kg)			
	BPL/AAV	Other PDS Households	From Other Sources	Total Consumption
1	22.3	2.28	29.52	54.1
2	27.57	1.29	32.27	61.12
3	20.54	3.03	31.9	55.48
4	18.53	1.61	36.14	56.29
5	15.94	1.7	43.19	60.82
6	17.47	1.36	38.62	57.46
7	12.89	1.08	37.65	51.62
8	9.04	1.77	41.47	52.29
9	9.91	0.82	40.41	51.13
10	6.08	0.32	41.22	47.64
11	5	0.41	40.22	45.62
12	1.51	0.46	35.15	37.12

Sources: State sample data of 68th round NSSO (2011-12), Odisha

In rural Odisha, the entire social group has possessed low Antyodaya ration card which is on 54 (5.4%) out of 1000 sample households (Table No.1). There was the highest number of BPL card holders out of 1000 sample households in Odisha which is 59.8% ST, 53.9% SC, and 41.2% OBC, wherein all Odisha there was 46.9% BPL households out of 1000 sample households. There were only 30% of households have not possessed ration cards according to this data. There were about 33% other categories households have no ration card out of 1000 sample households, where 32% BPL cardholders, 30% other cardholders and only 5% are AAY cardholders.

As per above Table No.2 average monthly household quantity consumption of rice, wheat/attack, and sugar from PDS and other sources in both rural and urban sector of Odisha has classified according to their monthly per capita consumption expenditure (MPCE). The MPCE of this table has arranged in deciles classes by the NSSO report. According to this report the household total quantity consumption has derived from both PDS source and other sources. From the PDS sources, BPL/AAV households are attributing the highest quantity to total quantity consumption as compare to other PDS households. But maximum households are more dependent on other sources for food quantity consumption as compare to PDS sources. As per this MPCE deciles class, lower MPCE households have the highest average quantity consumption of PDS sources and the quantity of consumption has been

declining with the increase of the households MPCE. On the other hand, the quantity consumption of Non-PDS sources has increased with the increase in household MPCE.

5.2 Econometric Analysis

However, as per the result of regression analysis, there is a positive association between total quantity consumption and the sources of food items that are attributing to total quantity consumption (Table No-3). As per the R square, the independent variables are 96% explaining to the outcome variable and the f test p value 0.000 which indicate that the data is fit well for this model. Out of these three variables, the quantity consumption from PDS (BPL/AAV) and quantity consumption from other sources are significantly affecting total quantity consumption, whereas the p-value of other PDS households are not significantly influencing total quantity consumption. As the result we can conclude that the PDS systems have a positive impact on household food security. Yet, complete food security has not been provided as they are more dependent on non-PDS sources.

We also estimated the independent t test to show the difference between PDS and non-PDS food sources. There are significant differences in quantity consumption between PDS and non-PDS sources of food items which influencing total quantity consumption; the households are more consuming from other sources as compare to PDS sources.

**Table 3: Role of PDS on Households Food Consumption as compared to Non-PDS Sources**

Total_Quant_Con	Coef.	St.Err.	t-value	p-value	Sig
BPL_AAY_hh	.167	.017	9.59	0	***
Other_PDS_hh	.015	.021	0.73	.487	
Con_Other_Sources	.311	.083	3.74	.006	***
R-squared 0.966, F-test 75.970***, Number of Observation 12 P value 0.000					

*** $p < .01$, ** $p < .05$, * $p < .1$

Sources: Authors' estimates

As per the Table No-4, the mean value of PDS sources is only 15, where the mean value of other sources is 37 and the difference between the mean values of these two variables is 22, where the combined mean value is 26.

Table 4: Quantity Consumption of food grains from PDS and Non-PDS Sources

	Obs PDS	Obs Non-PDS	Mean PDS	Mean Non-PDS	dif	St Err	t value	p value
Qunt_Con Food	12	12	15.243	37.313	-22.07	2.732	-8.1	0

Sources: Authors' estimates

6. POLICY SUGGESTIONS AND RECOMMENDATIONS

- In Odisha, most of the PDS beneficiary households are not using kerosene to prepare their food. So kerosene should be excluded from the PDS items and it should be replaced by other food items in order to improve the household's food security.
- The higher MPCE households are not consuming the PDS items as they are selling the PDS items to others. Therefore the government should take the right decision to eliminate such higher MPCE households group as per their income, expenditure, and other socioeconomic status.
- In Odisha, most of the people are consuming rice, so the quantity of rice should be increased and there more food items like pulses and cereals should be included as like in other states such as West Bengal, Sikkim, and Haryana to improve the household's food security.

7. CONCLUSIONS

In this paper attempted to analyze how the PDS has served the quantity consumption of food grains in rural and urban areas according to the ration card possessed by different social groups in Odisha. We also described the household quantity consumption and its percentage of household share in rice, wheat/atta, and sugar consumption of PDS during the last 30 days and type of ration card, and their average quantity and value of average monthly household's consumption of PDS items. We have used an independent t-test and linear regression analysis to explain the outcome of this study. As the result it has been shown that there is a significant difference in quantity consumption between PDS and non-PDS sources of food items, while the household consumption of food grains from non-PDS sources is higher than the PDS sources. On the other side the

PDS systems have a positive impact on household food consumption. But still, complete food consumption has not been provided as they were more dependent on non-PDS sources. The percentage of PDS consumption in the rural area is higher than the urban area, in 2011-2012 about 54.4% in the rural sector were consumed the PDS rice, where only 17.9% in the urban sector. Even in ration card possession rural area is higher as compared to urban area. Around 47% of households possess BPL ration cards in the rural sector of Odisha which is higher than in the urban sector. Only 5% of households are possessing Antyodaya ration cards in the rural sector and 2% in the urban sector. As per the NSSO report of 68th round 2011-12, the highest percentage of no cardholders exist in the urban sector i.e. 66% of households. The study is concluding with above the result that the household food consumption positively influenced by the PDS items but still it has not been provided full food security as most of the households are more dependent on non-PDS sources.

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THE REVOLT OF 1857 REASONS OF GENESIS: A STUDY

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ABSTRACT

The Revolt of 1857, also regarded as India's First War of Independence is an extremely important event of Indian history. In this research paper, we have summarized the causes, impact, importance, and outcomes of the revolt. The Revolt of 1857 was a prolonged period of armed uprising as well as rebellions in Northern and Central India against British occupation of that part of the subcontinent. Small precursors of brewing discontent involving incidences of arson in cantonment areas began to manifest themselves in January Later, a large-scale rebellion broke out in May and turned into what may be called a full-fledged war in the affected region. This war brought about the end of the British East India Company's rule in India, and led to the direct rule by the British Government (British Raj) of much of the Indian Subcontinent for the next 90 years. The Indian Mutiny of 1857-59 was a widespread but unsuccessful rebellion against the rule of British East India Company in India which functioned as a sovereign power on behalf of the British crown.

KEYWORDS-*Impoverishment, Ryotwari Settlement, Military Grievances, Subcontinent Patronage, Christian missionaries etc.*

INTRODUCTION

By the first half of the 19th century, the East India Company had brought major portions of India under its control, but still it had two purposes or aims : (i) To sustain its conquests and (ii) To exploit in the trade . To fulfill these aims, there was no limit of company's betrayal and avarice. Before 1857 A.D. many of the native dominations were annexed to the British Empire forcibly. The British Government was sucking the blood of both, the rulers and the people. Everywhere the revolts were taking place against British East India Company's rule. It was very easy to conquer the new territories but it was very difficult to keep those territories under the control of British East India Company. The East India Company's rule from 1757 to 1857 had generated a lot of discontent among the different sections of the Indian people against the British. The end of the Mughal rule gave a psychological blow to the Muslims many of whom had enjoyed position and patronage under the Mughal and other provincial Muslim rulers. The commercial policy of the company brought ruin to the artisans and craftsman, while the divergent land revenue policy adopted by the Company in different regions, especially the permanent settlement in the North and the Ryotwari settlement in the south put the peasants on the road of impoverishment and misery.

The Revolt

- It was the first expression of organised resistance against the British East India Company
- It began as a revolt of the sepoys of the British East India Company's army but eventually secured the participation of the masses.
- The revolt is known by several names: the Sepoy Mutiny (by the British Historians), the Indian Mutiny, the Great Rebellion (by the Indian Historians), the Revolt of

1857, the Indian Insurrection, and the First War of Independence (by Vinayak Damodar Savarkar).

Causes of 1857 Revolt

The issue of greased cartridges and military grievances has been over-emphasized, as the factor for the Revolt of 1857. However, recent researches have proved that the cartridge was not the only cause for this revolt. In fact, multiple causes i.e., social-religious-political- economic worked together to produce the rebellion.

Social and Religious Causes: The British had abandoned its policy of non-interference in the socio-religious life of the Indians. Abolition of Sati (1829), Hindu Widow Remarriage Act (1856). Christian missionaries were allowed to enter India and carry on with their mission of proselytizing. The Religious Disabilities Act of 1850 modified the traditional Hindu law. According to it, the change in religion would not debar a son from inheriting the property of his heathen father.

Economic Causes: British rule led to the breakdown of the village self-sufficiency, commercialization of agriculture which burdened the peasantry, adoption of free trade imperialism from 1800, de-industrialization, and drain of wealth all of which led to the overall decline of the economy.

Military Grievances: The extension of British dominion in India had adversely affected the service condition of the Sepoys. They were required to serve in an area away from their homes without the payment of extra Bhatta. An important cause of Military discontent was the General Service Enlistment Act, 1856, which made it compulsory for the sepoys to cross the seas, whenever required. The Post Office Act of 1854 withdrew the free postage facility for them.



Political Causes: The last major extension of the British Indian territory took place during the time of Dalhousie. Dalhousie announced in 1849, that the successor of Bahadur Shah II would have to leave the Red Fort. The annexation of Baghat and Udaipur was, however, cancelled and they were restored to their ruling houses. When Dalhousie wanted to apply the Doctrine of Lapse to Karauli (Rajputana), he was overruled by the court of Directors.

Causes of Failure

- Some of the local rulers like Scindia of Gwalior, the Holkar of Indore, the Nizam of Hyderabad, the Raja of Jodhpur, the Nawab of Bhopal, the rulers of Patiala, Sindh, and Kashmir, and the Rana of Nepal provided active support to the British.
- The military equipment of the rebels was inferior. Comparative lack of efficient leadership.
- The modern intelligent Indians also didn't support the cause.

Impact of the Revolt

- The revolt was mainly feudal in character carrying with it some nationalist elements.
- The control of Indian administration was passed on to the British Crown by the Government of India Act, 1858.
- The army was carefully reorganized to prevent the recurrence of such an event.
- The Revolt of 1857 was an extremely important event in Indian history. It was merely a product of Sepoy but was accumulated grievances of the people against the Company's administration and of their dislike for the foreign regime.

Outbreak of The Revolt Of 1857: In Barrackpur, On 29th March, the soldiers of 34th Native Infantry refused to use the greased cartridges and a sepoy named Mangal Pandey broke the lines and fired at Lieutenant Baugh. Mangal Pandey was arrested and executed. At Behrampur, which also had disobeyed the authorities were disbanded. The First major outbreak that finally led to the Revolt of 1857 occurred at Meerut. Following the court martial of eighty-five sepoys of the Cavalry Regiment for refusing to use the greased cartridges, on 10th May 1857, the sepoys broke out in open rebellion, shot their officers, released their fellow sepoys and marched towards Delhi. On 12th May, the sepoys captured the city of Delhi and occupied the palace proclaimed Bahadur Shah II as the emperor of India. 23 Within a short period, the revolt spread to Lucknow, Kanpur, Agra, Jhansi, Central India, Bihar, Orissa, and many other places. However, the Indian rulers remained loyal to the British and rendered valuable service in the suppression of the revolt. The British were on the defensive during the early part of the revolt. First of all, they made a sustained effort to recapture Delhi from the sepoys. In September 1857, Delhi was recaptured by the British. Emperor Bahadur Shah II was arrested and exiled to Mandalay, Burma, where he died a few years later. Two of his sons and a grandson were shot dead. Thus, The British ended the Mughal dynasty from the Indian scenario.

The revolt was localised and not country-wide: Though the revolt was Formidable and widespread though the revolt was, it was yet to a great extent localised, limited and illorganised. The Mutiny was not universal. Dr. R.C Mazumdar says: It was never an all India character but was localised, restricted and poorly-organised. The area affected was the Punjab, the United Provinces, Rohilkhand, Oudh, the Territory between the Narbada and the Chambal and the Western parts of Bengal and Bihar on the North-East. Afghanistan was friendly under Dost Mohammad. Sindh was quite, Rajputana was loyal. India South of the river Narbada made no movement of importance, though the native regiments mutinied at Kolhapur in the Southern Marathan country and there were also many dangerous outbursts of feelings at Hyderabad, the Nizam's Capital. Central and Eastern Bengal were undisturbed and Nepal rendered the British valuable assistance in putting down the revolt. Thus, the revolt was only local and not nation-wise.

Superiority of the English in Many Fields: The resources of the British Imperialism were unlimited. Fortunately for them, the Crimean War and other wars in which the Britishers were involved out of India had come to an end by 1856.

- The British army was excessive in number which was brought into India in large numbers from different parts of the world and many more soldiers were recruited in India itself, for the suppression of the Mutiny.
- The British had superior Weapons than the rebels had The British had modern guns and rifles. The Indians had canons which were old and few in numbers. They were mostly fighting with swords and spears.
- The British had superior Navy. At the same time British were also supreme in Naval Power.
- The Electric System, also contributed in the success of the British. Through that system the British Commander-in-chief got all the information regarding the plans of the rebels and he could make suitable arrangements. Due to these supremacies of the British the Indians remained unsuccessful.

Lack of Unity of Purpose and Organization: The Indian rebels were not properly organised or if they were at all organised, their central organisation was very weak. Their was no dearth of bravery and boldness in its leaders, but one thing that was very conspicuous by its absence in them was the absence of experience in organisation and concerted action. It was not possible for them to regain their lost independence by mere small depredations and sudden attacks which are specially noticed in the Gorilla tactics of War. The British government at the centre and the provincial governments made an enquiry concerning the mutiny through commissions and boards but these commissions and boards failed to get any clue which made him enable them to know the origin of any organised conspiracy of mutiny. Rather the case started against Bahadur Shah II, the Mughal emperor on the other hand that the mutiny was a surprise to him as much as it was to the Britishers. In other words there was no organisation amongst the leaders of the rebellion. Then mutineers suffered also from



lack of unity of purpose. The mutiny had broken out all of a sudden and nobody had the idea of that turn it would take; there was no understanding between the Hindus and the Muslims. They were divided in their aims with no common political object. There was no Unity among them and they were unable to combine effectively for the execution of the common plan or the common aim. A close and careful study of the mutiny records reveals a very sad story of everyone for himself and no one for the country. The Mughal emperor the problem the head of the mutiny the Queen's and The Princess and other leaders of the revolt all pulled in their own directions and played a double game to secure their own ends and interests. The sepoys of Avadh fought for the restoration of their own king while Nana Sahib and the queen of Jhansi on the other hand pressed their own claims. A number of smaller adventures not inspired by any patriotic impulses sprang up to take advantage of the opportunity offered by the mutiny for their personal advantage. Khan bahadur khan the grandson of Hafiz Rehmat Khan declared himself as the viceroy or naib Nazim of Rohilkhand. The banjaras of Saharanpur set up a new king of their own. The Gujjars had different Rajas in different areas, Fatuna having proclaimed himself as the king of the Gujjars. One Devi Singh proclaimed himself the king of 14 villages in the Mathura district. Similarly Mahima ji Wadi a decoit and Belsare, a Maratha Brahmin were attracted to the Rebel came to improve their fortunes. It was a reckless aimless revolt and perished as such.

Negative Effects:- Increase in Racial Animosity between the British and the Indians: The mutiny left behind it a sort of racial animosity as its legacy. the British described Indians as untrustworthy. And consequently the Indians were humiliated and insulted. this resulted in the racial animosity between the English and the Indians. It was from this date that the social estrangement between the two races commenced in this country. Consequently there was no love lost between the rulers and the ruled. the English officers during the suppression of the Mutiny perpetrated untold and gruesome oppressions in the Punjab and North India. As a consequence, this policy of terror was to create strong feelings of hatred between the English and the Indians during the post-mutiny India. British considered themselves as an occupying power garrisoning a hostile land. On the other hand Indians tried to seek self-respect and honor within the bounds of their traditional culture. The British had formed a separate community in India. During the Revolt of 1857, stunned and shocked the British saw the obedient sepoys suddenly transformed into a disobedient Hence, the British felt that safety could be found only among their own countrymen. On the other hand, the manner in which the Revolt of 1857 was crushed by the British and the ruthlessness in which the sepoys were treated left a deep sense of hatred among the Indians against the British. The British also massacred thousands of civilian population in the country.

Setback to Social Reforms: The Revolt of 1857 convinced the British the futility of interfering in the traditional socio-religious customs of India. The strong opposition to the social legislation especially coming from the orthodox elements in both the Hindu and the Muslim community put the British on the defensive. The self-

confidence of the British and their plans for the rapid westernization of India through social reforms were shattered. The British, after the Revolt of 1857, decided to concentrate in providing a sound and efficient administration rather than introducing western ideas and reform in a traditional Asian Society.

The Policy of Divide and Rule: After the Revolt of 1857, the British had patronaged and applied the most unscrupulous policy to divide the Indians in different castes and classes. The British used one class or caste against the other. The Muslims were made to fight with the Hindus and the high caste Hindus were excited against the low caste Hindus. Thus, There was a deterioration in the whole country.

Creation of Misunderstanding between Hindus and the Muslims:

The collapse of the Mutiny created a misunderstanding between the Hindus and the Muslims. The Muslims had shown a keener and more widespread sympathy for the rebels. Even in South India where their number was small many conspiracies were formed among them against the British between 1857 and 1859. When the rebellion began, both the Hindus and the Muslims took part in it in large numbers. But the Muslims were more violently disposed towards the British than the Hindus. The British feared more from Muslims than the Hindus. The result was that the hand of repression fell more heavily on the Muslims than on the Hindus. Many of their leading men were hanged or exiled e.g. the Nawab Sahibs of Jhajjar, Balabgarh, Farukh Nagar, and Farukhabad. 24 Shahzadas were hanged at Delhi on 18th November, 1857, in one day alone. Muslim quarters were mostly the target. Muslim property was widely confiscated. This created ill feelings and misunderstanding amongst the Muslims against the Hindus.

Territorial conquest were replaced by Economic Loot:

With the failure of the Great rebellion, the era of British territorial conquest came to an end and the territorial conquests gave place to economic exploitation of the Indians by the Britishers. The British government had no more fear of any kind from feudal India. The English people exploited India economically to a great extent. Now the British government had to face a new challenge from the progressive elements in the Indian society, a challenge which was favorably reacting due to the progressive thoughts of John Stuart Mill and other progressive elements in England.

The Muslim renaissance received a set-back: Another bad effect of the Mutiny was that the Muslim renaissance which had been growing in Delhi before the Mutiny got an irreparable set-back. The cultural blossoms were blighted. According to C.F. Andrews, it's not difficult to trace the fatal havoc to budding spiritual life which one year of Mutiny wrought. Decay immediately overtook the revival of learning in Delhi from which it never recovered.



Calcutta, the centre of Hindu renaissance, escaped the horrors of the Mutiny and was saved.

CONCLUSION

The revolt of 1857 was an unprecedented event in the history of British rule in India. It united, though in a limited way, many sections of Indian society for a common cause. Though the revolt failed to achieve the desired goal, it sowed the seeds of Indian nationalism. After the analysis of the Revolt of 1857 it came to know that historians have expressed different views depending on their perceptions. Mostly they fall into two categories namely Europeans and the Indians. The former group of historians tried to paint the Revolt as the sepoy mutiny means due to their grievances, the sepoys came together and revolted against the British. But this view is not correct. Some of the Indian nationalist historians have tried to point the Revolt as the first War of Indian Independence. The other English historians have characterized it as the Hindu, Muslim conspiracy to overthrow the British rule out of India. In his 39 discovery of India, Jawaharlal Nehru maintains that the Revolt of 1857 was more than a sepoy mutiny. Although, initially it started as a mutiny of the Indian soldiers, but when it spread rapidly assumed the nature of a mass rebellion. He further maintains that the Revolt of 1857 was essentially a feudal uprising although there were some nationalistic elements in it. Some of the moderate historians like Dr. R.C. Majumdar and Dr. S.N. Sen also expressed the similar view. They further say that it was a wholly national war of independence, means it was some where between the two views. Although the Revolt of 1857 was suppressed completely, it had been created great shock waves in the heart of people and the British Crown in England. The British, therefore, examined the whole administration of India and brought about several changes in it. Among them the First was the transfer of power from the East India Company to the British Crown. Then followed the abolition of the Mughal dynasty of Delhi, reconstruction of the army, guaranteeing freedom of religion and equal treatment to Indians, association of Indians in the British administration of the country and introduction of several reforms. The British Government tried to do this through the Queen's Proclamation of 1858, The Revolt of 1857 brought about some positive and negative changes. Among the negative effects were the increase of racial animosity, introduction of the divide and rule policy and increase in the systematic economic loot of India. Even then it started the new era in the history of India and the British Imperialism.

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A COMPARATIVE STUDY ON SELECTED INDIAN BANKS' FINANCIAL RATIOS FOR THE PERIOD FROM FY 2017–2021

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ABSTRACT

The main aim of this paper is to analyse how an organisation or a company's financial performance can be determined using the financial ratios. This research examines the performance of the commercial banking industry from FY 2017 to FY 2021. For the stated time periods, financial statements of Indian banks including SBI, PNB, BOI, HDFC, ICICI, and YES Bank were retrieved from databases including annual reports, EMIS, money control, yahoo finance, and Google finance.

A financial ratio is a mathematically defined connection between two accounting data (or simply as a ratio). Ratios aids in the qualitative assessment of the firm's financial performance and the summarization of vast amounts of financial data.

In this study, financial measures for liquidity, activity, leverage, profitability, and market value will be used to analyse the financial statements of these institutions. For the liquidity test we are using: CR(Current ratio), and QR(Quick ratio). The following metrics were used to determine profitability: NPM (net profit margin), PM (profit margin), ROE (return on shareholder equity), ROA (return on assets). PE ratios and EPS were used to assess market-based activity.

KEYWORDS: Performance analysis, financial ratios, Dupont Analysis, Public sector banks, Private sector banks

1. INTRODUCTION

A bank act as a financial intermediary and as an institution that receives money(deposits) and uses those money(deposits) for lending operations, either directly through loans or indirectly through capital markets. The General Bank of India was founded in 1786, which is when the banking system first emerged. Three categories were used to categorize the banking industry:

1. Private Sector Banks
2. Public sector Banks
3. Foreign Banks.

Many investors may be confused and intimidated by the enormous quantity of statistics in a company's financial statements. Financial accounts, on the other hand, are a gold mine of data if you know how to analyse them. The means through which a firm provides information regarding its financial performance are financial statements. Fundamental analysts utilize data from financial accounts to guide their investing judgments.

2. LITERATURE REVIEW

- **Prasad and Ravinder (2011)** examined the profitability of four major Indian banks from 2005–2006 to 2009–2010: SBI, PNB, ICICI, and HDFC. For the aim of the study, statistical procedures including the one way ANOVA, TukeyHSD and arithmetic mean test have been used. These banks' profitability has been assessed using a variety of metrics, including gross profit margin and

operating profit margin. Net income margin income per share, Income from Equity revenue from assets ratios for prices, profits, and dividend payment. According to the research, ICICI Bank distributed the most percentage of its earnings as dividends to shareholders. Following HDFC Bank at the top of the analysis were PNB, SBI, and ICICI Bank.

- **Tiwari and Parray (2012)** provided a thorough explanation of the study of Ranbaxy Ltd.'s Fiscal statements. The main aim of this study is to clarify for the users, how these instruments should be applied when examining a company's financial status. In this paper, the balance sheet and income statements of Ranbaxy Limited are examined to show the process of financial analysis. A financial statement is a compilation of information arranged in accordance with consistent and logical accounting principles. Its goal is to explain how certain financial aspects of a company enterprise are understood.
- **Almumani's (2014)** research aims to evaluate and contrast the performance of Saudi banks that were publicly traded between 2007 and 2011. The study is evaluative in character and uses secondary data as its information source. Analysis reveals that every study variable has a positive mean value and that every bank is making money. Saudi established banks have a greater ability for absorbing asset losses and dominating in ROA, whereas Saudi joint venture banks have



demonstrated more proficiency in earning profits, absorbing loan losses, and ROE.

- **Erni Masdupi and Debby Andesfa (2018)** The impact of financial ratios on commercial banks' profitability serves as the driving force behind this research. 26 journal publications from 2000 to 2017 and a few months of 2012 are covered in the review. The CAR (Capital Adequacy Ratio), (ROA) Return On Asset, effect of Financial Ratio NPL, and loan to deposit ratio (LDR) were the three categories into which the 24 articles divided "profitability" and "Effect of Financial Ratio" commercial banks in enterprises. The results show that "Profitability" was the category that was considered the most in the literature.
- **A.K. Aggarwal (2021)** A few financial measures are more relevant than others because banks have certain characteristics A bank receives interest on the money it lends and must pay interest on the money it borrows. Investors should thus evaluate the difference between interest income by the bank and interest expended, which results in NII (Net Interest Income). Investors should carefully examine total deposits, total advances, and net interest margins. A bank is deemed secure if it maintains a low ADR (Advance-Deposit Ratio).

3. RESEARCH STATEMENT

From the above review, the researcher came to know that there are different studies made in the same topic with different banks in different periods. This paper focus attention towards financial figures of 3 public sector banks and 3 private sector banks which selected based on the revenue, profits from the period 2017 – 2021.

4. OBJECTIVES

1. To analyse the various financial ratios namely leverage, PR(profitability), LR(liquidity), market based, activity ratios of selected banks.
2. To evaluate Fiscal analysis and performance by using Duo Point analysis.
3. To determine the impact of COVID on the financial performance of selected banks.

5. RESEARCH METHODOLOGY

1.For our study we are using the secondary data from different sources like

- a) Bank's own websites – by annual reports, quarterly reports etc
- b) Money control, Yahoo finance, good returns etc
- c) Previous research studies and papers on the same topic.

2. The financial measures are done by using following ratios like leverage, profitability, liquidity, market based, solvency.

3. Banks selected for the study include both public sector and private sector banks. In public sector bank out of 12 banks we have selected 3 banks, the study is conducted on SBI(State bank of India), BOI(Bank of India),

PNB(Punjab National bank) and in private sector out of 21 banks we have selected 3 banks, the banks took for study are HDFC(Housing development Finance Corporation limited), ICICI(Industrial Credit and Investment Corporation of India), Yes Bank.

Time duration

Duration of time for the study is 5 years i.e.; FY 2017-2021

6. LIMITATIONS OF THE STUDY

1. Study which conducted was constrained due to time.
2. Ratio analysis is based on the past financial figures of the banks, therefore the future performance of the banks in study cannot be determined.

7. PROFILE OF BANKS

7.1 Public Sector Bank

7.1.1 State Bank of India

State Bank of India is a public sector bank which is owned and run by Government, headquartered in Maharashtra. It was the largest banking and financial services firm in India by assets as of 2020–21, with assets of 45,34,430 crores and it serves for more than 45 crore customers and more than 22000 branches with ATMs 62617 including 191 international offices distributed across 36 countries.

7.1.2 Punjab National Bank

The PNB (Punjab National Bank), started with a working capital of Rs. 20,000 and Rs. 2 lakhs in authorised capital. The first bank solely run by Indians. Nine banks have merged or amalgamated with PNB during the course of the bank's lengthy existence. More than 180 million people use the bank's 12,248 locations and 13,000 or more ATMs.

7.1.3 Bank of India

The BOI (Bank of India) is a nationalized bank in India. It is owned by the Indian government's Ministry of Finance, whose main office is at Mumbai's Bandra Kurla Complex. It was established in 1906, and since its nationalization in 1969, it has been held by the government.

The total business for BOI as at the end of March 2021 was 1,037,549 crore (US\$140 billion), and it has 5,551 ATMs and 5,108 branches worldwide (including 24 overseas branches).

7.2 Private Sector Bank

7.2.1 Housing Development Finance Corporation Limited

HDFC Bank Limited is based in Mumbai, Maharashtra. It is present in Bahrain, Hong Kong, and Dubai and employs 90,421 people. HDFC achieved the position of top 5 largest private lender in India by assets, market capitalisation, revenue etc. The HDFC distribution network included 12,087 ATMs spread throughout 2,597 cities and 4,555 branches as of December 31, 2016.

7.2.2 ICICI (Industrial Credit and Investment Corporation of India)

ICICI (Industrial Credit and Investment Corporation of India), is a global Indian banking organization with its corporate



headquarters in Maharashtra, India, and Vadodara is its registered office. In terms of assets, it is the biggest bank in India, and third, in area of market cap. The bank operates a network of 14,404 ATMs and 4,450 branches worldwide, including 4,450 in India.

7.2.3 Yes Bank

Yes Bank is a new private sector bank that was established in 2004 by Rana Kapoor and the late Ashok Kapoor. Since its founding, Yes Bank has developed into a "Full Service Commercial Bank" with business lines in Corporate and Institutional Banking, Financial Markets, Investment Banking, Corporate Finance, Branch Banking, Business and Transaction Banking, and Wealth Management across the nation.

SELECTED FINANCIAL RATIOS USED FOR THE STUDY

SR NO.	RATIOS	TYPES	INTERPRETATION	FORMULA
1	LIQUIDITY RATIO (LR)	Current ratio (CR)	It is used to measure whether a company has the ability to meet short-term obligations.	Current assets / Current liabilities
		Quick ratio (QR)	It is used to evaluate a company's ability to cover its most liquid liabilities in the short term	Quick asset / current liabilities
2	PROFITABILITY RATIO (PR)	Profit margin (PM)	A profitability ratio is used when contrasting businesses in related sectors.	PAT / Net sales
		Net profit margin (NPM)	It gauges how much of each rupee in sales a business really retains in profits.	Net Profit / Net Sales
		Return on shareholder's equity (ROE)	It helps to find how much money is returned to the owners as a percentage of the money they have invested in the company.	Net Income / Shareholder's Equity
		Return on assets (ROA)	ROA provides insight into how well management uses its resources to produce profits	Net Income / Avg. total assets
3	MARKET-BASED RATIOS	Earnings per share (EPS)	It provides information on the per-share earnings of a company's equity and is a widely used indicator for determining corporate value.	Available Earnings / Number of shares issued to shareholders
		P/E Ratio	It is used between a company's current share price and its profits per share	Market price per share/ EPS
4	ACTIVITY RATIO (AR)	Working capital turnover (WCTR)	It is a metric that measures how much working capital is used up in relation to how much revenue is produced over a specific time period.	Sales / Working capital
		Total asset turnover TATR)	This is an indicator of how well resources are being utilized to generate income	Net sales / Total assets
5	LEVERAGE RATIOS	Interest coverage (ICR)	It is used to assess a business's ability to pay interest on outstanding debt.	EBIT / Interest expenses
6	DUPONT ANALYSIS	Dupont Analysis	It is widely used to compare the operational efficiency of two similar firms.	Profit after tax / Total assets

8. RESULTS AND LEARNING INSIGHTS

The five kinds of financial ratios are used to structure this section of the research study. Also shown and discussed are

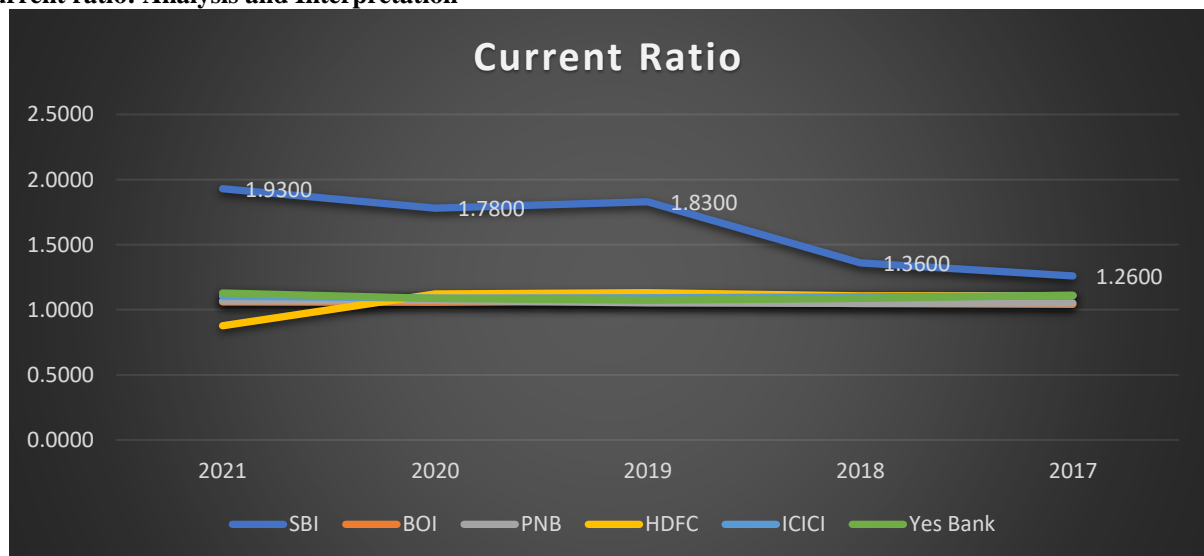
specific ratios for each category. The DuPont analysis was provided and addressed at the end of this section.



8.1 Liquidity Ratios

LIQUIDITY RATIO							
SR NO.	BANK	RATIO	YEAR				
			2021	2020	2019	2018	2017
1	SBI	(CR) Current ratio	1.9300	1.7800	1.8300	1.3600	1.2600
		(QR)Quick ratio	0.1656	0.1705	0.1806	0.1383	0.1104
2	PNB	(CR) Current ratio	1.0686	1.0719	1.0528	1.0490	1.0534
		(QR)Quick ratio	0.9732	0.9732	0.9489	0.9167	0.9210
3	BOI	(CR) Current ratio	1.0600	1.0583	1.0663	1.0491	1.0419
		(QR)Quick ratio	0.5937	0.6554	0.6449	0.6405	0.6622
4	HDFC	(CR) Current ratio	0.8772	1.1223	1.1312	1.1065	1.1102
		(QR)Quick ratio	0.8009	1.0597	1.0594	0.9826	1.0486
5	ICICI	(CR) Current ratio	1.104	1.090	1.093	1.100	1.108
		(QR)Quick ratio	0.999	0.988	1.015	1.012	1.017
6	YES BANK	(CR) Current ratio	1.129	1.088	1.074	1.087	1.111
		(QR)Quick ratio	1.007	1.052	0.997	1.001	1.009

8.1.1 Current ratio: Analysis and Interpretation

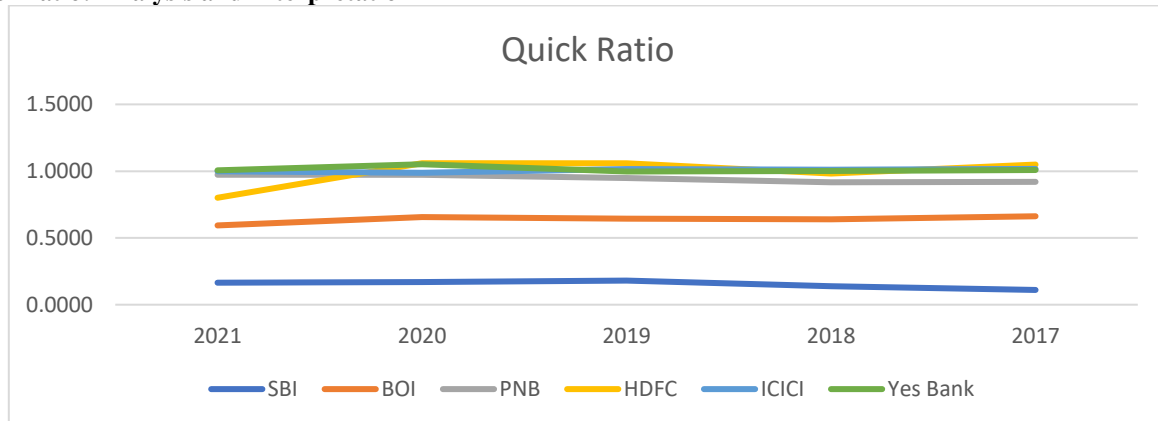


When compared to current obligations, this ratio demonstrates the current assets' ability to cover them. In order to show that the company has the ability to pay its current debts when they become due. 2017-2021 period, the CR(current ratio) for BOI, PNB, HDFC, ICICI, and Yes bank shows almost the same area,

but in the case of SBI, we can see from the graph that from 2019 the current ratio has been increased and by 2021 it reaches near to 2 i.e.; 1.93 it is because Current assets increased 14% more than the previous year's increase.



8.1.2 Quick ratio: Analysis and Interpretation



The quick ratio, often known as the "acid test ratio," is intended to be used in conjunction with the current ratio to illustrate which current assets are more liquid and may be used to settle liabilities that are due more quickly. Since just inventories are not taken into account here, the conclusions with regard to current assets are not dramatically altered. This ratio for the SBI

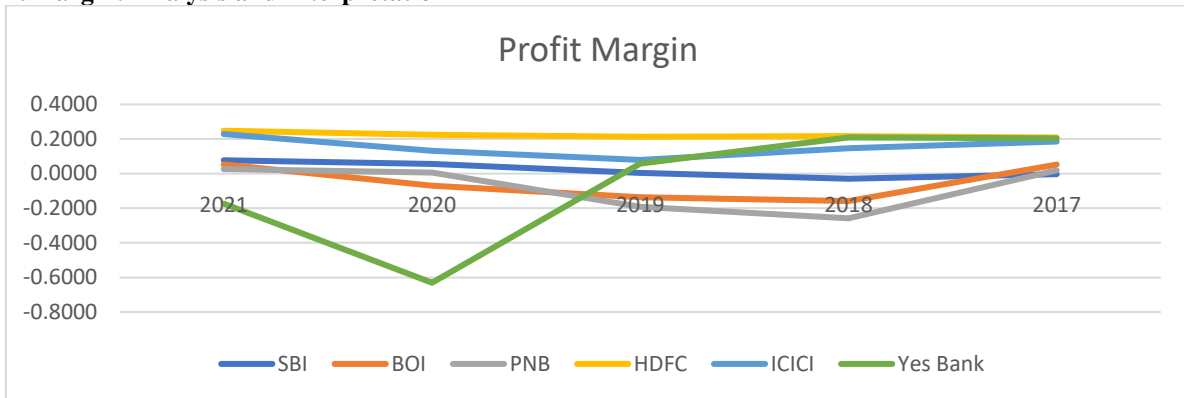
bank shows the lowest among all other banks. Bank of India shows a steady level in their quick ratio. In this chart, we can see that the quick ratio for the HDFC showed a decline during the period 2021 which is 0.80 from 1.05 in 2020 it is because the value of quick assets of the bank got declined than the value of current liabilities.

8.2 Profitability Ratio

PROFITABILITY RATIO							
SR NO.	BANK	RATIO	YEAR				
			2021	2020	2019	2018	2017
1	SBI	(PM) Profit margin	0.0770	0.0563	0.0036	-0.0297	-0.0026
		(NPM) Net profit margin	8.7300	6.7300	1.2100	-1.8200	-0.1600
		(ROE) Return on shareholder's equity	8.1287	6.3992	0.4127	-3.2004	5.7987
		(ROA)Return on assets	0.4600	0.3800	0.0200	-0.1900	0.4100
2	PNB	(PM) Profit margin	0.0263	0.0066	-0.1923	-0.2583	0.0188
		(NPM) Net profit margin	2.6200	0.6600	-19.2200	-25.8200	1.8700
		(ROE) Return on shareholder's equity	2.5859	0.6289	-24.4457	-32.9009	2.3151
		(ROA)Return on assets	0.1500	0.0500	-1.2100	-1.5500	0.1600
3	BOI	(PM) Profit margin	0.0532	-0.0698	-0.1361	-0.1587	0.0529
		(NPM) Net profit margin	5.3800	-6.8700	-13.4000	-15.8500	-4.0200
		(ROE) Return on shareholder's equity	5.8794	-8.2695	-13.6569	-17.3448	7.1251
		(ROA)Return on assets	0.2800	-0.4600	-0.8600	-0.9600	-0.2300
4	HDFC	(PM) Profit margin	0.2478	0.2234	0.2134	0.2176	0.2086
		(NPM) Net profit margin	41.6600	38.6000	36.9700	35.1100	33.1300
		(ROE) Return on shareholder's equity	15.2700	15.3500	14.1200	16.4500	16.2600
		(ROA)Return on assets	1.7703	1.7267	1.7362	1.6825	1.7132
5	ICICI	(PM) Profit margin	0.23	0.13	0.08	0.15	0.19
		(NPM) Net profit margin	22.67	13.23	7.9	14.63	18.6
		(ROE) Return on shareholder's equity	12.21	7.07	3.16	6.6	10.34
		(ROA)Return on assets	1.31	0.81	0.39	0.87	1.35
6	YES BANK	(PM) Profit margin	-0.17	-0.63	0.06	0.21	0.20
		(NPM) Net profit margin	-17.41	-63.07	5.76	20.88	20.33
		(ROE) Return on shareholder's equity	-11.4	-113.1	6.5	17.7	21.5
		(ROA)Return on assets	-1.3	-7.1	0.5	1.6	1.8



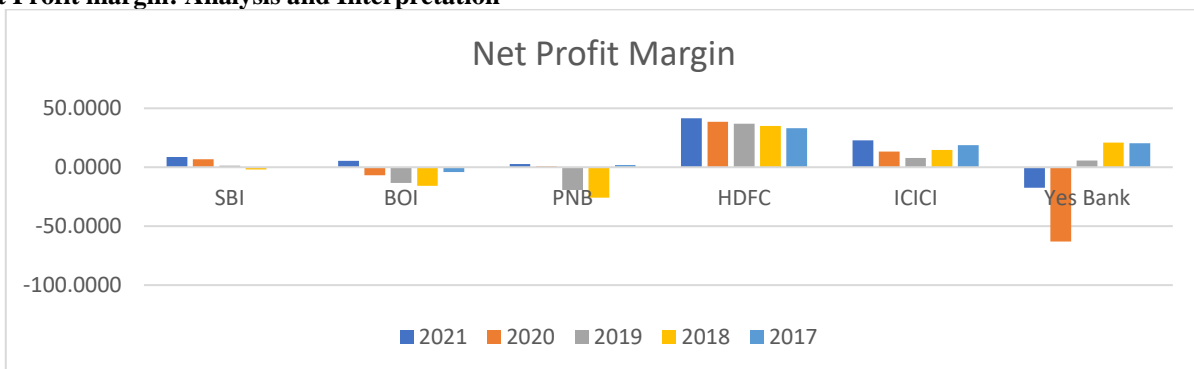
8.2.1 Profit margin: Analysis and Interpretation



As a general rule, it is preferable to have a greater operational margin since a smaller profit margin (when compared to a similar organisation) might result in higher accounting expenses. The ratio for the Yes bank shows a decline during the period 2020 from 0.06 to -0.63 it is because from the financial

statements of Yes bank it is evident that they were making loss during the period 2020. PNB and BOI also showed a decline in the profit margin level because both banks were making loss during the period 2018 and 2019. SBI was performing almost constant manner.

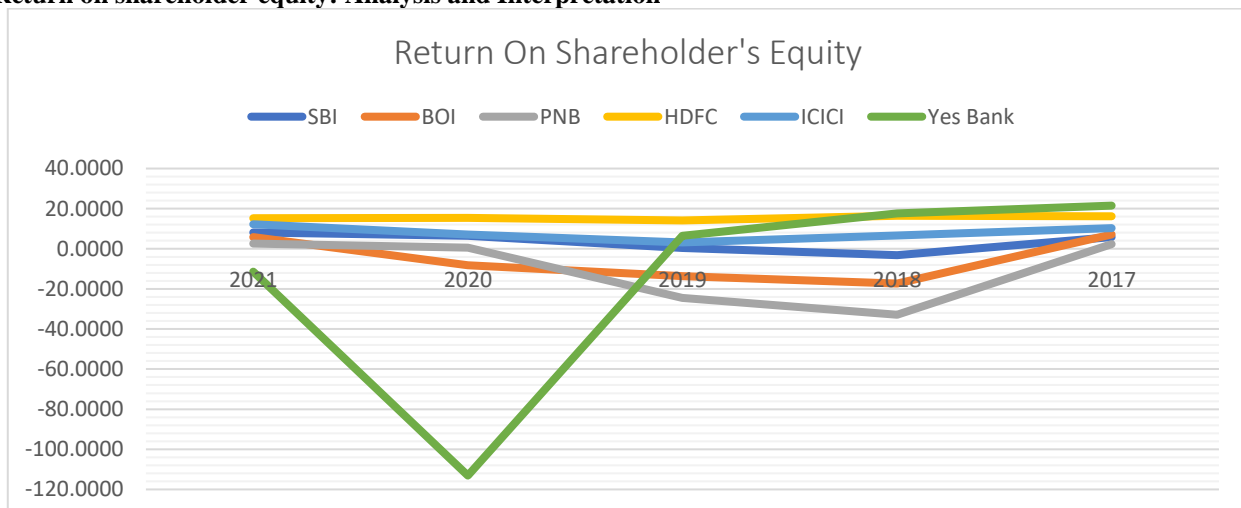
8.2.2 Net Profit margin: Analysis and Interpretation



It helps investors decide if a company's management is making a healthy profit from sales and whether operating expenses and overhead expenditures are within control. In the study, we can say that HDFC bank showed the highest Net profit margin among all other banks and in the case of ICICI bank showed a positive net profit margin which is a good indication of their

performance. While in case Yes bank it is evident from the chart, bank's net profit margin showed a deep decline in 2020 i.e.; -63.07% which is the highest decline among other banks in the study, it is because the bank was not performing well in terms of Net profit as it was providing net loss during 2020 and also in 2021.

8.2.3 Return on shareholder equity: Analysis and Interpretation

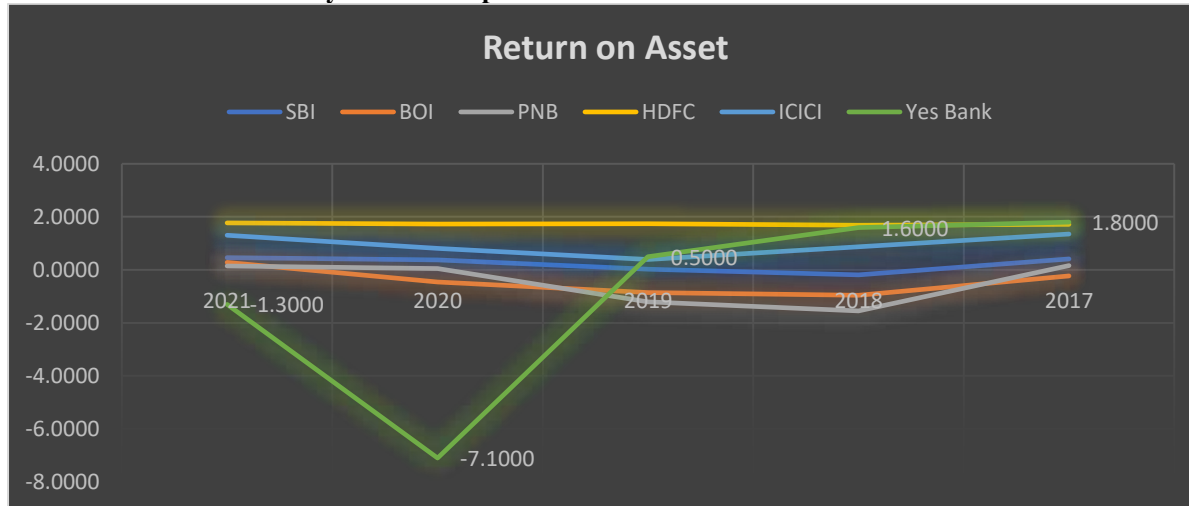




As it relates to the return on shareholder equity, this is regarded as the most crucial financial ratio. As a general rule, the business performs financially better the higher the RONW. By analysing the chart given below, we can say that Yes bank was

giving a good return on equity till 2019 but during 2020 this bank showed a deep decline in the Return on shareholders' equity it is because total expense was more than total income.

8.2.4 Return on assets: Analysis and Interpretation



This ratio shows how well assets are used to create income. Similar to the preceding financial ratio, it should be at least 0.30 times to be regarded as effective. By doing this, it can be claimed that each of the four businesses maintains an efficient system for leveraging their whole asset base. In this ratio also we can see that Yes bank was performing well till 2019 but

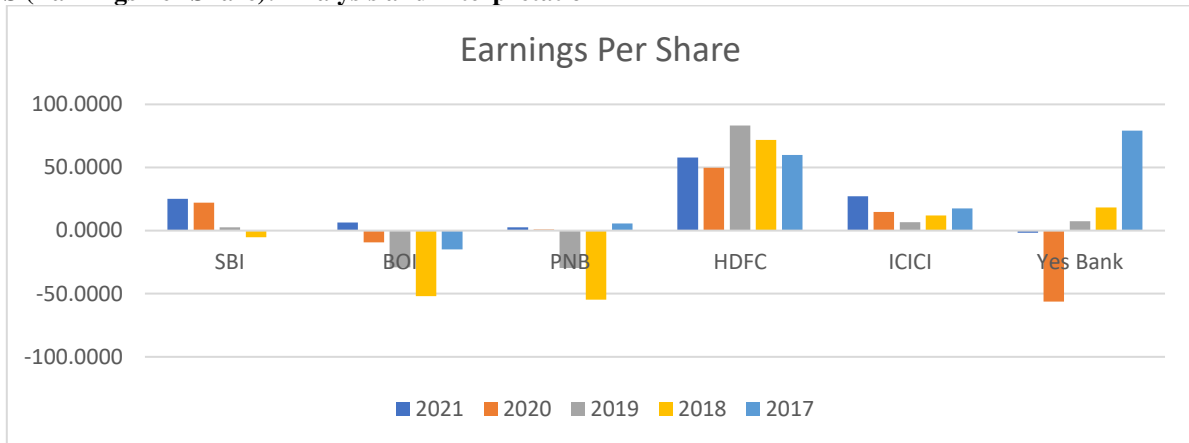
during 2020 its return on assets got deeply dived i.e.; -7.1 because net income was negative means loss was made during the year and in 2021 it tried for a raise in the return on assets. During 2019 SBI shows a slight variation in their returns.

8.3 Market Based Ratio

MARKET BASED RATIO							
SR NO.	BANK	RATIO	YEAR				
			2021	2020	2019	2018	2017
1	SBI	(EPS) Earning per share	25.1100	22.1500	2.5800	-5.3400	0.3100
		P/E Ratio	14.5000	8.8900	-295.9000	-231.0000	34.9000
2	PNB	(EPS) Earning per share	2.6400	0.8000	-29.6800	-54.7100	5.7800
		P/E Ratio	13.7000	41.1000	-3.2900	-1.7600	26.5000
3	BOI	(EPS) Earning per share	6.3600	-9.3900	-29.1400	-51.8300	-14.8300
		P/E Ratio	11.0000	-3.4500	-3.5900	-2.0200	-9.3400
4	HDFC	(EPS) Earning per share	57.8800	49.8400	83.3300	71.7300	59.9500
		P/E Ratio	26.4000	17.9500	29.4800	28.4700	25.2300
5	ICICI	(EPS) Earning per share	27.26	14.81	6.61	12.02	17.51
		P/E Ratio	22.8	25	36.1	23.15	14.37
6	YES BANK	(EPS) Earning per share	-1.65	-56.11	7.4	18.46	79.12
		P/E Ratio	-9.88	-0.44	37.3	16.6	19.6



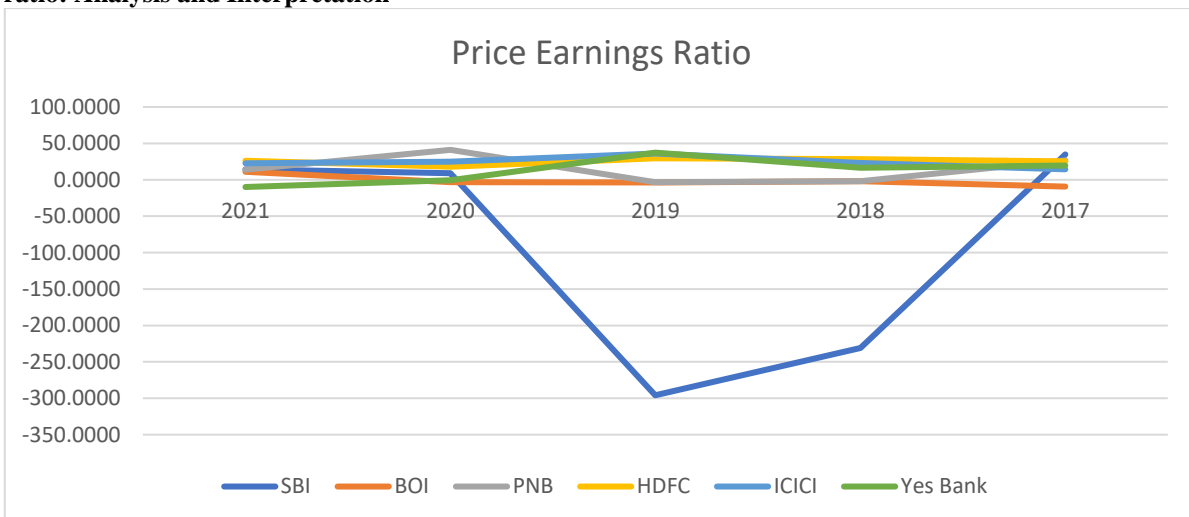
8.3.1 EPS (Earnings Per Share): Analysis and Interpretation



Among the six banks for study HDFC banks showed good EPS throughout 5 years of study and also ICICI bank also showed a positive EPS throughout the 5 years. But BOI and PNB showed negative EPS during the years 2018 and 2019, because we can see that that the available earnings are negative during these

periods. In 2020, Yes Bank has shown negative EPS which is a high fall i.e.; from 7.4 in 2019 to -56.11 in 2020. In the case of SBI, we can say that there was a growth in the EPS except for the year 2018.

8.3.2 PE ratio: Analysis and Interpretation



In our study, we can say that the Price earning Ratio for SBI during the years 2018 and 2019 shows a deep decline i.e.; to -231 and -295 which is the highest decline among the banks under study is because the market price per share was low. And

during 2020 SBI showed a raise in the Price Earning ratio. We can say that the Price earning ratio for HDFC was almost constant only a slight change during 2020 i.e.; 17.95.



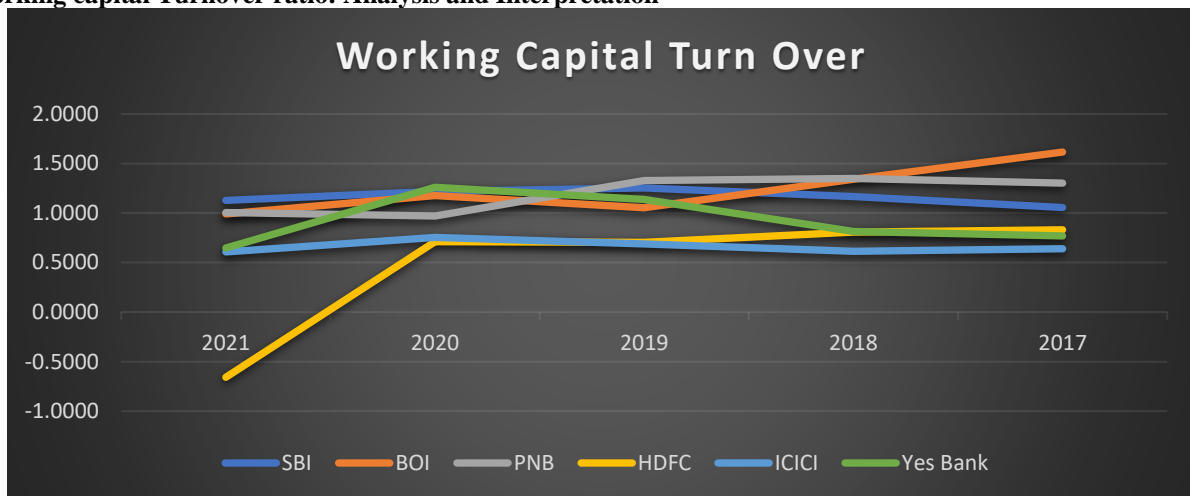
8.4 Activity Ratio

ACTIVITY RATIO							
SR NO.	BANK	RATIO	YEAR				
			2021	2020	2019	2018	2017
1	SBI	W C T R*	1.1264	1.2196	1.2532	1.1661	1.0557
		T A T R**	0.0547	0.0613	0.0625	0.0610	0.0509
2	PNB	W C T R	1.0047	0.9700	1.3279	1.3493	1.3035
		T A T R	0.0640	0.0645	0.0661	0.0625	0.0655
3	BOI	W C T R	0.9907	1.1760	1.0547	1.3402	1.6156
		T A T R	0.0554	0.0639	0.0646	0.0619	0.0641
4	HDFC	W C T R	-0.6583	0.7115	0.7036	0.8062	0.8309
		T A T R	0.0430	0.0420	0.0440	0.0447	0.0460
5	ICICI	W C T R	0.61	0.75	0.69	0.61	0.64
		T A T R	0.0567	0.0616	0.0581	0.0553	0.0618
6	YES BANK	W C T R	0.65	1.26	1.14	0.81	0.77
		T A T R	0.0732	0.1010	0.0778	0.0649	0.0764

* WCTR – Working Capital Turnover

** TATR – Total Asset Turnover

8.4.1 Working capital Turnover ratio: Analysis and Interpretation

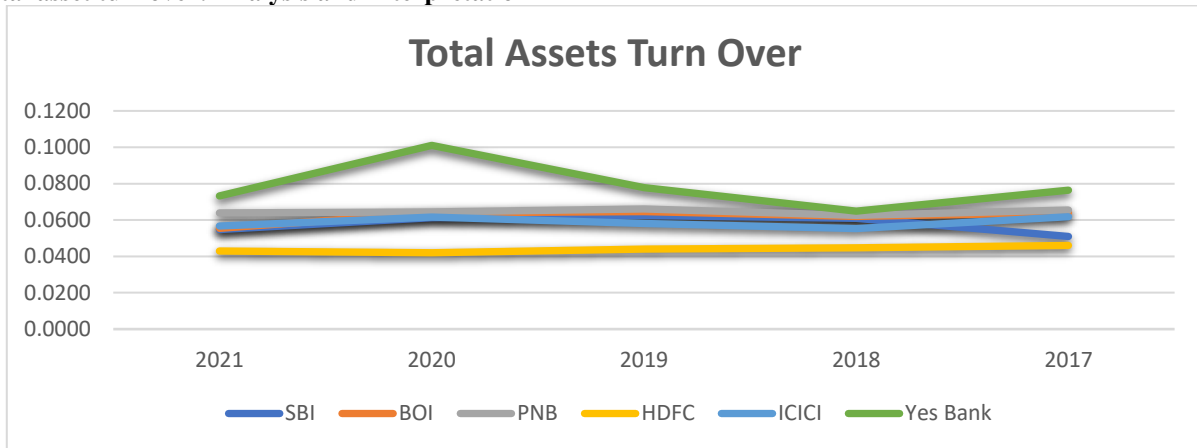


To determine ongoing or regular financial activity, the working capital ratio has been utilised. Using this ratio, one may quickly determine how much money is needed and how to get it. This ratio in the year 2021 for HDFC bank showed a decline i.e.; from 0.71 in 2020 to -0.65 it is because current liabilities was

more than current assets or in other words working capital was negative during the year. In 2018 BOI and PNB showed the highest Working Capital Turnover among other banks under the study that is 1.349 and 1.340.



8.4.2 Total asset turnover: Analysis and Interpretation



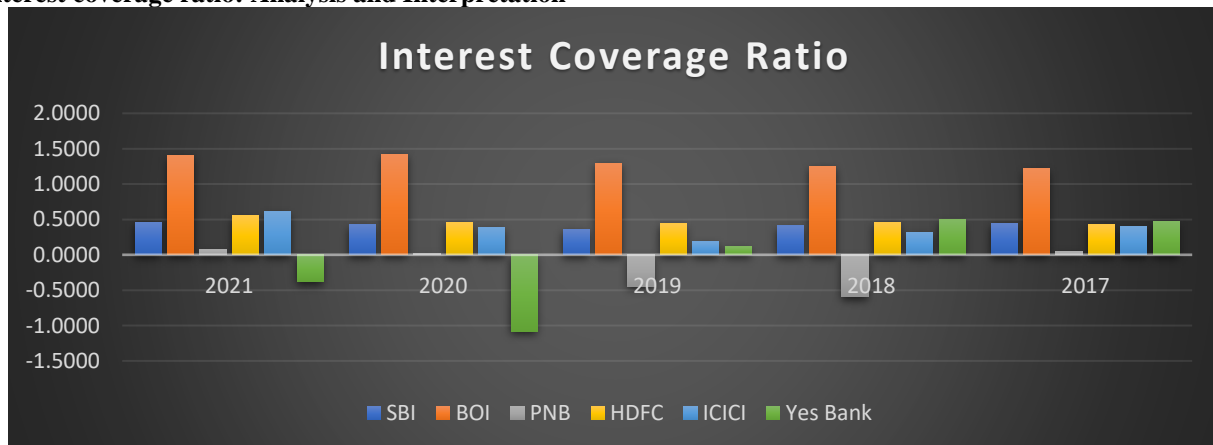
The more successful this ratio is, generally speaking. In other words, this ratio shows how well total assets are used to produce income. Similar to the preceding financial ratio, it should be at least 0.30 times to be regarded as effective. By doing this, it can be claimed that each of the four businesses maintains an

efficient system for leveraging their whole asset base. In the year 2020 Yes, bank has shown the highest Total asset turnover ratio which is 0.10 compared to other banks for study. PNB and HDFC banks have shown a steady level in their total asset turnover ratio.

8.5 Leverage Ratio

LEVERAGE RATIOS							
SR NO.	BANK	RATIO	YEAR				
			2021	2020	2019	2018	2017
1	SBI	(ICR) Interest coverage ratio	0.4633	0.4279	0.3588	0.4086	0.4474
2	PNB	(ICR) Interest coverage ratio	0.0744	0.0224	-0.4434	-0.5920	0.0471
3	BOI	(ICR) Interest coverage ratio	1.4080	1.4201	1.2939	1.2538	1.2216
4	HDFC	(ICR) Interest coverage ratio	0.5562	0.4568	0.4400	0.4613	0.4231
5	ICICI	(ICR) Interest coverage ratio	0.61	0.39	0.19	0.32	0.40
6	YES BANK	(ICR) Interest coverage ratio	-0.38	-1.08	0.12	0.50	0.48

8.5.1 Interest coverage ratio: Analysis and Interpretation



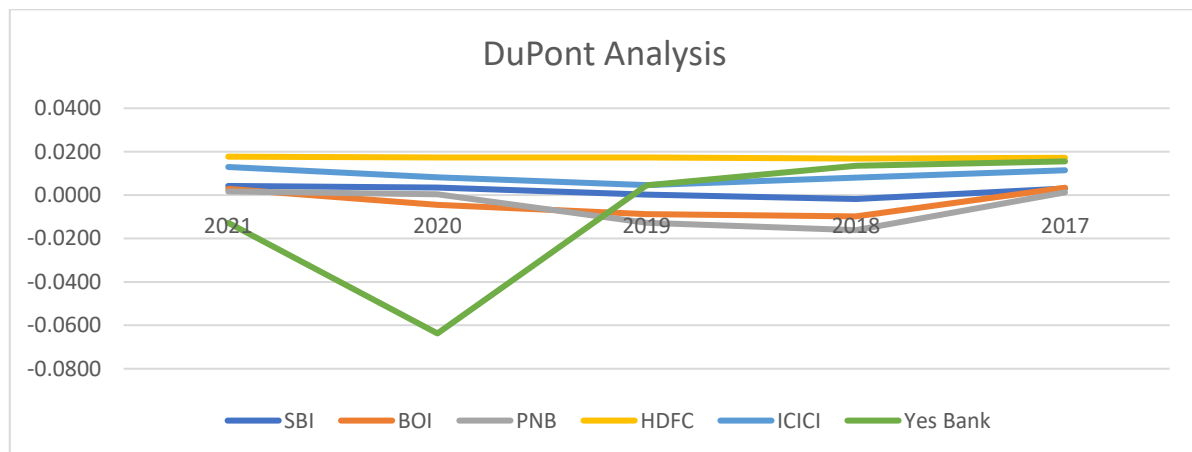


The ratio for BOI has the highest ratio compared to other banks. We can say that the interest coverage ratio for Yes Bank has shown a decline in 2020 which is -1.08 because of negative Earnings Before Interest and Tax during the same year. In the

case of ICICI bank we can say that the interest coverage ratio was changing every year and in case of HDFC bank, it shows a steady level except a small hike in 2021.

8.6. DuPont analysis: Analysis and Interpretation

DUPONT ANALYSIS							
SR NO.	BANK	RATIO	YEAR				
			2021	2020	2019	2018	2017
1	SBI	DUPONT ANALYSIS	0.0042	0.0035	0.0002	-0.0018	0.0030
2	PNB	DUPONT ANALYSIS	0.0017	0.0004	-0.0127	-0.0162	0.0012
3	BOI	DUPONT ANALYSIS	0.0029	-0.0045	-0.0088	-0.0098	0.0034
4	HDFC	DUPONT ANALYSIS	0.0177	0.0173	0.0174	0.0168	0.0171
5	ICICI	DUPONT ANALYSIS	0.013	0.008	0.005	0.008	0.012
6	YES BANK	DUPONT ANALYSIS	-0.013	-0.064	0.004	0.014	0.016



It is useful to finish evaluating a firm by taking into account the interrelationship between the specific ratios. In this analysis we can say that the operational efficiency of Yes bank during 2020 was very low compared to other banks, because profit after tax was negative during the year. HDFC banks shows a steady level in this performance analysis. BOI and PNB shows a downfall during the period FY 2018 and FY 2019 due to the negative profit after tax during these periods for the banks.

9. CONCLUSION

The following findings are drawn after completing a thorough financial ratio study of the six banks mentioned above: When liquidity ratio is compared it found that SBI has a good ratio. However, when we compared the PR(profitability ratio), ATR(asset turnover ratio) Leverage and Dupont analysis we find that SBI, BOI, HDFC, ICICI has steady level of Total asset turnover which shows us its optimum application of resources (assets) in income creation. HDFC and ICICI have the best PE ratio. The total asset turnover of YES Bank demonstrates that it maintains high assets to cover its obligations.

Due to covid, all banks affected their business during 2019-20, but particularly in case of Yes bank the performance of the

bank went down which we can see from the DuPont analysis, interest coverage ratio, EPS, ROA and ROE.

As a result, it can be concluded that BOI and PNB are the companies with the highest level of financial stability.

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ATTITUDE OF MBA STUDENTS TOWARDS ENTREPRENEURSHIP

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ABSTRACT

Entrepreneurship has been defined as the "capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit". The term puts emphasis on the risk and effort taken by individual known as Entrepreneur who both own and manage business. Entrepreneurship and small business creation are corner stones of economic Development throughout the world. The impact of entrepreneurship education has been recognized as one of the vital factors which help the youths to understand and foster an attitude toward entrepreneurship. Hence, this study empirically examines the major factors which are prominent in impacting the Attitude of MBA Students towards Entrepreneurship. The Sample size of the study is 90 MBA students studying in different MBA Colleges in Calicut. The collected data have been analyzed by using descriptive and inferential statistical tools by way of setting the hypothesis and testing it through one sample t test, chi square test and binomial test. The result of the study can be concluded that most of the MBA students have a neutral attitude towards entrepreneurship.

KEYWORDS: *Entrepreneurship, Attitude, Students*

INTRODUCTION

Entrepreneurship is a multifaceted phenomenon. It is the process of designing, launching and running a new business. It can be described as the capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit. The main problem faced by our country is unemployment. Only a keen management system is the solution to this problem by way of shaping and nurturing strong future entrepreneurs in India. Today, entrepreneurship is regarded as one of the best economic development strategies to develop country's economic growth and sustain the competitiveness for facing the increasing trends of globalization. A strong economy is based on a well-developed entrepreneurship system. Entrepreneurial development has special significance, since it is a key for economic development. The objectives of industrial development, regional growth and employment generation depend upon entrepreneurial development.

The impact of entrepreneurship education has been recognized as one of the crucial factors which help youths to understand and foster an attitude toward entrepreneurship. The attitude and knowledge of entrepreneurship are likely to shape their inclination to start their own business in the future. Now Entrepreneurship emerged as a tool to accelerate the economic development. A paradigm shift among students is needed, as their contributions to entrepreneurship would stimulate the country's economic growth, and help it move towards becoming a developed nation. This is especially important, since MBA students are the academic Intellectuals and have the skill set to advance the future national economy. Management education provides a great potential for the establishment of new, small

businesses. The purpose of the research is to examine management student's attitudes towards entrepreneurship, as well as their views of entrepreneurship as career option.

OBJECTIVES

1. To identify the factors that influence entrepreneurship intention of students.
2. To know the reasons for favouring or rejecting entrepreneurship.
3. To know the barriers for Students to enter into Entrepreneurship.

METHODOLOGY

The present study is descriptive and empirical in nature. As descriptive, it describes the attitude of MBA students towards entrepreneurship and as Empirical, it collects first-hand information from the respondents. It is based mainly on primary data collected through a sample survey conducted among MBA colleges in Calicut district.

SAMPLING DESIGN

Purposive sampling was used in selection of MBA colleges, where random sampling was employed in selection of respondents. In the first stage, five colleges were selected among the total MBA colleges in Calicut. Further in the second stage, samples are taken from the selected colleges at random basis. The instrument used for the study was the structured questionnaire based on five-point Likert scale. 100 questionnaires were distributed, but only 90 were successfully retrieved and analyzed. Hence the Sample size of the study is limited to 90.



STATISTICAL DESIGN

The collected data have been analyzed by using descriptive tools namely percentage, mean, standard deviation, standard error, and weighted average mean. Inferential analysis by way of setting the hypothesis and testing the hypothesis through one sample t test, chi-square test and binomial test.

GEOGRAPHICAL AREA

The area of the study limited to MBA colleges of Calicut district in Kerala state.

RESULTS

The analysis of data revealed that, 59% students selected for the study are female and majority of the households possess an annual Income between 50,000 and 250,000. Majority of the students attended ED programme and there is ED Club or Cell in their Institution. Most of respondents have a moderate opinion that the entrepreneurship is a better career choice and it is a good way for securing employment. Major respondents have a neutral attitude to set its own business. Most of respondents have a neutral attitude towards entrepreneurship and they agree that entrepreneurs are innovative. Based on the mean scores analysis made with the data, the attitude of students is found positive except the factor like entrepreneurship entail greater satisfaction and it is very easy and feasible to start business. There is positive attitude for students towards the factors like entrepreneurship implies more advantage and it is rewarding slightly at higher rate than average. Desire to earn more money is the favorable factor to entrepreneurship. In case of barriers, most of the respondents rejecting entrepreneurship as a career because, it is riskier and more difficult to access funds to start business. Because huge fund is need to start business. The respondents agree that the present management education system require substantial changes to develop entrepreneurial qualities.

SUGGESTIONS

1. The study suggests that there should be a developed management education Systems that develop entrepreneurial qualities.
2. The Institutions supposed to conduct more entrepreneurship awareness programs, interactions

with successful entrepreneurs and collaboration with various Entrepreneurship Development Support agencies like DST, SIDO, SSI etc.

3. It is suggested that there should be a structured framework for management education system that provide more specialization to entrepreneurship courses.
4. Government should take appropriate measures to promote and develop Entrepreneurial education in India.

CONCLUSION

It can be concluded that most of the MBA students have a neutral attitude towards entrepreneurship. The important reasons for rejecting entrepreneurship as a career are the higher risk and difficulty in accessing funds. The important quality developed through management education is communication and self-development skill. The study reveals that most of the respondents agree that there should be a substantial change in the present management education system through including entrepreneurship. There is a high demand for entrepreneurship programme specifically designed to expand students' knowledge and experience in entrepreneurship.

FURTHER RESEARCH

Entrepreneurial development today has assumed special importance, since it is a key to economic development. The impact of entrepreneurship education has been recognized as one of the crucial factors that help youths to understand and foster an attitude towards it. Today, entrepreneurship is regarded as one of the best economic development strategies to develop country's economic growth and sustain the competitiveness in facing the increasing trends of globalization. This paper tries to explain the factors that influence in shaping and nurturing of future entrepreneurs. And also tries to identify the potential barriers towards entrepreneurship development and the reasons for rejecting entrepreneurship as a career. Collecting information about more influencing factors and analysis is made with advanced econometric techniques; the results of the study can be made better. This is possible and certainly be future lines of research in the area.



Tables

Table 1. Demographic Factors of selected sample Students

Factors	Sub-Factors	No.	Percentage
Gender	Male	37	41.1
	Female	53	58.9
Annual Income	Less than 50,000	14	15.6
	50,000-250,000	30	33.3
	250,000-450,000	24	26.7
	Above 450,000	22	24.4
Occupation of Family Members	Salaried	38	42.33
	Business	20	22.2
	Daily wages	29	32.2
	Others	3	3.3
Family members own business	YES	48	53.3
	NO	42	46.7
Ed Programs	YES	67	74.4
	NO	23	25.6
Ed Cell in own Institute	YES	57	63.3
	NO	33	36.7

Table 2. Perception of MBA Students towards Entrepreneurship; Descriptive Analysis

	Mean	Standard Deviation	Standard Error Mean
Entrepreneurship as a better career choice	3.0333	1.12629	0.11872
Good way of securing employment	3.1	1.07107	0.1129
Setting own business	3.2667	1.15923	0.12219
being an entrepreneur bring more advantages	3.1333	0.95046	0.10019
Attractive position	3.3	1.05415	0.11112
Great satisfaction	2.8556	1.31167	0.13826



IT is easy and feasible to start a business	2.8111	1.31452	0.13856
Venturing into Entrepreneurship is risky	3.5889	1.13072	0.11919
A prestigious activity	3.0333	0.97669	0.10295
Entrepreneurship is rewarding in normal situation	3.2	0.93856	0.09893
Entrepreneurs are innovative	3.4778	1.27401	0.13429

Table 3. Perception of MBA Students towards Entrepreneurship; Inferential Analysis

Here the attitude towards entrepreneurship was analyzed through testing the hypothesis through one sample test at 5% level of significance using one sample t test.

H₀: students have positive perception towards entrepreneurship

	Test value = 3					
	t	d.f	P value	Mean difference	95% Confidence interval	
					Lower	Upper
Entrepreneurship as a better career choice	0.281	89	0.78	0.3333	-0.2026	0.2692
Good way of securing employment	0.886	89	0.378	0.1	-0.1243	0.3243
Setting own business	2.182	89	0.032*	0.26667	0.0239	0.5095
being an entrepreneur bring more advantages	1.331	89	0.187	0.13333	-0.0657	0.3324
Attractive position	2.7	89	0.008*	0.3	0.0792	0.5208
Great satisfaction	-1.045	89	0.299	-0.14444	-0.4192	0.1303
IT is easy and feasible to start a business	-1.363	89	0.176	-0.18889	-0.4642	0.0864
Venturing into Entrepreneurship is risky	4.941	89	0*	0.58889	0.3521	0.8257
A prestigious activity	0.324	89	0.747	0.3333	-0.1712	0.2379
Entrepreneurship is rewarding in normal situation	2.022	89	0.046*	0.2	0.0034	0.3966
Entrepreneurs are innovative	3.558	89	0.001*	0.47778	0.2109	0.7446

**Table 4. Reasons for starting Entrepreneurship**

H0: respondents do not differ in their opinion about the reasons for starting business.

In order to check the hypothesis, one sample test is applied at 5% level of significance and results are shown in the below table.

	P value	significant
1.Desire to earn more money	0	Significant
2.Influence and encouragement by family, members, friends and relatives	0.136	Insignificant
3.Presence of role models in business	0	Significant
4. To implement own business idea	0	Significant
5.To secure self-employment or independent living	0.022	Significant
6.To use entrepreneurship skills	0	Significant
7. To utilize better opportunity in the market	0	Significant
8.More Career Advancement	0	Significant
9. Fear of Unemployment	0.014	Significant
10.Government policies and schemes	0	Significant
11.Ready to take more challenged task	0	Significant

Table 5. Perceived barriers of Entrepreneurship

	Mean	Standard Deviation
Difficulty in accessing funds	6.578	2.5833
Lack of family support	6.022	3.0204
Lack of good business idea	4.556	2.4637
Possibility of failure of business	5.922	2.558
Govt. regulations	4.544	2.8803
Negative image of entrepreneur	4.089	2.7134
Riskier	7.167	2.6019
High mental pressure	5.933	2.374
Instability/ inconsistent income	6.011	2.7984
Lack of awareness about the business operations	4.3	2.9621

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A STUDY ON PERFORMANCE OF IPOs IN INDIA FOR THE PERIOD 2018-2021

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ABSTRACT

In this article, we have analyzed the listing day performance of 121 IPOs issued in India in the period 2018 to 2021 that are listed in National stock exchange, India. The study focuses on the average market return on listing day and the market adjusted abnormal return of the IPOs. The objectives of this article is to understand the performance on listing day and industry wise analysis of the IPOs. The result of study is that the market adjusted abnormal return for the period 2018-2021 is not zero. Chemicals & petrochemicals and Finance industry has issued maximum number of IPOs during the period 2018-2021.

KEY WORDS: Market adjusted abnormal return, Issue price, industry analysis, Initial public offerings, Covid

INTRODUCTION

Initial Public offerings also known as IPOS is the process of converting a private company to a public company. An IPO is generally initiated to infuse new capital into the firm for the purpose of running the business, raise money for future needs or to monetize the investments made by the shareholders.

This creates an opportunity for informed investors to earn a good return on their investments. Like mentioned IPOs can be a great move if you are informed investor. But not every IPO is a good opportunity.

It has been seen that the study on IPOs reveal that one, Buyers can receive a big gain on the listing day because IPOs are listed at a big premium to the issue price and two, the undervaluation of IPOs, or overpricing, lasts for a very long time. Numerous studies that attempt to justify low IPO prices by pointing to high first-day returns as compensation for taking on risk corroborate this claim. Underpricing is when the IPO is priced below the issue's fair market value. The extent of underpricing varies from country to country and within a single country from issue to issue. The undervaluation of the IPO results in a capital loss for the company that issued but a profit for the buyers because it generates a positive abnormal initial return for them.

LITERATURE REVIEW

Iqbal Thonse Hawaldar, K.R. Naveen Kumar & T. Mallikarjunappa (2018), The performance of IPOs, IPOs which has fixed price falling on day of listing as well as their post-listing aftermarket performance in the Indian stock market are all examined in this study. We examine 464 Indian initial public offerings (IPOs) that were listed between the year 2001 and year 2011 for pricing and long-term performance. The study spans a period of 15 years, from 2001 to 2015. The discovery of the study

indicates that book-built IPOs are that are below the normal prices are less significantly than fixed-price IPOs. Additionally, negative CAARs related to fixed-price IPOs become positive after a year and a half and continue to stay positive after that. In contrast, negative CAARs that are related to IPO that are book built end up having negative values up to 5 years and beyond.

Khan, M.A., et al (2021), According to the study, underpriced initial public offerings (IPOs) produce higher profits. Assumedly, the closing price is lesser than the issue price on the day of listing ($P_0 > P_1$) on that day. In the secondary market, it aids in increasing demand and preserving price stability. As a result, underpricing supports increased demand and keeps secondary market prices stable. Furthermore, the paper advises buyers to sell pricey shares by the end of the listing day in order to minimize losses, and further recommends buyers to hold onto shares that are undervalued and investment for longer period of time in order to benefit from investments that are underpriced and offer superior returns. In contrast to the short term, the long-term returns are more promising. There is a fair chance that investors who purchase shares of firms on the day they list them and hold them for a long time will see positive returns.

Mangala, D. et al(2022), The findings show that industry type and issue year have an impact on earnings management and listing day returns. In addition, the study shows that short-term accruals, which are based on higher DCA values, contribute more to the management of profits. Additionally, it states that listing returns are influenced by the overall level of earnings management (DA), although DLA and DCA individually have little effect on the returns of the listing day of IPOs in India.

Shikha Bhatia et al (2012) This study looked into how Indian IPO share prices performed. It especially looked at the magnitude of



Indian IPOs' long-term performance, their cross-sectional and time-series patterns, and last but not least, the various justifications for their performances of share price in the long run. Upon examining it may be claimed that, in terms of share price performance over time, Indian IPOs exhibit very significant abnormal returns in the period of five years after issue. The performance of share price of Indian IPOs is not supporting the evidence from other countries showing considerable long-term underperformance. Indian IPOs portray notable differences in their cross-sectional patterns and time-series and, suggesting that numerous issue-related and firm-related features have a substantial impact on the long-term performance of enterprises. Last but not least, the performance of the share price for five years under study following the public offer is heavily impacted by early returns, market returns, and issue price inverse. The results of the study on long-term performance predictors are consistent with the investor overconfidence and windows of opportunity hypotheses.

Jampala Rajesh C et al (2012), This study examines initial public offerings (IPOs') short- and long-term performance on the Indian capital market. 146 IPOs that are listed on the National Stock Exchange board during 2007 and 2008 make up the sample. According to the data, the IPOs underperformed over the long and short terms, with negative returns of 8.41 and 38.44, respectively. Additionally, it was discovered that during the study period, there was a considerable discrepancy between the issue price and market performance of IPOs. Approximately 80% of the sample companies have seen negative long-term returns and 54% have underperformed from the day of IPO. By taking into account the issue price, market capitalization, etc., it analyses the stock performance. The study, however, omits to mention the causes of both short- and long-term underperformance, as well as the impact of additional variables like stock market performance, sales, earnings, etc. on stock returns.

Ramesh, B. et al (2015), A business's first equity offering to the public is called as an initial public offer or the IPO. It is a significant source of funding for businesses. In fact, IPOs are now the most widely used method of acquiring capital for businesses on the Indian capital market. One of the more perplexing financial occurrences is the initial public offer's price (IPOs). Utilizing a sample of 150 IPOs that joined the primary capital market between May 2007 and December 2011. By taking into account the gaps of monthly, tri monthly, half yearly, yearly, bi years, and tri yearly, respectively, the long run and short run price performance have been investigated. The results show that the Indian Primary Capital Market exhibits overpricing. Second, compared to the short run, overpricing occurs more frequently over the long run.

Sanjay Dhamija et al (2017), An analysis of initial public offers that are of 377 in number under study of Indian companies from

during the year 2005 to 2015 is presented in this article. The article's goal is to examine whether IPOs of the Indian market perform well or underperform the market overall on the long term and to pinpoint the major factors that influence this outcome. The findings indicate that Indian IPOs initially outperform the general market before suffering considerable long-term underperformance. From 2005 to 2015, IPOs listed on the main board generated initial excess returns (IERS) an average of 22% roughly. However, around 37% of the IPOs offered have unfavorable IERS. The IPOs generated a -57.33 percent BHAR over the 36 months following their listing, underperforming the overall market. Over a holding period of 36-month, only 38 of 377 IPOs (about 10%) outperformed the benchmark index. The kind of issuer (private or government-owned), the fame of the lead manager (LMP), ownership of the promoters, and the issue size are significant issue factors that affect the long-term performance.

Dr.Singh Amit Kumar et al (2017), This paper aims to assess the result of 152 IPOs that are listed on the NSE between 2010 and 2016. The analysis of one-month returns and listing day gains is included in the study. These IPOs reported an average gain of 11.998% on the day they went public compared to a loss of 3.78% for their one-month return, according to the analysis. 63.15% of the 152 IPOs listed on the NSE were underpriced, and 36.84% were overpriced.

RESEARCH GAP

From the above review of the past literature, researchers found that there was no such study done during the covid period, So the researchers have shown interest in knowing the actual situations of IPOs of Indian companies for the stated period.

OBJECTIVES

- To determine the percentage market-adjusted irregular return that is realized on the first trading day.
- To identify industry wise company performance with the benchmark (Nifty 200).

RESEARCH METHODOLOGY

Data Acquisition: The required data has been collected from NSE official website.

Sources of data

This analysis is based on Secondary data. The data about market index and listing day returns were collected from NSE website. Other data about the company and IPO issue details were collected from respective website of the company.

Sample Size: A total of 121 companies have been taken under study because the number of IPOs issued during covid period.



Table 1: Year wise number of IPOs listed in NSE for the period 2018-2021

Year	Number of IPOs issued by the companies
2018	24
2019	16
2020	18
2021	63
Total	121

Period of Study: January 2018 to December 2021.

DATA ANALYSIS

To measure the performance of the IPOs, return of listing day is calculated using the open and closing price of the IPOs.

- $R_n = (P_c - P_o) / P_o$

where

P_o = Offer price of security

P_c = Closing price on listing day

R_n = Return on listing day

According to the formula, the return of a specific day is determined by the percentage difference between the issue price and the closing price in the secondary market that day.

- $M_n = (I_c - I_o) / I_o$

Where

M_n = Market return on listing day

I_c = listing day closing index

I_o = Offer Day closing index

This formula is used to calculate the market index on listing day.

- $MAAR = \{ 100 * [(1 + R_n) / (1 + M_n) - 1] \}$

Market adjusted abnormal return (MAAR) is calculated to find out the level of underpricing in Indian IPOs for the stated period.

The variables considered for calculation are:

- 1) Issue price
- 2) Issue size
- 3) Closing index of IPOs
- 4) Opening index of IPOs
- 5) Market return

Table 2: MAAR for the year 2018-2021

Year	Number of companies	Minimum	Maximum	Mean	Standard deviation
2018	24	53.125	116.298	95.0188	16.382
2019	16	21.9714	107.846	93.1501	23.4867
2020	18	34.4506	219.321	99.0422	38.0016
2021	63	39.0008	219.321	100.319	20.50189145

The table 2 exhibits the market adjusted abnormal return for the period 2018-2021. The returns on initial day of the IPO were adjusted with NIFTY 200 market index. This analysis is done for the period January 2018 to December 2021 which consists of 121 IPOs issued and all 121 are under study. The market adjusted abnormal return for the years 2018,2019,2020 and 2021 are 95.01,93.15,99.05,100.3 respectively. In the year 2018, the highest MAAR was 116.29 and the standard deviation for that year was 16.38. This indicates that abnormal returns on initial day slightly deviated. In the year 2018, the highest MAAR was 116.29

and the standard deviation for that year was 16.38. This indicates that abnormal returns on initial day slightly deviated. In the year 2019, the highest MAAR was 107.846 and the standard deviation for that year was 23.48. This indicates that abnormal returns on initial day moderately deviated. In the year 2020, the highest MAAR was 219.321 and the standard deviation for that year was 38.00. This indicates that abnormal returns on initial day highly deviated. In the year 2021, the highest MAAR was 219.32 and the standard deviation for that year was 20.50. This indicates that abnormal returns on initial day moderately deviated.



Table 3: Descriptive statistics of the variables for the period 2018-21.

Year	variables	N	Minimum	Maximum	Mean	Standard deviation
2018	issue price	24	56	1480	513.81	394.072
	issue size		77.4	4473	1295.26	1315.205
	Market return (Mi)		-0.065	0.928	0.09005	0.26736
2019	issue price	16	19	973	338.357	332.834
	issue size		23	3125	789.56	785.04
	Market return (Mi)		-0.03533	0.91296	0.06067	0.2279
2020	issue price	18	33	1500	439.8	423.285
	issue size		61.2	116765	8054.23	27255.86
	Market return (Mi)		-0.57013	1.57568	0.14076	0.47006
2021	issue price	63	21.4	2769	709.75	573.927
	issue size		60	18915.9	1935.08	2888.85
	Market return (Mi)		-0.06912	0.04471	-0.00492	0.02568
		121				

The above table shows the statistics of the Market Return of Initial Public Offers ,issue size and Issue price and that were listed from 2018 to 2021. Data consists of 121 companies that is under analysis.

In 2018 the total number of samples taken is 24. The lowest price is 56 which belongs to lemon Tree Hotels Ltd of Leisure services industry and the highest price is 1480 which belongs to Galaxy Surfactants Ltd of Chemicals and Petro Chemicals industry, the difference between them is huge. The average issue size is 1295.26 and the minimum issue size is 77.4. The average market return on NIFTY 200 is 0.09005 and with the highest being 0.928

In 2019 the total number of samples taken is 16. The lowest price is 19 which belongs to Rail Vikas Nigam Ltd of construction industry and the highest price is 973 which belongs to India MART Inter MESH Ltd of retail sector, the difference between them is huge. The average issue size is 789.56 and the

minimum issue size is 23. The average market return on NIFTY 200 is 0.06067 and with the highest being 0.91296

In 2020 the total number of samples taken is 18. The lowest price is 33 which belongs to Equitas Small Finance Bank Ltd of Financial Services and the highest price is 1500 which belongs to Gland Pharma Ltd of Pharmaceuticals and Biotechnology, the difference between them is huge. The average issue size is 8054.23 and the minimum issue size is 61.2. The average market return on NIFTY 200 is 0.14076 and with the highest being 1.57568

In 2021 the total number of samples taken is 63. The lowest price is 21.4 which belongs to Indian Railway Finance Corporation Ltd of finance Industry and the highest price is 2769 which belongs to Craftsman Automation Ltd of Auto Components Industry, the difference between them is huge. The average issue size is 1935.08 and the minimum issue size is 60. The average market return on NIFTY 200 is -0.00492 and with the highest being 0.04471.

**Table 4: Year wise analysis of 121 IPOs for the period 2018-2021**

Industries	2018	2019	2020	2021	Total
Chemicals & Petrochemicals	2		2	6	10
Finance	4	1	2	3	10
Aerospace and defense	5			3	8
Construction	4	2	1	1	8
Auto components	2			5	7
Banks	1	2	2	2	7
Leisure services	1	2		4	7
Consumer Durables	1			5	6
Pharmaceuticals & biotechnology			1	5	6
Retailing		1		5	6
Capital markets	1		1	3	5
Healthcare services	1	1		3	5
IT software		1	1	3	5
Food products		1	2	1	4
Telecom services			2	1	3
Commercial services & supplies		1		1	2
Fintech				2	2
healthcare equipment & Supplies				2	2
Industrial manufacturing			1	1	2
Industrial products		2			2
IT services	1	1			2
Other utilities				2	2
Realty				2	2
Agricultural food and other products		1			1
Cement & Cement products				1	1
Entertainment				1	1
Ferrous metals				1	1
Fertilizers & Agrochemicals				1	1
Insurance				1	1
Pesticides & Agrochemicals				1	1
Textiles & Apparels	1				1
					121

As shown in the table, Chemicals & Petrochemicals and Finance industry has issued the maximum number of IPOs during the period 2018-2021. In 2018, the maximum number of IPOs were issued by Aerospace and defense industry followed by construction and finance industry. In 2019 and 2020, it is evident that covid has impacted the market and therefore, not more than 2 companies from the same industry raised funds through IPOs. As the economy started to improve in 2021, We can infer from the above table that many companies started growing and issued IPOs for finance. It is evident that chemicals & Petrochemicals industry issued the maximum IPOs in the year 2021 followed by pharmaceuticals & biotechnology and healthcare services issued IPOs of 5 and 3 respectively.

This analysis clearly shows that the IPOs during the pre-Covid phase that is 2018. The IPOs issued in 2018 is 24 (refer table 1). During the Covid phase that is 2019-2020 is 16 and 18 respectively. After the covid phase that is 2021, the number of IPOs has drastically increased to 63.

FINDINGS

This study tries to analyze the listing day performance of the IPOs based on the market adjusted abnormal return on the listing day for respective IPOs. The data considered for the study is of 121 companies that issued IPOs in the time period – 2018 to 2021. The mean of market adjusted abnormal return for the IPOs is 95.01 for 2018, 0.060 for 2019, 0.140 for 2020 and -0.004 for 2021. Due to the market impact of covid in 2019 and 2020, just two firms from the same sector raised money through initial public offerings (IPOs). We may deduce +that many companies started expanding and issuing IPOs for financing as the economy started to strengthen in 2021. It is clear that the chemicals and petrochemicals sector released the most initial public offerings in 2021, followed by the medicines and biotechnology sector with 5 and 3 offerings, respectively.

Recommendations

To decide on investment on IPOs, Investors should also look into oversubscription and other factors that may have impact on the performance of the IPOs on listing day.



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CLASSIFICATION OF GARMENTS FROM FASHION MNIST DATASET USING ALEXNET CNN ARCHITECTURE

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ABSTRACT

Clothing in many cultures mainly reflects very similar characteristics for human such as a social status, lifestyle and gender. Now a day's popular fashion images are considered as attraction for humans for buying new trending things of fashion products. Fashion is considered as self-expression of the human and it can context in many ways like footwear, lifestyle, makeup and hairstyle. For the classification of clothing different techniques are applied and one of the methods is CNN which is known as Convolutional Neural Network. So, CNN is type of artificial intelligence system. It is used in image recognition and processing by varying different layers. Alexnet CNN model has been used for predicting accuracy with the use of Fashion Mnist dataset. In this model, 10 classes have been used of T-shirt, Trouser, Pullover, Dress, Coat, sandal, Shirt, Sneaker, Bag, and Ankle Boot. 25 Epochs has been applied for better result in all models.

KEYWORDS: CNN Architecture, AlexNet, Fashion MNIST.

I. INTRODUCTION

Clothing in many cultures mainly reflects a very similar characteristics for human a social status, lifestyle and gender. Clothes are one of the important things for identifying people, it has provides a great the role in human society, the "fashion classification" has many applications for classifying fashion-MNIST dataset by using different techniques. For example, predicting details of clothes in an unmarked photo can be easy discovery of very similar fashion items those are present in e-commerce database website [1]. Now a days popular fashion images are considered as attraction for humans for buying new trending of fashion products [2]. Fashion is considered as self-expression of the human and it can context in many ways like footwear, lifestyle, makeup and hairstyle. So in other words fashion has many kinds. Body posture of human also recognized as fashion. Now days with the gross of demand for commodities, fashion industry becomes a attraction for youth people. The clothes which has very low prices are contently increase in global market. So clothing is recognized as business around the world, Everyday millions of clothes are manufactured in a terms of designing and sew. Clothing may vary to geography to geography and climate to climate. So there are huge cultural addition in India for people who wear multiple additions of clothing during session and festivals. For the classification of clothing different techniques are applied and one of the methods is CNN which is known as Convolutional Neural Network. So CNN is type of artificial intelligence system. It is used in image recognition and processing by varying different layers. Fashion-MNIST dataset are openly available which can be used for classifying the images [3].

II. LITERATURE SURVEY

Many CNN architecture has been proposed for analysis of image classification such as Alex Net, Google Net, VGG Net and Resnet etc[4][5][6] So with the creation of conventional neural network the image enhancement becomes very popular various. Neural networks have been introduced nowadays for examination in various materials such as fashion-MNIST so there are continuous improvement of the neural network so that it can becomes more accurate for identifying the things with the help of different machine learning techniques. The researcher proposed many methods and architectures for identifying the fashion-MNIST source and CNN basically is not restricted for image classification whether it can be used in several experiments that can be used in object detection and making predictions. Dung at al. (2012) propose day had written problem for the recongnization of characters the author proposed neural networks for identifying search characters [7]. Kang at al. (2014) the author proposed CNN segmentation of the images. The author achieved 80 % of accuracy with the training [8]. Bharatnagat at al. (2017) proposed a three-dimensional CNS structure for classification of fashion MNIST. The proposed the accuracy of 19.25 percentage with the help of batch normalization and crosslinking technique [9]. Mohhamad at al. (2020) the author proposed the CNN model for identifying the fashion MNIST data. The author is used lenet-5 architecture for the examination of fashion MNIST data and achieved 98% of efficiency [10]. Shobit at al. proposed a classificiojn model for the examination of fashion manist dataset and the result shown that proposed architecture enhance the accuracy of 2% to existing technique [11]. Shen et al. proposed a short term memory model for the examine of fashion mnist dataset. Author proposed the accuracy of 88% by using

LSTM technique [12]. Agrap et al. proposed the SVM model in order to identify fashion mnist dataset and with the use of CNN-Soft Max technique author proposed the accuracy of 90% . Han et al. achieved the accuracy of more than 90% by creating a good benchmark dataset [13][14].

III. MATERIAL AND METHODS

a) Alexnet

Alexnet architecture is a model which is used to predict given input to output. it has a lot of application. This architecture has been used in different purpose according to requirement. This

model can be used to predict hand written and machine printed character. Most of researcher ha used this model because of easy to implement and it has been considered has multilayer neural network. Alex net has 11 layers and those are used to predict values. The first layer is convolution layer which has a size of 55*55*96 with 4 strides and having a kernel size of 11*11 with activation function Relu, by adding the result the feature map of 96 is obtained. The final and last layer is a Fully connected layer having a size of 1000 with an activation function Softmax. Figure 1 shown Alexnet images.

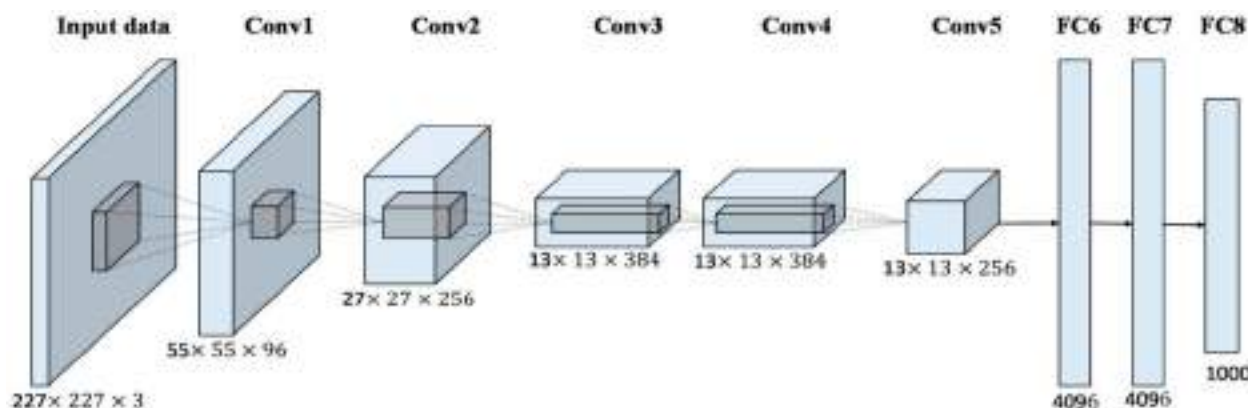


Figure 1: Alexnet Architecture Model

IV.PREPARATION OF DATASET

Samples for the CNN research was obtained from the Kaggle website. Google has launched and owns the Kaggle online group, which is open source. People can download datasets for use with CNN models and even upload their original data. The Fashion MNIST dataset is harder than the other MNIST datasets listed on the site, and it consisted of 60,000 testing data, 10,000 testing instances, and ten classes. There are 2828 single-channel monochrome photos.All Fashion MNIST images are 28*28

matrix samples, with 28 pixels in length. and 28 pixels wide are used. Total is 784 pixels in the matrix exists. Each pixel in the matrix has a given value and this value depends on the brightness or pixel darkness. All value is taken from the total data value with limits 0-255. Minimum value within the task assigned to you for example it will be simpler, compared to the maximum value from the set. Training data set, once the test data set will have approximately 785 columns. Figure 2 represents Overall images of fashion Mnist dataset.

Table 1: Name of Classification

Label	Classification
0	T shirt
1	Trouser
2	Pullover
3	Dress
4	Coat
5	Sandal
6	Shirt
7	Sneaker
8	Bag
9	Ankle Boots



Label	Description	Examples
0	T-Shirt/Top	[Grid of T-shirt images]
1	Trouser	[Grid of trouser images]
2	Pullover	[Grid of pullover images]
3	Dress	[Grid of dress images]
4	Coat	[Grid of coat images]
5	Sandals	[Grid of sandals images]
6	Shirt	[Grid of shirt images]
7	Sneaker	[Grid of sneaker images]
8	Bag	[Grid of bag images]
9	Ankle boots	[Grid of ankle boots images]

Figure 2: Overall images of fashion Mnist dataset

Data Evaluation Parameters

Different models have been used to evaluate the result. The confusion matrix data has been used to display true values and false value. These values are based on different parameters. These parameters are Recall, Precision, Accuracy and F1-Score. All these parameters are discussed as below:

- a) Precision: It is the ratio of truly predictive positive values to the total number of predicted positive observations. Precision can be calculated as follows:

$$\text{Precision} = \frac{TP}{TP+FP} \dots \dots \dots (1)$$

- b) Recall: It is the ratio of truly predictive positive values to the total number of observations taken from one class.

$$\text{Recall} = \frac{TP}{TP+FN} \dots \dots \dots (2)$$

- c) Accuracy: Accuracy is a ratio of true positive values to the true negative values in all matrix.

$$\text{Accuracy} = \frac{TP+TN}{TP+TN+FP+FN} \dots \dots \dots (3)$$

- d) F1-Score: It is a weighted combination of Recall and Precision.

$$\text{F1-Score} = 2 * \frac{\text{Recall} * \text{Precision}}{\text{Recall} + \text{Precision}} \dots \dots \dots (3)$$

Analysis of results has been based on above parameters.

V. CLASSIFICATION OF FASHION MNIST WITH MODELS.

- a) Classifying fashion Mnist dataset using vgg-16 Architecture

The green line indicates the value of accuracy based on 25 epochs while green line indicates the value of loss based on 25 epochs. Figure 3 represents overall report of fashion mnist generated with the help of vgg-16 architecture based on predicted response.

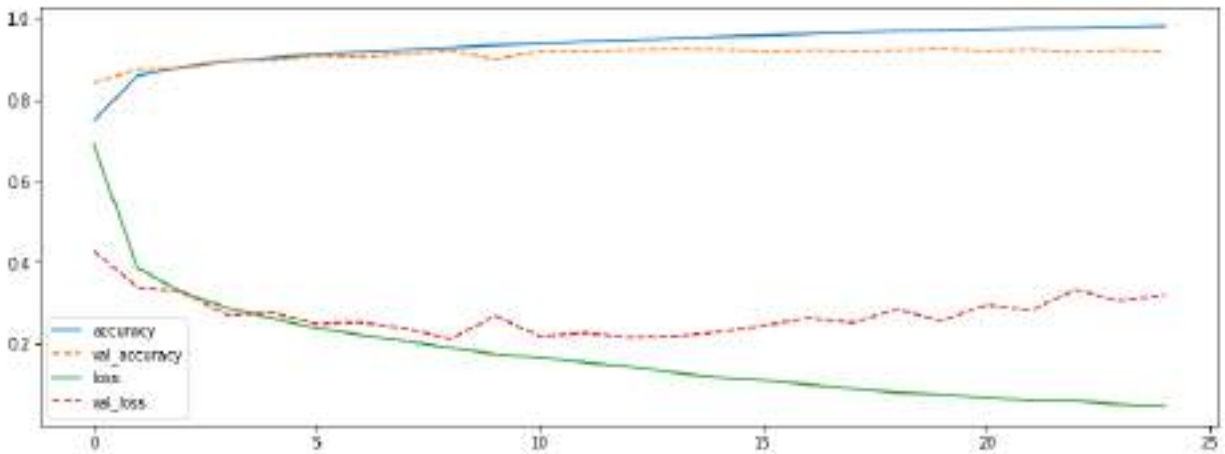


Figure 3: Overall performance of Accuracy and loss



VI.CONCLUSION AND FUTURE SCOPE

Different types of data set of fashion Mnist has been chosen from Kaggle. The dataset consists of 10 classes of items such as T-shirt, Trouser, Pullover, Dress, Coat, sandal, Shirt, Sneaker, Bag, and Ankle Boot. These classes have been classified by using different CNN models. This data can be used for any machine learning algorithm. In a given research three model has been constructed to determine the accuracy status. Kaggle. Tensorflow version: 2.6.2 has been used for analysis. Fashion mist dataset has been taken from Kaggle which is open source. In this model the data set consisting of 60000 training samples and 10000 training samples have been used. In all models, 10 classes have been used of T-shirt, Trouser, Pullover, Dress, Coat, sandal, Shirt, Sneaker, Bag, and Ankle Boot. 25 Epochs has been applied for better result in all models. . In a model of Alexnet the best training and testing accuracy is obtained 91.21% and 91.78% respectively with total number of 25 epochs has been executed. More CNN architecture will be applying on the data set of real clothes and images are collected by our self for examination purposes. In future study comprehensive comparison has been applied into different CNN architecture.

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FEATURES OF THE COURSE AND PROGNOSIS OF GLOMERULONEFRITIS WITH NEPHROTIC SYNDROME IN CHILDREN

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ABSTRACT

In the development of chronic renal failure in children, the proportion of glomerulonephritis is still significant. Identification of chronic kidney pathology at the initial stage is important to improve the effectiveness of preventive and therapeutic measures aimed at slowing down the progression of the disease. We examined 76 patients with acute glomerulonephritis with nephrotic syndrome aged 2 to 5 years, including 31 boys and 45 girls. The development of the forecast algorithm was carried out by the method of sequential Wald analysis. A score of 10 was used as a threshold to conclude on the prognosis. The peculiarity of the course of glomerulonephritis in children was that the disease develops against the background of hereditary predisposition.

KEY WORDS: glomerulonephritis, nephrotic syndrome, patients, course, prognosis.

INTRODUCTION

Glomerulonephritis is one of the main causes of chronic renal failure (CRF). The prevalence of the disease is growing in many countries of the world, and therefore it becomes extremely necessary to study the clinical course and prognosis of renal diseases [1,2,7].

In modern nephrology, age-related features of glomerular diseases are considered in two directions: differences between children and adults are studied, as well as features in children and adults depending on their age at the onset of the disease [6,7,9].

According to epidemiological studies, the structure of glomerular diseases may change. The development of nephrotic syndrome is associated with an increase in the permeability of the glomerular filtration barrier for macromolecules.

It is known that glomerular diseases can lead to a decrease in renal function. For a long time, impaired renal function can occur latently. Identification of chronic renal failure (CRF) in the initial stage is important to improve the effectiveness of preventive and therapeutic measures aimed at slowing down the progression of the disease [3,8,11]. Consequently, predicting the outcomes of glomerulonephritis in early childhood continues to be an urgent medical and social problem [5,10].

PURPOSE OF THE STUDY

To determine the diagnostic significance of clinical and laboratory parameters in predicting glomerulonephritis with nephrotic syndrome in children.

MATERIAL AND RESEARCH METHODS

Patients with acute glomerulonephritis (76) with nephrotic syndrome aged 2 to 5 years were examined, including 30 boys and 44 girls. The patients were divided into 2 groups. The first group consisted of 35 patients who had no recurrence of the disease for two or more years, the second group included

39 patients who did not achieve complete remission and developed a chronic form of the disease (CHN). The development of the forecast algorithm was carried out by the method of sequential Wald analysis [4]. A score of 10 was used as a threshold to conclude on the prognosis. The conclusion about the high probability of the transition of the disease to chronic glomerulonephritis was determined if the patient had more than 10 points. The development of the Wald sequential analysis algorithm was carried out by determining the frequency of symptoms in each group as a percentage. The evidence of statistical reliability of the difference in the frequency of symptoms is determined by the formula: $t = \frac{P_1 - P_2}{\sqrt{M_1^2 - M_2^2}}$. The proof of the independence of signs of detection of prognostic symptoms was the determination of the correlation coefficient for qualitative signs, which is calculated by the formula:

$Ch = \frac{ao - bc}{(a + b) \times (c + d) \times (a + c) \times (b + d)}$, where the letters indicate the signs. Correlation coefficient for quantitative traits, where "x" and "y" are average correlated traits. $T_x T_y$ standard deviation: $Ch = \frac{(x-x) \times (y-y)}{n} (T_x - T_y)$. The determination of the relative probability and the calculation of the prognostic coefficient were carried out according to the formula: $PC = 10 \lg P_1/P_2$.

Indicators of unfavorable prognosis with a positive sign, because in the numerator, the frequency of symptoms characteristic of the group with developed CGN, and in the denominator, symptoms characteristic of the group with acute glomerulonephritis with long-term clinical and laboratory remission. Taking into account the hypothesis with a normal distribution, the information measure was calculated using the Kullback formula [2]. According to the degree of information content, the following signs were selected, listed in the table, where PC is a prognostic coefficient, J (xi) is information content.



RESEARCH RESULTS

A comparative assessment of hereditary burden revealed that a prognostically unfavorable sign of chronicity was the presence of kidney diseases in relatives in the pedigree, the prognostic coefficient (PC) was 9.9 and significantly informative +1.65. From the anamnestic data, there were frequent sore throats (PC = 15.3) with the highest information content among all other signs (6.12), food and drug allergies, parasitic infestations, PC = 5.2 and 6 with an information value of 1.35 and 6, respectively. 1.02. Thus, if the total score exceeds the threshold unit "10", the patient has an unfavorable prognosis and belongs to the high-risk group requiring appropriate therapy.

Of the laboratory studies, the most unfavorable prognostic indicator was partial renal dysfunction: hypo- and hyperkalemia, proteinuria more than 3 g/l per day. According to the coagulogram, there was plasma tolerance to heparin (7.6). According to the analysis of excretory urography, unfavorable factors of chronicity were an increase in the size of the kidneys (PC = 17), information content 1.76, an increase in the nephrographic effect (PC = 12) with information content 1.24.

In the genesis of damage to renal structures in acute glomerulonephritis, a high information content of malondialdehyde was established with its increase from 6.8-8.4 nmol/mg/lipids in the cell membrane. Despite a slight difference in the indices of phosphatidylcholine, phosphatidylethanolamine, lysophosphatidylcholine in erythrocyte membranes in acute and chronic glomerulonephritis, compared with the indices in the control

group, their information content is high - 96, 88, 21, respectively.

The study of thyroid function in patients with acute glomerulonephritis with long-term remission: the level of thyroxine-bound globulin - 0.52 ± 0.086 nmol / l, triiodothyronine 1.32 ± 0.15 nmol / l, thyroxine - 99.96 ± 7.13 nmol / l, no significant difference was found in patients with AGN and CGN. However, if we take into account that the sum of prognostic coefficients is reliable at a value of 19.5, then a significant difference between patients of both groups is revealed.

The next stage of the study was the analysis of information content, which reflects the degree of approximation of the diagnosis to the correct diagnostic threshold. An informative measure of more than 3 was recognized as highly informative, but not less than 1, because 3 - 4 such signs are sufficient to reach the +10 threshold, i.e. providing no more than 10% errors. Such signs, for example, were a decrease in alpha - globulin, an increase in gamma - globulin, hyperlipidemia, an increase in cholesterol. Signs such as hypercoagulability, a decrease in endogenous creatinine against the background of a hereditary burden of kidney pathology, an increase in malondialdehyde and lysophosphatidylcholine, a decrease in phosphatidylethanolamine and phosphatidylcholine were prognostically unfavorable indicators. These indicators characterize the high activity of lipid peroxidation, leading to destabilization of cytomembranes and the formation of a prognostically unfavorable course of nephrotic syndrome in patients with glomerulonephritis.

Таблица

Prognostic coefficients and informative value in patients with acute glomerulonephritis

№	These parameters	Predictive coefficient	Informative
1.	Burdened by pedigree pathology of the kidneys	9,9	1,65
2.	Frequent sore throats	15,3	6,12
3.	Food and drug allergies	5,2	1,35
4.	parasitic invasion	6,0	1,02
5.	Stigmas of dysembryogenesis: epicanthus, broad bridge of the nose	6,4	2,22
6.	flat feet	5,8	1,36
7.	hyperpigmentation	4,4	1,2
8.	Hypertrichosis	6,9	1,87
9.	Malocclusion	6,0	1,8
10.	Swelling for more than 14 days	6,0	2,2
11.	Narrowing of the arteries of the fundus	1,25	9,7
12.	Hepatomegaly	10,7	4,06
13.	Tachycardia	6,0	2,05
14.	T-wave depression	6,0	2,05
15.	Proteinuria more than 3 g/l	6,0	2,3
16.	Partial impairment of kidney function	7,5	1,97
17.	Hypokalemia less than 3.7 mmol/l	19,5	2,01
18.	kidney enlargement	17,0	1,76
19.	Strengthening the nephrographic effect	12	1,24
20.	Increased plasma tolerance to heparin	7,5	1,97
21.	Hypergammaglobulinemia, stable	2,81	2,37
22.	Treatment with chlorbutin	4,1	0,75



CONCLUSIONS

1. In the development of chronic renal failure in children, the proportion of glomerulonephritis is still significant.
2. The peculiarity of the course of glomerulonephritis in children is that the disease develops against the background of hereditary predisposition.
3. The chronicity of the disease is due to the instability of cytomembranes against the background of increased activity of lipid peroxidation.
4. In connection with the established facts, timely diagnosis of factors leading to chronicity is necessary, as well as prevention of the formation of cytomembrane instability with immunological control of the treatment.

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FIVE-YEARS PREVALENCE OF VESTIBULAR DISORDERS, AS SEEN IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Vestibular disorders can affect the peripheral or central vestibular systems, controlling and maintaining balance. Several studies have confirmed the high prevalence rate of vestibular disorders in other countries. To our knowledge, only one study has been conducted on benign paroxysmal positional vertigo in eastern India, and limited knowledge on other vestibular disorders in the country. Hence, the present study was conducted at SRM hospital, Kattankulathur, Chengalpattu District, Chennai, Tamil Nadu, India, to estimate the overall prevalence of vestibular disorders in a tertiary care hospital between January 2016 and December 2020. The prevalence was identified through a register-based study that examined the case files of those who visited SRM Hospital with complaints related to balance and analyzed them in a retrospective manner. The present study found that 392 individuals with vestibular disorders were among the 214,004 clients. Thus, the prevalence of vestibular disorders according to the present study is 0.18 percent. The salient results of the present study were: Adults are more likely to experience vestibular disorders 323 (0.15%) children 1 (0.0004%), and, adolescents 7 (0.003%). Therefore, the prevalence of vestibular disorders is higher in adults than in other age groups. Prevalence of vestibular disorders was higher in women 236 (0.11%) than in men 156 (0.07%). The prevalence of vestibular disorders based on different types reveals that 311 (0.14%) BPPV is the most prevalent type, followed by 30 (0.014%) Meniere's and 15 (0.007%) vestibular neuritis.

KEYWORDS: vestibular disorder, Prevalence, Tertiary care hospital.

1. INTRODUCTION

The vestibular disorder is a partial or complete deficit of the Balance System. There are two types of vestibular disorders which can be classified by the site of lesion: peripheral and central. [1] Vestibular disorders may affect the individual quality of life and day-to-day activities. [2,3] In addition, it is associated with several conditions such as motion illness, [4] anxiety, [5,6] migraine [7], and faints. [8] The symptoms of the vestibular disorders are dizziness, nausea, headache, vomiting, tinnitus, ear fullness, disequilibrium, nystagmus, hearing loss, physical distress, unsteady gait, fatigue, and oscillopsia. [1, 9, 10] The prevalence of vestibular disorders is greater in women compared to men. [11-13] An epidemiological survey on 70,315,919 populations from 123 health insurance Companies data were collected in Germany reported that the prevalence of peripheral vestibular disorder was significantly more in women (65.4%) than in men (34.6%). [9] Also, the prevalence rate reported by Huppert et al. (2012) was significantly greater in women (37.5%) compared to men (27.5%). [14] The prevalence of vestibular disorders increases as the age increases, vestibular disorders in geriatrics are more prevalent than in adults, and adults with vestibular disorders are greater in number compared to children

and adolescents. [11, 15-18] The prevalence of vestibular dysfunction among the US population based on the data of the National Health and Nutrition Examination Survey (NHANES) from 2001 to 2004, showed 35% of US adults had vestibular dysfunction and 85% of geriatrics (80 years and above) had vestibular dysfunction. [9] An epidemiological study in the US also revealed that almost 69 million people from the US are affected by vestibular dysfunction. [20] According to Von Brevern et al. (2007), the prevalence of benign paroxysmal positional vertigo was seven times greater in the geriatric population than in young adults below 40 years. [21] Despite this, a German study showed a prevalence rate of 2.4% for BPPV, of which 1.6% were men and 3.2% were women. [22] A questionnaire-based study was conducted among children to find the prevalence of vestibular disorders and they found that the prevalence range falls between 0.7% and 15%. [18, 23, 24] Nevertheless, a study on 700 children to estimate the prevalence of vestibular pathology revealed 19% of them had benign paroxysmal vertigo of childhood (BPVC), and 18% of the children had vestibular migraine. The prevalence rate of children versus adolescents differs by age, but in elementary school children, the prevalence rate is similar for benign paroxysmal vertigo of childhood (BPVC) and vestibular



migraines (VM), with a prevalence rate of around 30%. Age is indirectly related to Benign Paroxysmal Vertigo of Childhood (BPVC) and Vestibular Migraine (VM).^[25] In distinctive countries, the prevalence of Meniere's disease was found to be superior in the range of 17 to 513 per 100,000 individuals.^[26-30] The prevalence of Meniere's disease was higher in the adult population between 30 years and 50 years of age compared to the children.^[31] The prevalence of Meniere's disease increases as age increases and it affects women more than men.^[32] In the United Kingdom, the prevalence was found to be one in every 1,000 people, with women being affected more than men.^[33] Meniere's disease affects the majority of people between the ages of 40 and 60, but it can occur at any age.^[34] The prevalence of semi-circular canal dehiscence dived concerning three semi-circular canals, results stated that the prevalence of superior semi-circular canal dehiscence was 0.5% to 12.4%^[35-38] lateral and posterior semi-circular canal dehiscence was 1.7% and 1.2%, however, male were affected greater than female.^[39] According to Neuhauser the prevalence rate of vestibular neuritis falls between 3% and 10%.^[12] The prevalence of vestibular migraine was estimated in several countries, In the United States nationwide study was carried out based on the ICHD-3 to estimate the prevalence of vestibular migraine and they reported that 2.7% of the adults were affected with vestibular migraine.^[40] However, in Germany larger population-based study reported that 1% was the prevalence rate of vestibular migraine^[12] community-based study revealed middle-aged women were found to be prevalent in vestibular migraine is 5%.^[42] A survey conducted by the German health system found 6 to 7% of the individuals who visited neurological clinics had vestibular migraine and 9% of the individuals who visited migraine clinics had vestibular migraine.^[43] An epidemiological study in the US found that the prevalence of acoustic neuroma was 1 per 100,000 in a year.^[44] In Japan, a medical records-based retrospective study in the general hospital revealed, that 2.6% of the individuals with asymmetrical sensorineural hearing loss were affected by acoustic neuroma.^[45] A Taiwan population-based study revealed that 2,833.4 per 100,000 affected by peripheral vestibular disorders, 446.4 per 100,000 with benign paroxysmal positional vertigo, 70.4 per 100,000 reported with Meniere's disease, 307.2 per 100,000 reported with vestibular neuritis, 2009.5 per 100,000 stated with others or unspecified peripheral vestibular dizziness and they mentioned peripheral vestibular disorders prevalence rate was greater in females compared to the male population and as the age increases the prevalence of peripheral vestibular disorder also increases.^[11] In the Indian context, only one Retrospective study was done concerning the prevalence of Vestibular disorder in eastern India and reported that out of 685 vertigo patients 172 were diagnosed with Benign Paroxysmal Positional Vertigo disorder from 23 to 76 years of age.^[46] There is confirmation of the high prevalence rate of vestibular disorders in other countries.^[9, 47] Hence it is important to know the prevalence of vestibular disorders in tertiary care hospitals in the Indian context. To our knowledge only one study was carried out about the prevalence of Benign Paroxysmal Positional Vertigo disorder in India, Due to limited availability of information about the prevalence of

vestibular disorders in India, the present study aimed to find out the prevalence of vestibular disorders from January 2016 to December 2020 in a tertiary care hospital.

2. METHOD

The goal of this study was to find out how common vestibular diseases are in a tertiary care hospital. The present study was carried out in the Department of Audiology and Speech-Language Pathology, SRM Medical College Hospital, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu District, Chennai, Tamilnadu. In the present study, a register-based study design was used and a retrospective case analysis was done to find the prevalence rate of vestibular disorders from January 2016 to December 2020.

2.1. Participants

During the retrospective analysis, the case files of those individuals who visited the Audiology and ENT OPD from January 2016 to December 2020 with the complaint of giddiness (or) vertigo (or) balancing problems were reviewed.

2.2. Procedure

The Department OPD Register was used to determine the total number of people who visited the Department during the above-mentioned period. Information about the person's age, gender, and the number of people who visited the Department OPD with a complaint of giddiness, balance problem, or vertigo was collected. OPD registers with individuals who reported the complaint of giddiness, balancing problems, or vertigo to find the information such as a primary and secondary complaint of each person, duration of the giddiness, type of the giddiness, age, and gender of the individuals, and medical history of the person. Individuals who visited the department of Audiology with the complaint of giddiness, balancing problems or vertigo had undergone a complete audiological and vestibular assessment.

The Audiological assessment carried out in the department included detailed case history of the particular individuals. Clinical history was used to ascertain the nature, frequency, and triggering mechanism of attacks. Information on concomitant visual and neurological problems was also gathered, along with relevant medical history. Pure tone audiometry testing was done using the Modified Hughson Westlake procedure^[48] Thresholds were measured at octave intervals between 250 Hz and 8000 Hz and 250 Hz to 4000 Hz for air conduction and bone conduction testing respectively. Speech Audiometry test (SRT & SIS) in live voice presentation, using the standardized speech materials concerning the patient's mother tongue, such as Spondee words and Phonetically Balanced words were used at 20 dB SPL (re: PTA) and 40 dB SL (re: SRT) for Speech Recognition Threshold and Speech identification Score. Acoustic Immittance (Tympanometry & Acoustic Reflex) Tympanometry was performed by using a probe tone frequency of 226 Hz at 85 dB SPL, to test the reflex thresholds 500, 1000, 2000 and 4000 Hz reflex eliciting tones were administered ipsilaterally and contralaterally. Distortion Product Otoacoustic Emissions



(DPOAE) was done to evaluate the status of outer hair cells in the cochlea using Neuro Audio software. The frequency range assessed was 2–8 kHz, and the Distortion Product (DP) gram was obtained at the resolution of 12 points/octave. F 2/F 1 frequency ratio was 1.22 and the intensity values of the F 1 and F 2 were 65 and 55 dB SPL, respectively. DPOAE was performed on the subjects using the PMS after assigning them to their respective groups. Measurements were conducted using calibrated equipment in a sound-treated room. Participants were seated comfortably in a chair and participants were instructed to relax and avoid physical movements. The vestibular assessment was carried out in the department were subjective vestibular test battery (Romberg test, Gaze test, Tandem walking test, Fukuda stepping test, Head shaking test, Dix-hall pike test, Spontaneous nystagmus test, and Sharpened Romberg test). Cervical Vestibular Evoked Myogenic Potential (C-VEMP), Ocular Vestibular Evoked Myogenic Potential (O-VEMP) Vestibular function test performed by stimulating one ear with repetitive pulse or click sound stimulation and then measuring surface EMG responses over selected muscles averaging the reaction of the muscle electrical activity associated with each sound click or pulse. When the myogenic response is recorded from sternocleidomastoid muscle, it is known as cervical VEMP (cVEMP). Cervical VEMP is a useful tool to tap the function of the sacculo-collic reflex. Cervical VEMP responses are from the saccule as the end organ. The response recorded consisted of an initial positive peak (p13 or p1) followed by a negative peak (n23 or n1). In ocular VEMP (oVEMP), electrodes placed below the eyes are used to record a short-latency biphasic potential. The oVEMP peaks at 10 ms and 15 ms. [49]

The stimulus and acquisition parameters used were suggested by the previous studies. [50-53] An individual who ever undergone complete audiological and vestibular assessment in the department those individual audiological and vestibular test

results and overall interpretation were analyzed based on the presence or absence of the vestibular disorder and types of vestibular disorders were identified in the present study.

3. RESULTS

The present study aimed to find the prevalence of vestibular disorders in the tertiary care hospital, the department OPD registers, and case files were analyzed retrospectively on individuals who visited from January 2016 to December 2020. In total 2,14,004 Individuals visited the department OPD during the above-mentioned period.

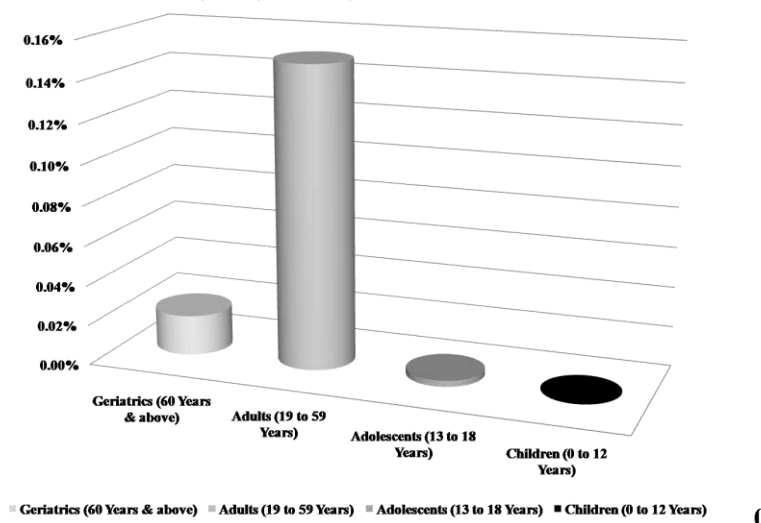
3.1. Prevalence of vestibular disorders

Of the 2,14,004 individuals, 392 reported the complaint of vestibular problems, hence the prevalence of vestibular disorders was estimated to be 0.18 %.

3.2. Vestibular disorders in different age groups

In the present study prevalence rate of vestibular disorders was obtained across different age groups. Among 392 individuals only one child was diagnosed with the vestibular problem, hence the prevalence rate of vestibular impairment among children was estimated to be (0.0004%), 7 (0.003%) Adolescents (13-18 years) were diagnosed with vestibular disorders, Total of 323 Adults (19-59 years) were diagnosed with the vestibular disorders, the prevalence of vestibular disorders in adults is 0.15%, and 61 Geriatrics (60 years & above) (0.02%) diagnosed with vestibular disorders. However, comparing the prevalence rate across different age groups revealed Adults are more prevalent with vestibular disorders than other age groups. (Adults > Geriatrics > Adolescence > Children). Age-wise prevalence of vestibular disorders is depicted in figure 1.

Figure 1. Percentage of individuals with vestibular disorders among Children, Adults, Adolescents, and Geriatrics





To see the variations across age categories were statistically significant or not, we performed the equality of

proportions test. The outcomes of our experiment between age categories were statistically significant, as shown in table 1.

Table 1. The percentage of individuals with vestibular disorders was analyzed age-wise for equality of proportions

Age Group	Z value
Children (0-12 yrs) and Adolescent (13-18 yrs)	5.5 *
Children (0-12 yrs) and Adult (19-59 yrs)	179.1 *
Children (0-12 yrs) and Geriatric (60 & above)	48.1 *
Adolescent (13-18 yrs) and Adult (19-59 yrs)	180.9 *
Adolescent (13-18 yrs) and Geriatric (60 & above)	52.2 *
Adult (19-59 yrs) and Geriatric (60 & above)	152.5 *

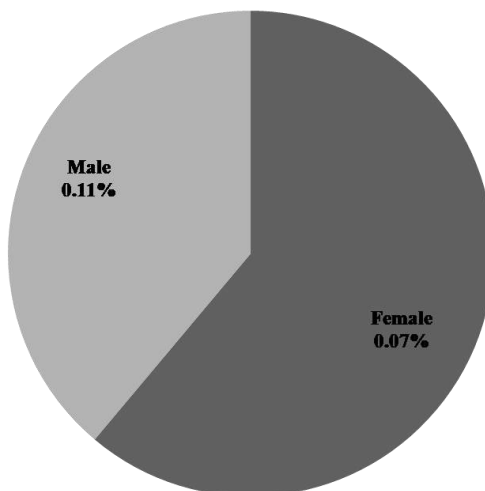
*|Z| > 1.96

3.3. Gender-wise analysis of Vestibular disorders

In the current study prevalence of vestibular disorders was analyzed to find out the gender difference. Results showed that out of 392 individuals 156 (0.07%) males and 236 (0.11%)

females were diagnosed with vestibular disorders. Females were more prevalent than males, as represented schematically in figure 2.

4.2. Percentage of individuals with vestibular disorders among males and females



We used a proportional equality test to see whether the variation

in prevalence between genders was statistically significant or not,

the results have shown there is a statistically significant difference between gender ($|Z|=45.7$).

Table 2. Percentage of individuals with vestibular disorders was analyzed gender-wise for equality of proportions

Gender	Z value
Male and Female	45.7 *

* $|Z| > 1.96$

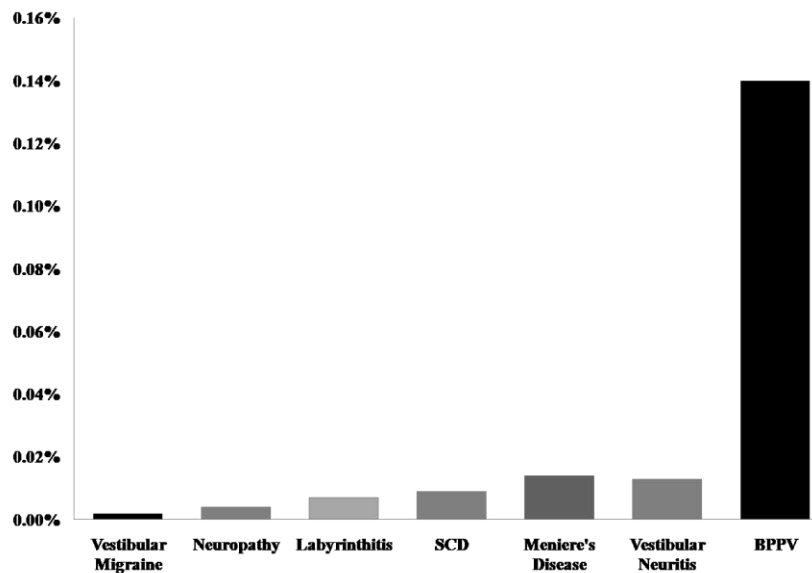
Comparing the Gender-wise analysis of vestibular disorders both Male and Female were found to be significant.

3.4. Type of Vestibular disorders

To estimate the prevalence rate concerned to types, all 392 individuals were grouped based on their vestibular disorders, results revealed that 311 (0.14%) individuals were diagnosed with BPPV, 28 (0.013%) individuals were diagnosed with Meniere's

disease, 30 (0.014%) individuals were diagnosed with vestibular neuritis, 15 (0.007%) individuals were diagnosed with labyrinthitis, 5 (0.002%) individuals were diagnosed with vestibular migraine, 2 (0.009%) individuals were diagnosed with Semi-circular canal dehiscence and 1(0.0004%) individuals were diagnosed with vestibular neuropathy. These results were depicted graphically in figure 3.

Figure 3. Number of Individuals with different types of Vestibular disorders



The equality of proportions test was used to distinguish the two forms of vestibular diseases to see if the differences were

statistically significant and the results were shown in table 3.



Table 3. The percentage of individuals with different kinds of vestibular disorders as determined by a test of proportions.

Type of vestibular disorders	Z value
BPPV and Meniere's disease	156.3*
BPPV and Labyrinthitis	166.7*
BPPV and Vestibular neuritis	154.6*
BPPV and Vestibular migraine	175.8*
BPPV and SCD	163.2*
BPPV and Neuropathy	178.7*
Labyrinthitis and Meniere's disease	19.7*
Meniere's disease and Vestibular neuritis	2.8*
Meniere's disease and Vestibular Migraine	41.7*
Meniere's disease and SCD	12.5*
Meniere's disease and Neuropathy	50.55*
Labyrinthitis and Vestibular neuritis	22.5*
Labyrinthitis and Vestibular Migraine	24.4*
Labyrinthitis and SCD	7.3*
Labyrinthitis and Neuropathy	35.6*
Vestibular neuritis and Vestibular Migraine	44.1*
Vestibular neuritis and SCD	15.3*
Vestibular neuritis and Neuropathy	52.6*
Vestibular Migraine and SCD	31.0*
Vestibular Migraine and Neuropathy	15.1*
SCD and Neuropathy	41.1*

*|Z| > 1.96

When comparing the |Z| values, the most significant value is between BPPV and neuropathy; after which BPPV and vestibular migraine shows the significant value. Labyrinthitis and semicircular canal dehiscence are the second least significant |Z| value and Meniere's disease and vestibular neuritis show the least significant value in the above data.

4. DISCUSSION

The current study was designed to estimate the prevalence rate of vestibular disorders in SRM hospital patients presenting with complaints of vestibular problems between January 2016 and December 2020. The number and percentage of patients with vestibular disorders were determined across the various domains.

4.1. Prevalence of vestibular disorders

In the present study, the prevalence of vestibular disorders was 0.18 % in patients who visited the Department of Audiology and ENT with a complaint of vestibular problems between January 2016 and December 2020. These findings show a lower prevalence rate of vestibular disorders than previous findings. [18, 23, 24, 54] Among children, Riina et al. (2005), Bower and Cotton, (1995), Eviatar et al. (1986), and Abrol et al. (2001)

reported a prevalence rate of 0.7 %. The differences between the present study and earlier studies may be because the criteria used to diagnose vestibular disorders, aging, etc. can influence the prevalence rate of vestibular disorders. And also, earlier studies have considered prevalence in a specific population, namely children, but the present study encompassed all age groups.

4.2. Vestibular disorders in different age groups

In the present study, Adults had a higher prevalence rate of vestibular disorders than other age groups, while children, Geriatrics, and young adults had the lowest prevalence rates of vestibular disorders. Similarly, Wahat et al. reported that adults had a higher prevalence rate of vestibular disorders than other age groups. [55] In contrast, previous studies found that the elderly have the highest prevalence. [12, 29, 56] the total number of adult visits to the OPD may be double that of older adults, which could explain such findings and also vestibular symptoms among the older age groups (60 years & above), due to their numerous other diseases and symptoms. [55]

4.3. Gender-wise analysis of Vestibular disorders

The present study found that 0.07% of those with



vestibular disorders were men, while 0.11% were women. The prevalence of vestibular disorders was higher in women than in men; similar findings were reported in other studies, and the reason could be due to certain medical conditions, such as migraine, pre-menstrual syndrome, and hormonal imbalance. [13, 55, 57-59] Also, women seek assistance more often than men with health-related matters, such as health status and general well-being. [60, 61]

4.4. Type of Vestibular disorders

In the current study, found that 311 (0.14 %) out of 2,14,004 participants were diagnosed with BPPV, 30 (0.014 %) with Meniere's disease, 28 (0.01%) with vestibular neuritis, 15 (0.007%) with labyrinthitis, 5(0.002%) with vestibular migraine, and 2(0.009%) with SCD and 1(0.0004%) with vestibular neuropathy. In the present study, BPPV and Meniere's disease were discovered to be the most prevalent than other vestibular disorders. However, vestibular neuritis was the third most prevalent in the present study and it is followed by semicircular canal dehiscence, labyrinthitis, neuropathy, and vestibular migraine, the present study results are almost similar to earlier studies' findings on the reason for the variations in the prevalence rate of vestibular disorders could be a difference in the study method, diagnostic criteria used, population-based studies, and BPPV and Meniere's disease are associated with several conditions like migraine. [13, 55, 62-66]

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IMPACT OF HRM PRACTICES & JOB SATISFACTION IN SELECTED PRIVATE BANKS OF BANGLADESH

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ABSTRACT

Human Resource Management includes planning, job analysis, job design, acquisition, training and development, compensation, appraisal, benefits, rewards, safety, health, motivation, job evaluation, human relations, employee counselling and personnel research of human resources. The main purpose of the study is to investigate the Impact of HRM Practices & Job Satisfaction in Selected Private Banks of Bangladesh. To conduct this research, 85 respondents from Dutch Bangla Bank Ltd., United Commercial Bank Ltd., Dhaka Bank Ltd., & One Bank Limited leading private commercial banks of Bogura & Sirajganj District of Bangladesh. This study is based on primary as well as secondary data in nature. Primary data have been collected with help of a structured questionnaire which was administered personally to the bank employees. The primary data have been analysed with help of SPSS software. This study tried to disclose the relationship between employees' satisfaction and various dimensions of HRM practices. In this study, we considered nine major factors which represented most of the human resources management practices followed by different private banks. The study reveals that all HRM dimensions exercised in the private banking sector of Bangladesh falls short to satisfy the employees equally. Most of the employees are dissatisfied with Compensation System followed by reward and motivation, Career & Development, training and development, Management System, and job design and responsibilities. It is found the HRM practices in the private banking sectors of Bangladesh have not been fully developed and there is the urgent need to employ the services of HR professionals, consultants and researchers to help shape and develop new directional focus that will ensure an efficient and effective human resource practices.

KEYWORDS: HRM, HRM practices, job satisfaction, private commercial banks, Bangladesh

INTRODUCTION

Human Resource Management includes planning, job analysis, job design, acquisition, training and development, compensation, appraisal, benefits, rewards, safety, health, motivation, job evaluation, human relations, employee counselling and personnel research of human resources. A HRM system is a set of procedures framed to control, e.g., the system of employment in HRM through selection involving a set of procedures of inviting applications, conducting tests, interviews, physical examination, checking references, issuing appointment letters, their compensations; and beyond that training and other processes to be followed for effective management and total efficiency of all the systems should be effectively planned, developed and executed collectively by human resource manager in consultation with other managers.

HRM practices refer to organizational activities directed at managing the pool of human resources and ensuring that the resources are employed towards the fulfillment of organizational goals (Schuler & Jackson, 1987). The concept of HRM becomes popular in the early 1980s. Since then there has been increasing interest in the academic concept as well as in the research area. Early models of HRM were largely conceptual and not based on substantial empirical evidence for their validity (Beer, Spector, Laerence, Miles & Walton, 1984). Dramatic advances of

Information and Communication Technology (ICT), changing mix and personal values of the workforce, emergence of the knowledge economy and increasing global competition have created enormous challenges on organizations. To cope with the challenges efficiently, human resource has been considered as one of the most important factors in today's hypercompetitive market place. In the context of a developing economy like Bangladesh, where the need for formation of capital is pressing, where developments in the field of industrial and bank management are dynamic, and where financial crises accompanying pangs of economic growth are frequent, the challenges posed by HRM are of great importance; and, as a sequel, exploring the possibilities of the application of HRM becomes a very relevant field of enquiry and research.

REVIEW OF LITERATURE

Increasing endorsement of private commercial banks by the government in Bangladesh in recent times has made this sector highly competitive and challenging than ever before thus being a labor-intensive service organization banks must optimize the utilization of its human resources to effectively tackle those challenges and to secure a sustainable competitive position in the market. Due to this rapid growth in banking sector, the demand for efficient and experienced human



resources has increased in the manifold (Mizan, et al., 2013). Thereby to attract new competent workforce and to retain the existing talented personnel sound administrative policy, consistent HR practices, employee job satisfaction and organizational commitment are highly imperative (Ahmad & Schroeder 2003; Khera 2010; Mohammad 2004; Mizan et al., 2013). So every bank should concentrate on sound HR practices to ensure employees' motivation and job satisfaction. The impact of Human Resources Management (HRM) practices popularly known as HR practices on organizational performance and employee attitudes has been a leading area of research in the developed countries for years (Delaney and Huselid, 1996; Huselid, 1995; Katou and Budhwar, 2007; Petrescu and Simmons, 2008). But surprisingly, a few studies have been conducted on HR practices in the context of developing countries in general (Schuler as cited in Budhwar and Debrah, 2001; Sing, 2004; Yeganeh and Su, 2008) and Bangladesh in particular (Mahmood, 2004). This study has been conducted to analyze the influence of HR practices on employee job satisfaction in the context of Bangladeshi private commercial banks. Practitioners, researchers, academicians, policy makers, local and foreign entrepreneurs of Bangladesh and other developing countries could benefit from this study by exploring the association between HR practices and job satisfaction. This study will enhance the contemporary research and practice of human resource management. Furthermore, it would also be helpful for the developed countries as they find developing countries (like Bangladesh) as an attractive place for investment due to their large markets, cheap and skilled workforces (Budhwar and Debrah, 2001).

OBJECTIVES OF THE STUDY

The objectives of the study are to measure employees' satisfaction on the HRM practices of private banking sector in Bangladesh. The objectives are:

- To find out an Concept and analysis of HRM practices
- To focus the dimensions of HRM practices
- To analysis a test for measuring employee's satisfaction by HRM practices
- To examine weak points of HRM practices which affects employees' satisfaction
- To provide some HRM suggestions for improving HRM practices and employee's satisfaction

Methodology of the Study

This study is based on primary as well as secondary data in nature. Primary data have been collected with help of a structured questionnaire which was administered personally to the bank employees. Random sample technique has been used to face to face interview with the employees. The area of this study

was employees in Bogura & Sirajganj District of Bangladesh. who are serving as a banker of different four banks. Among various banks, this study only considered Dutch Bangla Bank Ltd., United Commercial Bank Ltd., Dhaka Bank Ltd., & One Bank Limited banks. For this research, 120 bank employees are selected from the these banks and out of these 85 private bank employees responses properly. The questionnaire consists of different questions on nine HRM dimensions such as recruitment and selection systems, compensation package, job security, Career & Development, training and development, Management System, job design and responsibilities, Motivation Tools and Bank Environment. The questionnaire was developed by using a five point Likert scale, whereas highly satisfied, moderately satisfied, satisfied, somehow satisfied & dissatisfied. But some secondary data have been used in the study. The secondary data used in the study have been collected from related journals, books, newspapers and internet, etc. In this study, some statistical measures such as Z-test mean and proportion analysis is used to examine employee's satisfaction.

HYPOTHESES OF THE STUDY

On the basis of the various factors affecting on HRM practices, the following hypotheses are developed for the study:-

- H1: Employees' are satisfied on "Recruitment and selection systems".
- H2: Employees' are satisfied on "Compensation package".
- H3: Employees' are satisfied on "Job security".
- H4: Employees' are satisfied on "Career & Development".
- H5: Employees' are satisfied on "Training and development".
- H6: Employees' are satisfied on "Management System".
- H7: Employees' are satisfied on "Job design and responsibilities".
- H8: Employees' are satisfied on "Reward and motivation".
- H9: Employees' are satisfied on "Bank Environment".

DATE ANALYSIS & RESULTS

It is assumed from the hypothesis that employees are satisfied on the current recruitment and selection systems of their bank like the recruitment system is fair and appropriate for the appointment to the job.

H1: Employees' are satisfied on "Recruitment and selection systems":

The Table no 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is greater than calculated value ($Z = 0.55$). So, the null hypothesis is accepted and hence, we conclude that employees are satisfied on Recruitment and Selection Process of their bank.



Table-1 Employees perception on different levels of Satisfaction of HRM dimensions

Employees Satisfaction Dimensions	N	Mean	Standard Deviation	Standard Error	Z Value (Calculated value)	Mean Rank
Recruitment and Selection Systems	85	3.06	0.98	0.11	0.55	1
Compensation Package	85	2.03	0.97	0.11	8.75	9
Job Security	85	3.03	1.06	0.12	0.25	2
Career & Development	85	2.13	0.97	0.1	8.7	7
Training and Development	85	2.3	1.02	0.11	6.36	6
Management System	85	2.49	1.02	0.11	4.64	5
Job Design and Responsibilities	85	2.49	1	0.11	4.16	4
Reward and Motivation	85	2.1	1.02	0.11	8.12	8
Bank Environment	85	3.02	1.11	0.12	0.17	3

H2: Employees' are satisfied on "Compensation package":

This hypothesis indicates that employees are satisfied with present salary, increment allocation method and other compensation packages. Table 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is less than calculated value ($Z = 8.82$). So, the null hypothesis is rejected and hence, this study concludes that employees are not satisfied on Compensation System of their bank.

H3: Employees' are satisfied on "Job security":

It is cleared from this hypothesis that employees are satisfied with security to their job. Table 1 signifies that at 0.05 level of significance (two tailed test), table value (1.96) is greater than calculated value ($Z = 0.25$). So, the null hypothesis is accepted and hence, this study concludes that employees are satisfied on job security of their bank.

H4: Employees' are satisfied on "Career & Development":

This hypothesis indicates that employees are enjoying enough space for his/her Career & Development. Table 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is less than calculated value ($Z = 8.7$). So, the null hypothesis is rejected and hence, this study concludes that employees are not satisfied on Career & Development of their bank.

H5: Employees' are satisfied on "Training and development":

This hypothesis indicates that training and development program are available in the bank and employees are satisfied on that program. Table 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is less than

calculated value ($Z = 6.36$). So, the null hypothesis is rejected and hence, this study concludes that employees are not satisfied on training and development of their bank.

H6: Employees' are satisfied on "Management System":

This hypothesis indicates that Management System is very flexible for employees and they involved with the managerial decision making. Table no 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is less than calculated value ($Z = 4.64$). So, the null hypothesis is rejected and hence, this study concludes that employees are not satisfied on Management System of their bank. *International Review of Management and Marketing, Vol. 2, No.1, 2012, pp.52-58 56*

H7: Employees' are satisfied on "Job design and responsibilities":

The hypothesis indicates that job is properly designed and employees can easily perform their task. Employees receive fair treatment, recognition and overall quality supervision from the boss. Table 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is less than calculated value ($Z = 4.18$). So, the null hypothesis is rejected and hence, this study concludes that employees are not satisfied on Staffing and Responsibilities of their bank.

H8: Employees' are satisfied on "Reward and motivation":

The hypothesis indicates that various financial and non-financial Motivation Tools system is present in their bank, employees are satisfied on that system. Table 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is less than calculated value ($Z = 8.18$). So, the null hypothesis is



rejected and hence, this study concludes that employees are not satisfied on Motivation Tools of their bank.

H9: Employees' are satisfied on "Bank Environment".

This hypothesis indicates that the physical Bank Environment is very conducive for satisfaction at large. Table 1 presents that at 0.05 level of significance (two tailed test), table value (1.96) is greater than calculated value ($Z = 0.17$). So, the null hypothesis is accepted and hence, this study concludes that employees are satisfied on Bank Environment of their bank. From the above hypotheses testing it could be assumed that employees are satisfied on some dimensions of HRM practices such as

Recruitment and Selection Process(mean rank-01), job security (mean rank- 02) and Bank Environment (mean rank-03).The hypotheses test also presents that employees are not satisfied on some dimensions such as Staffing and Responsibilities (mean rank-04), Management System (mean rank-05), training and development (mean rank-06), Career & Development (mean rank-07), Motivation Tools (mean rank-08) and Compensation System(mean rank-09).Therefore, it is clear that all dimensions are not equally satisfied to employees. It is also very clear from the Table 2 which dimensions highly satisfied or dissatisfied to employees.

Table-2 Percentage of employees on different levels of Satisfaction of HRM dimensions

	Highly Satisfied	Satisfied	Moderately Satisfied	Some how Satisfied	Dissatisfied	Total
Recruitment and Selection Systems	6.82	43.18	25	17.95	7.95	100
Compensation Package	3.41	19.32	3.41	40.91	32.95	100
Job Security	9.09	39.77	22.73	19.32	9.09	100
Career & Development	2.27	22.73	6.82	37.5	30.68	100
Training and Development	4.55	22.73		42.05	22.73	100
Management System	5.68	25	10.23	45.45	13.64	100
Job Design and Responsibilities	4.55	29.55	11.36	43.18	11.36	100
Reward and Motivation	3.41	20.45	5.68	38.64	31.82	100
Bank Environment	11.36	36.36	20.45	22.73	9.09	100

Factors

1. Recruitment and Selection Process(RSP)
2. Compensation System(CS)
3. Job Security (JS)
4. Career & Development (C&D)
5. Training and Development (T&D)
6. Management System (MS)
7. Staffing and Responsibilities (S&R)
8. Motivation Tools(MT)
9. Bank Environment (BE)

This present table shows percentage of employees on different levels of Satisfaction of HRM dimensions. The table indicates that the highest 43.18 percent employees are satisfied on Recruitment and Selection Process followed by 39.77 percent on job security, 36.36 percent on Bank Environment, 29.55 percent on job design and responsibilities, 25 percent on Management System, 22.73 percent on Career & Development as well as training and development, 20.45 percent on Motivation Tools and the lowest 19.32 percent on compensation package. Table 2 also presents that the highest 11.36 percent employees are highly satisfied on Bank Environment and the

lowest 2.27 percent on Career & Development. The study also indicates that the highest 32.95 percent of employees are dissatisfied on Compensation System followed by 31.82 percent on reward and motivation, 30.68 percent on Career & Development, 22.73 percent on training and development, 13.64 percent on Management System, 11.36 percent on job design and responsibilities, 9.09 percent on job security as well as Bank Environment and the lowest 7.95 percent on recruitment and selection systems. Therefore, the analysis presents that employees are not fully satisfied on any HRM dimensions of their bank. So, the HRM dimensions quality should be improved for the betterment of the bank's success.

CONCLUSION

This study tried to disclose the relationship between employees' satisfaction and various dimensions of HRM practices. In this study, we considered nine major factors which represented most of the human resources management practices followed by different private banks. The study reveals that all HRM dimensions exercised in the private banking sector of Bangladesh falls short to satisfy the employees equally. Most of the employees are dissatisfied with Compensation System



followed by reward and motivation, Career & Development, training and development, Management System, and job design and responsibilities. It is obvious that HRM practices in the private banking sector of Bangladesh has not been fully developed and there is the urgent need to employ the services of HR professionals, consultants and researchers to help shape and develop new directional focus that will ensure an efficient and effective human resource practices. We suggest the following recommendations for doing perfect HRM practices in the private banking sector of Bangladesh: Banks should introduce various financial and non-financial benefits to employees according to their performance. This will make them more devoted to the work and their satisfaction will be definitely high. Bangladeshi's economy allows the importation of new technologies to enhance HRM, but training is still a bit slow, thus employment of expatriates to handle such is still encouraged. The cooperation and coordination between management and employee should be developed because it is crucial for effective and efficient functioning of an Private banks. Attractive Compensation System should be given to the employees. Management should make a clear cut career advancement path. Finally, this research paper suggests that bank should review existing pay practices so as to offer fair pay, provide challenging and meaningful work tasks, and foster positive co-worker relationships in order to create a good Bank Environment.

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CHALLENGES FACED BY INDIAN TOURISM INDUSTRY DUE TO THE PANDEMIC

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ABSTRACT

The tourism sector's impact on a nation's economic prosperity cannot be separated. The pandemic has had an impact on numerous departments, including those dealing with hotels, travel, and tourism, international trade, hospitality, and tourism management, foreign exchange, and revenue. To better understand the results of this study, data which includes turnover and profit after tax reports from the Indian Tourism Development Corporation Limited are visually displayed for five consecutive years. This study's weakness is that the data was gathered based solely on ITDC self-reports. This study has unequivocally demonstrated that the various tourism industries have been more severely impacted by the covid epidemic. To overcome this issue and support the tourism sector, governments must act. Because it will be difficult to overcome the current issues and financial crises without government assistance. The government should either lower or do away with the taxes imposed on the travel and tourism sector.

KEYWORDS – Tourism, ITDC, COVID epidemic, Government and Department.

INTRODUCTION

The Indian tourism industry is set to flourish in the twenty first century with the addition of numerous new hospitality services and brand-new airports with improved infrastructure. The Indian government introduced a few tourist circuits in order to increase tourism in India and in various regions of the nation. Nearly 10 million tourists visited India during the course of 2019, a tripling of the number from the previous year. More than 8.78% of India's population has employment prospects thanks to the tourist industry, which has contributed 6.32% to the country's GDP. In another way, the covid epidemic has destroyed the entire travel and tourism sector. This pandemic lockdown in India has had a significant impact on businesses that are directly and indirectly associated to tourism and tour operators. Due to the suspension of international flights, this sector's revenue fell by 40% in the month of March and kept down through the month of May.

REVIEW OF LITERATURE

Vineet Kumar (2020) examines the COVID-19 problem in India and how it has affected the travel and hospitality sectors; it is important because the COVID-19 crisis has had a significant impact on both sectors globally. The seventh-largest nation in the world, India is blessed with a variety of tourism resources and welcomes millions of visitors each year, which boosts the GDP of the nation. The urgent requirement is to move quickly to reverse the current slowdown in the tourism industry by analysing its long-term effects as soon as possible.

Abhimanyu Sharma et al (2020) on Impact of COVID-19 outbreak over Medical Tourism (This article discusses the medical tourism will suffer significant consequences that will negatively affect everyone involved, whether they are the healthcare providers or the people seeking medical care, as the world is currently experiencing a major crisis as a result of COVID-19, with the majority of industries being severely impacted.

Sandhya H (2021) focuses on analysing the pandemic's overall effects on India's travel and tourism sector. The goal of the study is to comprehend the difficulties that various tourism sector stakeholders must overcome in order to survive the epidemic. The report also explains the potential that lie ahead in a post-Covid environment and some of the strategies used by industry participants to manage future demand in a more secure and sustainable way. The conceptual article is entirely supported by evaluations of previous research studies that have examined the global Covid epidemic.

Girish K Nair et al (2021) in their research paper demonstrates the hotel manager perspective of COVID-19 on the Indian hotel industry by qualitatively analysing inputs from the human resources department, general management, and top management of five-star hotels across India. By doing so, it improves comprehension of how the COVID-19 situation affects the hospitality industry's strategy, business operations, and human resources (HR). The qualitative data gathered through online interviews with 17 top-level hotel managers from all over India are examined in this study.)



INDIAN TOURISM DEVELOPMENT CORPORATION LIMITED HAVE REPORTED THE DIVISION WISE PERFORMANCE OF THE CORPORATION

Hotel Division:

Table 1: According to the ITDC annual report on hotel division.

TURNOVER	2018	2019	2020	2021	2022
AMOUNT	269.84	251.65	253.12	138.04	197.22

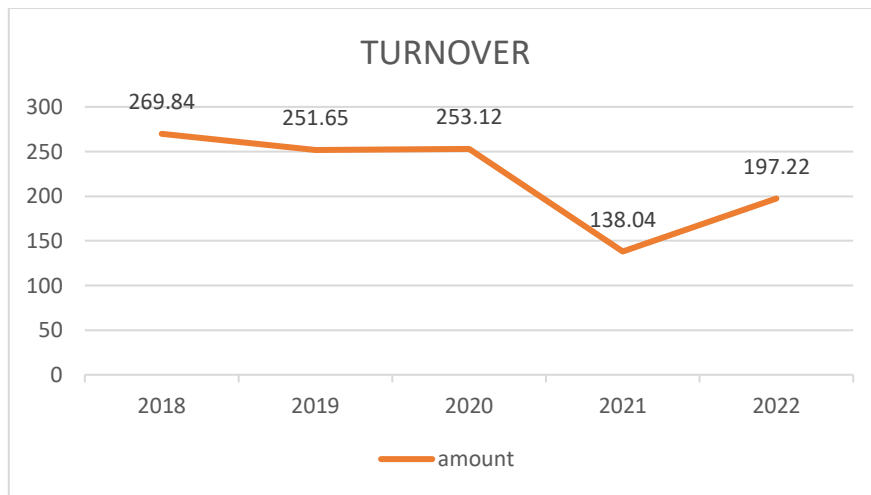
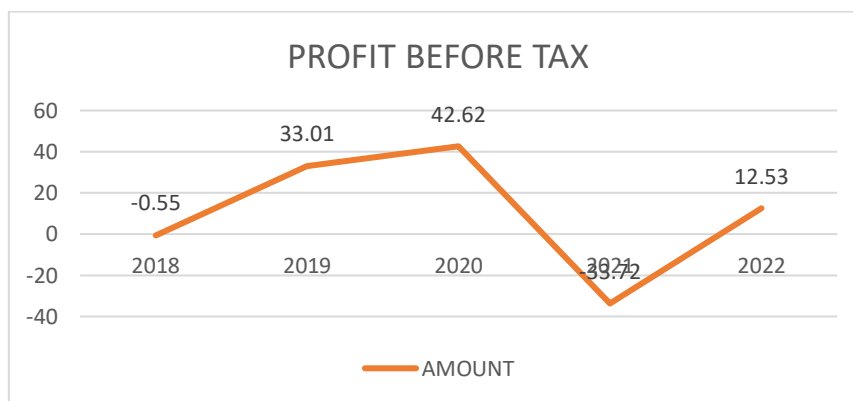


Table 1.1: Indian tourism development corporation limited reported on profit before tax of hotel division.

PBT	2018	2019	2020	2021	2022
AMOUNT	-0.55	33.01	42.62	-33.72	12.53



The graph shows the 5 years of the turnover and profit before tax of the hotel division. According to the Tourism Development Corporation of India's limited annual report, the chart above conveys the extent of the pandemic's impact on the

hospitality sector. According to the graph, sales and pre-tax profit are down significantly from last year. They were affected in the years 2020-2021, indicating a significant decline and a period of recovery from the pandemic.

International Trade

Table 2: According to the ITDC annual report on turnover of international trade.

TURNOVER	2018	2019	2020	2021	2022
AMOUNT	15.03	18.47	16.47	15.87	21.19

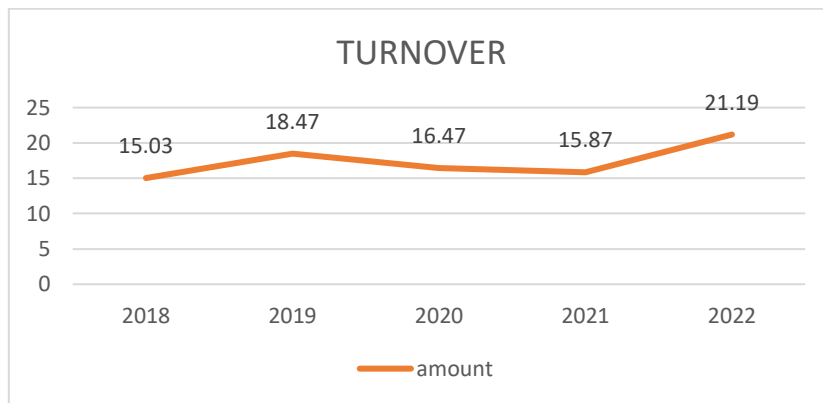
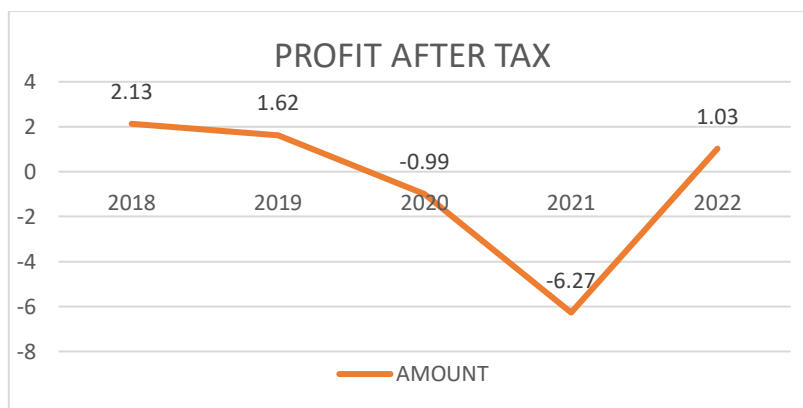


Table 2.1: Indian tourism development corporation limited reported on profit before tax of international trade.

PBT	2018	2019	2020	2021	2022
AMOUNT	0.52	3.27	1.42	1.43	5.85



The graph above depicts international trade turnover and profit after tax over the last five years, as reported by the Indian Tourism Development Corporation Limited. The International Trade Division's revenue was 21.19 crore, up from 15.87 crores the previous year. Profit before tax (PBT) for the international Travels and Tourism

trade T division was '5.85 crore, up from '1.43 crore the previous year. According to the graph above, the covid 19 has a significant impact on both turnover and profit after tax.

Table 3: According to the ITDC annual report on travels and tourism division.

TURNOVER	2018	2019	2020	2021	2022
AMOUNT	29.65	34.5	29.43	7.73	22.06

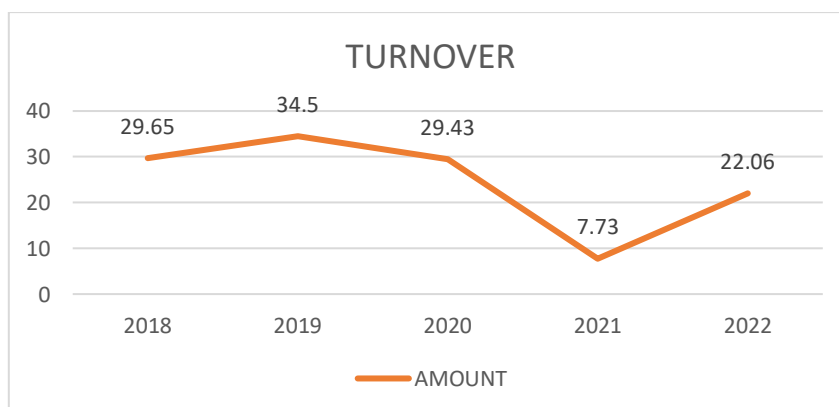
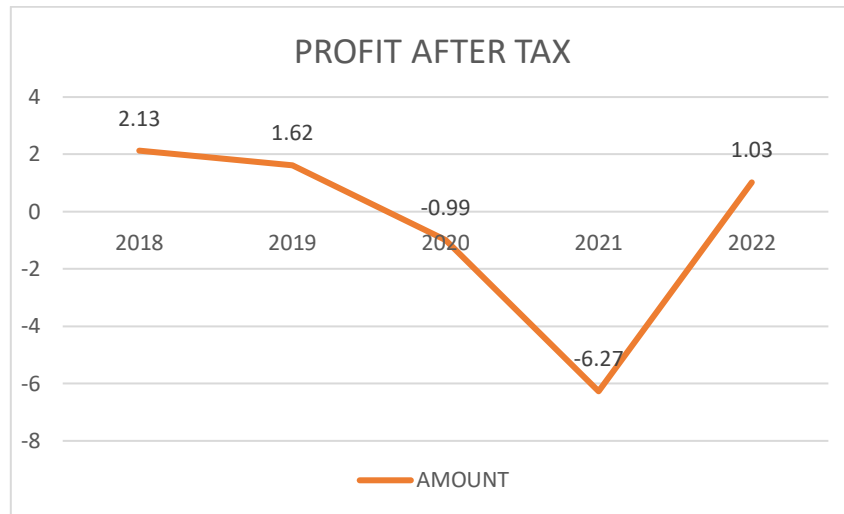




Table 3.1: Indian tourism development corporation limited reported on profit before tax of travels and tourism division.

PBT	2018	2019	2020	2021	2022
AMOUNT	2.13	1.62	-0.99	-6.27	1.03



The above graph table 3 and 3.1 depicts the data over the last five years. According to an Indian tourism development corporation limited report, the covid has had an impact on travel

and tourism. The graph's line began to fall in 2019 and then began to rise in 2022.

Table 4: According to the ITDC annual report on institute of hospitality and tourism management.

TURNOVER	2018	2019	2020	2021	2022
AMOUNT	3.61	4.85	4.29	2.28	4.86

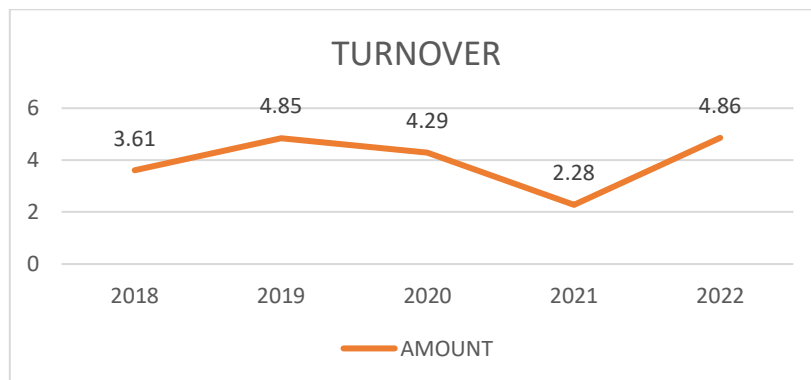
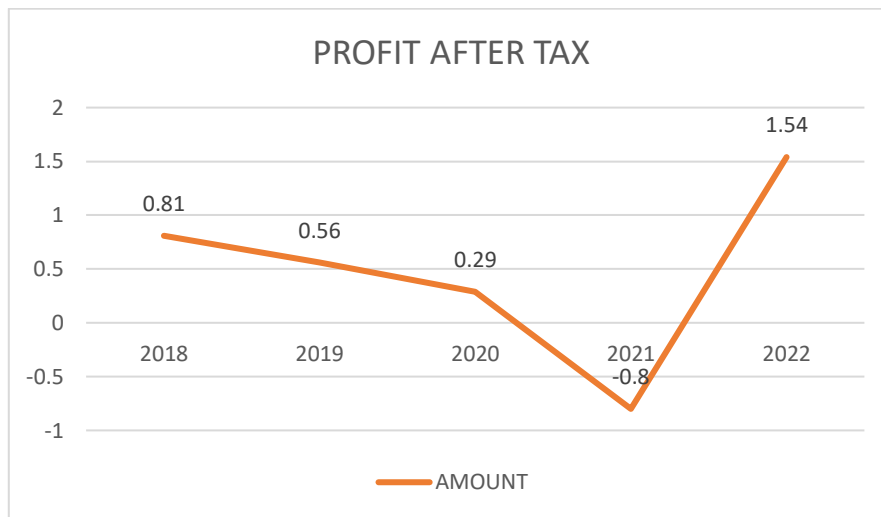


Table 4.1: Indian tourism development corporation limited reported on profit before tax of institute of hospitality and tourism management.

PBT	2018	2019	2020	2021	2022
AMOUNT	0.81	0.56	0.29	-0.8	1.54

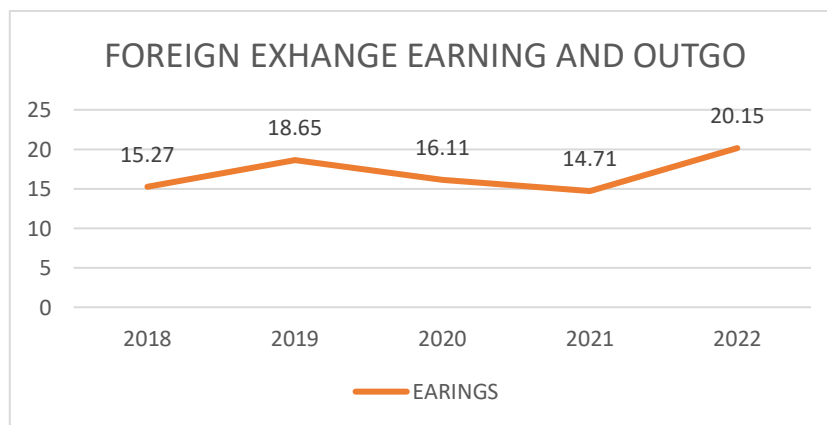


According to the Indian tourism development corporation limited report, figures 4 and 4.1 above represent the institute of hospitality and tourism management's 5-year data (ITDC). The covid pandemic has had a significant impact on hospitality and

tourism management, affecting the majority of people in the economy and causing various physical problems. The graph above depicts a decline in hospitality and tourism management.

Table 5: According to the ITDC annual report on foreign exchange earnings and outgo.

YEAR	2018	2019	2020	2021	2022
EARINGS	15.27	18.65	16.11	14.71	20.15

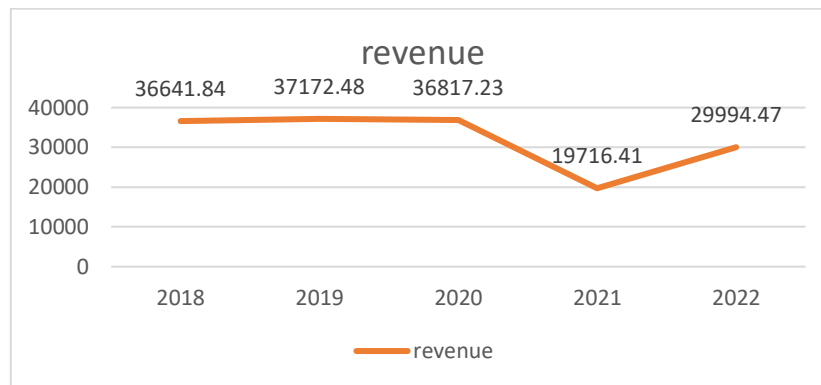


The above table denotes the 5 years of the data of the foreign exchange and outgo. According to the ITDC, the graph above depicts foreign earnings and outflows. The level of change in

2019 - 20 is small and has a minor impact when compared to other sectors of the tourism industry.

Table 6: According to the ITDC annual report on revenue from the overall division.

Year	2018	2019	2020	2021	2022
revenue	36641.84	37172.48	36817.23	19716.41	29994.47



The above graph depicts the revenue of the Indian Tourism Development Corporation Limited over five years. As a result, it has been demonstrated that the covid pandemic has had an impact on the ITDC's revenue, as it has improved from 2021 to 2022, with the ITDC increasing its revenue by 10278.06, a significant increase over the previous year.

INDIAN TOURISM INDUSTRY – TODAY

Many world religions, including Hinduism, Jainism, Sikhism, Buddhism, Islam, and Christianity, were founded in India. The United Nations Educational Scientific and Cultural Organizational world heritage sites have listed India, currently, 40 world heritage sites, which makes India the 6th largest number of heritages in the world. There was 1 mixed site that is recognized by UNESCO, 7 natural sites, and 32 cultural sites India's main source of foreign currency comes from tourism. In 2021, the number of foreign visitors to India decreased by 44.5% as a result of the covid 19 pandemic and the restrictions. The proportion of Indian nationals leaving the country increased by 7.3% in 2021. People from all states now have numerous work options given by the Indian tourism industry. The tourist sector employs close to 20 million people in India. More than 39 million jobs were created in the tourist sector in India last year, accounting for over 8.0% of all employment there. The state of travel and tourism, which is one of the largest contributors to GDP, ranked India 10th out of 185 nations. By the year 2028, it is anticipated that Indian tourism will generate 50.9 billion US dollars. From a projected, 75 billion US dollars in 2020, the travel market in India must be anticipated to reach 125 billion US dollars. The Indian airline travel market is expected to double in size by 2027 from its current estimated 20 billion US dollar value. In India, the domestic, foreign, and outbound hotel market was valued at 32 billion US dollars in 2021, and 52 billion US dollars is expected to be reached in 2027.

CHALLENGES FACED BY TOURISM

How it influenced on airline business and travel industries

Foreign visitors to India have declined due to this pandemic lockdown all over the country. All segments of tourism like inbound, outbound, domestic, and MICE (Meeting, Incentives, Conference, and Exhibitions) travel will be affected. These are the main source of revenue generation for the travel agencies and tour operators. (Business Today-2020) For a good example, one of the top online travel services 'MakeMyTrip has drawn zero salaries to top brass to take a 50 percent cut. Tour operators are been happened to take such an action due to this

financial crunch. Travel agents will earn revenue from airline tickets but due to the covid pandemic for safety and precaution, domestic international travel has been banned as per the advice of the government of India. The airline business has taken a major hit due to this covid pandemic, airline revenues in 2020 has been declined to 44% compared to the last year which means almost half of the revenues have declined. During the pandemic, the travel and airline business industry's workforce is being sent on leave with no payment of their salaries which is not good for the industry and will create an unemployment crisis in the travel and airline business.

How it is impacted on medical tourism, healthcare

It is believed that medical tourism is the most crucial support for the expansion of the healthcare sector, which brings in the greatest revenue. Medical value travel, also known as medical tourism, is one of the fastest-growing industries. It is dependent on many developing economies. In order to access healthcare facilities that may not be available in their home country, many patients from all over the world travel from their home country to another. India has decent advanced and inexpensive healthcare services at the same time as the global hub for international medical tourism and same like other industries, it will also be affected due to this pandemic. The medical tourism industry has faced major hits and hence hospitals are doing only emergency surgery procedures. The expansion of medical tourism over the past ten years has had an impact on all areas of the healthcare industry. The medical tourism industries worldwide will suffer for a considerable amount of time due to the covid pandemic's multifaceted effects on health care, the declining economy, and the stoppage of international travel followed by restricted foreign travel with the associated danger of infection. The multi-billion-dollar medical tourism business in India would be impacted by this pandemic.

How it has affected the employment in India

Out of an estimated 34.8 million jobs during the pre-pandemic era of 2019, the people who are in the tourism destination have been significantly impacted by the pandemic, which has affected 14.5 million jobs. It is anticipated that the pandemic and the ensuing lockdown in the first quarter of 2020–21 will have resulted in the loss of up to 14.5 million employments, out of an estimated 34.8 million jobs during the pre-pandemic era of 2019. This translates to a decrease of 41.7%. Such a significant loss of jobs is not unexpected given that 80.7% of all jobs in sectors that are associated with tourism



are informal. Salary/wage earners experienced a greater loss of employment in terms of absolute numbers, with 7.8 million of them losing their work in Q1. A total of 33.3 million jobs are anticipated to have been lost in Q1 of 2020 according to the predicted employment multiplier of 2.2931, which shows the effects of the spill over of the loss in tourism jobs.

How it has influenced the lodging in India

Lodging is nothing but paying for the stay. This lodge is generally used more by the traveller who pays for the time to stay on that property. Lodging in India is two types motel or resort type and another one is hotel. The hotel's star is been provided according to the luxury Ness of the hotel there have been provided to the customer. Hence this covid lockdown has spreader across India it has impacted majorly on the hospitality sector, particularly the hoteliers aforesaid, hotel. More than 55% of hotels in India with three stars or more are part of the organized hotel industry. In India, the hotel market size including the unorganized market) was expected to be \$22 billion in 2019, and it will increase by 8.6% through 2025. The COVID-19 pandemic, which struck the world in 2020, has had a terrible impact on international corporations and organizations. The hospitality sector has been the most hit of all the sectors bearing the brunt of the losses. The grim picture is especially relevant to developing nations like India, where the tourist and hospitality sectors significantly contribute to the national GDP.

CONCLUSION

The tourism industry has been severely impacted by the spread of COVID-19, and this may continue for some time. Foreign tourist arrivals in India from various parts of the world decreased by 68% in March 2020 compared to the previous month. It has a significant impact on tourism revenue in the form of foreign exchange earning (FEE). A good forecasting model can help with strategic and operational decisions. COVID-19's severe impact can have a significant impact on cost-cutting measures and risks, such as hotel bookings, flight bookings, event cancellations, and staff reductions. Jobs in airlines, hotels, and travel agencies will be available in the near future as tourism revenue declines. Revenue in 2020 is expected to fall by half compared to last year, but there are significant cuts in business and projections that normal travel behaviour will take years to return. Governments must take action to address this situation and strengthen the tourism industry. Because overcoming the current problems and financial crisis will be difficult without government intervention. The government should either reduce or eliminate taxes levied on the tourism industry.

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E-BANKING: PRESENT POSITION IN INDIA

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ABSTRACT

we will know how many transactions have been done digitally in India according to the new data. In this paper, we will discuss the types of e-banking. Apart from this, what is the opportunities for E-banking are very important for any country. With this, customers get many facilities, but it also has some concerns and marketers' challenges in the field of e-banking. This paper of ours will be helpful to understand the meaning of e-banking. In this, for e-banking in India, what problems e-banking is facing in India? And what difficulties does it face? India is a unique nation in that more than half of its citizens reside in rural areas. In the Indian village, the network infrastructure is not as good. Although this is not a terrific situation for electronic banking, the government is working to get everyone online. In addition, even those in India who are less educated avoid using online banking. They worry that they might become victims of scam. This essay on e-banking will go over all of these topics and show how some people benefit from it while others continue to avoid it. Many Indians still steer clear of digital banking nowadays. It may not be properly informed for a variety of reasons, including illiteracy, a lack of sufficient resources, and security concerns. Our government's biggest problem is figuring out how to raise it. E-banking will help our nation combat black money if it is created. Our report provides an overview of the state of e-banking in India.

KEYWORDS: E-Banking, RTGS, Digital Era, UPI, India, RBI, Retail banking,

INTRODUCTION

The banking industry plays an important role in today's era. It plays an important role in the progress of a country. If a country wants to develop itself, then it will have to improve its banking system, the better this system of a country, the more will be its potential for development. In a country like India where banks have been nationalized twice. Yet the banking system here is not perfect. Contributes significantly to the economy of any country. The economy of a country will grow quickly only if its banking sector is correct. Thus we can say that banking is the backbone of the country. If we make any changes in this area. So it directly affects our economy. Now banks are moving towards e-banking by reducing traditional banking. E-banking will play an important contribution to the economy of our country. Today's era is the digital age. If our services are as digital as possible, the more we will be able to develop. Now banks have also made many efforts to increase e-banking. The bank is giving good e-banking services not only to the company but also to the common customer. Nowadays everyone wants to save time. Because in today's era time has a lot of value. Every single moment of human life is very important. Now no customer wants to take banking service by standing in line for hours. Now he is using all banking services from his phone. With e-banking, all the work of the customer is being done sitting at home. Now he does not need to go to the bank for small work. E-banking has been successful only because people have got plastic money such as (ATM cards, credit cards, debit cards, and smart cards) besides wallets, internet banking, online passbook, online bank app, and SMS. services, RTGS, and NEFT all these services have contributed significantly to e-banking. These services are e-banking. It is the endeavor of the Reserve Bank that there should be at least cash transactions. RBI is making a lot of

efforts for the country to adopt digital mode on a large scale. The bank has emphasized the payment system in the country. For this, he has also kept security in mind. Thus the bank has done a good and flexible job. Which will make the use of e-banking safe and successful.

A new era has come in e-banking after demonetization. We can say that the people of India have known e-banking since the time demonetization took place. People learned to be cashless from here, apart from this, the Government of India has also introduced apps like BHIM UPI. It has done a great job of making it big by releasing it.

OBJECTIVES

- I. To know the meaning of E-Banking.
- II. To know the types of E-Banking.
- III. To know the latest data on E-banking.
- IV. To know the challenges of E-Banking.
- V. To know the opportunities of E-Banking.

MEANING OF E-BANKING

According to The Editors of Encyclopaedia Britannica¹ Use of computers and telecommunications enable banking transactions to be done by telephone or computer rather than through human interaction. Its features include electronic funds transfer for retail purchases, automatic teller machines (ATMs), and automatic payroll deposits and bill payments. Some banks offer home banking, whereby a person with a personal computer can make transactions, either via a direct connection or by accessing a Web site. Electronic banking has vastly reduced the physical transfer of paper money and coinage from one place to another or even from one person to another.



- VI. According to Business Jargons² E-banking is a blanket term used to indicate a process through which a customer is allowed to carry out, personal or commercial banking transactions using electronic and telecommunication networks. It is a product offered by banks that facilitates online banking, with the help of which the customer can have access to the bank account in just one click. E-banking covers facilities such as – fund transfer, checking account statements, utility bill payments, the opening of a bank account, locating the g nearest ATM, obtaining information on financial products and services, applying for loans, etc. using a personal computer, smartphone, laptop, or personal digital assistant.
- VII. According to Shilpan Vyas³ E-banking is a borderless entity permitting anytime, anywhere, and anyhow banking. This facilitates us with all the functions and many advantages as compared to traditional banking services. During this step of the process, controls that could mitigate or eliminate the identified risks, as appropriate to the organization's operations, are provided. The goal of the recommended controls is to reduce the level of risk to the IT system and its data to an acceptable level
- VIII. According to Shukla R. ⁴ e-banking constitutes an electronic alternative network of payments and benefits of services. The need for the action of electronic alternative channels has been distinguished well in advance by foreign banking organizations, which relied mainly on the outburst that was observed in the use of the internet. The benefits are many, both for the customers and for the banks. The banks that are activated on the Internet are susceptible mainly to systematic, law part and toe reputation risk the customers of the electronic banking channel are puzzled concerning the subject of the safety

of their transactions and personal data. This report aims not only to analyze the meaning of electronic banking and to present all the alternatives providing banking service networks but also to focus on the advantages and on risks that the growth of electronic banking has brought about.

TYPES OF E-BANKING

- I. Money withdrawn through ATM card.
- II. Pay money to shop and your friend through the UPI payment app.
- III. Add Money to your Trading App through Internet Banking.
- IV. Transfer Big Amount from one account to another account through RTGS.
- V. Shopping is done and payment is through Credit Card.
- VI. Check your account balance in the bank app.

GROWTH IN DIGITAL PAYMENT

The payment systems recorded a robust growth of 26.2 percent in terms of volume during 2020-21 on top of the expansion of 44.2 percent in the previous year. In terms of value, the contractionary trend which started in the previous year (-1.2 percent) got further amplified and witnessed a drop of 13.4 percent, mainly due to lower growth observed in the large-value payment system, viz., Real Time Gross Settlement (RTGS) system and decrease in transactions of paper-based instruments. The decline in the value of transactions in RTGS is largely attributable to the subdued economic activity. The share of digital transactions in the total volume of non-cash retail payments increased to 98.5 percent during 2020- 21, up from 97.0 percent in the previous year⁶



Table IX.1: Payment System Indicators – Annual Turnover (April-March)

Item	Volume (Lakh)			Value (₹ Crore)		
	2018-19	2019-20	2020-21	2018-19	2019-20	2020-21
1	2	3	4	5	6	7
A. Settlement Systems						
CCIL Operated Systems	36	36	28	11,65,51,038	13,41,50,192	16,19,43,141
B. Payment Systems						
1. Large Value Credit Transfers – RTGS	1,366	1,507	1,592	13,56,88,187	13,11,56,475	10,55,99,849
Retail Segment						
2. Credit Transfers	1,18,481	2,06,506	3,17,852	2,60,90,471	2,85,62,857	3,35,22,150
2.1 AePS (Fund Transfers)	11	10	11	501	469	623
2.2 APBS	14,949	16,766	14,373	86,226	99,179	1,12,747
2.3 ECS Cr	54	18	0	13,235	5,145	0
2.4 IMPS	17,529	25,792	32,783	15,90,257	23,37,541	29,41,500
2.5 NACH Cr	8,834	11,290	16,450	7,29,673	10,43,212	12,32,714
2.6 NEFT	23,189	27,445	30,928	2,27,93,608	2,29,45,580	2,51,30,910
2.7 UPI	53,915	1,25,186	2,23,307	8,76,971	21,31,730	41,03,658
3. Debit Transfers and Direct Debits	4,914	7,525	10,456	5,24,556	7,19,708	8,72,552
3.1 BHIM Aadhaar Pay	68	91	161	815	1,303	2,580
3.2 ECS Dr	9	1	0	1,260	39	0
3.3 NACH Dr	4,830	7,340	9,630	5,22,461	7,18,166	8,68,906
3.4 NETC (Linked to Bank Account)	6	93	650	20	200	913
4. Card Payments	61,769	72,384	57,841	11,96,888	14,34,814	12,93,822
4.1 Credit Cards	17,626	21,773	17,641	6,03,413	7,30,895	6,30,414
4.2 Debit Cards	44,143	50,611	40,200	5,93,475	7,03,920	6,62,667
5. Prepaid Payment Instruments	46,072	53,318	49,392	2,13,323	2,15,558	1,97,695
6. Paper-based Instruments	11,238	10,414	6,704	82,46,065	78,24,822	56,27,189
Total – Retail Payments (2+3+4+5+6)	2,42,473	3,50,147	4,42,229	3,62,71,303	3,87,57,759	4,15,12,514
Total Payments (1+2+3+4+5+6)	2,43,839	3,51,654	4,43,821	17,19,59,490	16,99,14,234	1471,12,363
Total Digital Payments (1+2+3+4+5)	2,32,602	3,41,240	4,37,118	16,37,13,425	16,20,89,413	14,14,85,173

Note: 1. RTGS system includes customer and inter-bank transactions only.

2. Settlements of CBLO, government securities and forex transactions are through the Clearing Corporation of India Ltd. (CCIL). Government Securities include outright trades and both legs of repo transactions and triparty repo transactions. With effect from November 5, 2018, CCIL discontinued CBLO and operationalised triparty repo under securities segment.

3. The figures for cards are for payment transactions at point of sale (PoS) terminals and online.

4. Figures in the columns might not add up to the total due to rounding off of numbers.

Source: RBI.

<https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1322>



CHALLENGES OF E-BANKING IN INDIA

1. There are some Security issues here for example so many hackers create fake websites.
2. People are less educated in India they are not able to use the internet and other things.
3. Some people are not like e-banking they cannot trust e-banking. They followed only the old banking system.
4. So many Banks Charge high transaction charges on e-banking. So people do not try e-banking.
5. In India Internet connectivity is not good.
6. People are not trained in the concept of e-banking

OPPORTUNITIES IN E-BANKING

1. E-banking is useful for digital customers.
2. E-banking is useful for startup s projects.
3. In India most people use atm cards, debit cards, and credit cards which is a big achievement.
4. Every student uses the UPI app.

CONCLUSION

Banking service is very important for any country and its people. This service is what makes our life successful. With the advent of e-banking, our life has become very easy. Without money we are nothing, if we have money then we should also come to meet. If there is no bank So we can't manage our money. Now everything is changing very fast. Now it is the duty of the banks also to give good service. Apart from this, the bank should also take care of the safety of the customer. However, the digital age has arrived. But still many people are away from e-banking. The biggest reason behind this is security. This is an important issue too. Because even today a lot of banking theft happens in India. In which money is withdrawn from the account by stealing the data

of the customer. Banks should make their systems good and safe too.

In this paper, we have learned what is e-banking. How is e-banking necessary for a country and its people? How does a country move forward with this together? We saw in the RBI report how e-banking is developing in India. People of India are becoming digital now. If the war continues to develop in India, then that day is not far when we will become a developed country. This we have known what are the types of e-banking like RTGS, NEFT, UPI, etc. After this, we saw what is the problem with e-banking in India. Where we saw that people are still not aware. People are still afraid of online. After this, we had a brief discussion about the future of e-banking in India. From all these things it is concluded that more work will have to be done in e-banking in India. People have to be made more aware.

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ANATOMICAL AND MORPHOLOGICAL STRUCTURE OF THE LEAF OF SOME SPECIES OF SCUTELLARIA DISTRIBUTION IN THE FERGHANA VALLEY

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ABSTRACT

The article presents information about the anatomical and morphological structure of the leaves of groups of *S. comosa* species distributed in various geographical areas.

KEYWORDS: species, genus, polymorph, range, leaf, flora, epidermis, stomata, anamocyte, anisocytosis, mesophyll, dorsoventral.

INTRODUCTION

There is uncertainty in the taxonomy of the cosmopolitan and polymorphic species of *Scutellaria*. The literature sources indicate a different number of species from 200-350. In particular, this applies to species distributed in the Pamir-Alai mountain ranges. In the literature available to us, we did not find information on the anatomical structure of species of the genus *Scutellaria*. We believe that the study of the anatomical and morphological structure of *S.comosa* plant groups belonging to the genus *Scutellaria*, common in the Ferghana Valley in different places, is considered one of the topical issues of our time.

Some species of *Scutellaria* plants have long been used in folk medicine to lower blood pressure. According to A.Paton (1990), 53 species described by Yuzepchuk (1954) are equivalent to *Scutellaria orientalis*. Edmonson (1982) studied *Scutellaria orientalis*, distributed in Turkey, and included it in 1 species and 16 subspecies. The complexity of the taxonomy of this genus lies in the fact that different authors give different names to one species.

That is, these species are called differently depending on the region and locality where they are common.

For example, in the flora of Turkey, this species is called *Scutellaria orientalis*, and in the flora of Iran, the same species is called *S. pinnatifida*. However, according to Poton, the signs of both are the same.

However, we did not find any information about the anatomical structure of the species. The article provides information about the anatomical and morphological features of the structure of the leaves of *Scutellaria comosa* species, common in different geographical zones of the Ferghana Valley, and tried to find additional diagnostic features in them.

MATERIALS AND METHODS

In the course of the work, 5 groups of plants belonging to the *Scutellaria comosa* species collected from the Fergana hills and (Kurama, Chotkal) mountains, Khoji-ota mountains

and Imam-ota hills in Khojabad district of Andijan region, and Koyquloq hills in Pakhtabad district were studied.

From these studies we studied the structure of the leaves. Leaves of naturally growing species were fixed in 65-70 % ethanol.

The leaves taken from the herbarium were first held in boiling water steam, and after 5-10 minutes they were placed in warm water. 1 mm² samples were taken from the middle part of the leaves in fixed and warm water and the upper and lower epidermis were cut from them with a sharp knife or razor. Then temporary preparations (with glycerin) were prepared from them. In addition, cross-sections were made from these samples with a razor, these sections were kept in a not very dark aqueous solution of safronin dye for 2-5 minutes, and in order to clarify the color, sour water was washed with 1-2 drops of alcohol, and temporary preparations were prepared with glycerin. .

In order to study the anatomical structure of the leaf, a preparation was prepared by taking 3-5 sections from each plant, from their middle part using a razor.

In the epidermis of the leaf, the number of cells, mouths, and hairs in the area of 1 mm² was counted, their types and length, and then the shape of the epidermal cells was studied. The upper and lower epidermis of the leaf was macerated with the help of a razor, and the epidermis of other organs was macerated using (shul'se compound) (shul'se concentrated N acid with Bertoli's salt). Preparations prepared from plant leaves were analyzed using Carl Zeiss Amhlival microscopes. The pictures were taken using a Carl Zeiss Amhlival microscope and the "RA-6" imaging apparatus.

RESULTS AND DISCUSSION

The traits studied are the main taxonomic evolutionary marker of species delimitation, as well as how stable and ecologically diverse this species is.

Seed germination of the studied species under laboratory conditions is 50-70%.



The shape of the leaves of the plant group of the adyr zone is obovate, 3-4 mm long and 2-3 mm wide.

The upper epidermis of the leaf structure has stalked glandular hairs (10-20 per mm^2). These hairs are 150-300 μm long and consist of 2-3 cells.

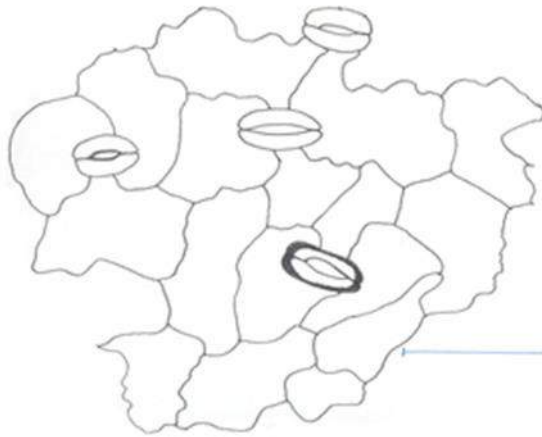
The outer epidermis is very large-celled (380-500 cells per 1 mm^2), the side walls are of medium thickness, strongly curved, the cells are more elongated. Almost all stomata are anamocytic, sometimes anisocytic, larger than those of the lower epidermis (100-140 1 mm^2).

lower epidermis. Covering hairs are absent on the upper and lower leaf epidermis. In the lower epidermis - 2 different types of covering hairs: papillae and thyroid scales. Papillae (15-20 per 1 mm^2) 3-celled, 160-300 microns long. Thyroid scales (10-20 pieces per 1 mm^2) 6-8 cells.

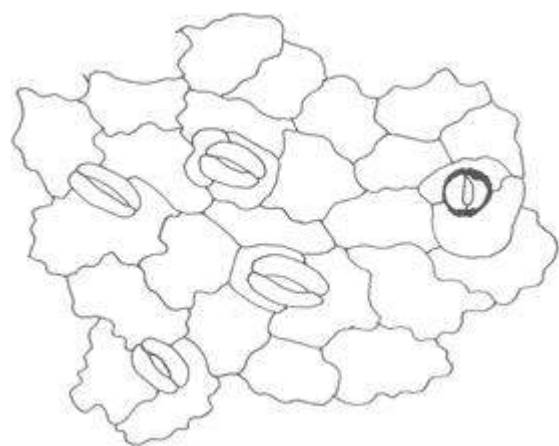
The cells of the lower epidermis are large (800-840 cells per mm^2), the cell walls are strongly curved and slightly wavy.

50-60 % of the stomata of the lower epidermis (140-180 per mm^2) are of the diacytic type, the rest are of the anisocytic and anomocytic type. At one of the poles of some stomata, a T-shaped thickening is observed.

Cross section of a leaf. The leaf mesophyll is thick (224–260 μm) and consists of 5-6 rows of dorsoventral, sometimes isolateral, palisade type chlorenchyma cells. Under the upper epidermis there are 2 rows of columnar cells, under it there are 4 rows of spongy cells, sometimes under the lower epidermis there is a row of short, wide columnar cells. In a cross section, the outer walls of the upper epidermis are 1-1.5 μm thick, and the outer walls of the lower epidermis are 0.5 μm thick. Stomata are located on the lower and upper epidermis of the entire leaf surface.

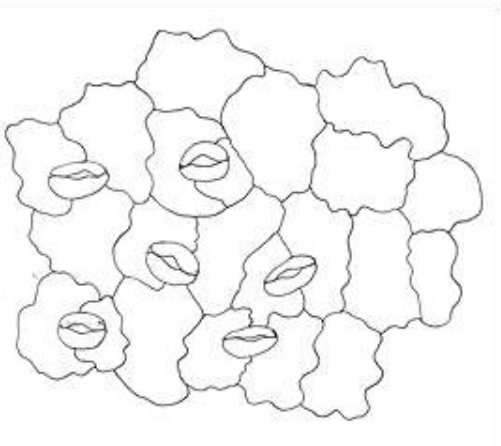


Upper Epidermis

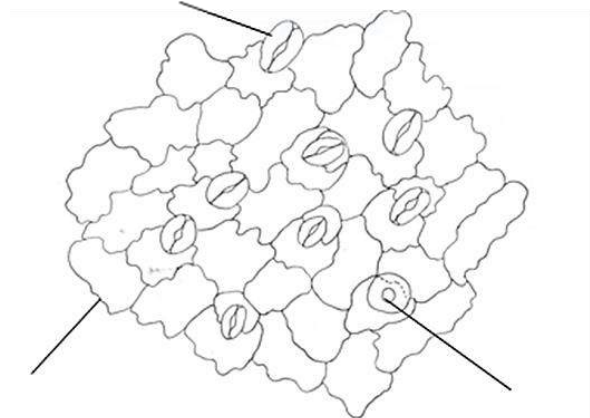


Lower Epidermis

The structure of the leaf epidermis of the Imam-Ata group of plants.



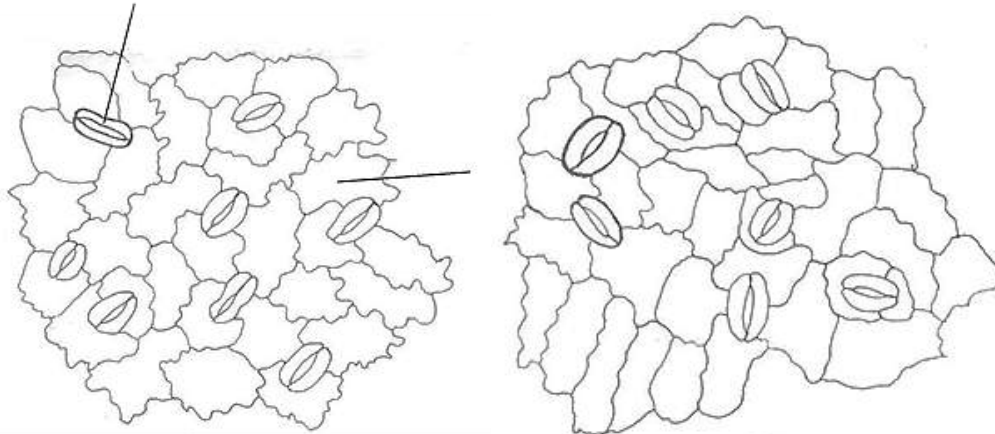
Upper Epidermis



Lower Epidermis



The structure of the structure of the epidermis of the group of plants Kuykulak



Upper epidermis

нижний эпидермис

The structure of the structure of the epidermis of the Mindon plant group.

CONCLUSIONS

Based on the anatomical structure, the following conclusion can be drawn.

Common features are characteristic of all studied groups of *S. comosa*; -

- Obovate leaf shape.
- Dorsoventral structure of the mesophyll.

The multicellularity of the epidermis, curved, wavy walls, as well as the majority of stomata of the anamocytic, less often anisocytic and diacytic type.

We consider the anomocytic and anisocytic type of most stomata, the dorsoventral type of mesophyll, large cells and wavy walls to be ancestral-ancestral characters.

Thus, the leaf structure retained some ancestral features, which indicate that the ancestor of the species under study existed under relatively mesophilic conditions.

The number of columnar cells and rows of parenchyma cells, stomata cells, the number and type of hairs are variable and are adaptive features adapted to environmental factors.

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ASPECTS OF MIRZAALI AKBAR'S TRANSLATION WORK AND CREATIVITY (BASED ON HERRMANN HESSE'S NOVEL DESERT WOLF)

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ABSTRACT

This article talks about the direct translation from the original and the mistakes that can be made in it, as well as the difficulties encountered during the translation. As we all know, translation and interpreting is one of the oldest creative fields that have been forming in the history and culture of the peoples of the world for centuries.

KEY WORDS: *Desert wolf, Giottische Engelscharen, Giotto di Bondone, Bürger, Ulysses, Hermann Hesse.*

After our country gained independence, a lot of wonderful publications appeared in the world. One of them is the publication of "Desert Wolf" in the pages of our favorite magazine "World Literature" in 2002. It is no exaggeration to say that it was a worthy gift for the 125th anniversary of the writer's birth. From the point of view of the international reception of the work, its first translation and publication directly from the German language can be called a unique event in our cultural life. As a result, the Uzbek reader will have the opportunity to get acquainted with the work of Hermann Hesse. As an ordinary reader, I was very impressed by this work, and along with many book lovers of different ages, I found myself in it. I think that one of the important factors that contributed to the book's universal popularity is precisely this, that is, the spiritual closeness of the work to the heart of the reader.

In addition, getting into Harry's spirit, sometimes imitating him, trying to be like him, reading the work, feeling as if the writer described me and found myself in it, all this. in the end, it is not surprising that it served as a factor in getting to know the rich spiritual and spiritual world in which the main character of the work lives, breathes or breathes.

"In any case, Steppenwolf seems to me to be the most misunderstood of my books, often by sympathetic, let alone admiring, readers." - the author says in the "Afterword" - "they were impressed by my book, but what is interesting is that they understood only half of the content of the work." These readers, in my

opinion, found themselves on the Desert, shared its sufferings and shared its dreams..."

In the conclusion, the identity and uniqueness of the main character of the work in the spiritual and spiritual world are drawn from "Treatise about Desert Wolf (only for madmen)" and from the poem "Desert Wolf". can be clearly understood. For example, this poem, written in the winter of 1925/26, sounds like this:
I'm a desert wolf, I'm good-looking,

The world is silent in the snow.

A crow and a crow fly in the birch grove

Neither a rabbit nor a deer could be seen.

Ever since I fell in love with oxen,

Their dreams are sweet honey.

I wish one would come across this moment,

If I press the tap, I'm quick!

Do you have taste, more than me,

In a world where there is no such thing.

I loved that beauty from the bottom of my

heart,

If I caught it, it would fly away.

I ate the thigh meat and licked the blood.

Then I would "hunt" alone at night,

I wish I could meet you now,

I couldn't be happier!

Hey, is everything out of hand?

Life is no longer interesting!

I landed and scratched the feathers on my tail

My eyes are also blurry.

The wife has been dead for years!



I wander alone, in my dreams.

Even rabbits enter my dreams. In short, after reading the aforementioned "Desert Wolf" by the writer Hermann Hesse, I was so impressed by it that I dared to translate it into Uzbek. Of course, it is natural that the interpretation of a work that is unique in terms of language and style and written with high taste requires great skill from the translator. Undoubtedly, it is true that a number of difficulties were encountered in the process of translating the work.

"Giottosche Engelscharen aus einem kleinen blauen Kirschengewölbe in Padua". When I was translating this sentence for the first time, seeing the word "Giottosche" in the phrase Giottosche Engelscharen, I had a doubt in my mind that it might not be a typo, but it should be "Gottische". When I turned to a friend of our colleague, he also approved this idea. So, in the first rough translation, this sentence sounded like this: "Angels of God descending from the cupola of the little blue church in Padua", that is, I thought that "Giottosche" should be "Gottische", "god" I Uzbekized it. However, as a result of further research, I was convinced that the translation of this word was completely wrong, that is, the word "Giottosche" was used by the author to refer to the Italian painter Giotto di Bondone (1266-1337). In the latest version, I finally translated the phrase Giottosche Engelscharen as "Gotto's Angels".

Another similar misunderstanding occurred with the German word "Bürger". It is known that this word is polysemantic (multiple meanings) and means "citizen", "burger" (urban), "meshchan" in translation. Here is an example from the original: "...den ich aber im Traum mit Bürger verwechselte". In the first translation, this sentence sounded as follows: "...in my dream, I replaced him with a citizen." At first glance, there is no mistake, the translation of the sentence is correct. Unfortunately, we have also replaced "burger" with "citizen". As a result, a serious mistake was made in the first translation: "Bürger" was not "citizen", but the German poet Gottfried August Bürger (1747-1794). This is probably due to the fact that more nouns, names, and nouns in general are written with a capital letter in the German language. Many other languages do not have this feature. In general, it is not enough to know the language in translation. The translator needs deep knowledge, high skills, so to speak, the skills of a jeweler.

He should know world languages well, as well as be well aware of other languages of the world, native language literature, history, art, let alone secular and religious sciences. Translation is not a "verbatim" description of a work in another language, but the translator is able to preserve the spirit of the original in it, first of all, he deeply feels it and conveys it to the reader, "infecting" him. Need imagine, if the writer did not cry while writing his work, how come the eyes of the reader who is reading it will come from where. The same can be said about the translator. In the process of translating a work, the translator must first be excited. If he does not immerse himself in the whirlwind of events in the work and enters the spirit of the hero, it is unlikely that his work will reach the heart and mind of the reader. During the process of translating the novel "Desert Wolf" from German into Uzbek, I experienced exactly such situations.

Look at the coincidence that the main character of the novel, Harry Haller, is 47 years old, and I also translated the work when I was forty years old: - writes the translator Mirzaali Akbarov in the introductory part of his translation, "Impressions of the Spiritual World".

Hermann Hesse came to Uzbekistan in 2001 with the services of the excellent translator Mirzaali Akbarov. The German writer, in our opinion, is indebted to Mirzaali Akbarov for the wide attention of the audience of Uzbek readers. The appearance of Hermann Hesse's "Desert Wolf" in Uzbekistan is of great spiritual importance, especially in the high work process of communicating Hermann Hesse's work, translator M. Akbarov is rendering a highly commendable service. We found it permissible. Also, the translator: "The novel "Desert Wolf", which was first published in 1927, is a deep psychological work that brought the author worldwide fame. In "Desert Wolf" efforts to self-analysis and overcome unresolved spiritual and spiritual conflicts are written. In it, the method of addressing the Spirit, more or less reflected in the author's previous works, found its final and complete expression.

The writer Thomas Mann said about this novel: "Wolf of the Desert" is a book that is not inferior to works like "Ulysses" and "Faux Monnayeurs" in experimental boldness. "Desert Wolf" is a work that taught me again what a real book reading is for a long time.

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THE IMPORTANCE OF GENDER ASYMMETRY IN THE GENERAL EDUCATION SYSTEM

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ABSTRACT

This article analyzes issues such as gender asymmetry in the general education system, a single and clear concept of sex education in secondary schools, gender education of teachers and other adults, the development of a single concept of gender pedagogy and the development of universal values in gender asymmetry.

KEYWORDS: *Human adaptation in modern society, human individual qualities and talents, stereotypes, lack of artificial relationships, strength, independence, activism, aggression, rationality, striving for personal success, vulnerability in women, dependence, procrastination, gentleness, emotional propensity, need for help from others.*

The main conditions for the emergence of a gender approach in pedagogy are as follows: breaking the traditional system of gender differentiation, weakening the polarization of female and male social roles; changing cultural stereotypes of masculinity and femininity; objective change of gender characteristics of marriage and family relations, etc. We consider the introduction of a gender approach in pedagogy to be the most important principle of modern education and training; imply the harmonization of gender interaction on the basis of egalitarianism as the principle of equal rights and opportunities for the individual, regardless of gender. The gender approach in pedagogy is a methodological direction that allows you to rely on a system of interrelated concepts, ideas and methods in pedagogical activity. Gender self-awareness consists of efforts to ensure and support the processes of self-construction and self-awareness of the child's personality, development of his unique individuality. In addition, we can see the beginning of the process of establishing gender pedagogy as a new branch of pedagogical knowledge in pedagogy.

Research shows that the theory of social construction of gender is based on the analytical distinction between biological sex and the social process

of gender determination (gender is considered the work of society in determining gender, and gender relations are constructed as relations of social inequality) and is highly effective for studying gender issues in the context of the methodology of social construction of gender. Gender identity, which is considered as an important aspect of self-awareness and describes the experience of a person as a representative of a certain gender, is one of the main characteristics of a person, and is formed as a result of a psychological approach that studies the process of socialization in the process of interaction between "I" and others.

Based on the historiographical analysis of native problems of gender socialization, it is shown that gender asymmetry in education and science reflects the real imbalance in the ratio of men and women in the training of specialists in various fields, and reflects the obvious or hidden inequality in this field. Gender asymmetry is not a random phenomenon, but a constant factor; is a process that is formed due to objective and subjective reasons. Economists estimate that men in industrialized countries spend 70 percent of their total working time, and in developing countries more than three-quarters of it in paid work. Unlike men, women spend three quarters of their



time on unpaid work and only one quarter on paid work [1].

Gender asymmetry in the general education system is caused by the following problems: lack of a single and clear concept of sex education in secondary schools; the tendency to "exclude" men from the field of education in general; inadequate gender education of teachers and other adults. It also proves that the gender criterion in the transition to the market economy has become one of the decisive factors of social discrimination in the world of work, especially in enterprises and firms in the form of private ownership. In turn, structural changes in the labor market and employment show that the weight of women is increasing year by year, their competitiveness, social and professional mobility are increasing. By the present time, a new approach to the relationship between men and women and the issue of women has appeared in philosophical, socio-political and sociological views. In particular, the process of gender socialization is clarified as the problems of power, violence, individual's self-awareness, freedom and other social roles of the individual [2].

At the current stage of the development of education and science in Uzbekistan, it is the basis for the development of a single concept of gender pedagogy, which leads to the conclusion that positive measures are needed to help the more constructive interaction of the two sexes. Also, in gender asymmetry, the development of universal human values, adaptation of a person in modern society and its development, individual qualities and talents of a person are carried out by not imposing existing social roles, stereotypes and artificial relations on him. Thus, sexual deviations also have their own, common causal connections (determinants), which influence men's strength, independence, activity, aggressiveness, rationality, striving for personal success, and women's weakness, subordination, laziness, gentleness, emotionality, the need for others' help, impressionability and other character traits are included [3].

Gender education and the development of gender relations in the context of person-oriented education require the development of pedagogical management

models. Therefore, revealing the stages, levels and mechanisms of the formation of attitudes towards the partnership model of gender tolerant relations in the growing generation is of priority importance. Gender in pedagogical activity consists of pedagogical mythologies, attitudes and stereotypes.

It has been proven that modern society does not correspond to a strict gender division: without changing the existing system of social division of labor, it is impossible to distinguish the content of education according to gender, and the teaching methods are closely related to its content, therefore, they are considered joint and equal. Gender education appears to have a more socially functional basis than individual education, and in fact, gender pedagogy focuses on changing traditional standards rather than perpetuating and restoring them. Not the problem of separate or joint education, but the problem of gender education is important, which leads to the conclusion that it is necessary to explain the essence of stereotypes, to determine their historical variability. This is the reason for the creation of a coherent educational concept that provides for the formation of social conditions and the effective implementation of the gender approach on the basis of the modern paradigm of person-oriented education and humanization of education, which contributes to gender self-awareness and self-construction. In this sense, special attention should be paid to solving this problem in order to realize a person and develop his unique individuality. It is noted that the problem of joint and separate education is often tried to be covered with innate gender differences in mental processes and mental abilities, but the scientific data on this matter is ambiguous: gender differences are differences that are difficult to correct, objectively, and the difference between individuals is always greater than that of the sexes. Besides, they, like other cognitive abilities, are largely the result of the educational process and can change depending on the nature of the activity, the size and forms of their manifestation.

Analysis of the literature allows us to distinguish three models of gender education: repressive, liberal and democratic: the repressive model is focused on the minimum amount of information about the characteristics



of the male and female sexes, and contributes to the formation of stereotypes. And the liberal model in the perception of the opposite sex includes introducing children to any available information, although it has a negative effect on the moral formation of the individual.

The democratic model is distinguished by the fact that it focuses on the necessary information that encourages students to make a positive choice, helps to form the correct gender identity, and acquire moral culture in the field of gender relations. The analysis shows that quotas are introduced in different countries for different reasons. For example, the active activity of women's organizations and the beginning of the process of democratization of society in Indonesia, the rise of the national movement in South Africa, the decline of the apartheid policy, and the coming to power of the African National Congress were factors in the adoption of quotas. In traditional societies, such as Indonesia and Korea, gender equality is pushed from the top to the state level, but the state maintains a paternalistic stance towards women. However, in Korea, perhaps because of this, it was able to achieve remarkable results in increasing the representation of women: from 5.9% to 13% immediately after the adoption of quota regulations [4].

The analysis of the practice of forming the gender component of modern pedagogical education today allowed to identify two main approaches to the formation of its content: multidisciplinary and interdisciplinary: with a multidisciplinary approach, certain gender aspects and personality development become the subject of study within any specific disciplines. In the implementation of an interdisciplinary approach, special courses are included in the content of traditional teacher training, which have a holistic nature and allow for the purposeful formation of a teacher's gender competence using the entire arsenal of gender-oriented pedagogical technologies.

The main directions of modern gender studies are highlighted: gender as a tool of socio-economic analysis; gender in the study of "women's" issues; gender as a cultural interpretation of social development, as well as four stages of formation and development of this scientific direction: organizational and educational stage, stage of institutionalization of national gender studies; the stage of

bringing together scientists and practitioners; consists of a phase of activation of work aimed at the legalization and wider promotion of gender education in national education.

Conditions for the effective formation of gender competence in educational institutions have been developed, and their implementation should ensure the implementation of effective models of gender education and pedagogical management of the development of gender relations in the context of person-oriented education. Taking these conditions into account, the trends and directions of gender mainstreaming in education are necessary for forecasting and making the most important strategic decisions in the context of significant changes in gender-role stratification in education in modern society.

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REFLECTION OF HUMANISTIC IDEAS IN THE VIEWS OF ABU ABDULLA RUDAKI, ABULQASIM FIRDAUSI, AND SAADI SHIRAZI

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ABSTRACT

In this article, opinions that Rudaki made nature the object of poetry for the first time in the new Persian literature, that he showed man and his spiritual world as a part of living nature, that the poet drew unique pictures of the lively, ever-renewing nature in his spring poems, in which he created the poetry of the past eras in describing the glorious beauty of nature. All the best aspects created by the poetry of the past periods are clearly expressed in the description, and opinions are asked about the fact that this love is joyful and luminous like a gentle and bright spring at first. Thus, in the article, the courage and bravery of women in Abulqasim Firdausi's "Shahnama" are manifested in all moments of life, the great poet describes women first of all as the basis of life, teaches them the best qualities and skills of life, raising children, raising the family system, and their heroism in marching, reflecting the effectiveness. In this work, love, kindness, beauty, chastity and femininity, mother's natural attitude to family life, mother's role in raising children are revealed. In Saadi Shirazy's pedagogical views, among the problems of moral education, the issue of humanitarian education takes one of the first places. A humanist, he considers all people as equal members of a single human society, opposes inequality and oppression are studied from a pedagogical point of view.

KEY WORDS: *Moral education, humanitarian education, life and work, love, kindness, beauty and chastity, chastity and femininity, mother's natural attitude to family life, mother's role in child upbringing, mother's work as a hero and wrestler, brought up in a harmonious family and environment. child rearing, brave woman and child rearing, period of love, religion, wealth, poverty, ego, rearing in the spirit of respect for parents, poor and sick, elderly and orphans, feelings of respect and kindness, being kind to orphans.*

It should be noted that the first prose in the Persian language was mainly an explanatory translation of the Qur'an and Tabari's historical codex developed after Rudaki's death. The prose work "The History of Prophets and Kings" (Tarikh, 2003), which contains the universal history from the creation of the world to 302 (915) years and is the first example of a chronicle in Muslim literature, has gained a well-deserved reputation. The main advantage of this monument is that there is a wide variety of information about each event, with a chain of names of authoritative narrators (isnad) consistently displayed. After the Iranian scientist Mohammad Roushan published the scientific-critical text of the oldest lists of the Persian version of Tabari's History, it can be determined that there are some news about the ancient history and culture of Persia. Tabari, an author of Persian origin, who had a great reputation in the scientific circles of the capital of the Caliphate, had mythological, historical, theological and narrative, allegorical, moral sources. He is a mature scholar and exegete of Qur'anic verses and hadiths, and he quoted them in his native language in his work. This information could not escape

the attention of "Father of Poets" Abu Abdullah Rudaki [1].

The poet knew the Qur'an by heart, studied primary sources and the works of Arabic authors in the original, but the range of literary perception was limited to the field of his native language. The transfer of the interesting material of the Qur'an to explanatory prose gave rise to the consciousness of a new genre within the framework of elegant poetry. At the same time, the respect for the values of the new religion and the increased interest in promoting national traditions are reflected in Rudaki's work, and "comparison of one religion with another is done only for application. It is created the basis of the scientific comparative method to show more clearly the essence of faith and the idea on which it is based." Prose works on religious and historical themes, passing into living national languages, become the object of countless poetic transcriptions and imitations.

The urban culture of Bukhara and Samarkand showed a rare tendency to synthesise the advanced ideas of different peoples, "skillfully reworked them in a qualitatively new form and content, and developed a literary language." Poetry in the New Persian language



confidently competed with Arabic poetry, which later became a model for all the peoples of the Muslim East. A national school of poetry was established in the palace of the Samanid rulers, where cultural Arabic, Greco-Byzantine, Indian and Turkish traditions, a unique phenomenon of medieval culture flourished.

Love poetry found its expression in the environment of court literature. In the course of the development of new literature, there was a transition from a social direction to a dominant moral direction. Poems on the theme of love also adopted satirical, didactic and political elements. It was closely related to the new interpretation of love established in the field of dissemination of medieval Muslim culture. In the context of Arabic poetry of that time, "travels in the desert, camels, weeping over the remnants of nomadic life, and other attributes of nomadic life of the Bedouin became ridiculous at the beginning of the Baghdad period"[2].

The figurative structure of love lyrics absorbed religious symbolism. The religiosity of love poetry was also conducive to the emergence of a literary movement in non-Arabic environments. The Qur'an remained an important source of plot and motifs. Many poets wrote poetic exercises on the themes of the Qur'an. The collision of ancient and Qur'anic traditions opened up opportunities for different poetic experiences. The theme of Rudaki's poetry is "allegorical interpretation of the Qur'an" and becomes deeply religious. The subject of Rudaki's poetry gives great importance to the "allegorical interpretation of the Qur'an" and remains deeply religious. The subject of Rudaki's poetry gives great importance to the "allegorical interpretation of the Qur'an" and remains deeply religious. Rudaki's lyrical poetry can be divided into three main directions - love, scenery and didactic direction. In the poet's romantic poems, the characters are clearly divided into positive and negative: those who help the heroes are kind and noble, and those who conspire against them are perfect villains. If in Arabic poetry, the descriptive part of the ode "Wasf" is connected with the uniqueness of the life of the Bedouin tribe, then in Rudaki's table, the adventures of joy and love are depicted against the background of the beautiful nature of his native land. The poet strives to create the image of a living, earthly woman as a standard of ideal beauty. Such an image later began to dominate the entire Persian-Tajik medieval lyric.

Rudaki usually did not refer to religious motifs, mystical images, and did not quote verses from the Qur'an. He contrasts "Love" and "Intelligence" in his poems based on folklore traditions, vivid perception of nature, joys of life. Using the resources of the New Persian language, Rudaki boldly competed with the possibilities of the Arabic language, thereby establishing the Persian language and giving it its rightful place in the interpretation of the Word of God [3].

Rudaki was the first in the new Persian literature to turn nature into an object of poetry. He showed man and his spiritual world as a part of living nature. In his poems - "spring", the poet painted unique pictures of the lively, ever-renewing nature, in which all the best aspects created by the poetry of the past eras in describing the glorious beauty of nature are clearly expressed. At first, this love was joyful and bright, like a gentle and bright spring. The theme of awakening nature is combined with the motif of young triumphant love and its transformative magical power. The description of the spring morning, chirping of birds, rustling of leaves becomes a symbol and sign of psychological state, not only a picture of awakened nature. Flowers and trees, animals and birds, countries of the world and hours of the day acquired a symbolic and situational meaning in the lyrics.

The poet's legacy once again states that "the theme of human vices has been one of the most relevant themes in the artistic works of writers and poets of all nations, all generations and, unfortunately, will remain so." Muslim literature seems to have been dominated by traditional themes, plots and images, leaving little room for the poet to express himself. However, fans of Rudakii's poetry expected not something new and unexpected, but something familiar. He managed to find a good balance between the familiar and the new. But he was subjected to literary processing, to the lyric of love and reason, to the earth-poetic description of the heavenly nature of mother earth "using the tested weapon of allegorical didactic" [4].

Rudakii was also an innovative poet in the field of understanding the norms of behavior, wisdom and moral greatness. The didactic motifs of the poet clearly express the understanding of religious and national identity. An autobiographical ode is not a sad story about old age, but a hymn to youth, eternal beauty and joy of life. It is this contradiction, internal inconsistency, sudden transitions from the intoxication of youth and happy memories to



sadness and despair that constitute the essence of Rudaki's tragic optimism.

The poet consciously uses contrasts in describing the place of action, in building an image, in the experiences of the hero. But in these contradictions, as we see, there is no contradiction, the different manifestations of external life and internal life do not negate each other, but merge into a multifaceted unity. Language proficiency often depends on ease of expression and ease of understanding rather than verbal fluency.

Rudaki's use of images from everyday life is noteworthy. No matter who he writes about, the poet always reveals new aspects of the ordinary human personality. Many new motifs and ideas in his poems are simple in form and humorous in content.

In Rudaki's poetry, in addition to court odes, there are contemporary poets Murodi, Shahid Balkhi's ascetic lyrics, elegy about death, with whom the author had a close friendly relationship. In the lyrics of love, he sang about wine and love as ways to know the joys of existence on earth, as a support among the changing world of "wind and clouds", he clearly emphasized the philosophical side of the great feeling. At the same time, within one poem, he combined motifs of different genres, with clear boundaries of genre categories, which are not typical for Persian poetry.

In general, the genius of Rudaki, the founder of Tajik-Persian literature, is that he abandoned the Arabic language and began to create in the current mother tongue, bringing this literature closer to the people. If al-Tabari's "Tafsir" and "Tarikh" translations served as a powerful tool in strengthening the position and expanding the role of the Persian language in Muslim culture, then Rudaki's poetry fulfilled this unique mission in the field of artistic expression [5].

As a symbol of beauty, courage, wisdom and charm, the artistic image of a woman occupies an important place in the literature of all nations, aiming to realize the ideals of beauty, dreams and physical beauty. There are many writings and wisdom of the great heroes of the East and the West about the hero of the battlefield, and the bravery and courage of the women in "Shahnama" by Abulqasim Firdaws are shown in all moments of life.

The great poet describes women first of all as the basis of life, they are impressed by the best qualities and skills of life, raising children, raising the family system,

and their heroism in marching. From this point of view, these masterpieces of female creativity can be named on several grounds:

- stage of youth, love, marriage;
- family relations and their stability;
- mother's birth, upbringing and contribution;
- the mother's attitude to the child's work;
- death and mourning of a child;
- the opinion of the poet about the status of women.

In this work, love, kindness, beauty and chastity, chastity and femininity, mother's natural attitude to family life, mother's role in raising children are expressed. Love in the image of Firdausi is not connected with avarice, wealth and poverty, but with love and affection. Through the images of Rustam and Suhrob, Zolu Rudoba, Rustam and Tahmina, the poet was able to build a palace of love for his heroes, and show a woman as the keeper of the hearth of love and family.

Every hero and wrestler in "Shahnoma" was brought up in a mother's creativity, close-knit family and environment. All this determines the fate and future actions of the hero. The poet always prioritizes a woman's work, skills, and abilities [6].

The poet pays special attention to child upbringing and family relations. Suhrob was brought up by his mother as a great wrestler Rustam with a special status and his best guide was Hikmat.

During the time when the poet lived, women and mothers were considered weak and subservient to men, and their life and creativity did not go beyond the family circle. The woman was a perfect person. Firdausi drew all these lines and created the image of a brave woman and the goddess of child rearing. The poet broke the existing ideology of that time and put women on the same level as men.

Literary critic J. Bobokalonova studied the outer and inner world of the heroes of "Shahnoma" in different historical periods, especially in the period of love, regardless of their religion, wealth, poverty, ego, alienation. According to him, the period of love of young people and their love for girls from hostile families shows the glory of Firdausi in the hymn of pure love. From the same point of view, it is noted that the transition of this moment (phase of love) from Eastern to Western literature can be seen. That is, some poets and writers of the Western countries have studied this great work and finished their works, a clear example of this is the fate of



the characters in “Zol and Rudoba” by Firdavsi, and “Romeo and Juliet” by Shakespeare.

One of the good qualities of women in Shahnoma is that they cannot imagine their happiness without the happiness of their spouses. The image of women in “Shahnoma” is interesting, positive and negative sides, their actions are shown in this great work. As for the role of Kovushshah’s wife Sudoba, she is one of the most prominent characters in Shahnoma. The poet described the stone heart and passion of this woman in such a way that no other woman in “Shahnoma” can be compared to her. In other words, Sudoba is a loyal woman and has pure human love. Her devotion to her husband was evident when she was held captive by the king of the Hamavars. Or the exceedingly beautiful goddess Afrosiyab gathers for Bezhon, the king’s daughter, unhappy for her lover, fleeing from all possessions and ruined by increasing hardship.

Shahnoma describes women and family issues, a woman’s position in the family and raising children, her heroism and bravery in the march. The poet showed one of the main social forces that constantly shakes the society with his work in the form of a woman and a family. In fact, as the well-known researcher Muhammadnuri Usmanov wrote, “Firdausi created an image of strong-willed, wise and faithful women in Persian and Tajik poetry that was unprecedented.”

The concept of motherhood is very broad in Shahnoma, where wisdom and purity, protection of family and land, selflessness, bravery, and patriotic struggles are emphasized. In Shahnoma, the poet glorifies the intelligence and courage of a woman in the image of the first Gurdwara woman and says that she was brave in the battle with Sohrab:

Бир аёл миниб юрар буйрак устида,
Доим жанг-чўзилган машхур.
Қаерда эди номи Гурдфарид,
Ким борди жангга ким.
A woman rides on a kidney,
Always famous for fighting.
Where was the name Gurdfarid,
Who went to battle?

So, we can say that Firdausi shows the spirit of Eastern women with high artistic skill in “Shahnoma” and considers them as the basis of society, the human race and the producer of household light [7].

Saadi Sherazi was a teacher and thinker of Persian and Tajik languages in the 13th century, he belonged to the intellectuals, and his ancestors were religious scholars. His father's contribution to his spiritual development is great. His father taught the young Muslihiddin that he should respect his teacher and mentors because they had the authority of spiritual fatherhood. That is why, under the influence of his father, Muslihiddin continued to look at the environment and life with a serious, instructive eye, and took a decisive step in the search for enlightenment. Saadi Sherazi left behind a rich and colorful work, the most important of which are the books “Gulistan” and “Bustan”. The content of Saadi Shirazi’s works is a solution to the problems of education and morality. He does not doubt the power of education and considers it important in the formation of a person’s personality. But at the same time, he emphasizes that a really bad person cannot be corrected by education, because education is not able to change the nature and essence of a person, and a dull child cannot be made wise and educated.

Saadi Shirazi placed humanitarianism at the center of moral education. Such a point of view, regardless of its explanation and origin, ensures respect for the worthy person, equality in relations between people [8].

Humanist ideas have been promoted by representatives of progressive democratic forces who fought against the reactionary system and promoted equality among people in all eras. At all stages of the historical development of society, humanitarian conversion took different forms and manifested itself in certain conditions. And in a class society, it did not go beyond the existing society.

No philanthropy was shown towards the poor peasants (and they were the majority in the community). Their ideology was born on the basis of religion. Although they said: “We must respect every person, respect women, help the poor, pay attention to the suffering”, such words have become empty words. The humanity of the man, the dignity of the poor, the honor of the woman - all these were mercilessly trampled.

As we mentioned above, the fate of the common people was particularly bitter during the Mongol invasion of Central Asia and Iran. The people suffered double oppression: they were destroyed, exploited, humiliated by the Mongol invaders and local feudal lords. Therefore, the issue of educating the young generation in the spirit



of humanitarianism attracted the special attention of advanced scientists and poets of that time. One of them was Saadi Shirazi.

In Saadi Shirazy's pedagogical views, among the problems of moral education, the issue of humanitarian education occupies one of the first places. A great humanist, he opposed inequality and oppression, considering all people as equal members of a single human society. Saadi Shirozi wrote: "People should treat each other with kindness, regardless of their nationality, religion and belief." Everyone should know: life and work, someone's anxiety and sorrow; people should always help each other to overcome life's difficulties. This idea is clearly expressed in *Gulistan* [9].

In the dark ages of reactionary, religious ideology, it was considered a sin to talk about equality. It was during this period that advanced thinking was of great importance. Saadi Shirozi considered the struggle for people's happiness, equality, respect for human dignity to be the main goal of humanitarian education. In an era of oppression and ignorance, selfishness and greed, Saadi Shirazi fought for universal equality and openly expressed his hatred for those who do not appreciate the work of others and do not sympathize with the sorrows of others. Therefore, the ideal person for him was a hard worker - a craftsman and a farmer. These advanced ideas had a beneficial effect on the education of young people, instilling humanitarian feelings in them.

Saadi Shirozi actively fought against those who believe that national or religious superiority gives a person an advantage, makes him superior to people belonging to another nation and other faiths. Analyzing the stories "Gulistan" and "Bustan", we see the writer's kind attitude towards representatives of working people of different nationalities. The great humanist Saadi Shirozi observed his life, hardships and sufferings and sympathized with him with all his heart. This also indicates the real personality inherent in this thinker. So, Saadi Shirazy was one of the people of his time who continued the humanitarian traditions of his great ancestors and lived for the welfare of his country and people. He advocated careful, caring treatment of all people, regardless of their rank and status; called people to help each other. Saadi Shirazi considered humane attitude towards people as the main human value. He could not imagine how to live without doing good.

Taking care of a person, giving him sympathy and help, says Saadi Shirozi, is the basis of life. Yes, in his opinion, caring for a person and showing him respect is one of the signs of humanity. Therefore, these characteristics should be instilled in people from childhood.

Humanity, Saadi Shirozi said, begins with respect for parents and other close people. Therefore, first of all, the child should be brought up in the spirit of respect for parents, and on this basis, he should instill in his heart the feelings of respect and kindness for the poor and sick, the elderly and orphans. A kind person always acts wisely, knowing that it is his duty to take care of the poor and the elderly. Saadi Shirozi considered it his first duty in this field to be kind to the poor and orphans.

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AESTHETICS OF UNIQUENESS IN EUROPEAN ART, ARCHITECTURE AND URBANITY

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ANNOTATION

In this article, the role and contribution of France to the development of European urbanization, the fact that the French Renaissance did not remain behind the influence of the Italian Renaissance, this, like German culture and art, on the one hand, Italianism, on the other hand, went along the path of creating its own national style, analyzes the medieval Gothic French aesthetics, the organization of the national character of architecture and urban planning

KEYWORDS. *Urban planning, Renaissance level, French culture and art, architecture, urbanization and civilization, cathedrals and temples, Italian traditions, cities, streets, alleys and promenades, houses and villas, hostels and hotels, waiting rooms and ballrooms.*

Many aspects of today's urbanization and civilization are the result of the intellectual and practical research of the German people. German culture and art, urbanization sought to ensure socio-cultural development under the influence of the Italian Renaissance. K. Vörman, who observed and studied the German art and life of that time, shows that "German art and culture in the 16th century was a process of assimilation and rejection of Italianism" [1]. So, the culture of the German people, while enjoying the Italian Renaissance of that time, also showed its identity and the desire to create artefacts specific to its desires. Nuremberg and Augsburg were the main "imperial cities" that attracted the population and sought to develop crafts and trade. Many buildings, such as the University Church of Wurzburg, Belvedere (Prague) Entertainment Palace, Landsgut Palace, Judenghof (Dresden) Giovanni Maria Nossen Building, Freyberg Cathedral, Breg Palace, Fugger Chapel, St. Kilian's Church, Enzishaimratushi, Dresden Palace, Torgau Castle, Berlin Palace, Augstsburg Palace Chapel, expressed the "German spirit" (Hegel). With the development of culture, trade and crafts, cities (Brandenburgs) appear. Based on them, cities such as Berlin, Hamburg, Munich, Cologne, Stuttgart, Bremen, Frankfurt am Main, Leipzig, Dusseldorf, Nuremberg, Dresden will appear. Today, Germany's urbanization is the second highest in the world after the United States. 90 percent of the population lives in cities. It ranks third in terms of population in the European Union and is 83 million 166 thousand 711 people (2020). However,

Germany's birth rate (among natives) is extremely low. Germany is the country with the second highest rate of migration after the United States. Almost a third of their families are immigrants or one parent is an immigrant. In the first place in terms of population density is Bavaria, 182, 05 people per sq. km., Baden Württemberg 304, 31, Berlin 3,947, 64, Hamburg 2,366, 49, Bremen 1,599, 39, Saarland 387, 59, North Rhine 523, 72. It can be seen that the population density corresponds to the capital and large cities, and the flow of migration is mainly directed to these areas. Average population density per sq. km are 228 people, this number estimates over a million in the cities of Berlin, Hamburg and Bremen. At the same time, the Upper Palatinate, the Bavarian Forest region, the Eifel district, the North German Lowlands, Bradenburg and Upper Pomerania (Mecklenburg) are sparsely populated. According to the data of the Berlin Demographic Institute, births are low in highly urbanized cities, and young families tend to live in such convenient and socio-economically developed cities. As a result, the infrastructure of the regions does not develop. In some regions, for example, Thuringia, Saxony, Bavaria and Baden-Württemberg, the population is constantly decreasing. 340 out of a thousand women have the opportunity to work. Since 2007, the government has adopted and implemented special programs to support fertility, but the population growth is not showing the expected indicators. The birth rate in the country is 1.37 people. In Germany, same-sex marriage is allowed, according to sources, in 2013, such families formed



35,000. This also has a negative impact on the normal, natural growth of the family institution, of course [2].

Urbanization in Germany is due to the large number of small cities, the increase of industrialized cities, the density of population in the west of the country compared to the east, the high migration flow, according to P. Buchanan's accounting books, by 2050, half of the population of Germany will be immigrants. In the annual report on urbanization of the UN, it is mentioned that Germany occupies 68th place in Europe. The population of Germany is characterized by a high standard of living. This is primarily the result of supporting personal initiative, small business and entrepreneurship. The monthly salary of an ordinary person is 2.5 thousand euros per month, and that of a doctor is 15 thousand euros, and the average allowance is 1.2 thousand dollars [2]. This indicator, that is, the allowance in Uzbekistan is 55 dollars. The difference is huge.

France has its place and contribution in the development of European urbanization. The French Renaissance was not left behind by the influence of the Italian Renaissance, which, like German culture and art, followed the path of creating its own national style, on the one hand, Italianism, on the other hand. Medieval Gothic became a national characteristic of French aesthetics, architecture and urban planning. J. Gujon (1510-1566), P. Lescaut (1510- 1578), J. Bullin (1525-1578), F. Delorme (1510 - 1570), J. Durcerso (1512 - 1584) raised urban planning to the high Renaissance level. Their buildings decorated French cities for many centuries. French culture and art, architecture, urbanization and civilization have been researched and written, so much that it would take many pages to list them. Huge buildings dedicated to the life and work of courtiers, cathedrals and temples where religious ceremonies were held, cities, streets, alleys and promenades built according to the tradition of Italianism were not devoid of nationality. They were houses and villas, hostels and hotels, waiting and party halls, expressing the taste of the whimsical but wealthy owners of the court, which were the center of the city's beauty, decoration and attraction for every Frenchman. Luxury, extravagance, constant partying and banquets for high-ranking guests flourished during the reign of Louis XVI.

France's urbanization rate is 80.7 percent. 85% of the country's population lives in cities. In the 1960s, with the expansion of cities, the increase in culture and urbanization, the population moved towards the city, and

by the 70s, it was observed that the population moved from the city to the district and the countryside. There are 5 large agglomerations in the country, the largest of which are Paris and its surrounding small towns. In France, a settlement of 1,000 people is also called a city. 2.2 million people live in Paris, 1.6 million in Marseille, 1.4 million in Lyon, 1.3 million in Lille, and 1.1 million in Toulouse. They are large cities in France, but small and medium-sized cities are the priority in France. Their infrastructure is mainly built for the production of industrial products and the provision of cultural and household services. At the same time, educational institutions, research institutes, offices of business companies, municipal management offices were established in them. The rising cost of life and consumer goods in cities, sometimes not finding a job as desired, unhealthy environmental conditions such as hot climate and stuffy air encourage city dwellers to build cottages and recreation centers in the suburbs. If in the 40s of the last century, the French government promoted the attraction of migrants as its policy, by 1974 strict requirements will be imposed on immigrants. For example, the admission of labor immigrants from the periphery and family immigration were suspended. Adult children of immigrants were deported, natives were forbidden to marry immigrants. Political asylum was also limited. By the early 1980s, family immigration was allowed, and the rights of immigrants were equalized with those of natives. The country's population has a slow growth trend. For example, the population of the country was 41,647,258 in 1950, 58,313,439 in 1991, 60,545,022 in 2000, 64,658,856 in 2010, and 67,012,883 in 2019. France has 1.8 children per woman, the highest rate in Europe. Urbanization processes in Great Britain mainly start from the 16th century. British people were forced to master the art of urban planning, which is part of European continental culture and civilization, in unfavorable conditions such as harsh nature, environment surrounded by water, swamp. They adopted continental art, culture and creativity, and at the same time created their own church and semi-church architecture in the "perpendicular Gothic" style [1].

King's College Chapel in Cambridge, York House and Hamp Court Castle, St. James's Palace, Charleston House, Shaw House, etc., have given English cities their uniqueness, solemnity and grandeur. Even though all the demands and needs of the population were not sufficiently developed, it admired the new, luxurious



and majestic buildings, especially the chapels, castles and churches that corresponded to the aspirations of the soul and heart. The goals that were instilled in the spirit and essence of these structures, which actually sang and glorified the wishes of the English nobles and courtiers, remained abstract to the public.

Uniqueness, originality in all European art, architecture and urbanism was not intended to serve the masses. The masses did not search for the essence of their social existence based on this art, culture and urbanization, it was enough for them to see this existence (palaces, temples, churches, reception halls of indulgences, town hall bells calling for worship). This can be called “the continuation of primitive imaginations”, because the masses did not understand their life and existence enough, they did not even imagine that they were spending their will and strength in the presence of these nobles. For this, it was necessary to move social and political thinking to a new stage, to seek the essence from the researches of creators who are representatives and supporters of the ruling class. New cities, ports, trade centers, magnificent churches, palaces, resorts and hotels were created, not in terms of their existence and construction, but a doctrine that clearly stated who and what they were to serve. Why did most of the population leave their beloved village, district, and community and move to the city? Why did he become a proletariat without being separated from his home in the village, unable to join the urban nobility? Such a proletariat, according to A. Toynbee, engulfed the whole of Europe and remained as a sad page of its civilization.

European urbanization is a big topic. At this point, it was necessary to dwell on the processes of urbanization in the Netherlands, Spain, Scandinavia, Belgium, and the Netherlands.

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THE HARMONY OF YOUTH ENTREPRENEURSHIP WITH NATIONAL CULTURE AND ITS FUNCTIONAL FEATURES

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Paradigmatic changes in socio-economic relations not only brought to life the forms of private property, but also made it possible for people to achieve material well-being through the effective use of economic freedom, to involve family members in socially useful work, and to develop private property by spending personal funds. At the beginning of 2002, 240,000 privately owned micro-firms, small enterprises and medium-sized enterprises were operating, 73.3% of the produced gross domestic product and 71.4% of industrial products fell on the non-state sector. So, by the year 2000, private property entities will occupy an important place in socio-economic life.

The Law "On Guarantees of Freedom of Business Activity" (new edition) (May 7, 2012) defined the rights of those who want to participate in socio-economic relations using their private property. They consist of:

- owning, using and disposing of one's own property on the basis specified by law;
- independent formation of the production program, selection of product suppliers and consumers of products (works, services) at their own discretion;
- unlimited profit from business activity and its disposal, except for those who have obtained a leading position in the market of goods (works, services) and subjects of business activity;
- realization of own products (works, services) according to independently determined prices and tariffs or on the basis of a contract;
- obtaining or renting buildings, structures, equipment;
- implementation of foreign economic activity in the prescribed manner [1].

These procedures also apply to youth entrepreneurship and guarantee its equal participation in

socio-economic relations along with other business entities. At the same time, a number of problems have arisen as the obstacles faced by entrepreneurs have increased over the past decades. For example, a real estate object that previously belonged to a business entity was carrying out its work, but if it collided with the interests of certain individuals, its territory was seized as being for the needs of the state and society, and the object was demolished. In addition, in order to establish a small enterprise, entrepreneurs collected more than 170 different district permits, signatures and papers that sometimes did not apply to the activity. Sh.M. Mirziyoev declared that the elimination of this red tape, the practical activity of entrepreneurs is a guarantee of socio-economic development and he defended their legal rights. In 2017-2018, 8 laws, more than 30 Presidential Decrees and Decisions were adopted in this regard.

Entrepreneurship fundamentally changes the attitude to work, teaches a person to work at the expense of his own funds and property. 1 soum spent should return to the entrepreneur at least 2 soums, if he does not see such a profit or does not plan to earn such a profit, he does not take risks. Risk is not for the sake of risk, but for the sake of profit, as a businessman knows well [2]. So, the entrepreneur's activity in socio-economic life is based on profit and earning. In fact, there is no type of socio-economic activity that does not involve making profit. The market economy ensures that labor is properly rewarded, charity, khashar - one-time help, socio-economic relations are continuous, daily, large-scale, intensive processes. Youth entrepreneurship brings diversity, risk-taking, innovation to these processes, thus it applies personal interest, private property, innovative initiative to socio-economic relations.



Therefore, it existed in the system of folk culture, folk creativity and folk crafts. Experts use this system to:

- socio-economic system (field)
- economic culture, market economy culture, production culture, consumer culture, management (business, entrepreneurship) culture, trade culture;
- agricultural system (field) - rural labor culture, rural style and economy culture, rural thinking, rural moral culture, rural traditions and holidays, rural family and culture of family relations;
- system of urban life and culture - science and technology culture, urbanization, social organization, standardized environment;
- the field of politics, society and state management - a just system, visions of an ideal life, a humane and people-oriented state;
- development of democratic institutions;
- field of enlightenment, educational education
- labor education, religion, science-enlightenment education;
- sphere of household life - home building culture, household culture, cooking culture, sanitary-hygiene culture, living culture, dress, tradition of spending free time;
- the field related to literature, art and modern amateur creativity - oral creativity, applied art, colorful visual art, folk theater, folk culture of laughter, charity, folk games, holidays, carnivals, gatekeeping, etc. are organized. In each of these systems or areas, one can find entrepreneurship typical of our people. For example, let's take the type of service related to housing construction. As brickwork, carpentry, house building are specialized types of work, they were carried out by special craftsmen. These services are not free, they are provided for a certain fee. The phrase "hands-on" indicates that there has been a tradition of supporting entrepreneurship since ancient times.

Cooking, confectionery, cultural and household services were also provided for a certain fee. Gatekeeping, folk theater, askiya performances, acrobatic games, wrestling were also performed with the financial support and help of the audience. According to their genesis, they lived and developed in the internal system of national culture, on the basis of historical and national experiences.

“The socio-historical genesis of the culture of the Uzbek people shows that there is a tendency to innovation, development by integration with other peoples, ethnic groups and nationalities. At the same time, socio-historical development, ethnogenesis has created a stable core in the culture of the Uzbek people, which could not be changed even by external pressures, invasions, and revolutions. It is in this core that the culture of the Uzbek people has been living as a unique stability, socio-national reality. Youth entrepreneurship existed in this core, therefore, no matter which system (area) of national culture we take, we see that there is a differentiated type of labor and service. In fact, these were types of work typical of the current market economy, which were carried out in accordance with the laws and requirements of free, voluntary trade. The market economy requires not only prices, but also the variety of products, goods and services. This variety did not allow monopoly to dominate the market, did not allow the development of local cultures” [3].

It is known that culture, by its essence, is research, innovation, interest in knowledge, creativity. Folk culture is a stable value due to these characteristics [4]. The combination of youth entrepreneurship with folk culture affects its functional characteristics and creative features. The use of private property and the expansion and development of this private property in the process of business activity are the basis of any business.

Experts say that entrepreneurship is based on the following principles:

- conducting independent economic activity according to market demand;
- to have the purpose of making a profit;
- ability to take on economic responsibilities and obligations and work at risk;
- striving for innovation;
- compliance with established laws;
- keeping business secrets;
- to feel social responsibility, that is, to consider ensuring the well-being of one's community, people as the main direction of one's activity, etc. [5].

If we proceed from these principles and requirements, entrepreneurship is an independent, voluntary economic activity, profit is the goal, risk-taking is a way of doing business, striving for novelty, innovation is a guarantee of the development of private property. It can be seen that the mechanisms of the market



economy are fully operational in family business, they provide goal orientation to independent economic activity and harmonize private and social interests.

To sum up, entrepreneurship is a type of free socio-economic activity, it is effective only in the conditions of a free market, it shows a thirst for knowledge, innovation, and creativity. The desire to create new things makes an entrepreneur an innovator, makes him work tirelessly on himself, and forms his image by satisfying the demands and needs of people and the population. However, one cannot forget that entrepreneurship is built on risk, spending private property, funds, and energy, and it covers these expenses in the form of income (profit). It is known from world experience that it is income, profit that motivates an entrepreneur to be active, and activates his creative forces.

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PHILOSOPHICAL ANALYSIS OF SOCIO-DEMOCRATIC FUNCTIONS OF PUBLIC AND MEDIA CENTERS

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ABSTRACT

In this article, social opinion is an expression of the public's views of society and social unity on existence, life and events. Media centers rely on creative cooperation, support, dialogue of the public, socio-democratic functions of media centers: relying on public opinion, encouraging the public to creative cooperation and achieving its social activation are analyzed.

KEY WORDS: *media center, public, public opinion, "PR", information, social democratic function, communication, cooperation.*

Social opinion, in fact, is an expression of the views of the public, and in a broad sense, society and social unit towards existence, life and events. Media centers rely on the creative cooperation, support and dialogue of the public. No matter how powerful and professional the mediators are, they are not well aware of everything, the flow and directions of information in social existence. The main socio-democratic function of media centers is to rely on public opinion (information, enlightenment), encourage the public to creative cooperation (communication, education) and achieve its social activation (cooperation, social practice). The work of media centers with the public is called "Public Relation" or "PR" in foreign press and literature. According to S. M. Cutlip, A. H. Senter and G. M. Broome, modern media centers and mass media have become "an institution of people's democracy" through PR work, in which they are used to interest the public, create attitudes towards the news, from local issues to it is possible to turn the written word into a tool of social thought as a "press pulpit" up to global realities [1.13-15].

They divide public relations into direct and indirect manifestations of influence and connection of the public to the press, the "pulpit of the written word". Foreign media centers even have special employees and mediators who work with the public, news correspondents, and their activity makes the newspaper, magazine, TV, and Internet press lively, popular, responsive, and shapes their image. According to T. Eshbekov, the number of such mediators, "PR" in

editorial offices abroad is up to 50 people. We have two or three of them [2.37]. T.Eshbekov cited the following words of "publicist" M.Sullivan as an example: "Information government," writes M.Sullivan, "must be considered not as a charity of the government or as an effective indicator of it, but as something that arises from the nature of a free society and the attitude of the state to the citizen. What could be more natural for a government in a democracy than to make public information about how it governs? Communicating with the press in a democratic society is a duty!" [3.39]. From the point of view of its socio-democratic functions and essence, the government needs public opinion and information from media centers that represent it is a natural process, because the effectiveness of management activities depends on communication and dialogue with the general public. In fact, the word "media" itself means "medium". The media centers and media outlets are the mediators between the authorities, management institutions and the public, encouraging them to dialogue. It is interesting that in foreign countries, media centers are understood as a way of communication of a person with the outside world, not only with information, but also with any things, objects, people and realities. For example, the Media Lab at the Massachusetts Institute of Technology has dozens of labs that do things like designing prosthetics in addition to information dissemination [4.26-27].

Therefore, media centers abroad are multifunctional systems. They influence the government and the decisions it makes by attracting the general



public, relying on it for receiving and disseminating information, and its active citizenship position. Specialists consider communication of media centers with the general public as a technology of working with “information carriers”. This technology consists of such things as:

- 1) storage of information (fixation);
- 2) reproduction of information;
- 3) distribution in time and space;
- 4) the competence of using media messages

[5.28].

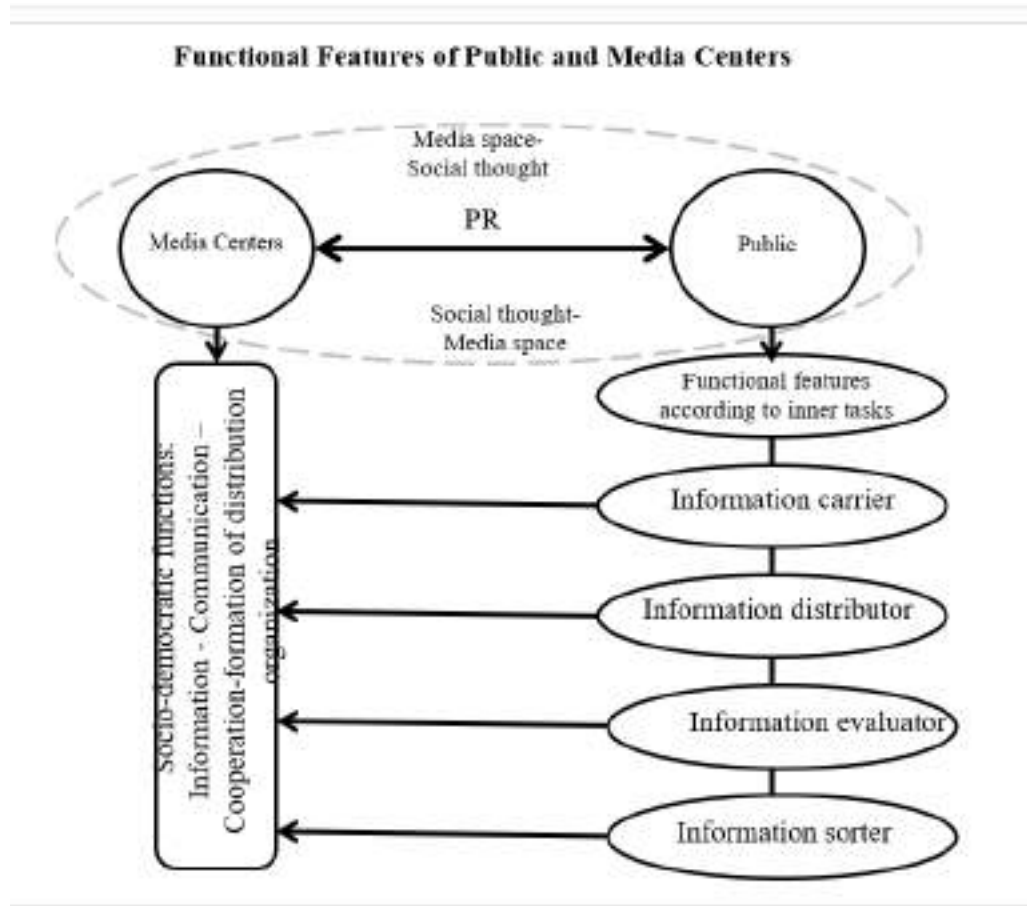
The tendency of social thought to have stable information makes it a tool of “historical memory”. When media centers involve the public in creative cooperation, they first refer to the sources of its historical memory. Historical memory is a guarantee of fixation of information and long preservation of public opinion. The historical memory of the people and the public actually consists of their historical life, genesis, cross-cultural development features. Information included in ethnogenesis does not disappear from historical memory. For example, the epic of the Karakalpak people “Kirk kiz” (Forty Girls”, the work “Korakalpoqnoma” by T. Qayipbergenov, the images, artifacts, national realities in them are still revered by the Karakalpaks as real realities. The historical memory of the Karakalpak people preserves them as their national formation, ethnogenesis. How objectively fixed these realities are, is another matter, the most important thing is that the people have fixed and preserved the information that is close to them. According to the

principle of historicity of information, the recording and storage of the events that happened in the society and the surroundings affects people’s consciousness, worldview and management systems, government activities. That’s why referring to the information preserved in people’s memory and public opinion, using them makes decisions and plans closer to social life and real problems, gives them relevance. When media centers refer to information in historical memory, on the one hand, they restore historical objectivity, thus forming historical consciousness in people, and on the other hand, they turn media messages and materials into historical sources. These resources are necessary for future generations to know their history.

The public has the opportunity to increase, distribute, that is, reproduce information. This function of the public is important for media centers, because no media center can spread itself and reach a wide audience. The popularity and spread of this or that message directly depends on the support of the public. In this case, the public carries out the following tasks, such as:

- 1) information carrier;
- 2) information distributor;
- 3) information evaluator;
- 4) information sorter;
- 5) information updating.

They are dialectically related to each other, they can be represented in the diagram below as a socio-democratic reality that connects media centers and the masses from a systemic functional point of view

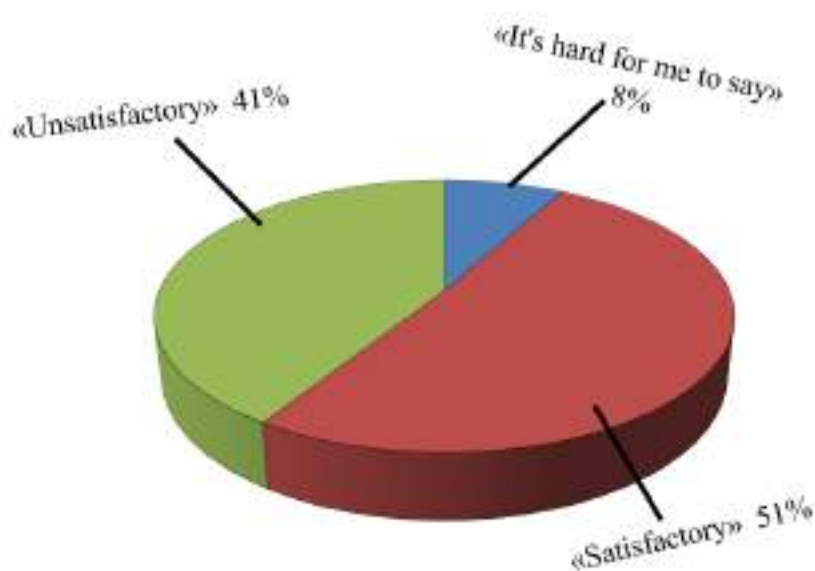


Information transport has a multifactorial nature. The public itself, that is, its existence as a subject, is the fact of information transfer. Without this fact, there would be no public and no media coverage. The dialectical connection between them, as a real fact, arouses interest in each other and makes the exchange of information a necessity, a need. However, the fact of the existence of the public is still half the information, for the media center it is important news about events in social existence. That's when information transport

becomes a real, relevant and interesting fact, like public existence itself [6].

The main part of our respondents (71%) is the “face of social opinion”, the activists who carry information for media centers. We asked public respondents “How do you assess the place of modern media centers in the social life of our Republic?”. The responses we received were as follows:

- “Satisfactory” 51%,
- “Unsatisfactory” 41%,
- “It's hard for me to say” 8%.



51% of the respondents rate the activity of media centers in Karakalpakstan as "Satisfactory". So, half of the respondents are satisfied with the activity of media centers.

It is interesting that almost all of those who answered "Satisfied" (96%) are in regular contact with media centers and are closely familiar with their activities and propaganda. They are mass media reporters, correspondents and readers. Among those who answered "unsatisfied", such correspondents make up only 7%. 24% of them visit the mass media, are familiar with some of the journalists or are only slightly aware of their activities, works and creativity. Public correspondents are familiar with journalists, their works and views, and have opportunities to argue with them. They do not hesitate to critically assess the activities of journalists and mediators. So, public correspondents who carry information are really "the face of media centers".

It is observed that the media centers of Karakalpakstan appoint public correspondents who carry information. If such media centers are organized and managed by the public and active correspondents in advanced countries, if necessary, they stop the activity of the media center, but the opposite is true in our case. For example, the newspaper "Erkin Karakalpakstan" was founded in 1924. Public reporters, active information carriers around this socio-political newspaper are mainly professional journalists, writers and intellectuals. In some cases, the authors of the notable articles in the newspaper are the employees, especially the leaders, of the state institutions and the educational system in the

Republic. They correspond to the socio-political direction of the newspaper according to the character of its main activity. However, the news carriers of the Bulletin of the Academy of Sciences of the Republic of Uzbekistan Karakalpakstan and the Bulletin of the Berdak State University of Karakalpak are mainly academic staff. The public information carriers of the popular "yellow press" are reporters who satisfy people's interest in entertainment, sensational news, advertising and solving crossword puzzles, and those who order advertising. So, information carriers are formed by media centers and their creative directions. Differentiation is visible in TV programs, intersites, and radio broadcasts. The requirements for information require high professionalism from reporters and media center employees. Public information carriers do not interfere with their professionalism, but rather determine where to focus their creative energies.

Information delivery is central to the activities of media centers. The formation of social opinion depends on the effective performance of this function. It has its own organizational and psychological aspects. From the organizational point of view, it consists of organizational signs of institutions, compliance with the rights of information consumers, establishing the activity of couriers transmitting information, using technical means, organizing marketing services, planning and forecasting the provision of media messages. From the



psychological point of view, it requires such things as decorating with emotional tools, knowing the psychology of advertising, the ability of the information provider to communicate and convince the consumer, the ability to influence people's minds and feelings, to know the interest and need for information, to be able to correctly evaluate information and, if necessary, to fill it in quickly, to change it, to be aware of the secrets of manipulation, to be aware of the facts artistically. According to experts, communication is an activity related to the skills of mediators. If the mediator is well aware of the organizational and psychological secrets of information delivery, and has the skills to use them, he can deliver and sell any message to the audience [7]. Web 2.0 media marketing, which is widespread on the Internet today, is shaping the modern technology of selling messages. For example, "Litres" media services connected to Google play books and the Russian book trade system operate according to marketing requirements. Privately publishing books, monographs, preparing advertisements, producing booklets and invitations is also related to the use of such marketing services. It should not be forgotten that global media marketing is built on economic competition, in which everything, like goods and services, is bought and sold. We also have this marketing requirement, but it is in accordance with the characteristics of national democratic development. In our country, newspapers of political parties are financially supported by the state budget, as well as the political parties themselves. If there was no such support, political party newspapers would not be published and would not be sold at the time of publication. If political parties had published their newspapers at their own expense, their price would have been at least 5-6 times higher, at this price, readers would not have bought them, of course. Sometimes, it's

not a secret, in Karakalpakstan subscriptions to socio-political newspapers and magazines are organized with instructions. The Bulletin of Karakalpak State University named after Berdak and the Bulletin of the Karakalpak branch of the Academy of Sciences of Uzbekistan sell their journals to the authors instead of paying fees to the authors of the articles. This order, which was formed due to economic problems in the first years of independence, has not yet been eliminated. There are those who extend this to a national characteristic, but the question of whether it is legal for scientific journals to pay royalties to their authors in socio-democratic conditions does not leave the thinkers. Why do "Ishanch", "Hurriyat" and "Ma'rifat" newspapers, "Tafakkur", "Jahon Adabiyoti" magazines pay royalties, but other publications, especially in Karakalpakstan, do not pay royalties to their authors? Nevertheless, the communication and dialogue between media centers and information carriers is amazingly preserved. In our opinion, our people's interest in enlightenment is high in this place, they really believe in the word and power of the press. It is important for him to express his opinion in the press, on TV and on the Internet, to seek the truth and to exercise the right to freedom of speech.

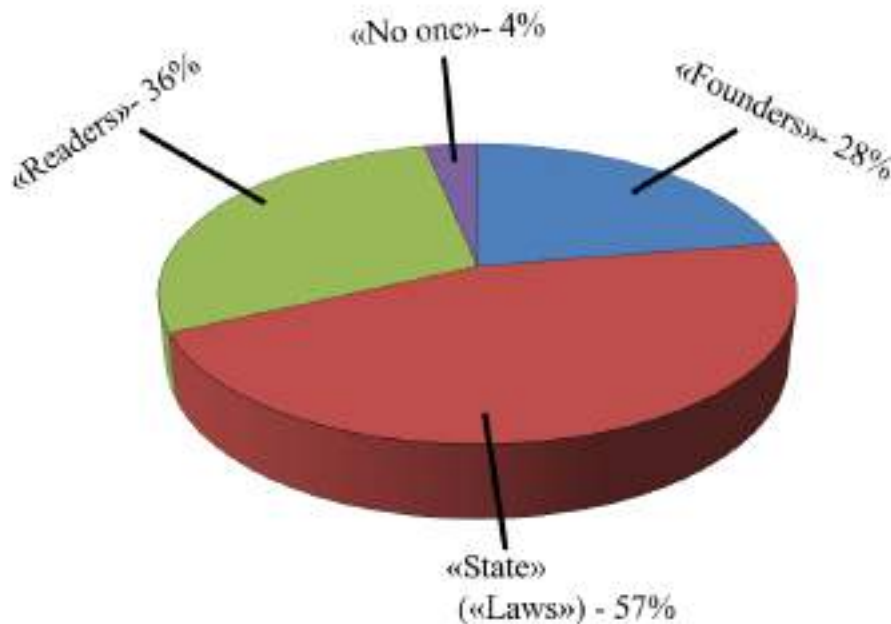
Evaluators of information are readers, viewers, respondents and recipients. The attitude of these objects to media reports is recognized by experts as the main norm and indicator [8]. When we asked "Who should evaluate the information of media centers, in your opinion?". the respondents gave the following answers to our question:

- "State" ("Laws") 57%,
- "Readers" 36%,
- "Founders" 28%,
- "Nobody" 4%.

We can show and express this by the following diagram:



«Who should evaluate the information of media centers, in your opinion?»



It is known that the majority of respondents (57%) say that it is necessary to evaluate the information of media centers first of all by the state and the laws it adopts. In fact, today it is the state that sets up the activities of media centers and evaluates their information. Respondents emphasize this reality. The second answer is “Readers” (36%). In fact, the main consumer and customer of media information are readers. It is their attitude, reception of information or awareness of it that is the evaluation of the activities of media centers. However, the mediator first selects the information and turns it into a commodity, a message, that is, brings it to the public. Therefore, the messages are evaluated first by the mediator, and the readers evaluate him based on his professionalism. It happens that the message that the mediator liked and highly rated may not be liked by the reader, it may be negatively evaluated and ignored. It is difficult to find a message that all readers will like and appreciate equally, especially in a socio-democratic environment where it is up to the reader to evaluate the message. However, mediators can also evaluate each other’s activities, which is called expert evaluation. The professional judgment of experts is different from that of ordinary students.

To be honest, we have not sufficiently studied the scientific problems of media center activity evaluation, press evaluation systems have not yet been formed. What publications do we need and what publications should we avoid? How do we evaluate articles and information? Who studies the needs of our society and people for media messages, do we have such monitoring centers? Why are there more subscribers, “news carriers” and “informants” for “Erkin Karakalpakstan”, “Yanyi Uzbekistan” and “Khalk sozi” newspapers, but for the rest of the publications, such members of the public are rarely found? What should be done to transfer the press to the market economy? In general, can media marketing work for us? Is it right for the state to intervene?

“Information sorter” is a concept that goes back to the mediator’s professionalism, skill and art. Undoubtedly, a mediator (journalist, reporter, operator, director, media marketer, publisher, librarian, messenger, manager) is a subject who presents and sells his product or service. His art of sorting information is ultimately reflected in the finished product, the commodity. The public evaluates the activity of the mediator depending on this finished product, the commodity. Today, the organizational institutional systems and functions of media centers are undergoing



renewal processes in accordance with socio-democratic changes in society. Under the influence of globalization and international integration, media centers based on modern information technologies are emerging, which are changing our previous ideas and systems. Systems such as state, non-state and private (independent) media centers, news agencies, communication centers, websites, bloggers contribute to the creation of a media space (social opinion) in society, to the provision of diversity, pluralism and human rights. Since these systems are diverse, their institutional management and regulation remains one of the complex tasks. Combining freedom of speech with the students of socio-democratic development encourages solving new problems. For example, the need to develop laws on guarantees of public participation in the activities of bloggers and media centers can be an example.

Socio-democratic functions of modern media centers include information distribution, communication organization and cooperation formation. They are implemented by various mechanisms from an organizational and psychological point of view, but ultimately serve to shape social opinion. If the distribution of information focuses on meeting people's needs for this or that information, the communication function organizes the audience, dialogues with the student. And cooperation unites people, turning them from passive listeners into active, creative subjects, thus objectifying social thought. That is, cognitive democracy becomes social democracy. This is the ultimate goal of media centers. Working with the public, gathering active students and relying on their support, creative cooperation play an important role in the activity of media centers. According to its internal functional characteristics, the public, PR carries out the tasks of information carrier, information transmitter, information evaluation and information sorting. PR can be not only an ordinary reader, but also a professional journalist, reporter, cameraman or director, the opinion of these respondents (experts) is of great importance for media centers. Practical experience and the opinion of the respondents show that today in our Republic, although various systems of media centers are being formed, most of them are implemented with the help of the state and material support. Even independent newspapers, non-governmental programs, and private bloggers are under state control. This is good, on the one

hand, because their development allows them to stand on their feet, to start their own activities, on the other hand, they cannot protect their independence, the control authorities can disconnect them from the media system and ban their activities at any time. It is natural for media centers to be established in advanced democratic countries, if they cannot cover themselves materially, they cannot create PR, they will close on their own, state control agencies do not interfere in their activities. Creative competition, the struggle for social opinion makes the activities of media centers more relevant in accordance with the requirements of market democracy. It seems that we still need time for the formation of such an order.

There are also issues and tasks such as fixation of information, their reproduction, distribution in time and space, competence of mediators, which are taken into account in order to evaluate the activity of media centers. However, since these evaluations are often carried out through the personal intuition and opinion of students, they are not general, scientifically based, rationally important criteria and norms, therefore, as a result of our research, it is noted that the issue of creating such norms and an evaluation system is on the agenda.

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