Biological Forum – An International Journal **16(5): 163-169(2024)**

ISSN No. (Print): 0975-1130
ISSN No. (Online): 2249-3239

Traditional Farming Systems and Socio-economic Dynamics in the Kangra Valley of Northwestern Himalayas, India

Meenakshi[1*], Puneet Kaur[2], Pawan Pathania[1], Ashish Kumar[1] and Baljinder Singh[3]
[1]Department of Agronomy, CSKHPKV Palampur (Himachal Pradesh), India.
[2]Department of Agronomy, PAU Ludhiana (Punjab), India.
[3]Department of Soil Science, CSKHPKV Palampur (Himachal Pradesh), India.

(Corresponding author: Meenakshi)*
(Received: 14 March 2024; Revised: 06 April 2024; Accepted: 19 April 2024; Published: 15 May 2024)
(Published by Research Trend)

ABSTRACT: This research provides a comprehensive analysis of agricultural dynamics in Kangra district, Himachal Pradesh, shedding light on various socio-economic factors influencing farming practices. Employing a multi-stage random sampling technique, the study ensures comprehensive representation across various strata, drawing a total sample size of 120 farmers from different landholding categories. With a focus on demographics, land use patterns, educational profiles, and occupational structures, the study unveils the intricate relationship between these variables and agricultural outcomes. The majority of farmers in Kangra are categorized as marginal, exhibiting a diverse cropping pattern dominated by crops like paddy and wheat. The predominant farming system among marginal farmers comprises crops, livestock, and vegetables (65.83%), followed by crops and livestock (28.33%). A small percentage of households (0.83%) also engage in farming systems involving crops, livestock, and beekeeping, as well as vegetables and livestock. Income analysis highlights the disparity between farm sizes, with large farmers garnering the highest agricultural income. Additionally, the study identifies seven key constraints faced by farmers, including price uncertainty, input availability, and infrastructural limitations, echoing similar findings from previous research. Overall, this research underscores the importance of understanding local contexts and challenges to inform targeted interventions aimed at enhancing agricultural sustainability and rural livelihoods.

Keywords: Farming systems, sustainability, land use patterns, cropping pattern, socio-economic.

INTRODUCTION

In modern agricultural discourse, the concept of a farming system has evolved beyond mere cultivation practices to encompass a comprehensive approach that integrates various farm enterprises with available resources to ensure profitability and sustainability. At its core, a farming system represents a strategic integration of cropping systems, horticulture, livestock rearing, fisheries, forestry, poultry, and other agricultural activities (Kumar *et al*. 2018). This integration is not only aimed at maximizing productivity per unit of land but also at optimizing resource utilization, promoting waste recycling, and enhancing overall sustainability. Moreover, a well-designed farming system is expected to harmonize with the environment, preserving ecological balance, while simultaneously contributing to socioeconomic development at both local and national levels (Jayanthi *et al*., 2002). Central to the farming system paradigm is the notion of interdependence among different enterprises, where the outputs of one enterprise serve as inputs for others, fostering efficiency and resilience (Bonaudo *et al.,* 2014). Through such interconnections, farming systems strive to mitigate risks, ensure higher incomes, and generate employment opportunities, thereby supporting the livelihoods of farming communities (Toor *et al.,* 2009).

The agricultural landscape of Himachal Pradesh, characterized by its diverse topography and climatic conditions, is dominated by two prominent cropping systems: rice-wheat and maize-wheat. These systems, which have been integral to the region's agricultural fabric for years, now face significant challenges as their productivity stagnates and factor productivity declines annually. Encompassing over 80 thousand hectares for rice-wheat and 230 thousand hectares for maize-wheat, these cropping systems play a pivotal role in ensuring food security for the farming communities of Himachal Pradesh. However, the reliance on a limited range of major cereal crops, such as wheat and rice, has rendered the farming economy vulnerable to external market forces, particularly since the influence of the World Trade Organization (WTO) began shaping market dynamics (Rana *et al.,* 2015). With the state's topographic constraints limiting the expansion of cultivated land, there is a pressing need to shift focus towards enhancing the productivity of high-value cash crops and promoting diversification across different agro-climatic zones.

This research investigates evolving farming systems amidst socio-economic shifts in the western Himalayan region, focusing on Kangra district. It aims to understand the current farming landscape's impact on farmers' socioeconomic status and explores challenges

and opportunities in revitalizing key cropping systems like rice-wheat and maize-wheat. The study contributes to sustainable agricultural development and food security in Himachal Pradesh, shedding light on strategies to enhance productivity, sustainability, and socioeconomic well-being in agricultural landscapes.

MATERIALS AND METHODS

The study was conducted in Kangra district, Himachal Pradesh situated between 31°41′ to 32°28′N latitude and 75°35′ to 77°04′E longitude, with altitudes ranging from 248 to 5861 meters above mean sea level. Due to the significant agricultural importance in the state, the Kangra district was selected purposefully. With the highest net sown area and maximum cultivation of major crops, Kangra district also records the highest food grain production. Agriculture in the district is practiced under both irrigated and rainfed conditions, with farmers cultivating a variety of crops and enterprises across different farming systems. The district experiences a diverse climate, transitioning from sub-tropical in low hills and valleys to sub-humid in mid-hills, and eventually becoming temperate in high hills. Annual rainfall ranges from 1500 to 1800 mm, with snowfall occurring in the upper ridges. The average minimum and maximum temperatures in the district are 3°C and 45°C, respectively.

The research employed a multi-stage random sampling technique to ensure comprehensive representation across various strata. Initially, a selection of blocks (stage-I), villages (stage-II), and farmers (stage-III) was conducted. Out of fifteen blocks in the Kangra district, namely Baijnath, Nagrota Bagwan, Kangra, and Nurpur, four were randomly chosen. Subsequently, 12 villages were randomly selected from each of these blocks, as indicated on the Kangra district map (Fig. 1).

A total sample size of 120 farmers was drawn from the Kangra district, ensuring proportional representation across different farmer categories: Marginal (<1 ha), Small (1-2 ha), Medium (2-4 ha), and Large (>=4 ha).

Primary data encompassing demographic features, economic parameters, farm resources, costs and farm returns, family expenditure patterns, farm and non-farm income, and problems faced by farmers, were collected through survey methods. Additionally, secondary data such as descriptive features of the study area, population and literacy statistics, and land utilization patterns of the sampled farms were sourced from various government publications and annual reports.

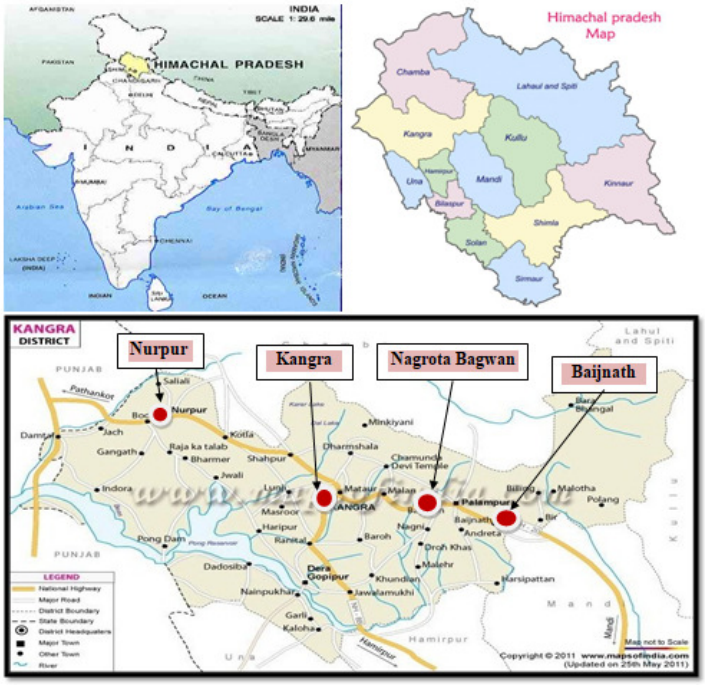

Fig. 1. Location map of the study area.

Analysis. Tabular analysis using averages, ratios, percentages, etc. was extensively employed to achieve the objectives of study. Categorization of farm households based on their operational land holdings was carried out and information obtained in terms of percentage composition of different category of farmers is presented.

$$\text{Sex - ratio (females per 1000 males)} = \frac{\text{Total population of females}}{\text{Total population of males}} \times 100$$

$$\text{Literacy rate (per cent)} = \frac{\text{Total number of literate persons}}{\text{Total population excluding non school going below 5 years of age}} \times 100$$

$$\text{Cropping intensity (per cent)} = \frac{\text{Total cropped area}}{\text{Net sown area}} \times 100$$

RESULT AND DISCUSSION

Primary Data

Demographic features of the study area. The district Kangra comprises 21.99% of the state's population, with around 90% residing in rural areas. The sex ratio was 1012 females per 1000 males, indicating gender sensitivity. The literacy rate stands at 85.67%, surpassing the state's average of 82.80%, with male literacy at 91.49% and female at 80.02%.

Land utilization pattern. The land use pattern of Kangra district in Himachal Pradesh revealed that only 20.03% of the total geographical area is designated as net sown area. Additionally, 16.01% of the area is not available for cultivation. The cropping intensity in Kangra district stands at 191.64%, surpassing the state's cropping intensity of 174.69%.

Village and category wise detail of farm families surveyed. The farmer characterization based on landholding size as mentioned in Table 1 represented that in Baijnath, Nagrota Bagwan, and Kangra blocks, the majority of surveyed farmers belonged to the marginal category (90.00%, 90.00%, and 80.00% respectively), whereas in Nurpur block, large farmers predominated (46.67%). Overall, the data for Kangra district revealed that the majority of farmers were classified as marginal (65.00%), followed by small farmers (17.50%).

Table 1: Characterization of farmers according to land holding size.

Block		No. of farmers				Overall
		Marginal (<1 ha)	Small (1-1.99 ha)	Medium (2-3.99 ha)	Large (>=4 ha)	
Baijnath						
Sr. No.	**Name of village**					
1	Baijnath	10	-	-	-	10
2	Matruh	9	1	-	-	10
3	Burli kothi	8	2	-	-	10
Total		27	3	-	-	30
		(90.00)	(10.00)	-	-	(100)
Nagrota Bagwan						
1	Mlan	8	2	-	-	10
2	Sunher	9	1	-	-	10
3	Kawari	10	-	-	-	10
Total		27	3	-	-	30
		(90.00)	(10.00)	-	-	(100)
Kangra						
1	Ghurkari	7	3	-	-	10
2	Kotkwala	7	3	-	-	10
3	Pehg	10	-	-	-	10
Total		24	6	-	-	30
		(80.00)	(20.00)	-	-	(100.00)
Nurpur						
1	Thana	-	5	3	2	10
2	Kher	-	4	3	3	10
3	Sujjal	-	-	1	9	10
Total		-	9	7	14	30
			(30.00)	(23.33)	(46.67)	(100.00)
Overall total		78	21	7	14	120
		(65.00)	(17.50)	(5.83)	(11.60)	(100.00)

Age-wise distribution of the head of the family on sample farms. The age distribution of sample farm heads revealed that middle-aged individuals predominate among marginal, small, and medium farmers (50.00%, 61.90%, and 53.33% respectively), while old age were more prevalent among large farmers (50.00%). Overall, the majority of farmers (51.67%) fall into the middle age category, followed by young (25.83%) and old age (22.50%) categories. This trend aligns with previous studies by Kumar and Rao (2004) and Kale (2008).

Educational status. Educational status is a crucial determinant of farming communities' capacity to embrace new technologies and innovations. As mentioned in Table 2 and Fig. 2, the educational profile of farmers in Kangra district represented, a notable proportion of marginal (20.51%) and small (23.81%) farmers were illiterate, compared to 16.67% of illiterate large farmers. Conversely, medium farmers exhibited higher educational attainment, with 53.33% having completed high school. Overall, 20.83% of farmers were illiterate, 28.33% have high school education, and 10.83% were graduates or above. The literacy rates among small and marginal farmers were 76.19% and 79.49% respectively, while medium and large farmers show higher rates at 80.00% and 83.33%, respectively. This discrepancy may stem from socioeconomic factors; small and marginal farmers, constrained by lower social status and economic resources, might face barriers to formal education. Conversely, medium and large farmers, benefiting from greater economic stability and social opportunities, are more likely to pursue education.

Table 2: Distribution of head of family on sample farms according to education.

Sr. No.	Education	Marginal	Small	Medium	Large	Overall
1	Illiterate	16	5	3	1	25
		(20.51)	(23.81)	(20.00)	(16.67)	(20.83)
2	Primary	10	2	-	1	13
		(12.82)	(9.52)	-	(16.67)	(10.83)
3	Middle	16	3	-	-	19
		(20.51)	(14.29)			(15.33)
4	Matric	18	7	8	1	34
		(23.08)	(38.33)	(53.33)	(16.67)	(28.33)
5	Senior Secondary	10	3	2	1	16
		(12.82)	(14.29)	(13.33)	(16.67)	(13.33)
6	Graduate and above	8	1	2	2	13
		(10.26)	(4.76)	(13.33)	(33.33)	(10.83)
	Total	78	21	15	6	120
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
	Literacy rate (%)	79.49	76.19	80.00	83.33	79.17

Note: Figures in parentheses indicate percentages to the total in each category

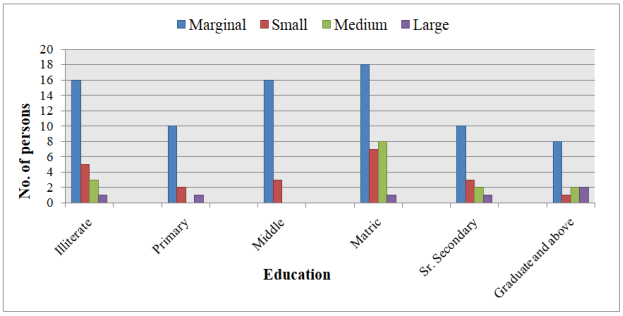

Fig. 2. Educational status of the head of the family.

These findings align with prior studies by Netravathi (2007); Deepak (2003), underscoring the influence of socioeconomic factors on farmers' educational attainment and highlighting the need for targeted interventions to address disparities in educational access among farming communities.

Occupational pattern of sample farms. The occupational structure of farmers significantly impacts household income and economic stability. Subsistence farming often coexists with other occupations, particularly in regions like Himachal Pradesh, where small and marginal farmers own approximately 84.5% of agricultural land. Fig. 3 outline the occupational patterns in the study area. Agriculture and allied activities, such as livestock rearing, emerge as the primary livelihood sources for the majority of the population. Across all farm categories, over 79% of the working population were engaged in agriculture and allied activities, with medium farmers exhibiting the highest proportion at 93.33%.

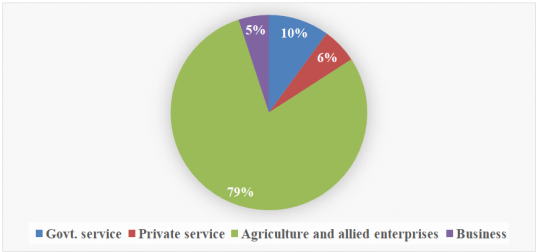

Fig. 3. Distribution of sample farms according to occupational pattern.

Livestock inventory possessed by different categories. Livestock products such as milk, wool, and meat fulfill both daily consumption needs and market demands. The average number of farm animals per household ranged from 3.00 in marginal farms to 2.34 in large farms. Larger farms tend to favour improved cows and buffaloes, possibly due to their capacity to provide more feed and fodder from larger land holdings. Medium farms exhibited the highest population of young stock, while the practice of rearing bullocks for ploughing were absent in medium and large farms due to increased mechanization. Sheep and goat rearing were prevalent, particularly among marginal farms (34.19%), followed by small farms (9.16%). Beekeeping, also common among marginal farmers, offered substantial income potential with minimal resource competition compared to other agricultural ventures. This accessibility makes beekeeping suitable for a diverse demographic, aligning with the findings of Mujuni *et al.* (2012) and underlining its economic promise in agricultural sustainability.

Table 3: Livestock Inventory.

Sr. No.	Particulars	Marginal	Small	Medium	Large	Overall
1	Cow (Improved)	0.69	0.81	0.73	0.83	3.06
		(23.00)	(30.92)	(30.42)	(35.47)	(29.54)
a)	Milking	0.60	0.57	0.53	0.67	2.37
		(20.00)	(21.76)	(22.08)	(28.63)	(22.88)
b)	Dry	0.09	0.24	0.20	0.17	0.70
		(3.00)	(9.16)	(8.33)	(7.26)	(6.76)
2	Cow (local)	0.17	0.38	0.14	0.17	0.86
		(5.67)	(14.50)	(5.83)	(7.26)	(8.30)
a)	Milking	0.17	0.29	0.07	0.17	0.70
		(5.67)	(11.07)	(2.92)	(7.26)	(6.76)
b)	Dry	-	0.09	0.07	-	0.16
		-	(3.44)	(2.92)	-	(1.54)
3	Buffalo	0.26	0.43	0.87	1.17	2.73
		(8.67)	(16.41)	(36.25)	(50.00)	(26.35)
a)	Milking	0.23	0.29	0.47	1.00	1.99
		(7.67)	(11.07)	(19.58)	(42.74)	(19.21)
b)	Dry	0.03	0.14	0.40	0.17	0.74
		(1.00)	(5.34)	(16.67)	(7.26)	(7.14)
4	Young stock	0.40	0.43	0.66	0.17	1.66
		(13.33)	(16.41)	(27.50)	(7.26)	(16.02)
5	Sheep/goat	1.03	0.24	-	-	1.27
		(34.33)	(9.16)	-	-	(12.26)
6	Bullock	0.45	0.33	-	-	0.78
		(15.00)	(12.60)	-	-	(7.53)
7	Beekeeping (Boxes)	100	-	-	-	100
	Total	3.00	2.62	2.4	2.34	10.36
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

*Excluding beekeeping
Note: Figures in parentheses indicate percentages to the total in each category

Cropping pattern on sample farms. The cropping pattern, indicating the distribution of cultivated land among different crops, was analyzed in Table 4. During the *kharif* season, paddy dominated, with large farmers dedicating 66.67% of their land to it, followed closely by small farmers at 66.23%. Maize took the second spot for large farmers (28.03%), while vegetables were prominent for small farms (23.00%). Pulses were exclusive to large farmers, comprising only 2.02% of the *kharif* crop area. Sorghum was a common fodder crop, especially for marginal farmers (15.15%). In the *rabi* season, wheat prevailed across all farm sizes, with large farmers leading at 81.82%. Small farmers favoured vegetables (28.00%), while berseem was the primary fodder crop for all farm sizes. Large farmers exhibited the highest cropping intensity (196.97%), followed by medium farmers (195.36%). Notably, large farmers tended to avoid pulses, oilseeds, and vegetables due to their susceptibility to adverse weather, opting for less risky crops like wheat and rice. These insights shed light on the intricate dynamics of crop selection and land allocation among farmers, informing strategies for enhancing agricultural productivity and resilience in the region.

Predominant farming systems on sample farms. Table 5 illustrates four distinct farm types categorized by their enterprises: crops + livestock, crops + livestock + vegetables, crops + vegetables + beekeeping, and vegetables + livestock. Overall, a substantial majority of farmers, primarily marginal farmers (65.83%), practiced the crops + livestock + vegetables system, followed by crops + livestock (28.33%). The adoption rates of crops + livestock + beekeeping and vegetables + livestock systems were both minimal, at 0.83%. Among marginal and small farms, crops + livestock + vegetables was predominant (74.36% and 76.19%, respectively), followed by crops + livestock. A small percentage of marginal farmers (1.28%) also engaged in crops + livestock + beekeeping. Conversely, crops + livestock farming was prevalent among medium (73.33%) and large farmers (83.33%).

Table 4: Cropping pattern on sample farms (ha/farm).

	Crops	Marginal	Small	Medium	Large
A.	**Kharif**				
1	Maize	0.02	0.05	0.42	1.11
		(6.06)	(5.00)	(27.81)	(28.03)
2	Paddy	0.20	0.64	1.00	2.64
		(60.60)	(64.00)	(66.23)	(66.67)
3	Vegetables	0.05	0.23	0.04	0.06
		(15.15)	(23.00)	(2.65)	(1.52)
4	Pulses	-	-	-	0.08
					(2.02)
5	Fodder (Sorghum)	0.06	0.08	0.05	0.07
		(15.15)	(8.00)	(3.31)	(0.25)
Total kharif area (A)		0.33	1.00	1.51	3.96
		(100)	(100)	(100)	(100)
B.	**Rabi**				
1	Wheat	0.20	0.55	1.20	3.24
		(68.61)	(55.00)	(79.47)	(81.82)
2	Oat	0.02	0.09	0.09	0.12
		(6.06)	(9.00)	(5.96)	(3.03)
3	Berseem	0.07	0.08	0.14	0.20
		(21.21)	(8.00)	(9.27)	(5.05)
4	Vegetables	0.04	0.28	0.08	0.11
		(12.12)	(28.00)	(5.30)	(2.78)
5	Oilseed (Mustard)	-	-	-	0.29
					(7.32)
	Total Rabi area (B)	0.29	0.93	1.44	3.84
C.	Total cropped area (A+B)	0.62	1.93	2.95	7.80
D.	Net sown area	0.33	1.00	1.51	3.96
E.	Cropping intensity (%)	187.89	193.00	195.36	197.46

Note: Figures in parentheses indicate percentages to total in each category

Table 5: Predominant farming systems on sample farms.

Farming system	Category				
	Marginal	Small	Medium	Large	Overall
Crops only	4	-	-	-	4
	(5.13)				(3.33)
Crops + Livestock	14	4	11	5	34
	(17.95)	(19.05)	(73.33)	(83.33)	(28.33)
Crops + Livestock + Vegetables	58	16	4	1	79
	(74.36)	(76.19)	(26.67)	(16.67)	(65.83)
Crops + Livestock + Bee keeping	1	-	-	-	1
	(1.28)				(0.83)
Vegetables + Livestock	-	1	-	-	1
		(4.76)			(0.83)
Vegetables only	1	-	-	-	1
	(1.28)				(0.83)
Total	78	21	18	6	120
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Note: Figures in parentheses indicate percentages to total in each category

Average farm income from Sample farms. The findings underscore significant variations in farm income across different categories of farmers in Kangra district, Himachal Pradesh. Large farmers exhibit the highest total income from agriculture, amounting to Rs. 1,54,050 annually, followed closely by medium farmers with Rs. 1,50,605. This pattern is mirrored in livestock income, where large farmers lead with Rs. 60,185, contrasting with medium farmers' Rs. 12,960. In contrast, marginal farmers predominantly derive their income from non-agricultural sources, recording an annual income of Rs. 14,076.92. These figures highlight the substantial disparity in farm income, with marginal households earning Rs. 88,059.79, small households Rs. 1,20,228.83, medium households Rs. 1,63,565, and large households Rs. 2,14,235 per annum. Such discrepancies underscore the need for targeted interventions to address income disparities and enhance agricultural sustainability in the region.

Table 6: Average farm income of different sample farms.

Category	Crops (Rs.)	Business (Rs.)	Livestock (Rs.)	Total farm income (Rs./annum)
Marginal	60,563.00	14076.92	13,419.87	88,059.79
Small	1,02,457.40	-	17,771.43	1,20,228.83
Medium	1,50,605.00	-	12,960.00	1,63,565.00
Large	1,54,050.00	-	60185.00	2,14,235.00

Constraints faced by the farmers practicing integrated high value based Farming Systems. All surveyed households were questioned to identify constraints in integrated high-value farming systems, resulting in seven main constraints. The most significant constraint, reported by 91.67% of respondents, was the lack or uncertainty of agricultural produce prices. Following closely, 85.83% mentioned the non-availability of suitable inputs and infrastructure on time as a major challenge (II). The third constraint, lack of family labour due to other engagements, was highlighted by 83.33% (III). Subsequently, 82.50% noted irregular water/electricity supply (IV) as problematic, succeeded by lack of funds (77.50%, V) and risk-bearing capability (76.67%, VI). Additionally, caste considerations in adopting certain farming practices were reported by 49.16% (VII), while 35.00% cited a lack of technical knowledge (VIII). These constraints were found to be widespread across the state, echoing similar findings by Pushpa (2010), who identified labour scarcity, inadequate irrigation, limited credit facilities, and price uncertainty as key challenges for farmers.

CONCLUSIONS

The agricultural landscape in Kangra district of Himachal Pradesh is characterized by a predominantly rural population, with significant gender sensitivity indicated by the sex ratio. Despite challenges like limited cultivable land and irregular water supply, farmers exhibit high cropping intensity, reflecting their resilience and adaptability. Farming practices, such as integrated systems and enterprise diversification, are prevalent, particularly among marginal and small farmers. However, constraints such as price uncertainty and inadequate infrastructure persist, underscoring the need for targeted interventions to enhance agricultural sustainability and farmer livelihoods in the region. Therefore, the study provides a comprehensive understanding of the socioeconomic status of farmers and the current farming practices in the area under investigation. This knowledge will assist researchers in identifying areas for improvement and devising technologies to aid local farmers in meeting their basic needs and addressing existing constraints.

FUTURE SCOPE

The future scope entails a longitudinal study to understand farming practices' adaptability, a deeper analysis of constraints through stakeholder engagement, bolstering market linkages and value addition, exploring crop diversification and resilient management practices, and diversifying rural livelihoods. Additionally, it involves assessing technology's role, advocating for policy reforms, and ensuring gender and social inclusivity to foster sustainable agricultural development in Kangra district, Himachal Pradesh, and beyond.

Acknowledgement. This study was carried out and supported by the Department of Agronomy, CSKHPKV Palampur.
Conflict of Interest. None.

REFERENCES

Bonaudo, T., Bendahan, A. B., Sabatier, R., Ryschawy, J., Bellon, S., Leger, F., Magda, D. and Tichit, M. (2014). Agroecological principles for the redesign of integrated crop–livestock systems. *European Journal of Agronomy, 57*, 43-51.

Deepak, M. P. (2003). A study on perception on beneficiaries and nonbeneficiaries towards WYTEP programme in Dharwad district. M.Sc. Thesis (Agri.), University of Agriculture Science, Dharwad.

Jayanthi, C. S., Mythili, and Chinnasamy, C. (2002). Integrated farming systems – A viable approach for sustainable productivity, profitability and resource recycling under low land farms. *Journal of Ecobiology, 14*(2), 143-148.

Kale, N. M. (2008). Socio-economic, psychological and situational causes of suicides of farmers in Vidarbha region. Ph.D. Thesis (Unpub.), Akola

Kumar, S., Bhatt, B. P., Dey, A., Shivani, S., Kumar, U., Idris, M., Mishra, J. S., and Kumar, S. (2018). Integrated farming system in India: Current status, scope and future prospects in changing agricultural scenario. *The Indian Journal of Agricultural Sciences, 88*(11), 1661-75.

Kumar, S. G. D., and Rao S. B. V. (2004). Motives for cultivation of cotton. *Indian Journal of Extension Education, 40*, 91-93.

Mujuni, A., Natukunda, K. and Kugonza, D. R. (2012). Factors affecting the adoption of beekeeping and associated technologies in Bushenyi District, Western Uganda. *Livestock Research for Rural Development 24 Article #133.*

Netravathi, G. (2007). A Comparative analysis of the preference and performance of marketing organizations of fruits and vegetables in Bangalore rural and urban district. M.Sc. Thesis (Agriculture). University of Agriculture Science, Bangalore.

Pushpa, J. (2010). Constraints in various integrated farming systems. *Agriculture Update, 5,* 370-374.

Rana, S. S., Sharma, S. K., Negi, S. C., Soni, R. P., and Katoch, M. (2015).An exploratory study on farm diversification in Himachal Pradesh. *Himachal Journal of Agricultural Research, 41*(1), 66-72.

Toor, M. S., Sidhu, A. S., and Singh, S. (2009). Integrated farming systems for income and employment increasing possibilities on small farms in Punjab State. *Agricultural Situation in India 66*(9), 519-524.

How to cite this article: Meenakshi, Puneet Kaur, Pawan Pathania, Ashish Kumar and Baljinder Singh (2024). Traditional Farming Systems and Socio-economic Dynamics in the Kangra Valley of Northwestern Himalayas, India. *Biological Forum – An International Journal, 16*(5): 163-169.