EPRA International Journal of Agriculture and Rural Economic Research (ARER)- Peer-Reviewed Journal
Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

ASSESSING THE SOCIO-ECONOMIC STATUS AND AGRICULTURAL PROBLEMS OF FARMING COMMUNITY IN THE BHABHAR REGION OF KUMAON HIMALAYAS: A COMPREHENSIVE ANALYSIS

Jitendra Kumar Lohani [1*], Arti Joshi [2]
[1]Department of Economics, Kumaun University, Nainital*
[2]Department of Regional Economics, M.J.P. Rohilkhand University, Bareilly (U.P.)

Article DOI: https://doi.org/10.36713/epra20102
DOI No: 10.36713/epra20102

ABSTRACT----------
The foothills of Kumaon Himalayas in Uttarakhand state are known as Bhabhar region which is characterized by its distinct ecological and socio-economic characteristics. The region is known for agricultural potential and predominantly inhabited by the communities that are involved in agriculture practices for their livelihood. The socio-economic status of these farmers, alongside the agricultural challenges they face, forms the backbone of their wellbeing and sustenance. This study is aimed to provide a comprehensive analysis of socioeconomic condition of respondent farmers and to highlight the agricultural problems they face and how these two relate with each other. By examining the variables which were collected through primary data from the respondents i.e., level of income, education of respondents, size of land etc. this research highlights the underlying factors that are influencing the output of agriculture and livelihood of respondent farmers. In addition, the study also explores the problems of respondents in practicing agriculture and their impact on their livelihood. The findings of this study are expected to contribute to the formulation of strategies for improving the socioeconomic well-being of respondents and promoting sustainable development study region through improving agricultural resilience.
KEYWORDS: *Agriculture, Agricultural Problems, Livelihood, Socioeconomic Status (SES),* ----------

INTRODUCTION

Agricultural ecosystem happens to be the most significant system in many economies of the world which are still highly agrarian [1]. The word agriculture meant a tillage of the soil leading to production of crops [2] and this system on earth was invented during Neolithic era or New Stone Age (10,000 BCE) [3]. In India this is known to date from at least 7000 BC [4][5]. The agriculture of India has been a complex mosaic of different variables i.e., distinct agro-ecosystems, natural features etc. [6]. It is a big source of livelihood in the country for a significant portion of population and employs nearly half of the country's workforce [7] [8] and plays a vital role in socio-economic fabric of the developing countries like India. The hilly state in Central Himalayan region of India namely Uttarakhand mainly depends on agriculture & forestry and 35 percent of net domestic product of the state comes from agriculture [9]. In the "gene rich" Himalayan region agriculture is not only a key role player in the survival of local community but it also central to their way of life [10].

The socio-economic status is a combination of social and economic position of a group or an individual in the society while comparing it to others [11] [12] [13]. It is a crucial endeavour for understanding the diverse economic and social landscape in India [14]. The socioeconomic status of farmer is influenced by various factors i.e., education, expenditure, savings landholding size, land ownership, access to irrigation facilities, agriculture input availability, access to market etc. which plays significant role in shaping the livelihoods of the farmer [15][16][17]. From this point of view the estimation of socioeconomic status of farmers is an important part of the study because this provides a picture to the respondents and their family in respect of social and economic position in a community [18].

Farmers all over the world plagued by several problems and these affect their life directly and indirectly [19]. From input procurement to post-harvesting activities and marketing of the produce farmers face a lot of problems but they go often unnoticed [20]. As the agriculture plays an important role in the study region despite it, the farmer community also faces numerous challenges while practicing it. The socio-economic status of farmers in

Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

the study region is a key determinant of their ability to cope the challenges of agriculture. Various factors significantly influence the resilience of farming households.

The primary objective of this research paper is to assess the socio-economic status and agricultural problems of the respondent farmers in Bhabhar region of Kumaon Himalayas. The main aim of the study is to highlight the socio-economic variables that influence the livelihood of farmers and identifying the agricultural challenges faced by them and the impact of these agricultural challenges on the well-being of the respondent farmers.

REVIEW OF THE PAST STUDIES

Several researchers have studied the SES and problems related to farming from different views and in different context. Kamal et.al. (2014) [21] conducted their study on Banana growers in Bangladesh on their socio-economic status and problems and found that banana cultivation is a great source of their income. Non-availability of credit, high interest rate, low price output, lack of storage facilities were the major problems they face. Prasad et.al. (2017) [22] finds that majority of the respondent farmers have poor income and the major constraints faced by them were – low prices offered for milk as major constraint followed by availability of fodder and frequent disease outbreak. Gamit et.al. (2020). [23] in their study in Saurashtra region concluded that majority of the respondents were marginal land holders, mostly of them are literate, goat rearing is the main source of annual income. The constraints they faced for rearing the goat are feeding, breeding, healthcare and marketing. Rajput et.al. (2023) [24] in their study related to dairy farmers find that majority of the farmers age from middle age group and have major occupation as dairy farming. They belong to big farmers category and the prime constraint they face was 'high cost of concentrate food and its ingredients' in their study. Prabex & Rahman (2023) [25] conducted their study in Manipur on socioeconomic status of farmers and constraints faced by them and found that majority of the respondents were engaged in agriculture and livestock farming for their livelihood. Majority of the respondents have marginal land holdings. They have low level of annual income and low milk yield; high cost of concentrate feed were the major problems among them they face in their daily life. All these previous studies provide us a solid base and give us idea to find out the relation between socioeconomic status (SES) and agricultural problems of the farmers in the study area.

RESEARCH OBJECTIVES

The main objective of the study is to study the socio-economic status of respondents. The other objective is to study the Problems related to agriculture faced by the respondents.

HYPOTHESIS OF THE STUDY

The null hypothesis that has developed for the study are -

- **H_0:** There is no significant relationship between income level and extent of agricultural Problems.
- **H_0:** The Socio-economic condition of farmers does not significantly impact their Agriculture Problems.

RESEARCH METHODOLOGY

Research Design: The research design of the empirical study is descriptive and analytic in nature.

Data Collection Method, Sampling and Sample Size: Simple random sampling technique has been adopted to select the sample from the study area and a sample of 50 respondents was selected from the targeted population of farmers who resides in the Bhabhar region. A well-prepared questionnaire was used to collect the primary data and 48 respondents responded. So finally, the total sample for the present study was of 48 respondents. The secondary data was adopted from various secondary sources i.e., government and other than government.

Data Analytical Statistic tools

(a) General Statistical Tools: Simple percentage, Arithmetic Mean, Standard Deviation, Standard Error is used for interpretation of the data in present study.

(b) Kuppuswamy Socio Economic Status (SES) Scale Tool: The scale is used to determine the socio-economic status of respondents according to the collected primary data. The modified Kuppuswamy scale is commonly used to measure SES in urban and rural areas [26]. The parameters that used for SES assessment are i.e., Education of Head of Family, Occupation of Head of Family and Total per capita family income per month [27].

(c) Agriculture Problem Index: An index was developed by the researchers after collection the information regarding the problems of the respondents given by them in study region with having four Indicators i.e., Water Availability (Access to Irrigation), Access to Market (Availability to Transport), Agricultural Inputs (Access to Seeds, Fertilizer and pesticides) and (Wild Animal Attack). The responses as per the score allotted to them

Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

converted in Z score and finally multiplied by the weightage given to the indicator to get final API score for individual respondent.

$$\text{Z score} = \frac{xi - Mean\ Value\ of\ x}{Std.Dev.}$$

Agriculture Problem Index = $\sum(z\ score\ of\ individual \times weightage\ of\ the\ indicator)$
[Low API = 0.0-0.3, Moderate API = 0.3-0.6 and High API = 0.6-1.0]

(d) Linear Regression Analysis: This tool was used to model the relationship between responsible variable (Dependent) and explanatory variables (Independent) to test the hypothesis were formed in the present study.

Locale of the study: The present study was conducted in Bhabhar plain region of District Nainital which is a narrow alluvial belt located at the base of Himalayas which lies in the south part of Shivalik range or outer Himalayas in Kumaon region. The study area comes under development block Haldwani, which is one of the development blocks of district Nainital and selected purposively due to the high number of families engaged in agricultural practice in plain region.

Limitations of the study
The study is limited to the Golapaar area of the Bhabhar region in District Nainital of Kumaon division in Uttarakhand.

RESULT ANALYSIS AND DISCUSSION

Socio-personal and economic character of respondents: This section provides an insight into the socioeconomic and demographic variables recorded for the sample respondents in the study area.

Age demographics of the respondents show that middle-aged individuals are the most represented (64.58 percent) in the study, possessing unique generational characteristics. The mean age of the respondents is 51, with a standard deviation of 8.64, indicating that most respondents' ages are within 8.64 years above or below the mean age, which is close to the average age. The standard error of 1.24 indicates a good estimate of the true population mean.
The average education level of the respondents is 11 years.

Family size refers to the total number of individuals living together as a family unit in a household, with most respondents (58.33 percent) having a family size of more than five members, which is considered large. On average, sample respondents consist of five to six family members, with a variability of ±1.55 in family size. The primary data collected on household composition show that a significant portion (62.5 percent) of the population in the study region lives in a traditional and extended family setting, namely the joint family system, which has important implications for their social, economic, and cultural experiences. The data collected on the social category of the respondents reflect that the largest group (68.75 percent) belongs to the General Caste, followed by Scheduled Caste (14.58 percent),
Other Backward Classes (10.42 percent), and Scheduled Tribe (6.25 percent).

Housing conditions and ownership status are crucial indicators of economic well-being and provide a comprehensive picture of households' living standards and future economic growth. In the study region, all respondents have pucca houses as their own homes, equipped with facilities such as drinking water, proper sanitation, electricity, and other basic amenities.

Regarding occupation, 80.33 percent of respondents are engaged in agriculture as their primary occupation, making it the main source of income in the study region. Landholding size is a crucial indicator that reflects different aspects of respondents' livelihoods and socioeconomic standing. This variable directly affects the farmers' income-generating ability through agriculture. In the study region, 75 percent of respondents have medium-sized landholdings for agricultural practices. The mean size of land is 4.96 hectares, with a variability of ±2.09 hectares. The maximum landholding size is 10.92 hectares, and the smallest is 1.69 hectares. The mean household income is Rs. 20,154.51 per month, with a high standard deviation of Rs. 29,725.54, indicating significant income inequality among the respondents in the study area.

Socio Economic Status (SES) of Respondents: Socio-economic status is the field of study that examines social and economic factors to better understand how the combination of both influences something [28]. Table 1.0 reveals that the highest number of respondents belongs to Lower middle class as per their socio-economic status (it is about 50 percent of the total sample respondents) it means that their earnings are above poverty line but still

Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

modest. They likely earn enough for their necessities but have limited access to non-essential goods and services. Which also shows that these respondents are economically stable but not affluent. This class of respondents is followed by Upper lower class (29.17 percent) which is just above the lowest economic tier but still faces significant financial challenges and Upper Middle Class (20.83 percent) which enjoys comfortable, often affluent lifestyle and significant opportunities for social mobility and influence.

Table 1.0: Socio Economic Status of Respondents Family (N=48)

S.No.	Socio-Economic Status	No. of respondents (%age)
1.	Upper Middle Class	10 (20.83)
2.	Lower Middle Class	24 (50.00)
3.	Upper Lower Class	14 (29.17)

Source: Field Survey

Agricultural Problems of the Respondents: The primary data collected regarding the problems that were faced by the respondents in study region while making their agricultural practice were problems to access to irrigation, transport availability problem, problem of access to good seeds, fertilizer and pesticides and wild animal attack to their crops. These were the prime problems reported by the respondents. To analyse the problems and the classification of respondents according to their problems Agriculture Problem Index was prepared for this purpose. Table 02 reveals that the respondents are divided in three categories of Agriculture Problem Index (API) based on the indicators selected to identify the problems. 31.25 percent respondents fall in the category of low Agriculture Problem Index (API) score and this shows that they have minimal agricultural challenges, 47.91 percent respondents face moderate type of agricultural problems which include water scarcity, issues of wild attack, pests, good quality seeds etc. and 20.83 percent respondents are struggling with significant challenges which include all indicators which were identified to prepare the index i.e., Water Availability (Access to Irrigation), Access to Market (Availability to Transport), Agricultural Inputs (Access to Seeds, Fertilizer and pesticides) and (Wild Animal Attack).

Table 2.0: Agriculture Problem Index (N=48)

S.No.	Agricultural Problem Index	No. of respondents (%age)
1.	Low API Score (0.0-0.3)	15 (31.25%)
2.	Moderate API Score (0.3-0.6)	23 (47.91%)
3.	High API Score (0.6-1.0)	10 (20.83%)

Source: Field Survey

Hypothesis Testing

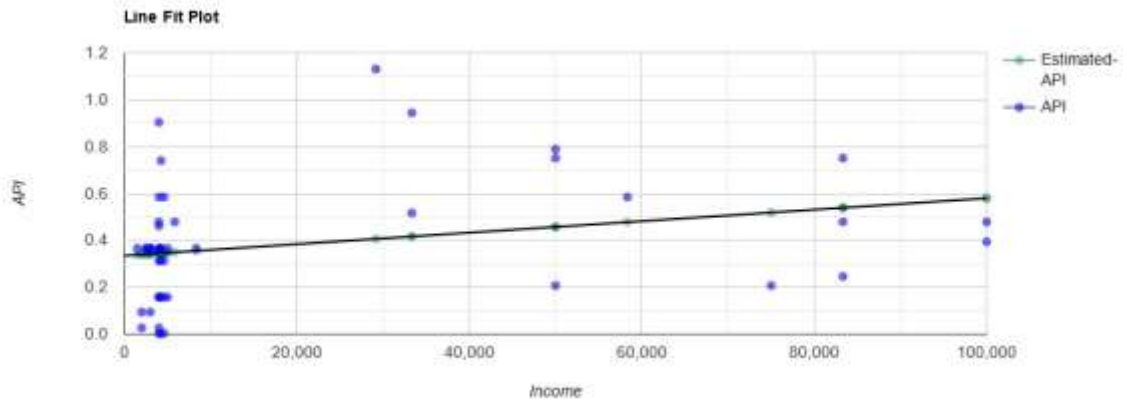
H_0: ***There is no significant relationship between income level and extent of agricultural Problems.***

To test the hypothesis a linear regression model was used where Agriculture Problems (Dependent Variable) and Income (Independent Variable) were taken for analysis.

$$\hat{Y} = 0.3349 + 0.000002449X$$

Reporting linear regression in APA style

$R^2 = .08$, $F(1,46) = 4.02$, $p = .051$. $\beta = .0000024$, $p = .051$, $\alpha = 0.33$, $p < .001$.



EPRA International Journal of Agriculture and Rural Economic Research (ARER)- Peer-Reviewed Journal
Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

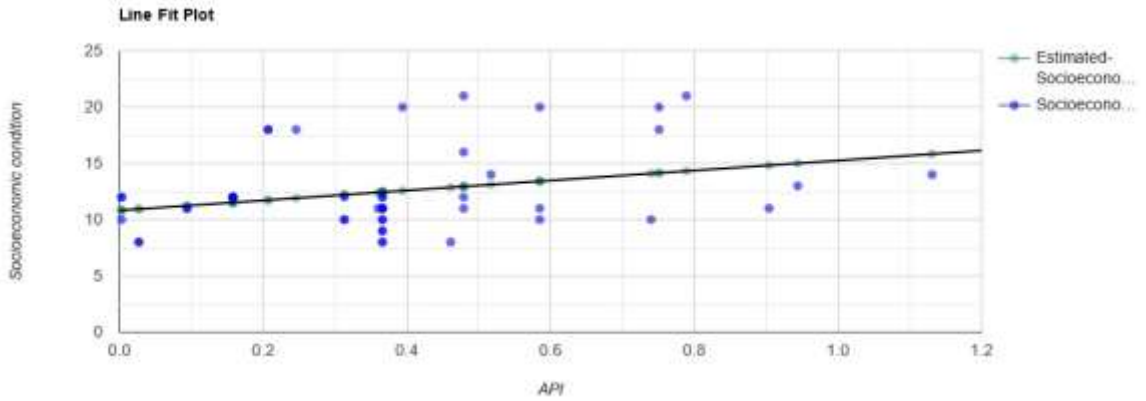
Regression ANOVA

Source	DF	Sum of Square	Mean Square	F Statistic (df_1,df_2)	P-value
Regression (between $\hat{y}_i$ and $\bar{y}$)	1	0.2491	0.2491	4.0208 (1,46)	0.05085
Residual (between y_i and $\hat{y}_i$)	46	2.8494	0.06194		
Total (between y_i and $\bar{y}$)	47	3.0984	0.06592		

Source: The regression analysis was performed online at https://www.statskingdom.com/linear-regression-calculator.html

Overall regression: right-tailed, F(1,46) = 4.0208, p-value = 0.05085. Since p-value ≥ α (0.05), we accept H_0 and shows that there is no significant relationship between income level and extent of agricultural problems.

H_0: ***The Socio-economic condition of farmers does not significantly impact their Agriculture Problems.***
To test the hypothesis a linear regression model was used where Socio-economic Condition (Dependent Variable) and Agriculture Problem Index (Independent Variable) were taken for analysis.
$\hat{Y} = 10.8179 + 4.4317X$
X predicted Y, $R^2 = .094$, $F(1,46) = 4.78$, $p = .034$. $\beta = 4.43$, $p = .034$, $\alpha = 10.82$, $p < .001$.



Regression ANOVA

Source	DF	Sum of Square	Mean Square	F Statistic (df_1,df_2)	P-value
Regression (between $\hat{y}_i$ and $\bar{y}$)	1	60.8526	60.8526	4.784 (1,46)	0.03385
Residual (between y_i and $\hat{y}_i$)	46	585.1266	12.7201		
Total (between y_i and $\bar{y}$)	47	645.9792	13.7442		

Source: The regression analysis was performed online at https://www.statskingdom.com/linear-regression-calculator.html

Overall regression: right-tailed, F(1,46) = 4.784, p-value = 0.03385. Since p-value < α (0.05), we reject H_0 and this result shows the significant impact of socio-economic condition of farmers on their Agriculture related problems.

CONCLUSION AND SUGGESTIONS

The study conducted in the Bhabhar region of the Kumaon Himalayas provides valuable insights into the socio-economic status of respondents and the agricultural challenges they face. Analysis of the primary data revealed that a significant portion of respondent farmers belong to the lower middle class, accounting for approximately 50 percent of the selected sample. Among the respondents, 29.17 percent belong to the upper lower class, and

Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

20.83 percent are classified as upper middle class. The overall analysis shows a wide range of economic stability among respondents, from those facing significant financial constraints to those enjoying a comfortable lifestyle.

The problems faced by the respondent farmers were analyzed using primary data and various indicators. The research identified key issues that affect the respondents' ability to maintain productive agricultural practices. These problems were categorized using the Agricultural Problem Index (API), which classifies respondents into three categories—low, moderate, and high—based on the severity of the problems they encounter while practicing agriculture for their livelihood. A significant portion of respondents, accounting for 47.91 percent, face moderate issues, followed by 31.25 percent with minimal problems, and 20.83 percent experiencing severe agricultural challenges encompassing all identified indicators. The study shows no significant relationship between the income level of respondents and the extent of agricultural problems they face. However, it highlights a significant impact of socioeconomic conditions on the agricultural challenges encountered by the respondents, which accepts one null hypothesis and rejects another in the study. For enhancing the socioeconomic status and promoting the sustainable agriculture practices in the study region the agriculture-based problems should be focused through targeted programmes by policy makers which include direct support to the highly prioritized problems among the farmers in the region so that the agriculture growth took place.

Acknowledgement
The authors are gratefully acknowledging the support provided by their respective department members.

Funding
The author(s) received no financial support for the research, authorship and/or publication of this research paper.

Conflict of Interest
The authors declare no conflict of interest personal or financial.

REFERENCES

1. *Singh, O.P. & J.C. Kuniyal. (1996). Some Aspects of Agroecosystem and Development Planning in the U.P. Himalaya. Dimensions of Agriculture in the Himalaya (Ed. Editor D.C. Pande), Shri Almora Book depot, Mall Road, Almora, p. 23.*
2. *Raychaudhari, S.P., Lallanji Gopal & B.V. Subbayarappa. (1971). AGRICULTURE. A Concise History of Science in India (Editor D.M. Bose et.al.), History of Science Publications, p. 350.*
3. *Retrieved from Article: History of Agriculture: A Timeline https://www.crestcapital.com/tax/history_of_agriculture on dated 30-08-2024*
4. *Falvey, L. (2002). The Common Agriculture Heritage of India and Southeast Asia: A Different Environmental reality. Asian Agri-History, Vol. 6, No. 4, 2002, pp. 295-313. 5. Pant, R.C. (2002). A Historical perspective of Agricultural Interaction in Uttarakhand. Asian Agri-History, Vol. 6, No. 2, 2002, pp. 157-162.*
5. *Mohapatra, T, P.K. Raut & H. Pathak. (2022). Indian Agriculture: Achievement and Aspirations. Indian Agriculture after Independence (Ed. H Pathak et.al.), Indian Council of Agricultural Research, New Delhi, p. 1.*
6. *State of Agriculture in India, https://prsindia.org/policy/analytical-reports/stateagriculture-india on dated 30-08-2024*
7. *Mohapatra, T, P.K. Raut & H. Pathak. (2022). Indian Agriculture: Achievement and Aspirations. Indian Agriculture after Independence (Ed. H Pathak et.al.), Indian Council of Agricultural Research, New Delhi, p. 2.*
8. *Joshi, H.C. & D.K. Kandpal. (2016). A study of Agricultural development in Uttarakhand Causes of Slow Speed and its Solutions. Socio Economic Profile of Uttarakhand Isues and Challenges (Editors R.K. Pande et.al.), Anamika Publishers and Distributor P. Ltd, New Delhi, p. 144.*
9. *Palni, L.M.S., R.K. Maikhuri and K.S. Rao. (2001). Conservation of the Himalayan Agroecosystems: Issue and Priorities. Economy of Uttaranchal Profile and Dynamics of Change (Editors P.C. Pandey et. al.), p. 136.*
10. *Subala, M & Vismaya Vince. (2019). Socio-Economic Status of Farmers in Karode Village of Thiruvananthapuram District. Think India Journal ISSN: 0971-1260Vol-22, Special Issue-19, p. 215.*
11. *Roy, M.L., Nirmal Chandra, H.L. Kharbikar, Pratibha Joshi & Renu Jethi. (2013).*
12. *Socio-economic Status of Hill Farmers: An Exploration from Almora District in Uttarakhand. International Journal of Agriculture and Food Science Technology, Volume 4, Number 4 (2013), pp. 353-358.*
13. *Prabha, N. (2020). Socio-Economic Status of Farmers in Thanjavur District – A Study. International Journal of Management (IJM), Volume 11, Issue 11, November 2020, pp. 3672-3676.*
14. *Javalkar , Sandhya Rani, Shalini H., Shubha B. Davalagi, Vidya G. S. (2024). Socio economic status assessment in India: history and updates for 2024. International*
15. *Journal of Community Medicine and Public Health, 2024 Mar;11(3):1369-1377*
16. *Chandra, A., C, K., & J, P. M. (2023). The Determinants of Socio-Economic Status of Farmers – A Systematic Literature Review. Review of Applied Socio-Economic Research, 25(1), 138-150. https://doi.org/10.54609/reaser.v25i1.379*

Volume: 13 | Issue: 2 | February 2025 | Journal DOI: 10.36713/epra0813| Impact Factor SJIF(2025): 8.733| ISSN: 2321 - 7847

17. *Singh, Gurshaminder, Shweta Choudhary, Subhashree Nayak & Gautam Malik. (2023). Study on socio profile of farmers in SAS Nagar district of North-Eastern Punjab, India. The Pharma Innovation Journal 2023; 12(2): 441-449*
18. *Dissertation M.Phil. – Dhillon, Harvinder Singh. (2013). Socio Economic Status of Farmers of Patiala and Sangrur District. M.Phil. Dissertation Submitted to Thapar University, Patiala*
19. *Masudkar DD, Kamble VB and Anarase MS. (2017). Socio-economic status of the farmers in adopted village. Journal of Pharmacognosy and Phytochemistry 2017; SP1: 1117-1119.*
20. *What are the most common problems and challenges that farmers face? https://www.jiva.ag/blog/what-are-the-most-common-problems-and-challenges-thatfarmers-face viewed on dated 22-08-2024*
21. *Article - Deepika, M. (March 13, 2023), 11 Major Problems Faced By Indian Farmers In Agriculture In 2024, https://kisanvedika.bighaat.com/news-updates/11-majorproblems-faced-by-indian-farmers-in-agriculture-in-2023/ viewed oln dated 22-082024*
22. *Kamal, Md. Shah, Md. Arshad Ali, Md. Ferdous Alam. (2014). Socio-economic status and problems of Banana growers in Bangladesh. International Journal of Natural and Social Sciences 1 (2014) pp. 91-99.*
23. *Prasad, Kotresh, Siddhartha Savale, M.T. Mahantesh, M. Pavan, Deepandita Barman and John Abraham. (2017). Socio-Economic Profile and Constraints Faced By Dairy Farmers of Wayanad District, India. International Journal of Current Microbiology and Applied Sciences, 6(6), pp. 870-874,https://doi.org/10.20546/ijcmas.2017.606.102*
24. *Gamit, VV, TK Patbandha, AR Bariya, KC Gamit and AS Patel. (2020). Socioeconomic status and constrains confronted by goat and goat farmers in Saurashtra region. Journal of Entomology and Zoology Studies 2020; 8(1): 644-648*
25. *Rajput, M. B., B. K. Ashwar and S. J. Vekari. (2023). Socio-Economic Status and Constraints Faced by Dairy Farmers. Guj. J. Ext. Edu. Vol. 36: Issue 2: December 23,DOI: 10.56572/gjoee.2023.36.2.001*
26. *Prabex, S. & S. Rahman. (2023). Socio-economic status and constraints faced by the indigenous cattle farmers of Manipur. Indian J Anim Health (2023), 62(2): 364-370,*
27. *DOI: https://doi.org/10.36062/ijah.2023.08323*
28. *Wani R. T. (2019). Socioeconomic status scales-modified Kuppuswamy and Udai Pareekh's scale updated for 2019. Journal of family medicine and primary care, 8(6),*
29. *1846–1849. https://doi.org/10.4103/jfmpc.jfmpc_288_19*
30. *Retrieved from https://ihatepsm.com/blog/modified-kuppuswamy-scale on dated 14-08-2024*
31. *Masudkar, DD, Kamble VB and Anarase MS. (2017). Socio-economic status of the farmers in adopted village. Journal of Pharmacognosy and Phytochemistry 2017; SP1: 1117-1119.*