

Communication Mechanisms of Extension Personnel for Acquisition of Farm Technology in Rajasthan

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ABSTRACT

The study was confined to purposely selected Sikar and Jaipur districts of agro climatic zone IIa and IIIa of Rajasthan, respectively. For the purpose 39 respondents comprises all officers working in these randomly selected offices were taken. The extension personnel also maintained linkages through modes and sources for acquisition of farm technology. Majority of respondents possessed M.Sc. (Ag.) degree, had 5 years of service experience on present position, rural family background, had farming as parental occupation, attended more than two training courses, had low to medium level of job satisfaction, less to moderate level of job commitment and low to medium level of communication facilities. While, the most used sources were RAU Bikaner / DEE followed by state department of agriculture for the acquisition of farm technology. For acquisition of farm technology only two variables namely trainings attended and job commitment had positive and significant association in correlation analysis. The multiple regression analysis between communication linkage mechanism of extension personnel for acquisition of farm technology and independent variables revealed that 42.38 percent variation could be explained by them. However, only job commitment variable was found to exhibit significant regression coefficient towards their communication linkage mechanism for acquisition of farm technology. It can be summarized that poor infrastructure facilities and lack of need based appropriate researches on different aspects in integrated manner were perceived by majority of extension personnel for maintaining the linkage with other systems. Extension personal opined that feasible recommendations need based programmes than target oriented one with provision for incentives and rewards could be the measures for strengthening the linkage mechanism.

Key words: Communication linkage mechanisms; Agricultural extension system; Modes; Farm technology;

Indian agriculture is known for its multifunctionalities of providing employment, livelihood, and food, nutritional and ecological securities. Agriculture and allied activities contribute 29.1 percent to the GDP and employs 69 percent of the total work force (Singh, 2002). It has been central to all strategies and planning for the socio-economic development of the country. A rapid growth in the agricultural sector is essential not only to achieve self reliance at the national level but also to the household food security and most importantly to bring about equity in distribution of income and wealth. Since independence, the productivity and production has gone up. It has been successful in keeping pace with the rising food demand of growing population. Significantly the extension had played its role untiringly

in transfer of production technologies from lab to land besides the agricultural scientists, farmers and market net work.

Transfer of farm worthy technology is vital for harnessing the fruits of research and thereby improves socio-economic condition of down trodden people. India has witnessed and experienced many changes in the approach before independence and after independence for rural development in general and agricultural development in particular. Extension was treated essentially as a good, and the focus has been on facilitating the reach of extension to all parts of country through more staff and programs. Extension paradigms have been changing globally during the last fifty years (Sulaiman, 2003).

Agricultural development is continuous and dynamic process. It emphasized that Agricultural Knowledge and Information System (AKIS) must operate with synergy, having two way flow between research, extension and clientele subsystems. There should be linkage particularly between the technology generation and technology dissemination system.

India has well developed public extension system. Strong organizational linkages have been established between the state department of agriculture and the research systems of SAUs and line departments etc., in coordinated state research and extension services. The combined efforts of agricultural scientists, extension personnel and adoption by farmers have paved the way of agricultural development in the country. The key to success story of India and in particular of Rajasthan in agricultural sector is the integration of generation of farm technologies by farm scientists, transfer through extension personnel for the adoption by farmers' i.e. ultimate users. It is well established fact that the information and its spread have immense importance in the highly competitive word. Linkages are important tools of management and vehicles for coordination and communication.

Extension personnel act as a link between researchers and farmers. They are envisaged to provide feedback of problems to researchers as a input and researchers pass on the solutions of farmers problems as output via extension personnel. Extension personnel use various communication sources, channels and mechanisms for acquiescing of farm technology and transfer to farmers. After generation of farm technology by the research system, it is the responsibility of extension system to disseminate and persuade about the farm technology to client system for adoption. Here, extension system plays a crucial role. Keeping in focus the above facts in transfer of technology, the study was undertaken with the following specific objectives:

- (i) To study the profile of extension personnel
- (ii) To study the communication linkages used by extension personnel for acquisition of farm technology
- (iii) To find out the association of extension personnel's independent variables with communication linkage mechanism used for acquiescing of farm technology
- (iv) To study the extension personnel's personal and institutional problems with research as well as client system

- (v) To find out the suggestion of extension personnel to improve the existing communication linkage mechanism

METHODOLOGY

The offices of Joint Director (Ag.Ext.), Jaipur division, Jaipur, Deputy Director (Ag. Ext.) Jaipur and Sikar were taken purposely. Besides, one sub-divisional Agricultural Extension Office from both districts was taken randomly. Further, one Assistant Agriculture Officer and Agricultural Supervisor circle selected randomly from both selected sub-divisional agricultural extension offices. In addition to these offices, three K.V.Ks operating in Jaipur and Sikar district were also taken purposely. Thus, this category of respondents comprises all officers working in these selected offices for transfer of technology.

On the basis of past researches and importance of respective variable in the context of the study, 8 variables were taken for extension personnel. The relevant scales already developed were adopted to measure relationship of specific variables with slight modifications and suitable schedules / questionnaires were developed following scientific procedures for both independent and dependent variables keeping in view the objectives of the study. Data were collected with the help of well structured questionnaire and interview schedules. The system analysis approach was adopted assuming that systems under study were structurally static at the time of investigation and communication functions were going on. The data were analyzed by using suitable statistical techniques such as frequencies, percentage, total choice scores, standard deviation, zero order correlation, multiple regression analysis.

RESULTS AND DISCUSSION

Profile of Extension Personnel: It is apparent from Table 1 that majority of respondents (66.67%) possessed M.Sc.(Ag.) degree whereas only few were having B.Sc.(Ag.) (17.95%) and Ph.D.(Ag.) (15.38%) degree as their educational qualification. Regarding job experience majority of respondents had less than 5 years of service experience on previous post (53.84%) and more than 5 years of service experience on present position (71.79%). There were about three fourth respondents (74.36%) who belonged to rural family background, half of respondents (53.85%) had farming as parental occupation and majority of respondents (79.49%) attended more than two training courses.

Table 1. Profile of extension personnel (N = 39)

Variables	Levels	No.	%
Education	B.Sc. (Ag.)	7	17.95
	M.Sc. (Ag.)	26	66.67
	Ph.D. (Ag.)	6	15.38
Experience (Past)	No experience	15	38.46
	1-5 years	6	15.38
	6-10 years	5	12.83
	>10 years	13	33.33
Experience (Present)	1-5 years	11	28.21
	6-10 years	24	61.53
	>10 years	4	10.26
Family background	Rural	29	74.36
	Urban	4	10.26
	Ru-urban	6	15.38
Parental Occupation	Farming	21	53.85
	Service	10	25.64
	Business	3	07.69
	Service+Farming	5	12.82
Training attended	One	8	20.51
	Two	12	30.77
	Three	9	23.08
	>Three	10	25.64
Job satisfaction	Low (36-43)	7	17.95
	Medium (44-53)	26	66.67
	High (54-56)	6	15.38
Job commitment	Less (20-27)	6	15.38
	Moderate (28-41)	25	64.10
	High (42-48)	8	20.51
Communication facilities	Low (10-22)	6	15.38
	Medium (23-39)	27	69.23
	High (40-44)	6	15.38

Besides, majority of respondents had low to medium level of job satisfaction (84.62%), less to moderate level of job commitment (79.48%) and low to medium level of communication facilities (84.61%).

Differential use frequency of modes and sources by extension personnel for acquisition of farm technology: The data regarding this aspect is presented in Table 2 and it is apparent that extension personnel mostly used modes like package of practices booklet, staff meeting, leaflets, pamphlets and folders, trainings, scientists of agricultural university, specialists of department of agriculture / S.M.S. agricultural university and demonstration in the order of preference for acquisition of farm technology. While the least used modes were agro industries, films / telecasts, salesman of fertilizers, chemicals, radio/farm broadcasts, research journals and personal correspondence with researchers for the acquisition of farm technology.

It is also apparent from Table 2 that the mostly used sources were RAU, Bikaner / DEE followed by

Table 2. Differential use frequency of modes and sources by extension personnel for acquisition of farm technology

Modes and sources	Total score	Rank order
<i>Modes</i>		
Radio/Farm broadcasts	54	XIX
Package of practices booklet	101	I
Leaflets, pamphlets & folders	91	III
Magazines	72	XI
Newspapers	71	XII
Specialists of dept. of Ag./SMS Ag.Univ.	88	V
Staff meeting	92	II
Trainings	91	III
Professional journals/extension journals	65	XIV
Films/Telecasts etc	49	XXI
Kisan mela	77	IX
Farm demonstrations	82	VII
Field days	81	VIII
Departmental circulars	64	XV
Fellow extension personnel	60	XVI
Senior extension personnel	74	XI
Salesman of fertilizers chemicals etc	53	XX
Scientists of Agril. Univ.	89	IV
Progressive farmers	75	X
Agro industries	43	XXII
Research journals	56	XVIII
Demonstrations	83	VI
Personal visits to researchers	67	XIII
Personal correspondence with	58	XVII
Seminars/Conferences/Workshops	71	XII
<i>Sources</i>		
RAU, Bikaner / DEE	92	I
State Deptt. Of Ag.	91	II
State Agro-Ind./Pvt.Firms	50	IV
Voluntary organizations	51	III
Any other professional extension Org.	47	V

state department of agriculture for the acquisition of farm technology. The sources like voluntary organisations, state agro industries / private firms of insecticides / pesticides and other professional / extension organizations were among the least used sources for the acquisition of farm technology. On the basis of above findings, it is concluded that extension personnel mostly used the modes and sources which were according to established existing communication mechanism for acquisition of farm technology. These findings are supported with the past researches of Kaushik (2002) and Singh et al. (2003).

Association of extension personnel's independent variables with communication linkage mechanism used for acquisition of farm technology: The data in Table 3 revealed that only two variables viz; trainings attended and job commitment exhibited positive and

Table 3. Correlation and multiple regression analysis of extension personnel's independent variables with communication linkages used for acquisition of farm technology

Independent variables	Correlation coefficient ('r' value)	Regression coefficient ('b' value)	Standard error	't' values
Education	-0.06808	-7.31838	8.51965	0.859
Job experience	0.12266	-0.24563	0.49126	0.500
Family background	0.08257	0.44903	7.12746	0.063
Parental occupation	0.04602	2.72364	4.255688	0.640
Trainings attended	0.32720*	4.14723	2.85033	1.455
Job satisfaction	0.29544	0.23264	1.11311	0.209
Communication facilities	0.27937	0.69769	0.722246	0.966
Job commitment	0.50640**	2.03522	0.846245	2.405*

$R^2 = 0.4238097$

$F = 2.758266^*$

*Significant at 1% level of probability

*Significant at 5% level of probability

significant association with communication linkage mechanism used for acquisition of farm technology. Thus, the null hypotheses are partially rejected. However, non significant relationship with their education, job experience, family background, parental occupation, job satisfaction and communication facilities was established with communication linkage mechanism. Moreover, education has shown negative trend for acquisition of technology. It implies that extension personnel with higher education have lower linkage mechanism for acquisition of farm technology. This seems to be illogical but this may possibly because of the reasons that those who have higher education and more experience may aspire for better job and also may consider them misfit for extension work.

The positive and significant association between trainings attended and job commitment and communication linkage mechanism of extension personnel for acquisition of farm technology suggests that extension personnel who have attended more number of training programmes and committed to job activities have made greater use of linkage mechanism for acquisition of farm technology. The findings of *Sharma and Singh (2001)* also reported significant relationship with communication behaviour of extension personnel.

The Table 3 shows that amount of variation in communication linkage mechanism used for acquisition of farm technology was jointly explained by eight variables to the extent of 42.38 per cent. The calculated F-value of 2.758266 (8 and 30 d.f.) was found to be significant. The regression coefficient of job

commitment contributed significantly to total variation in communication linkage mechanism.

Extension personnel's personal and institutional problems with research as well as client system: The data in Table 4 revealed that cent per cent extension personnel viewed poor infrastructural facilities like vehicle, housing, funds, staff, inputs, communication facilities etc. as major problem and ranked I in their rank order followed by lack of need based

appropriate researches on different aspects in integrated manner (92.31%); lack of clear cut need based policy and programmes (84.62%) and ranked II and III in their rank order respectively. The other confronted problems like large area to cover (73.49%), more office work than technical (79.49%), poor policy support for marketing, subsidy, electricity, PHT handling etc (71.79%), lack of co-ordination among various units and

Table 4. Extension personnel and institutional problems in maintaining proper linkages with research as well as client system (N=39)

Nature of Problem	No.	%	Rank
More office work than technical	31	79.49	IV
Lack of commitment, missionary zeal and incentives	11	28.21	XII
Poor facilities like vehicle, housing, funds, staff, inputs, communication facilities etc.	39	100.00	I
Lack of co-ordination among various units	27	69.23	VI
Lack of need based, appropriate researches on different aspects in integrated manner	36	92.31	II
Large area to cover	31	79.49	IV
Lack of proper execution of existing interaction mechanisms	9	23.08	XIII
Poor policy support for marketing, subsidy, electricity, PHT handling etc	28	71.79	V
Poor economy, literacy, risk bearing and customary nature of farmers	22	56.41	VII
Competition of private sector	14	35.90	XI
Highly opinionated political interference	20	51.28	VIII
Lack of clear cut need based policy and programmes	33	84.62	III
Poor follow up of programmes	17	43.59	X
Lack of proper and effective execution of existing interaction mechanisms	18	46.15	IX

ranking was done as IV, IV, V and VI respectively. Likewise, the least important problems were lack of proper execution of existing interaction mechanisms (23.08%), lack of commitment, missionary zeal and incentives (28.21%) competition of private sector (35.90%) and poor follow up of programmes (43.59%) as perceived by them.

From the above description it may be deduced that poor infrastructural facilities and lack of need based appropriate researches had emerged as the most important problems confronted by extension personnel. The probable reasons for lower linkage might be due to reduction in budget outlays, more number of felt need of farmers in broad based area, hazy demarcation of programmes and over burdened of extension personnel.

The researches of *Sharma and Sharma (2002)*, and *Popat et al. (2002)* who also reported the more or less similar findings.

Suggestions of extension personnel:

- i. The extension system should plan need based programmes than target oriented for better utilization of resources in effective manner.
- ii. Policy support by government for more budget and marketing of farm produce should be extended.
- iii. Infrastructural support like staff, budget, inputs, housing and communication facilities etc should be provided.
- iv. There should be less paper work and more technical work for effective manpower management.
- v. Master trainers should be persuaded to use method demonstration while organizing lessons for extension functionaries.

- vi. There should effective quality control and timely management of inputs.
- vii. It is needed to reorient the extension system in accordance to demand of the day.
- viii. Research system should provide feasible recommendations for different farming systems.
- ix. There should be provision for incentives and reward for motivation of field functionaries.
- x. For timely and regular dissemination of reliable farm information mass media be appropriately mobilized.
- xi. Emphasis be given to better human resource management.

CONCLUSION

The extension personnel maintained linkages through modes and sources for acquisition of farm technology. Presently it was observed that the monthly workshops, diagnostic team visit, joint visits and field surveys were conducted in routinized way and it looses the confidence of extension personnel. Majority of the extension personnel had low to medium level of job satisfaction, communication facilities and job commitment. Therefore, it is needed urgent attention to improve on the related aspects for better mobilizing of the linkage activities along with higher human resource management. Transfer of technology through extension system was mostly target oriented with little competence of the extension personnel. It should be planned and executed on need based priorities of farmers with the objective to reorient the system.

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REFERENCES

- Kaushik, S. (2002). Communicational linkages in rural energy programme : A system approach. *Raj. J. Ext. Edu.*, **10** : 93-98.
- Popat, M.N.; Bhatt, M.R. and Patel, A.C. (2002). Constraints felt by subject matter specialists in job performance. *Indian J. of Ext. Edu.*, **38** (3&4) : 203-206.
- Sharma, R. and Sharma, S.K. (2002). Constraints faced by extension personnel in effective implementation of Kisan Mandals and Kisan Seva Kendra. *Raj. J. Extn. Edu.*, **10** : 134-137.
- Sharma, N. and Singh, S.P. (2001). Job satisfaction among the extension personnel of Rajasthan. *Indian J. of Ext. Edu.*, **37** (3&4) : 206-208.
- Singh, P. (2002). Realising an agricultural dream. *The Hindu* : Survey of Indian Agriculture, pp. 15-21.
- Singh, B.; Narwal, R.S. and Malik, J.S. (2003). Communication sources used by extension personnel and farmers. *Indian J. of Ext. Edu.*, **39** (1&2) : 26-30.
- Sulaiman, R.V. (2003). Restructuring agricultural extension in India. In - Institutional change in Indian agriculture (eds. Suresh Pal, Mruthyunjaya, P.K. Joshi and Raka Saxena). National Centre for Agricultural Economics and Policy Research, New Delhi : 228 - 254.