Socio-Economic Profile of KVK Staff and farmers for Utilization of ICT tools in Central Uttar Pradesh, India

ABSTRACT

The study was conducted in Central Uttar Pradesh to know the socio-economic characteristics of KVK staff and farmers. Kanpur Dehat, Unnao, Lucknow, Rae Bareli and Pratapgarh districts were selected purposively because these districts are nearer to Lucknow. The respondents selected for the study include 37 KVK staff from 5 KVKs and 175 farmers from 5 villages of 5 districts. The study's findings revealed that the majority of KVK staff (65%) were aged between 35 to 47 years, 78 per cent were male and 70 per cent were belonging to the general category. 74 per cent of KVK staff hold doctorate degrees and 70 per cent were Subject Matter Specialists. Moreover, 62 per cent had 6-15 years of work experience, 68 per cent had an annual income between 6-10 lakhs, and 52 per cent had ICT training. Among the farmers, 60 per cent were between 31 to 47 years old, and 77 per cent were male. Half of (50%) the farmers belonged to the SC/ST category, and about one-third (31%) had educational qualifications up to the intermediate level. Nearly half (46%) lived in mixed houses, while 72 per cent lived in joint families with 74 per cent having large family sizes. 35 per cent had land holdings up to 2.5 acres, 93 per cent engaged in farming as their occupation and 50 per cent had an annual income between 1-2 lakhs. Additionally, 48 per cent held membership in one organization. For information purposes, the majority of farmers used computers/laptops (63%), farm magazines (61%), and newspapers (60%). For entertainment, (48%) used the radio and 37 per cent watched TV.

Keywords: KVK, farmers, socio-economic characteristics, ICT tools.

INTRODUCTION

Socio-economic profile study focuses on identifying the individuals or communities characteristics based on their age, education, gender, wealth, material possessions, social participation, type of family, size of family etc. These factors are responsible for the variations in socio-economic characteristics of farmers (Singh *et al.* 2017). It influences the accessibility to resources, livelihood patterns, food and nutritional security etc. (Roy *et al.* 2013). Any farming or non-farming activity is interdependent with the socio-economic status of the individual and it could be considered both the cause and effect of farming (Kumar *et al.* 2007).

Socio-economic factors have a significant influence towards the adoption and diffusion of agriculture technologies (Lestrelin *et al.* 2012). The socio-economic characteristics of farmers and farms are important for better policy options (Tani Net 2nd Report, 2000). Hence, knowledge of the socio-economic and personality traits of the farmers is important to extension workers and development workers for targeting development initiatives[16,17,18]. Therefore, it was felt vital to study the socio-economic profile of the farmers and KVK staff in the region to have a holistic approach to the agricultural development of the villages. Ultimately, this helps in bringing the socio-economic development of the farming community in the region. Keeping in view the above facts; the present study was carried out to study the socio-economic profile of KVK Staff and farmers of Central Uttar Pradesh. Krishi Vigyan Kendra (KVK) is an essential component of the National Agricultural Research System (NARS) that aims to assess the location-specific technology in agriculture as well as allied sectors through assessment, refinement and demonstrations and Krishi Vigyan Kendra also produces quality technological products like seed, planting material, bio-agents, etc. and make them available to the farmers.

METHODOLOGY

An Ex-Post Facto Research Design was used for the present investigation. The study was conducted in the purposively selected state of Uttar Pradesh (UP) as it is the largest state of India in terms of population and number of Krishi Vigyan Kendras (86 KVKs). Geographically Uttar Pradesh has been divided into five parts namely Eastern UP, Western UP, Central UP, Bundelkhand and Ruhelkhand region respectively. The present study was conducted in Central UP. Out of 15 districts of central UP five districts viz. Kanpur Dehat, Unnao, Lucknow, Rae Bareli and Pratapgarh were purposively selected for the study as these districts are close to the capital of UP and different types of KVKs are present in these districts. The convenience of research workers for data collection was also a reason. Five KVKs were selected for study. One KVK from each selected district was considered for this study. From the district Kanpur Dehat, KVK Daleep Nagar which is working under Chandra Shekhar Azad University of Agriculture and Technology, Kanpur was selected. KVK Hasanganj working under an NGO from district Unnao was selected. KVK ICAR-IISR from district Lucknow was the third KVK selected for the study. From district Raebareli KVK Dariapur, which is working under Chandra Shekhar Azad University of Agriculture and Technology, Kanpur was selected. The fifth KVK selected for the study was KVK Kalakankar under an NGO from Pratapgarh district. Thus, 5 KVKs were selected for the present study. All the Programme Coordinators (PC), Subject Matter Specialists (SMS), Programme Assistants, Farm Managers, and Computer

Programmers of the selected 05 KVKs formed the respondents of this study. There were 05 PCs, 26 SMS, 01 program assistant, 01 farm manager, and 04 computer programmers working in selected KVKs. Thus a total of 37 KVK staff were selected as respondents on a census basis. During the preliminary visit to selected 05 KVKs data related to the number of registered farmers with KVK and how many of them have been using ICT tools was obtained. It was decided to select 5 per cent of the farmers from each KVK who were using ICT tools. Thus, a total of 175 farmers were selected as respondents using a proportionate sampling technique. Statistical methods such as frequency, percentage, mean and standard deviation were used for precise and meaningful analysis of the data collected.

RESULTS AND DISCUSSION

Socio-economic profile of KVK staff

The socioeconomic profile of the KVK staff refers to the basic information about age, gender, caste category, education, professional position, annual income, work experience and training. The findings related to the profile of KVK staff have been presented in Table 1. The majority (65%) of KVK staff were aged between 35 to 47 years, followed by up to 34 years (19%) and above 48 years (16%) This age distribution might be a preference for the necessity of experienced staff who have accumulated significant expertise and skills relevant to their roles. This result was similar to the findings of Nyarko and Kozári (2021). The gender distribution of KVK staff showed that 78 per cent of the staff were male while 22 per cent of staff were female. This gender imbalance in this profession can be a result of the lower participation of females. The study findings were consistent with a previous study conducted by Nyarko and Kozári (2021). The majority (70%) of KVK staff were from the General category followed by 25 per cent to the other backward class (OBC) category, and 5 per cent to the scheduled caste and scheduled tribes (SC/ST) category. Concerning the educational qualifications of the KVK staff hold Doctorates (74%), followed by Postgraduates (24%) and Graduates (2%) This result was in line with the findings of (James *et al.* 2022). In terms of professional positions, the majority were Subject Matter Specialists (70%), followed by Programme Coordinators/Heads (14%), Computer Programmers (10%), Programme Assistants (3%), and Farm Managers (3%). The majority of KVK staff had an annual income between 6-10 Lacs (68%), followed by above 10 Lacs and up to 5 Lacs (16% each). The study was validated by (*Aja et al*. 2024). 62 per cent of the staff had 6 to 15 years of work experience. The study was validated by (*Aja et al*. 2024). Moreover, 52 per cent of the staff had received

ICT training, 35 per cent had received other types of training, and 13 per cent had not received any training.

Table 1: Socio-Economic Profile of KVK Staff

(n=37)

Characteristics	Category	Frequency	Percentage
Age (Mean=41.16, SD=7.05)	Up to 34 years	07	19
	35 years to 47 years	24	65
	Above 48 years	06	16
Gender	Male	29	78
	Female	08	22
Caste Category	General	26	70
	OBC	09	25
	SC/ST	02	05
Education	Graduate	01	02
	Postgraduate	09	24
	Doctorate	27	74
Professional Positions	Programme Coordinator/Head	05	14
	Subject Matter Specialist	26	70
	Programme Assistant	01	03
	Farm Manager	01	03
	Computer Programmer	04	10
Annual Income (Mean=8.0, SD=3.0)	Up to 5 Lacs	06	16
	6 Lacs to 10 Lacs	25	68
	Above 10 Lacs	06	16
Work Experience (Mean=10.7, SD=5.6)	Low (up to 5 years)	07	19
	Medium (6 to 15 years)	23	62
	High (16 years & above)	07	19
Training	Received ICT Training	19	52
	Other Training received	13	35
	Not received any Training	05	13

2. Socio-economic profile of Farmers

Family, size of family, land holding, occupation, annual income, and social participation of farmers constitute the socioeconomic profile of the farmers. The findings related to this aspect of the study have been presented in Table 2. The majority (60%) of the farmers belonged to the age group of 31 to 47 years followed by up to 30 years (21%) and above 48 years (19%). This result was similar to the findings of (Singh *et al.* 2017) who reported that 58.33 per cent of the farmers were between the ages of 31 to 46 years. The majority (77%) of the farmers were male while (23%) of the farmers were female. Half of the

per cent (50%) of the farmers were from the scheduled caste and scheduled tribes (SC/ST) category followed by the other backward class (OBC) category (38%) and General Category (12%). The findings revealed that about one-third (31%) of the farmers had educational qualifications up to intermediate followed by high school (18%), Graduates (18%), Primary education (16%), Junior High School (14%) and only 3 per cent farmers were illiterate respectively. The Majority (46%) of the farmers had mixed houses followed by kaccha houses (44%) and pucca houses (10%). The majority (72%) of farmers were from a Joint family followed by the Nuclear family (28%). Nearly three-quarters (74%) of the farmers had a family size of more than 5 members while 26 per cent of the farmers had up to 5 family members size. A majority (35%) of respondents were marginal farmers followed by small farmers (28%), medium farmers 23 percent and large farmers (14%). This result was in line with the findings of (Singh *et al.* 2021). The majority (93%) of the farmers had farming as their main occupation followed by farming & Service (4%), farming & business (3%). This result was in line with the findings of (Singh *et al.* 2017). About half of the percent (50%) of the farmers had an annual income between 1 to 2 Lacs followed by below 1 Lacs (36%), while (14%) of the farmers had an annual income of Rs. 2 Lacs and above. A majority (48%) of the farmers had membership in one organization followed by 43 per cent members in more than one organization, office holders in an organization (7%) and wide public leaders (2%). This result was in line with the findings of (Nayak *et al.* 2021).

Table 2: Socio-economic profile of the Farmers **(n=175)**

Characteristics	Category	Frequency	Percentage
Age (Mean=39.27, SD=8.84)	Up to 30 years	37	21
	31 to 47 years	104	60
	Above 48 years	34	19
Gender	Male	135	77
	Female	40	23
Caste Category	General	21	12
	OBC	68	38
	SC/ST	86	50
Education	Illiterate	06	03
	Primary	27	16
	Junior High School	24	14
	10^{th}	31	18
	12^{th}	55	31
	Graduation	32	18
Housing Pattern	Kachcha House	76	44
	Mixed House	81	46

	Pacca House	18	10
Type of Family	Nuclear family	49	28
	Joint family	126	72
Size of Family	Small family (up to 5 members)	45	26
	Large family (more than 5 members)	130	74
Land Holding	Marginal farmers (up to 2.5 Acre)	61	35
	Small farmers (2.6 to 5.0 Acre)	49	28
	Medium farmers (5.1 to 7.5 Acre)	40	23
	Large farmers (Above 7.5 Acre)	25	14
Occupation	Farming	163	93
	Farming+Service	07	04
	Farming+Business	05	03
Annual family income	Below 1,00,000 Lacs	63	36
	1,00,000 to 2,00,000 Lacs	88	50
	Above 2,00,000 Lacs	24	14
Social Participation	Member of one organization	84	48
	Member of more than one organization	75	43
	Office holder in such organization	12	07
	Wider public leader	04	02

3. Utilization of ICT Tools by the Farmers

Table 3 shows that the majority of respondents spent more of their morning time on newspaper (51%), farm magazine (46%) and computer/laptop (35%). In the evening hours (4-8 pm), the majority of the respondents (74%) utilize mobile phones, while 71 per cent spend their time reading farm magazines and 69 per cent farmers listen to the radio. During the night segment, 57 per cent watched TV and 23 per cent listened to the radio.

Table 3:Segment of the day spent on different ICT Tools Utilization by the Farmers

n=175

S.No.	ICT Tools	Morning (6-12 Noon)	Afternoon (12-4 PM)	Evening (4-8 PM)	Night (After 8 PM)	Whenever required
1.	Radio (n=135)	27(20)	15(11)	93(69)	31(23)	23(17)
2.	TV (n=110)	07(06)	19(17)	44(40)	63(57)	10(09)
3.	Mobile (n=155)	26(17)	14(09)	115(74)	09(06)	36(23)
4.	Farm Magazine (n=90)	41(46)	26(29)	64(71)	09(10)	13(14)
5.	Newspaper (n=125)	64(51)	25(20)	36(29)	15(12)	43(34)
6.	Computer / Laptop and Internet (n=80)	28(35)	24(30)	32(40)	07(09)	20(25)

*Multiple responses were allowed

Note: The number given in parenthesis represents the percentage**.**

4. **Purpose of ICT Tools Utilization by the Farmers**

It is observed from Table 4 that computers/laptops, farm magazines and newspapers were used for information purposes by the majority of farmers (63, 61 and 60 per cent, respectively). For entertainment purposes, radio (48%) and TV (37%) were used, while farm magazines were used more for education purposes.

Table 4:Purpose of ICT Tools Utilization by the Farmers

n=175

S.No.	ICT Tools	News/Information		Entertainment		Education		Passing leisure time	
		F	%	F	%	F	%	F	%
1.	Radio (n=135)	45	33	65	48	20	15	05	04
2.	TV (n=110)	30	22	50	37	10	07	20	15
3.	Mobile (n=155)	65	42	45	29	30	19	15	10
4.	Farm Magazine (n=90)	55	61	00	00	25	28	10	11
5.	Newspaper (n=125)	75	60	20	16	25	20	05	04
6.	Computer / Laptop and Internet (n=80)	50	63	15	19	05	06	10	13

*Multiple responses were allowed

CONCLUSION

It was concluded from the study that the maximum numbers of KVK staff were in the middle age group with the highest level of qualification. The majority were Subject Matter Specialists having 6-15 years of work experience, 6-10 lacs of annual income and trained in Information and Communication Technology. This means that KVK staff are quite experienced and trained to use ICT tools for the transfer of technology. Concerning farmers findings of the study reveal that maximum numbers of farmers were in the productive age group. The majority of them were educated except 3 per cent of illiterate farmers. The joint family system is still prevalent in the study area. A majority (35%) of respondents were marginal farmers having annual incomes in the range of 1-2 lacs. They seem to be socially active as they were either member of one or more number of organisations. This means that they can be actively involved in the process of socio-economic upliftment. This study has highlighted the existing situation of availability, and utilization pattern of ICT tools as perceived by the registered and ICT-using farmers of Krishi Vigyan Kendras located in Central Uttar Pradesh. It was also concluded from the study that various ICT tools were available to the farmers. Radio and Television were used by the majority of the farmers for 1 to 2 hours per day. Other ICT tools were also used by the farmers. Evening was the most preferred time for the use of radio, television, mobile and farm magazines by the farmers whereas newspaper was used in morning hours by the respondents. Mobile, farm magazines, newspapers and the internet were mostly used for news and information whereas radio and television were used for entertainment.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

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