

Agricultural Development in the Hills of Uttarakhand

Paper Submission:05/09/2021, Date of Acceptance: 17/09/2021, Date of Publication: 18/09/2021

Abstract

Uttarakhand being a hilly state, agriculture becomes an essential source of livelihood as hill region lacks opportunities for development of other livelihood sources due to topographical and natural limitations. Terraced fields, constant soil erosion, small and scattered landholdings etc. are some characteristics of hill agriculture of Uttarakhand. The maximum number of farmers comes under marginal and small category. The farmers in hilly region practices subsistence farming with multiple cropping pattern. Over the years agricultural production has been decreasing in the hills and people are leaving agriculture and migrating from hills which have become one of the biggest problems in the hills. There is need to provide better infrastructure, technology and other facilities to improve the condition of agriculture in the hills so that farmers can get motivated to adopt agriculture as their main occupation.

Keywords: Agricultural development, Farmer, Hilly region, Livelihood

Introduction

Agriculture provides livelihood to the 3/4th of the population of Uttarakhand and contributes around 10% to the gross domestic production (Uttarakhand budget analysis 2020-21) which makes it an integral part of the economy. The development of agriculture sector is crucial for the growth of the economy as agriculture provides employment, food sufficiency and helps in reducing poverty. Agricultural development means providing better assistance such as high quality seeds, irrigation facilities, modern and efficient agricultural techniques, marketing facilities, inputs and fertilizers etc. to improve agricultural practices and increase production.

Uttarakhand came into existence in 2000 and is divided in 2 regions (Garhwal Region and Kumaon Region) and 13 districts. Out of 13 districts of Uttarakhand Uttarkashi, Tehri, Pauri, Chamoli, Rudrapur, Almora, Bageshwar, Champawat and Pithoragarh are hilly regions while Dehradun and Nainital districts are partly hills only Udhm Singh Nagar and Haridwar are plain regions so approximately 85% of the area of Uttarakhand is consist of hills. Majority of population is engaged in agriculture especially in the hilly regions as it becomes important source of livelihood for the hilly areas due to the limitations for major industrialization and other opportunities for employment.

The main crops grown in Uttarakhand are Rice, Wheat, Maize, Manduwa, Barley and Millet in food grains, Masoor (Lentils), Rajma, Pea, Urad, Gram and Bhat in pulses, Mustard, Soybean, and Groundnut in oil seeds. The large share of crop produce comes from the plain regions as the farmers of plain regions opt for commercial farming due to the better development of agriculture whereas in the hilly region farmers practices subsistence farming and most of the produce is used by farmers for their family consumption which helps in ensuring household food security. However they are facing several challenges due to decreasing size of land holdings, limited irrigation facilities, lack of infrastructure etc. The production has been falling which makes it difficult for farmers to meet their ends. The farmers in the hills are mostly marginal farmers and they use traditional methods for farming with less external inputs.

The aim of this research paper is to analyse the status of agricultural development in the villages of hill districts of Uttarakhand. We have focused on the irrigation facilities, farming techniques, types of seeds they use and how the farmers sell their produce in the markets etc. Agriculture is very important for the economy of Uttarakhand so it becomes important to do some quality research on this field. The paper is based on the primary data collected from the farmers of Almora district of Uttarakhand. Almora is a hilly region with large number of population dependent on agriculture for their livelihood.



Laxmi Manral
Research Scholar,
Dept. of Economics,
R.H. Govt. Degree College,
Kashipur, U.S. Nagar,
Kumaun University, Nainital,
Uttarakhand, India

Materials and Methods	The study has been carried out in the Sult block of Almora district. 10 villages with highest number of families engaged in agriculture for their livelihood has been selected. The data has been collected from the 200 respondents. One respondent from a family and 20 respondents from each village have been selected through random sampling. The information from the respondents has been collected with the help of interview schedule, focus group discussion and observations etc. The analysis of data has been done by using frequency and percentage method.
Objective of the Study	First, clearly present the gist of your idea, what is the main problem / question that you are dealing with in this paper? What are the goals/objectives of your research? Why it is an interesting/ significant problem?
Result and Discussion	Various information about the situation of agriculture was gathered from the 200 farmers which is presented under the following headings
The availability of irrigation facilities	The agriculture is rainfed in the hilly regions. Although they have abundance of water resources but they don't have facilities to use it for irrigation so they are dependent on rainfall. Out of 10 villages only two villages have irrigation facilities as they have made tanks/ponds for rain water harvesting, one village have a natural water resource (a small river) but there is no irrigation system to bring the water to the farms while the rest of the villages don't have any irrigation facility they are fully dependent on rain for irrigation. The farmers informed that the uncertainty of rain causes lots of risk for production sometimes heavy rains or sometimes lack of rain destroys the crops.
Quality seeds	95% of the framers save a small portion of their previous harvest to use it as seeds while only 5 % of the farmers buy new and good quality seeds every cropping season. Most of the farmers don't have much knowledge about the high quality seeds and they just keep an amount of a crop for further use. According to the farmers they have been doing it for years and also it is cost effective method for them. Though this traditional method reduces their crop production as time being some seeds get damaged.
Use of Modern Agricultural Practices	None of the farmer uses any kind of modern technology or machinery for agricultural works. The farmers are still using tradition methods of farming they use plough[1] for tilling fields and other activities like weeding, hoeing, and harvesting is done manually by the farmers. The methods are more time consuming, labour intensive and less efficient but the farmers are forced to use these methods due to small and scattered landholdings, terrace farming system and lack of infrastructure in the hills. The high vertical interval between terraces and no road connectivity to the fields make it difficult to carry heavy tools and machines to the farms.
Markets and Mandies	Out of 10 villages only three villages have small local market less than 10 km. rest of the villages don't have any local market nearby. Though the whole hilly region comes under the provision of Agricultural Produce Market Act, 1964 still there is no market functioning the hilly areas. The nearest mandi or market is Haldwani which is quiet far from these villages. Only 13% of the farmer goes to the mandies/markets to sell their crops while rest of the farmers either sells their produce in the local markets or to the traders. Taking produce to the markets causes huge transportation cost and other problems also and selling the crops at local level does not gives them efficient price for their crops. The farmers have to face exploitation as they get lower prices for their produce.
Transportation facilities	Out of 10 villages only two villages have proper road connectivity, six villages have dirt road and two villages still don't have any kind of road connectivity. According to the farmers they don't take their crops to the mandies due to high transportation cost.

Use of fertilizers

95% of the farmer uses cattle dung manure as a fertilizer for their crops while 5 % farmer uses urea fertilizer and cattle dung manure both as a fertilizer for their crops. According to the farmers, cattle dung is available free of cost as farmers have animals and it is organic which is good for crops so they prefer it rather than chemical fertilizers.

Conclusion

Agricultural development increases both productivity and production as it makes agricultural practices more efficient, less costly and profitable. Unfortunately the hilly regions of Uttarakhand are still far behind in case of agricultural development as the farmers are still using traditional and out dated methods of farming. The agricultural production is falling and soil health condition is also becoming poor. There is huge gap in the development of agriculture sector in plain and hilly regions. The availability of quality seeds, irrigation facilities, modern farming techniques, markets and mandies, fertilizers, affordable transportation and awareness about farm practices etc. has paved the ways for growth of agriculture sector in plains regions that's why the more than 80% of agricultural produce comes from the plain areas (Haridwar, Udham Singh Nagar, Dehradun and Nainital) while lack of all these facilities has become hindrance for better agricultural development in hilly areas.

The lack agricultural development is not only affecting economic growth but also creating other problems such as migration as farmers are not able to meet their ends through working in farms they are migrating to nearby towns or cities for better job opportunities. Every year large number of farmers is leaving agriculture. In Uttarakhand many villages has become ghost village (where no one lives).

The main cause of lack of proper agricultural development in hilly areas is that there is no separate strategy for growth of agriculture in hilly areas even though we have seen in the past that agricultural policies such as green revolution were beneficial in plain regions while they were not properly implemented in hilly areas so we need separate plans and policies for agriculture in hills otherwise the gap between hill and plain agriculture will keep on increasing as hill farming cannot keep pace with plain agriculture.

References

1. *Agricultural statistics at a glance: 2016 (Department of Agriculture, Cooperation & Farmers Welfare, GOI); www.gbpihedennis.nic.in*
2. Barah B.C., "Hill Agriculture: Problems and Prospects for Mountain Agriculture" *Ind. Jn. of Agri.Econ.* Vol.65, No.3, July-Sept. 2010
3. Chhimwal Monika, Raj Kumar Pandey and RK Srivastava, (2019) "Status of agriculture and horticulture farming in the hill state of India-Uttarakhand" *Journal of Pharmacognosy and Phytochemistry* 2019; 8(4): 1626-1631
4. Goyal S. K., Prabha, Jai P. Rai and Shree Ram Singh, (2016) "Indian Agriculture and Farmers – Problems and Reforms" <https://www.researchgate.net/publication/330683906>
5. Joshi Deepika, Md. Ejaz Anwer, Rohit Kumar, Simmi Rana, Ranjit K Paul, Anil Kumar and Raka Saxena, (2016), "Agricultural marketing system in Uttarakhand: Structure and functioning" *EA: 61(3): 549-559, September 2016*
6. Khanal Yubraj, (2019) "Prospects, Challenges and Strategies of Rapid Agriculture Commercialization in Hilly Region" *Acta Scientific Agriculture* 3.7 (2019): 128-131
7. Maikhuri R.K., P.C. Phondani, Vikram S. Negi, N.A. Farooquee & Chandan Negi, (2009) "Hill Agriculture of Uttarakhand: Policy, Governance, Research Issues and Development Priorities for Sustainability", *The Indian Economy Review*
8. Mundlak Yair, Donald F. Larson and Al Crego, (1997) *Agricultural Development Issues, Evidence and Consequences*; <https://www.researchgate.net/publication/23722017>
9. Partap Tej, (2011), "Hill Agriculture: Challenges and Opportunities" *Ind. Jn. of Agri.Econ.* Vol.66, No.1, Jan.-March 2011
10. Sati Vishwambhar Prasad, (2005) "Systems of Agriculture Farming in

- the Uttranchal Himalaya, India” Journal of Mountain Science Vol 2 No 1 (2005): 76~85; <http://www.imde.ac.cn/journal>*
11. Slathia P. S., Parveen Kumar, Narendra Paul and Lyaqat Ali, (2013) “Problems Faced By Organic Farmers In Hilly Areas Of Udhampur District In Jammu Region” *Ind. J. Extn. Educ. & R.D.* 21 : 55-59, 2013, <https://www.researchgate.net/publication/271509033>
 12. Tripathi Amarnath and A.R. Prasad, (2010), “Agricultural Development in India since Independence: A Study on Progress, Performance, and Determinants” *Journal of Emerging Knowledge on Emerging Markets*, Vol. 1 [2009], Iss. 1, Art. 8 <https://www.researchgate.net/publication/39728980>
 13. Tuteja, U. (2015). *Agriculture profile of Uttarakhand*. Agricultural Economics Research Centre University of Delhi. <http://gbpihedenvs.nic.in>.
 14. www.agriculture.uk.gov.in