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# Agricultural Problems of Farmers in Bhabhar Region of Kumaun Himalaya in Uttarakhand

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**ABSTRACT**

Focusing on identifying primary financial constraints and understanding their socioeconomic status, this study examines the agricultural problems faced by farmers in the Bhabhar region of Kumaon. The study uses primary data collected through standardized questionnaires and intensive field surveys to assess variables such as land ownership patterns, credit availability, educational attainment and agricultural resource availability. The socio-economic analysis indicates that limited access to financial services, inadequate infrastructure and low educational attainment have a significant impact on farming practices and production. The financial constraints that farmers have to deal with include high input costs, irregular irrigation systems, unregulated markets and limited access to modern agricultural equipment. The findings show how urgently certain policy changes are needed to strengthen financial support, fund infrastructure and enhance agricultural extension services. Many problems need to be fixed to enhance the living standards and agricultural sustainability of farmers in the Bhabhar region of Kumaon.

**Keywords:** Kumaon Bhabhar region, economic difficulties, agricultural problems, farmers' livelihood, and policy measures.

## INTRODUCTION

Agriculture is the primary source of rural livelihood in the Bhabhar region of Kumaon, Uttarakhand. With its unique topography and fertile alluvial soil, the region offers great potential for agricultural development. However, farmers still face a number of social and financial challenges that limit their ability to grow crops and earn their livelihoods. Disparate irrigation systems, inadequate infrastructure, and limited access to resources make agricultural sustainability even more difficult to tackle. There is a need to understand all the issues related to agriculture in order to develop policies that improve farmers' well-being and promote regional economic development. Despite these inherent advantages, farmers in the agricultural sector face many difficulties that compromise their overall living standards and agricultural production. Socio-economic limitations, financial constraints, and infrastructure deficiencies continue to be major barriers to sustainable agricultural practices. Financial inclusion is essential to increase agricultural productivity, but availability of credit is still limited in many rural areas. It found that farming practices were significantly affected by infrastructural deficiencies such as unregulated irrigation systems and poor road connectivity. It emphasised market-related problems such as unregulated markets and exploitative middlemen that prevent farmers from getting a fair price for their produce, and identified low educational attainment as a major factor hindering the adoption of modern agricultural techniques.

Current literature has revealed several critical issues impacting agriculture in the Bhabhar region. An economic analysis of post-harvest losses in vegetable marketing in Uttarakhand was conducted, which found that inadequate post-harvest management practices led to major losses. The study suggests that better infrastructure and training are needed to reduce these losses. Further, a study on socio-economic analysis of mixed cropping systems in the Bhabhar region highlights the extensive use of chemical fertilizers and pesticides by farmers, which increases production costs and raises environmental concerns. The study suggests that sustainable agricultural practices should be used to mitigate these problems. Climate change poses new challenges to agriculture. A study of the impact of climate change on farmers' livelihoods in the Kumaon Himalaya found that changes in temperature and rainfall patterns adversely affect crop yields and disrupt traditional agricultural methods. The study is important to create adaptive plans to sustain agricultural livelihoods.

The adoption of modern agricultural technology is strongly influenced by the socioeconomic status of farmers. A study focused on wheat-based cropping systems in the Bhabhar region found that resource use efficiency is closely linked to the socio-economic status of farmers, which suggests that improving education and access to resources can enhance productivity. This study aims to comprehensively analyse the agricultural problems faced by farmers in the Bhabhar region of Kumaon in view of these challenges. The research aims to explore implementable policy measures to improve farmers' livelihoods and promote sustainable agricultural practices in the region, including land ownership patterns, credit availability, educational attainment and access to agricultural resources.

## OBJECTIVES OF THE STUDY

- To study the socio-economic status of farmers in study area.
- To study the economic problems of respondent farmer in study area.

## REVIEW OF LITERATURE

**Sharma & Singh (2011)**, investigate the type and magnitude of post-harvest losses in the Kumaon division of Uttarakhand's vegetable supply chain. It draws attention to the substantial losses brought on by poor post-harvest management techniques and highlights the necessity of improved infrastructure and training to reduce these losses.

**Padaliya et.al, (2018)** concluded that these systems improve local farmers' livelihoods by giving them financial advantages and job opportunities. It was also discovered that these systems have an impact that extends beyond financial gains and fosters environmental sustainability. Water resources are preserved and soil quality is enhanced using sustainable agricultural practices and crop diversity. According to their research, local farmers can boost their productivity and reduce the number of agricultural residues produced by replacing their traditional farming practices with scientific ones.

**Raghuvanshi & Singh (2018)** examined the socio-economic profile of farmers in Uttarakhand. The study found that income levels, land size and educational attainment all have a major impact on farmers' attitudes and their ability to adapt to climate change. Land size is also important; larger farmers have greater agricultural resources and the option of diversified crops to adopt climate adaptation measures. They also found that educated farmers are at the forefront of adapting to climate change and the latest agricultural technologies, which ultimately leads to increased productivity and income.

**Pande et.al., (2016)**, Traditional crops and land races should be conserved in research centers and gene banks, and farmers should be motivated to conserve them in-situ. This can be successful when these crops

are linked to economic development. Awareness and capacity building programs should be conducted to enable local people to use diversified crop plants, increase agricultural productivity, conserve diversified crops as in-situ germplasm, and understand their ecological services.

**Balkrishna et.al, (2024)**, in their research Kumaoni food is rich in proteins, pulses, cereals, lentils and vegetables, cooked in mustard oil and seasoned with spices and condiments. It contains phytoconstituents that improve immunity and help prevent diseases. Vegetables like linguda and kandali are nutritionally important sources of iron, protein, and carbohydrates. Kumaoni people use their natural resources to prepare nutritious food for daily life. It would be beneficial to serve Kumaoni food to tourists so that they can understand the rich cultural heritage of the region that has been passed down through generations.

**Joshi & Sinha (2023)**, The study reveals that 30% of respondents in Kumaoni hilly areas have low socio-economic status, while 18% have high SES. Understanding these determinants can help accelerate technology transfer and increase adoption rates. However, care should be taken when developing profitable technology, considering the respondents' socio-economic profile. The study highlights the importance of considering the socioeconomic profile of respondents before implementing profitable technology in hilly areas.

**Kumar, D., Pathak, H., & Chaudhary, V. K. (2020)**, In their research, farmers in the Bhabar region are aware of population growth, emissions, and deforestation as the major causes of climate change. However, they lack information about climate-related changes and their impacts. A study conducted by Chaudhary and Bawa (2011) found that farmers have inadequate knowledge about climate change and its impacts. To enhance adaptation at the farm-level, awareness about climate change, access to credit, and information about inputs and outputs of markets are important. Understanding farmers' perspectives is essential to develop adaptation plans and influence policymakers.

## RESEARCH METHODOLOGY:

a. **Data Collection:** The study is based on primary data which was collected through interview schedule from the respondents. Secondary data is also adopted in the study through various reports, journals, internet etc.
b. **Sample Size:** The total sample of N=50 respondents were selected randomly to study the problems in the study region which the farmers may face during their agricultural practices.
c. **Variables**: Qualitative variables have been adopted in the present research.
d. **Statistical Tools:** Appropriate statistical tools were adopted to make study meaningful.
e. **Limitations of the Study:** The study is only limited to the Bhabhar region of Kumaon division in Uttarakhand state. The education and indifference towards answering is also a limitation in this study.

## DISCUSSION

**Socio-economic profile of respondents:** Table 01 reveals the socio-economic profile of the respondents. The mean age of the respondents is 50.6 in years in the study area where the maximum age is 60 and minimum is 38. Formal education in the numbers shows that 12 is the highest class and no respondent is illiterate. The average schooling is 8.7 among respondents. The average family size of the respondents is 5.15 and some of the respondents lives in joint family system. The average land for agriculture among the respondents is 7.53 bigha with minimum value of 2.5 bigha. The average monthly income of respondents from agriculture is Rs. 34300.00 where Rs. 14000.00 is the minimum value among them.

**Table 01 Socio-economic profile of respondents**

| S.No. | Variable | Mean Value | Std. Dev. | Max | Min |
|---|---|---|---|---|---|
| 1. | Age | 50.6 | 7.51 | 60 | 38 |
| 2. | Education in Class | 8.7 | 3.81 | 12 | 01 |
| 3. | Family Size | 5.15 | 1.18 | 08 | 04 |
| 4. | Size of Land (Bigha) | 7.53 | 2.83 | 12.9 | 2.5 |
| 5. | Income (Rs.) | 34300.00 | 10638.06 | 50000.00 | 14000.00 |

**Source:** Primary Data (N=50)

**Problems faced by respondents:** Table 02 reveals the problems faced by the respondents while practising agriculture for livelihood. The problems of water related shows that all respondents use traditional water conservation methods and canal is the main source. 60 percent respondents face water scarcity while 75 percent have the dependency on monsoon for water. 35 percent respondents have soil management accessibility problem. All respondents have faced wild animal attack to their crops specially they replied the attack of elephant. There are market related problems among them due to the dependency on middlemen about 85 percent respondents responded that middlemen involvement is in their marketing of agriculture produce. All respondents feel the climate changes effects in the agriculture through the agriculture productivity. While asking the question related to climate resilient crops adoption only 10 percent respondent responded in Yes. They have financial challenges. As all the respondents have their bank accounts but 40 percent respondents responded that they have their dependency on informal credit. Accessibility to quality foods and fertilizer, 65 percent respondents responded negatively. As the technological problem 90 percent have traditional method dependency for storing their agriculture produce.

**Table 2 Problems faced by respondents in study region**

| S.No. | Variable | Yes (%age) | No (%age) |
|---|---|---|---|
| **1.** | **Water & Irrigation related problems** | | |
| | a) Water scarcity | 60 | 40 |
| | b) Monsoon dependency | 75 | 25 |
| | c) Traditional water conservation methods used | 100 | 00 |
| **2.** | **Soil Related problems** | | |
| | a) Soil management accessibility problem | 35 | 65 |
| **3.** | **Wild Animal Attacks on agriculture** | | |
| | a) Do you face animal attacks to crops? | 100 | 00 |
| | b) Aware about preventing attacks | 40 | 60 |
| **4.** | **Market related problems** | | |
| | a) Are you satisfied with available local market? | 65 | 35 |
| | b) Do you face challenges in accessing the market for agriculture produce? | 25 | 75 |

| | | | |
|---|---|---|---|
| | c) Do you have dependency on middlemen for selling your produce? | 85 | 15 |
| **5.** | **Climate related problems** | | |
| | a) Do you feel effect of climate change in agriculture? | 100 | 00 |
| | b) Is agriculture produce affected by climate change? | 100 | 00 |
| | c) Have you adopted climate resilient crops? | 10 | 90 |
| **6.** | **Financial Challenges** | | |
| | a) Do you have bank account? | 100 | 00 |
| | b) Dependency on informal credit? | 40 | 60 |
| | c) Awareness of government schemes crop insurance? | 55 | 45 |
| **7.** | **Agricultural input challenges** | | |
| | a) Do you have accessibility to quality seeds and fertilizer? | 35 | 65 |
| **8.** | **Technological Problems** | | |
| | a) Access to mechanisation in agriculture | 100 | 00 |
| | b) Dependency on traditional storing methods | 90 | 10 |

**Source:** Primary data (N=50)

## CONCLUSION & SUGGESTIONS

The present study which was conducted in Bhabhar region of Kumaon in Uttarakhand for the agricultural problems among the respondents shows that Soil management accessibility, accessing market for local produce, adoption of climate resilient crops, accessibility to quality seeds and fertilizer, are the main problems among the respondents. It needs to be resolved because all the above problems are related to the productivity of the agriculture and directly make effect to the income of the respondents. Special training and awareness programmes should be conducted for the farmers to make them smart towards climate change challenges so that they can work more effectively towards these challenges. ---------

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