



Extension Activities applied for Transfer of Technologies among Farming Community of Lucknow district of Uttar Pradesh

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ABSTRACT

In India extension activities are important tools for dissemination of agricultural based technologies for increase the production productivity of a piece of land. This investigation was an attempt to study the impact of agricultural extension activities applied for transfer of technologies among farming community of Lucknow district of Uttar Pradesh. This study was conducted in five adopted villages of four blocks *i.e.* Gosaiganj, Mohanlalganj, Mall and Malihabad of Lucknow district. Total two hundred respondents were randomly selected @ ten respondents from each village. On the basis of their responses relative credibility index were calculated. In this study maximum respondents were in the age of 30-45 yr with approximately equal participation of male and female having land holding marginal to small with low income. The frequency of visit or contact at different agricultural agencies like KVK, FPOs, SHGs, input dealers, district agriculture officials, NGOs, block level agriculture department and village panchayat members were evaluated and ranked. The maximum visits 93.5 per cent was at KVK which denotes that the respondents ranked it first among different agricultural agencies, those were working for knowledge up-gradation. Majority of farmers participated in farmers fair (80.5%) albeit relative credibility index was found highest for demonstration activity *i.e.*, 1.14. It means demonstrations were most effective method of transfer of technologies.

Key Words: Analysis Credibility, Extension, Farming, Socio-economic status, Technology, Transfer.

INTRODUCTION

Agriculture plays a vital role in the process of socio-economic development. In India, agriculture is the primary source of livelihood for about 58 per cent of the population (IBEF, 2021) and approximately 70 per cent of the rural households depend on agriculture only. The agricultural industry plays a significant part in the Indian economy, accounting for around 20% of Gross Domestic product (GDP). Around 62 percent of India's population is reliant on it for survival (Gupta and Nagar, 2017). Agriculture is a crucial sector of Indian economy as it contributes about 20.19 percent of GDP (DAC&FW Annual Report, 2020-21). Early in the history, agriculture was done for the domestic purpose only, as the time passed on new technologies and developments were made to enhance the crop production and people started

earning from agriculture too. (Bhatt *et al*, 2019). In India, UP is a significant contributor to the food security of the nation. About 28% of India's wheat and 12% of rice is produced by the state. Sugarcane is also produced in large quantities, accounting for 44% of the country's total production. However, farm distress is prevalent in the state. Given the enormous size of the state, its four regions namely - Western region, Eastern region, Central region and Bundelkhand-will be studied in this paper. There are large variations in the agricultural performance in these regions of the state. Western Uttar Pradesh is the most progressive region in terms of its contribution to value of output from agriculture and allied activities, while Bundelkhand lags far behind (Gulati *et al*, 2021).

Agricultural Extension is the basis of the transfer of agricultural technologies to farmers and

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Table 1. Socio-economic characteristics of the respondents.

(N=200)

Sr. No.	Personal characteristic	Frequency	Percentage
A.	Age		
1.	Young Age (18-30yr)	56	28.0
2.	Middle Age (30-45 yr)	99	29.5
3.	Old Age (>45 yr)	45	22.5
B.	Educational qualification		
4.	Illiterate	6	03.0
5.	Can read only	3	01.5
6.	Can read and write	9	04.5
7.	Up to primary	13	06.5
8.	Middle	28	14.0
9.	High School	42	21.0
10.	Higher Secondary	63	31.5
11.	Graduate and above	36	18.0
C.	Family size		
12.	Small (1-4)	110	55.0
13.	Medium (5-8)	67	33.5
14.	Large(>8)	23	11.5
D.	Land holding		
15.	Land less (No Land)	36	18.0
16.	Marginal (Up to 1.0ha)	72	36.0
17.	Small (1-2 ha)	69	34.5
18.	Medium (2-4ha)	18	09.0
19.	Large (above 4 ha.)	05	02.5
E.	Annual income		
20.	Low (up to Rs. 60000/-)	94	47.0
21.	Medium(Rs. 60000/- to 1,50000/-)	86	43.0
22.	High (Rs. 1,50000/- and above)	20	10.0
F.	Social participation		
23.	Low social participation	78	39.0
24.	Medium social participation	72	36.0
25.	High social participation	50	25.0
G.	Risk orientation		
26.	Low (score upto 15)	86	43.0
27.	Medium(score 16-25)	78	39.0
28.	High (score 26 and above)	36	18.0
H.	Decision maker of the family		
29.	Men	81	40.5
30.	Women	22	11.0
31.	Together	97	48.5

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Table2. Frequency of farmers of Lucknow district in contact with agriculture extension agencies for knowledge upgrade. (N=200)

Sr. No.	Agricultural Extension Agencies	Frequency (%)					Total visited	Rank
		Regularly	Most often	Some-times	Never			
1.	Krishi Vigyan Kendra (KVK)	45 (22.5)	30 (15.0)	46 (23.0)	66 (33.0)	187 (93.5)	I	
2.	Block level agriculture department unit	31 (15.5)	40 (20.0)	41 (20.5)	73 (36.5)	185 (92.5)	II	
3.	Input dealer	34 (17.0)	52 (26.0)	38 (19.0)	56 (23.0)	180 (90.0)	III	
4.	District Agriculture officials	28 (14.0)	38 (19.0)	49 (24.5)	63 (31.5)	178 (88.5)	IV	
5.	Village Panchayat members	72 (36.0)	46 (23.0)	35 (17.5)	22 (11.0)	175 (87.5)	V	
6.	Farmer Producer Organization (FPO)	29 (14.5)	32 (16.0)	47 (23.5)	56 (28.0)	164 (82.0)	VI	
7.	Self Help Group (SHG)	29 (14.5)	48 (24.0)	52 (26.0)	31 (15.5)	160 (80.0)	VII	
8.	Non-government organization (NGO)	11 (5.5)	23 (11.5)	28 (14.0)	79 (39.5)	141 (70.5)	VIII	

to persuade farmers to adopt those agricultural techniques. (Altalb *et al*, 2015). Thus, a vigilant study of the socio-economic status of Lucknow district farmers is a prerequisite and need of the hour for the legitimate design and well-tuned execution of any development plan at field level. Therefore, the present study was undertaken with the objective to assess the socio-economic status of farmers and their approach to extension personnel for gather the information of different extension tools used in transfer of technologies.

MATERIALS AND METHODS

Impact analysis of extension activities for transfer of technology were carried out by Krishi Vigyan Kendra, ICAR-Indian Institute of Sugarcane Research, Lucknow. This study was on the basis of randomly scrutinized two hundred farmers for interview from five villages from four blocks of Lucknow district. A well-structured pre-tested interview schedule was used for collection of data. The information on socioeconomic status

and extension intervention was collected through this personnel interview, observation and available secondary resources. Socio-economic information comprises educational status, age, land holding, annual income, social participation, risk orientation and decision making. Information regarding extension interventions *viz.*, demonstrations, trainings, awareness programs, field days and farmers fair was also collected. Credibility index was calculated, out of given source of information. The respondents were asked to indicate only the most and least credible activity. The relative credibility index was worked out with the following formula (Sandhu, 1973).

$$\text{Relative credibility index} = (X/Y) \times (100/N)$$

X= Number of respondents, who believed a source most credible,

Y= Number of respondent, who believed a source least credible,

N= Total number of respondents

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Table 3. Involvement of respondents in transfer of technology activities of agriculture. (N=200)

Extension activities	Age group of farmers (% of respondent)			
	18-30 years	30-45 years	>45 years	Total
Demonstration	22(11.0)	38(19.0)	78(39.0)	138(69.0)
Field day	17(8.5)	29(14.5)	63(31.5)	109(54.5)
Awareness program	20(10.0)	18(9.0)	56(28.0)	94(47.0)
Farmers' fair	45(22.5)	48(24.0)	68(39.0)	161(80.5)
Training program	32(16.0)	41(20.5)	59(29.5)	132(66.0)
Average of participants	27.2(13.6)	34.8(17.4)	64.8(32.4)	126.8(63.4)

RESULTS AND DISCUSSION

Agricultural extension activities like demonstrations, trainings, field days, awareness programme, farmers fairs *etc.* were very important tools for dissemination of technologies among farmers and extension personnel *i.e.* ultimately helpful for adoption and improvement of socioeconomic status of farmers through particular crop or technology in particular region. These studies were conducted in year 2020-21 on two hundred randomized selected farmers of four blocks *i.e.* Gosaiganj, Mohanlalganj, Mall and Malihabad. In this survey all age group respondent were selected in approximately equal ratio. Where maximum respondents *i.e.* 29.5 per cent were 30-45 years age group followed by young age (18-30 yr) 28 per cent and old age(>45 years) were 22.5 percent. This was due to maximum involvement of middle age farmers in agriculture in comparison to other two age groups. Educational qualifications were also an important characteristic because on that basis person may response properly. In this criteria out of 200 respondents, 63 respondents belong to higher secondary passed and followed by 42 (high school), 36 (Graduate), 36 (middle), 13 (up to primary), 9 (can read and write), 3 (can read only) and 6 were illiterate. The family size of 200 respondent were small (110), medium (67) and large (23). In land holding of 200 respondents, maximum number are 72 marginal farmers followed by small, land less, medium and large. Three other characteristic *i.e.* annual income, social participation and risk orientation were having same trends means income

was major factor to follow the social participation and risk orientation also. Low annual income of respondent showed low social participation and low risk orientation vice versa. Another important factor *i.e.*, decision maker of the family. This study also resulted that in Indian family together (men and women) decision were more valuable as compared to single one (men or women).

In Lucknow district farmers contact to Krishi Vigyan Kendra, District agriculture officials, block level agriculture department units, farmers producer organizations, input dealers, self-help groups, non-government organizations and village panchayat members *etc.* for knowledge and agriculture schemes. In this study frequency of visit or contact at different agriculture agencies were evaluated and ranked. The maximum visits 93.5 percent were at KVK means respondents ranked it first. This was due to farmer's satisfaction, best knowledge, easy to approach regarding his all agriculture based queries. The block level agriculture department unit ranked second because officials only told about schemes mainly and for agriculture knowledge like pesticides use, doses, crop variety, fertilizer doses *etc.* block level officials also dependent on KVK. In this ranking, input dealers ranked third because these were more in number and more than hundred input dealers and their subsidiary branches found in each block of Lucknow district. To pesticides as well as fertilizers farmers contact to input dealers so they also want to solve their quires from him. Maximum farmers want to solve their quires from reliable sources like KVK and other government

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Table 4. Relative credibility of agricultural extension activities for transfer of technology. (N=200)

Extension activities	Relative credibility			
	High(Score)	Low(Score)	Relative credibility index	Rank
Demonstration	96	42	1.14	I
Field day	55	39	0.71	III
Awareness program	63	46	0.68	IV
Farmers fair	68	93	0.37	V
Training program	87	45	0.97	II

agencies but land less and help less farmers contact to input dealers. Respondent farmers of survey ranked fourth to district agriculture officials because farmers feel that officials do not meet regularly means only twenty eight percent regular visits and interaction with farmers were found. In this continuation village panchayat members ranked fifth conveying farmers dependency on agricultural knowledge. Because these government servant were not more educated and also had not proper knowledge about agriculture. The farmer producer organizations (FPOs), self-help groups (SHGs) and non-government organizations (NGOs) were also part of survey as an agriculture extension agencies because, now days these agencies also an important part of agriculture extension. In overall ranking FPO ranked sixth followed by SHGs and NGOs. Among these three agencies FPO were more important because a FPO is an association of minimum three hundred farmers. They directly linked to each other. Obviously they discussed and took the solution of his problem easily.

In table 3 involvement of respondents in transfer of technologies through demonstrations, training programs, field day, farmers fair and awareness programs in Lucknow district. Out of two hundred respondents, maximum respondents belong to more than 45 years grouping *i.e.* 32.4 per cent followed by 30-45 yr and 18-30 years age group. In the group of more than 45 years ranked highest to demonstration followed by farmer's fair, training programs, field day and awareness programs, while 30-45 years age group realized farmers fair were more effective in transfer of technology tools in comparison to

training programs, demonstrations, field day and awareness programs. The last group *i.e.*, 18-30 yr respondents also ranked as 30-45 years age group.

On the basis of above said results relative credibility of agriculture extension activities used for transfer of technology were ranked and found demonstration ranked first with relative credibility index 1.14. It means demonstrations were most effective method of transfer of technologies. Demonstrations had full package and practices along with farmer's involvements. This process were based on learning by doing and seeing by believing. Training programs had second rank because farmers realized that training program were also a best way of transfer of technology, which were helpful in improve production and productivity of different crops. Field days were also an important transfer of technology tools, where farmers knew about impact of particular technology. So, it was ranked third. Awareness programs were also an important factor, which ranked fourth because in this activity large number of farmers involved and practical aspect was lacking in this activity. So, it was not more effective way of transfer of technology. The same results were found in farmer's fair activity. It was larger group. So, it was least ranked. This study revealed that KVK were best agency of Lucknow district for transfer of technologies. The involved respondents of above forty-five years were more sincere because they had feel more responsibility than other age group. Demonstration and training were most effective way of transfer of technology, which were main mandate of KVK.

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CONCLUSION

The study revealed that due to hard work and risk factor in agriculture youth was less interested in agriculture and shift towards other allied business and service activities. Although they are having experimental nature and very keen to learn new things about scientific farming practices, easy loan, credit facility and marketing linkages may be developed for their faith in the agriculture related entrepreneurial ventures. Additionally, result oriented demonstration procedures would enhance the intellectuality regarding agriculture and would bring about some change in the attitude of rural youths. Therefore, extension services should be more focused on skill development training and demonstrations of advanced proven technologies at farmers' field.

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