Agricultural Diversification and Its Socio-Economic Impact on Rural People: A Study of Kullu District In Himachal Pradesh

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***Abstract*—Agricultural diversification has emerged as a significant strategy for enhancing farm income, reducing risks, and promoting rural development. The present study examines the nature and impact of agricultural diversification in rural areas of Himachal Pradesh, with special reference to Anni block of Kullu district. Based on primary data collected from 353 households through a multistage sampling technique, the study highlights a clear shift from traditional subsistence farming to high-value horticulture and cash crops. The findings reveal that diversification has significantly improved income levels, living standards, employment opportunities, and overall socio-economic conditions of rural households. The study concludes that agricultural diversification plays a crucial role in transforming rural livelihoods and recommends policy support for infrastructure, market access, and technological advancement.**

***Index Terms*—Agricultural Diversification, Rural Development, Horticulture, Income, Employment, Himachal Pradesh**

I. INTRODUCTION

Agricultural diversification is one of the essential components of economic growth. It is the stage where traditional agriculture is transformed into a dynamic and commercial sector by shifting the traditional agricultural product mix to high-standard products, which has a high potential to stimulate the production rate. Here, agricultural diversification is supported by the changes in technology or consumer demand, trade or government policy, transportation, irrigation and other infrastructure developments. Rural people must generate supplementary and gainful employment and realize a higher income level. A farmer may confront a series of adversities and climatic vagaries during agricultural production, such as erratic rainfall, stone hail, drought flood, post-harvest losses, storage and unavailability of accessible proper marketing, further aggravating the problem. Promoting crop diversification can be one of the best strategies to mitigate risk, increase agricultural productivity and raise farmers income. The fundamental purpose of diversification is to ensure the growth and stability of farmers business and to contribute to rural development. Agriculture is the largest employer, but agricultural productivity is relatively low. In such a situation, crop diversification towards high-value crops can play a significant role in improving the livelihood of rural people in the state. The policy, therefore, should emphasize improving productivity on the one hand and on the other hand, it should focus on all income generating activities like cash crops, floriculture, fruit, etc. culture, agro-processing etc., to enhance farmers income (Das, et, al.2023).

Agriculture has an important place in the economy of Himachal Pradesh as it is single largest industry providing direct or indirect employment to about 75 percent population of the State and contributes more than half of net domestic product of the state. Due to this fact, this sector continues to receive adequate attention from the state government. The process of agricultural transformation, from traditional cereals crops to commercial cash crops such as off-season vegetables and fruits, especially apples, has been

greatly expedited with remarkable improvement in the socio-economic status of the farmers in the State. In agriculture, the main emphasis should further shift from "self-sufficiency in food-grains" to maximization of farm income through cash crops (fruits and vegetables) which are highly remunerative and for which the state has comparative advantages due to climatic and other factors (Singh et, al.2004).
During the last few decades, the agricultural diversification in Himachal Pradesh towards high-value crops i.e. fruits and vegetables including off-season vegetables have increased at a faster rate. There have been significant changes in the various aspects of social life of the people of Himachal Pradesh especially in the spheres of traditional, economic, political and socio-cultural life. The state government has provided various infrastructural facilities like road network, transportation and communication, health and family welfare service, etc. These developmental inputs during the last two-three decades have brought about a lot of changes in the different aspects of the lives of the people of the state such as economic and social sphere, social interaction patterns, cultural values, beliefs system, political participation and other institutional arrangements. And, due to the spread of education, employment opportunities, etc. there are also changes at the attitudinal level of the people and subsequently these changes have affected social relationship in the various social institutions such as family, marriage, kinship, caste, etc. (Poonam Chandel,2015).

II. REVIEW OF LITERATURE

Joshi, Gulati and Cummings (2004) studied the process of agricultural diversification in South Asia with special reference to India by using secondary data from various national surveys and agricultural statistics. The study aimed to analyse the pattern and determinants of diversification towards high value agriculture such as fruits, vegetables, livestock and fisheries. The study revealed that diversification towards high value crops was mainly driven by rising income, urbanization, changes in food consumption patterns and improvements in infrastructure. The researchers concluded that diversification could significantly increase farm income and employment opportunities, especially for small and marginal farmers.

Kumar and Mittal (2006) studied the role of agricultural diversification in improving the socio-economic conditions of farmers in Haryana. The data for the study was collected from selected villages through a structured questionnaire. The study found that diversification towards vegetables, dairy and poultry farming helped farmers to increase their income and reduce their dependence on traditional cereal crops. The study concluded that diversification contributed significantly to improving the living standard of farmers and strengthening the rural economy.

Saraswat (2012) has examined the new paradigm for hill agriculture. For the purpose of this study on cluster of villages in Solan tehsil was selected on the basis of degree of purchased input. The five selected villages were i.e., Berti, Kothi, Deora, Sanjar and Ghathi which falls in Sproon Valley. Changing in cropping pattern revealed that farmers of selected area were shifting towards cash crops from subsistence crops day by day after the introduction of new inputs in agriculture sectors. The shift in the paradigm of hill agriculture has brought about diversification of farming and higher returns to the farming community associated with more capital inputs. The ratio of purchased inputs to the total operational cost for the cash crop was found to be high. Whereas for the traditional crop it was relatively much lower than that of cash crops.

Singh, Adhale and Bhoi (2022) studied crop diversification in South Asia using panel regression analysis to identify the socio-economic, climatic and agricultural factors influencing diversification. The study found that factors such as population growth, availability of arable land, fertilizer use, rainfall and technological progress significantly influence diversification patterns. The authors concluded that crop diversification enhances agricultural productivity and sustainability and helps farmers cope with climatic and market uncertainties.

Bardhan, Singh and Raut (2023) studied agricultural diversification and its role in enhancing farmers' income across different agro-climatic zones of India. The study analyzed farm household data to understand the socio-economic impact of diversification. The findings revealed that

diversification towards horticulture, livestock and allied agricultural activities significantly increased farmers' income and employment opportunities in rural areas. The study concluded that agricultural diversification plays an important role in improving livelihood security and strengthening the socio-economic status of farming households.

III. MATERIAL AND METHODS

Methodology is a way to systematically solve the research problem. In it, we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. It is necessary for the researcher to know not only the research techniques but also the methodology to be adopted by him in the solution of his research problem. Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not. All this means that it is necessary for the researcher to design a methodology for his research problem. In simple language, methodology means the method or procedure by which research is conducted depending upon the requirements of the research problem.

Area of Study

Himachal Pradesh extends over the area of 55673km. Himachal Pradesh borders with Jammu and Kashmir state in the north to northwest, Tibet in the east, Uttarakhand state in the Southeast, Haryana state in the south and Punjab in the south west to west. According to 2011 census, the total population of the state is 68.65 lakh persons (34.82 lakh males and 33.83 lakh females) with sex ratio of 972 females per 1000 males per sq. km. The density of population is 123 persons per sq. Km. As far as the literacy rate of the state is concerned, it is 82.80 percent (male 89.53% and female 75.93%). Presently, there are 12 districts, 73 sub divisions, 109 tehsils and 63 sub-tehsils in Himachal Pradesh (Administrative Atlus, 2020). The selection of Himachal Pradesh as an area of present study has been mainly guided by the fact that most of the population (89.96%) of the state lives in the rural areas with a 62% rural working population engaged in agricultural activities. Despite that per capita availability of cultivated area is very low which only 0.95 hectare is. Farmers cannot extend the cultivated area so they have to change the mode of cultivation and type of cultivated crops to increase their production and income.

Himachal Pradesh consists of 12 districts namely Bilaspur, Chamba, Hamirpur, Kangra, Kinnaur, Kullu, Lahul-Spiti, Mandi, Shimla, Sirmour, Solan and Una. Keeping in view the geographical and topographical setting as well as the vastness and diversities of the state i.e., different zones, difficult terrain and climatic conditions, it would be difficult for the researcher to study the whole state with limited time and resources available at his disposal, hence, Kullu district has been selected for the present study purpose. Kullu district is one of the mountainous districts of Himachal Pradesh which lies in the North-Western Himalayan range of India having an area of 5503 Sq. Kms. It lies between 77˚ 06 "4'' East longitude and 31˚ 58 "00" North latitude. It is bounded by Lahul-Spiti and Kangra in North and North-East. Kinnaur is in East and Shimla is in South-East, and Mandi is in West. The topology of the district is rugged and tough. The prevalence of interlocking spurs, narrow and sleep sided valley with high peaks and dense forests of Kail and Deodar in the whole district adds to the youthfulness of its topography. The Satluj and Beas are the principal rivers of the Kullu District. The Parvati River and Kurpon Khud also flows through it. The economy of the district is basically agrarian. The agro-climatic conditions in the district vary considerably. Due to agro-climatic conditions, the district is most suitable for the growing of stones, citrus and temperate fruits.

The total population of the district as per the 2011 census is 4.38 lakh persons out of which 3.97 lakh (90.55%) reside in rural areas and 0.41 lakh (9.45%) reside in urban areas. The density of population of the district is 80 persons per Sq. Km. The sex ratio of the district is 942 females per thousand males. The literacy rate of Kullu district is 79.40% (Census Report 2011). Kullu district comprises of 6 tehsils namely Kullu, Bhunter, Banjar, Nirmand, Anni and Manali and 2 sub-tehsils namely Sainj and Nithar. There are 5 Developmental blocks in the district i.e. Nagar, Kullu, Banjar, Anni and Nirmand. The present study has been carried out in Anni block of this district. The total population of Anni block is 62174 persons, out of which 31509 (50.67%) are males and

30722 (49.40%) are females. The sex ratio is 957 females per thousand males. The scheduled caste population in this block is 19944 persons (32.07%). The population of general category is 40179 (64.62%) and the population of OBC and ST is 1637 (2.63%) and 414 (0.66%) respectively. In this block, there are 37 panchayats and only one Nagar panchayat, 811 villages and 16,217 households (Block Developmental Office- Anni 2020).

Universe and Sample of the Study

The study has been carried out in rural areas of the Kullu district in Himachal Pradesh. The people living in rural areas of this district are mainly engaged in agriculture and horticulture related activities. The sample for this study has been drawn through multistage sampling technique. At the first stage of sampling, district and block have been selected and at the second stage, the selection of the panchayats has been done, and in the third stage, the households and the respondents have been selected.

Selection of the District and Block

As we know that there are twelve districts in the state. Kullu district is also known for its apple, and it gives a significant contribution to make the state 'the fruit bowl of the country'. It is a clear example that people in this district have diversified their agriculture. The high value off-season vegetables have also been grown in this district. Kullu district is the unique example of agriculturally diversified region and hence the study has been carried out in this district. Further, Kullu district comprises of five developmental blocks viz. Nagar, Kullu, Banjar, Anni and Nirmand. Out of these blocks, Anni developmental block has been selected for the study purpose because in this block a large majority of the farmers have diversified their traditional agriculture in favour of high value off season vegetables and the horticulture sector is also growing up rapidly in this block.

Selection of the Panchayats

Anni developmental block consists of number of panchayats containing number of villages. In the present study, it has been decided to select the panchayats for the present study. Keeping in view the time constraints and the resources available at the disposal of the researcher, it would not be possible to study the entire Anni Block. Hence, the selection of Panchayats to be included in the study sample has been done. As per office record, Anni development block has Thirty-Seven Panchayats and one Nagar Panchayat. Out of these 37 Panchayats, 20 percent Panchayats i.e., 7 Panchayats have been selected purposively for the study purpose mainly because these Panchayats are highly agriculturally diversified as compared to other Panchayats of this block. These panchayats are Bakhnao, Chowai, Jaban, Karad, Khani, Shilli and Namahong. In all these seven selected Panchayats agricultural diversification has taken place at a large scale as compared to other Panchayats of this block during the past two-three decades. These panchayats also contain reasonable number of villages and households. Keeping these features in view, these Panchayats have been selected purposively so that desirable number of households/respondents could be included in our sample of the study.

Selection of the Households/Respondents

After the selection of the Panchayats, the next step is the selection of the households/ respondents from the villages of the selected Panchayats. In the selected Panchayats, the numbers of villages vary. Bakhnao Panchayat has 34 villages, Chowai 12, Jaban 30, Karad 33, Khani 18, Shilli 20 and Namahong 35 villages. These villages are spread over distant locations. It is decided to select households at panchayat level irrespective of the number of villages in the selected Panchayats. The total number of households in seven selected Panchayats are 3531(Bakhnao 733, Chowai 471, Jaban 392, Karad 417, Khani 670, Shilli 402 and Namahong 446) having population of 13,818 persons. From each panchayat, 10 percent households have been selected randomly which came out to be 353 households (Bakhnao 73, Chowai 47, Jaban 39, Karad 42, Khani 67, Shilli 40 and Namahong 45). This has constituted our sample of the study. Thus, the actual sample size of the study is 353 households.

Unit of Investigation

As we know that almost every household in the village is engaged in agricultural activities. The unit of investigation in the present study is the head of the household either be a male or female as he/she is engaged in agriculture activities. He/she being the

eldest member of the family is well acquainted with the area and has seen and observed agricultural diversification in the area during the last about two-three decades. Further, he/she is also responsible for taking decisions on behalf of the family members.

Further, in the present study the descriptive and exploratory research design has been used so as to analyse the agricultural diversification and its socio-economic impact on the lives of the people in rural areas of Himachal Pradesh.

Tools and Techniques of Data Collection

The Primary as well as secondary sources of data collection has been used in the present study. The main source for the collection of primary data was an interview schedule. The interview schedule has been formulated so as to know how far agricultural diversification has influenced the socio-economic life of the rural people in the hilly state of Himachal Pradesh. The schedule contains questions about demographic, socio- cultural and economic profile of the respondents. The Specific area to be covered in the interview schedule have questions pertaining to socio-economic life of the respondents before and after agricultural diversification, factors responsible for agricultural diversification and its impact on various aspects of socio- cultural, economic and political life of the rural people like family, marriage, kinship, caste, religion, education, occupation, income, power structure, etc. Both open and close ended questions have been included in the interview schedule. The interview schedule has been pre- tested and after its pre- testing, the necessary changes and modification, if any, has been made therein for its finalization and actual administration in the field. To collect the data, the respondents have been contacted personally by the researcher in order to conduct interview with them so as to keep uniformly in the collection of data. Beside this, observation technique has been used in the collection of data. The secondary sources of data collection consist of census report, statistical outline/abstract, economic survey, gazetteers, revenue records, information available in the block development office, panchayat records, books, articles, journals, magazines, internet etc.

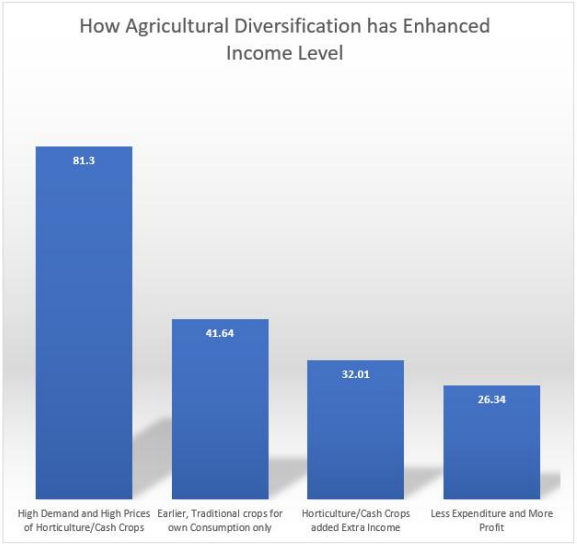
Analysis of Data

After the collection of data, the collected data were subjected to statistical operation starting from coding, scoring, tabulation and writing of the thesis. First of all, the code design was prepared and further the data was classified into meaningful and manageable categories. The categories then were assigned with the 'codes' systematically. All the relevant information from the interview schedule were coded carefully and transferred to the tabulation sheets and then the same was fed into the computer for further detailed analysis. Finally, data analysis was done with the help of SPSS software. The SPSS software system was used to prepare frequency distribution, tabulation and diagrammatic presentation of data. Some statistical tests such as simple ratio, percentage, arithmetic mean etc. have been applied wherever needed as per the nature and requirement of the data.

IV. RESULTS AND DISCUSSION

Agricultural Diversification has Enhanced the Income Level

Agriculture and horticulture is the primary occupation and main source of income of the people in the study area. Further, the respondents were asked whether agricultural diversification has increased their income level. The responses of the cent-percent respondents are that the agricultural diversification has enhanced their income level. Further, the respondents were asked to mention the reasons by which their income level has increased after agricultural diversification. The responses given by the respondents are presented in this bar diagram.

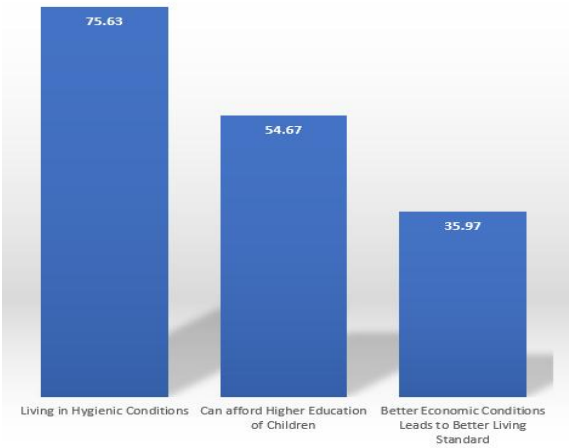


Multiple choices are given by the respondents.

Above bar diagram shows that majority of the respondents (81.30 percent) are of the view that their income has increased after agricultural diversification because the horticulture/ cash crops have high demand in the markets and they are getting high prices of their production. These horticulture/cash crops (Apple, Pear, Pea, Onion, Tomato, Garlic, Plum etc.) are used by the people to meet their daily needs, medicinal purposes and these crops are used for many other purposes. Due to which these crops are high in demands. Further, 41.64 percent of the respondents pointed out that earlier traditional crops were grown for their own consumption only. But now-a-days they are growing the horticulture or cash crops for their own consumption as well as for the market purposes and they are getting reasonable prices of their modern crops. Further, 32.01 percent of the respondents reported that horticulture and cash crops added extra income to their annual income. As many of the respondents are in govt. services, private jobs and some of them are doing their own business alongside agricultural and horticultural activities. And the income from horticulture and cash crops has increased their income level. Further, 26.34 percent of the respondents are of the views that their income level has also increased after the agricultural diversification as they have noticed that after moving towards horticulture and cash crops, they are getting more profit in the smaller amount of expenditure as compared to traditional crops.

Agricultural Diversification Affects Living Standard

Agricultural diversification is playing a crucial role in the upliftment of the rural people. The cent percent respondents reported that due to horticulture and cash crops their living standard and quality of life has improved and this has made a tremendous impact on their income level as well as on their purchasing power. Further, the respondents were asked to mention the changes in their living standard after agricultural diversification.



Multiple choices are given by the respondent.

This bar diagram depicts that majority of the respondents (75.63 percent) are of the view that agricultural diversification has affected their living standard. Presently, they are living in more hygienic conditions by having separate kitchens, bathrooms, toilets and cattle sheds in their houses. Agricultural diversification has led to an increase in income levels of the people in rural areas. As a result, these people are using this additional income to improve their living standards and enhance their quality of life. Table also shows that 54.67 percent respondents opined that after agricultural diversification, rural families are now in a position to afford higher education for their children, something that was not possible in the past. This is because the income from traditional crops was not sufficient, whereas diversified agriculture has significantly increased their earnings. Further, 35.97 percent of the respondents opined that after agricultural diversification, they have experienced an improved economic status, leading to their better living standard. They are now able to afford better food, quality clothing and also they are attaining easily the basic needs of Roti, Kapda aur Makaan. Thus, it shows that majority of the respondents are living in more hygienic conditions as their living standard and quality of life has improved due to agricultural diversification.

Further, the respondents were asked about where they spend the income from agriculture/horticulture produce. Follow the table shows the responses of the respondents.

Where you Spend the Income from Agriculture/ Horticulture Produce

Sr. No.	Responses	Frequency (N*=353)	Percentage
1.	Domestic Items	353	100.00
2.	Construction of House	305	86.40
3.	Education of Children	324	91.78
4.	Purchase of Land	84	23.79
5.	All of the Above	37	10.48

Multiple choices are given by the respondents.

This table shows that cent percent of the respondents are of the view that they are spending their income from agriculture and horticulture produce on domestic items such as eatables, refrigerators, LCDs, washing machines, and other household goods and an overwhelming majority of the respondents (91.78 percent) are of the view that they are now able to spend their earnings on their children's education, which was not possible in the past due to the lack of money. However, the diversification of agricultural practices has led to an increase in their income, and allowing them to invest in their children's education. Further, it has also been found that 86.40 percent of the respondents are using their increased income from agricultural diversification to construct new houses or repair their old ones. Further, 23.79 percent respondents are of the view that they are spending their income on purchasing land, as land is essential for conducting agricultural or horticultural activities and is also valuable for commercial purposes. Only 10.48 percent of the respondents are of the view that they are using the income from agriculture and horticulture on all of the above i.e. domestic items, construction of house, education of children and purchase of land. Thus, it is found that people in the study area are spending the income from agriculture and horticulture produce mainly on purchasing on domestic items; construction of house and the education of their children.

Agricultural Diversification Generates New Sources of Employment

Agricultural diversification has the potential to generate new sources of employment in agriculture and allied sectors, contributing to rural development and poverty reduction. It is found that cent percent of the respondents reported that agricultural diversification has led to generated new sources of local employment in their area. Below the Table shows the views of the respondents regarding the new sources of employment generated by agricultural diversification.

Agricultural Diversification Generates New Sources of Employment

Sr. No.	Responses	Frequency (N*=353)	Percentage
1.	Need of Labour over The Year	269	76.20
2.	Technical Workers are on High Demand	221	62.60
3.	Employment in their Own Village/Area	187	52.97
4.	Self-Employment Opportunities	163	46.17

Multiple choices are given by the respondent.

This Table indicates that majority of the respondents (76.20 percent) are of the view that agricultural diversification has increased the need for labour throughout the year. This includes tasks such as apple picking, apple packing, crop transportation and putting nets on crops to protect them from hail. Additionally, various agricultural and horticultural activities require labour throughout the year, providing people with steady employment and good income opportunities. Meanwhile, 62.60 percent of respondents believed that, due to agricultural diversification there is an increased demand for technical or skills workers in orchards and fields to perform tasks such as pruning, grafting and packaging of the produce. Those who possess these skills are in high demand and are earning good incomes. Further, 52.97 percent of respondents are of the opinion that over the past two decades, they have been able to find employment either at their own villages or in nearby areas. Previously, they had to travel to other regions or distant area to earn money. Additionally, 46.17 percent of respondents believe that improved transportation facilities have

contributed to increased agricultural diversification in rural areas, leading to greater employment opportunities. With the need to transport the produce to the market, there is a demand for vehicles such as trucks, tippers and pick-ups, which has resulted in self-employment opportunities for people in rural areas. Thus, it is found that agricultural diversification has increased the employment opportunities in the rural areas.

V. CONCLUSION

The study clearly demonstrates that agricultural diversification has played a transformative role in the rural economy of Himachal Pradesh. The shift from traditional crops to high-value horticulture and cash crops has led to increased income, improved living standards, and enhanced employment opportunities. Diversification has also contributed to social changes such as better education, improved housing, and changing consumption patterns. It has strengthened rural livelihoods and reduced vulnerability to agricultural risks.

VI. RECOMMENDATIONS

Promotion of High-Value Crops

Farmers should be encouraged to shift from traditional crops to high-value crops such as fruits, off-season vegetables, and floriculture. These crops have higher market demand and better prices, which can significantly increase farmers' income.

Access to Quality Inputs and Technology

There is a need to ensure timely availability of quality seeds, fertilizers, and modern agricultural tools. Adoption of improved technologies can enhance productivity and reduce the risk of crop failure.

Improvement in Irrigation and Infrastructure

Adequate irrigation facilities, better road connectivity, and efficient transportation systems are essential for agricultural development. Improved infrastructure helps farmers in timely production and easy access to markets.

Training and Skill Development

Farmers should be provided with training in modern agricultural practices such as pruning, grafting, packaging, and pest management. Skill development enhances efficiency and productivity in diversified agriculture.

REFERENCES

[1] Bardhan, D., Singh, R., & Raut, S. (2023). *Agricultural diversification and its impact on farmers' income in India*. Journal of Agricultural Economics and Development.

[2] Das, A., et al. (2023). *Agricultural diversification and rural development: Evidence from India*. International Journal of Rural Development Studies.

[3] Joshi, P. K., Gulati, A., & Cummings, R. W. (2004). *Agricultural diversification in South Asia: Patterns, determinants and policy implications*. Economic and Political Weekly, 39(24), 2457–2467.

[4] Kumar, P., & Mittal, S. (2006). *Agricultural diversification and its impact on rural livelihoods in Haryana*. Agricultural Economics Research Review, 19(2), 237–250.

[5] Saraswat, S. (2012). *Changing paradigm of hill agriculture: A study of crop diversification in Himachal Pradesh*. Indian Journal of Agricultural Economics, 67(3), 412–420.

[6] Singh, R., Adhale, N., & Bhoi, S. (2022). *Crop diversification in South Asia: A panel data analysis of determinants and impacts*. Agricultural Systems, 198, 103–115.

[7] Government of India. (2011). *Census of India 2011: Primary Census Abstract*. Office of the Registrar General & Census Commissioner, New Delhi.

[8] Survey of India. (2020). *Administrative Atlas of India*. Department of Science and Technology, Government of India, New Delhi.