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EFFECT OF DECENTRALIZATION ON LINKAGE AMONG RESEARCH, EXTENSION AND FARMING COMMUNITY

Ijaz Ashraf, Sher Muhammad and Khalid Mahmood Chaudhry
Department of Agricultural Extension, University of Agriculture, Faisalabad

Research, extension and farmers are three main pillars of agriculture system and their effectiveness largely depends on strong linkage among each other. However, the existing research-extension-farmer relationship has not been effective in many parts of the developing world. The linkage problems thus cause disruptions in technology flow and lead to low adoption rates, increased time lags between development and adoption of new technology, reduced efficiency in the use of resources, unnecessary competition and duplication of efforts, and increased cost of agricultural research and extension activities. The present paper aims to asses the effect of decentralization on linkage among research, extension and farming community. The population of the study consisted of change agents and their supervisory staff working in Faisalabad district. The data were collected by using "survey" method. Majority (66.86%) of the respondents perceived the linkages between research and extension between average and strong categories. Majority (58.89%) of the respondents indicated under decentralized system that the extension had strong linkage with farming community. About one-fourth respondents were of the view that decentralized extension had no effect while 17.17% indicated negative effect of decentralization on linkage between research and extension. A good number (37.42%) of the respondents indicated no effect of decentralization on linkages between research and farming community. A majority (76.07%) of the respondents pointed out that the flow of information from extension to farming community has improved due to decentralization.

Keywords: Decentralized extension system, research-extension-farmers linkage

INTRODUCTION

Research, extension and farmers are three main pillars of agriculture system and they are complementary and independent upon eachother. Their effectiveness largely depends on strong linkage among each other. Neither research nor extension alone can fulfill its responsibilities effectively: hence, strong interaction and effective collaboration among all the stakeholders are essentially needed to achieve the common objective of increasing agricultural production and uplift the living standard of the rural poor. The relationship between farmers, community groups, researchers and extension personnel is imperative to the success of future agricultural development. All these segments have played a significant role in the development and progress of rural development. In order to develop relevant agricultural technology which can be practically applied and which will contribute to the improved production linkages between these three pillars must be strengthen. Because agriculture extension is a two-way channel that brings farmers' problems to scientist and then provide scientific information from scientist to villagers and then takes their problems back to scientist. Singh (2002) mentioned that integration is likely to be effective if both research and extension should share a common overarching goal and sense of mission, feel that they depend on each other and work as partners not as competitors. This needs a complete departure from top-down to bottom-up and from transfer of technology (TOT) to extension education based on demand-driven and market-driven information.

However, this integration among people and institutions, particularly in the research-extension-farmer relationship, has not been successful in many parts of the developing world (Nawab, 1994). Asopa and Beye (1997) revealed that in the absence of effective linkage, researchers do not receive enough information about the environment and resource constraints under which farmers are operating. This is an important piece of information for research institutions when setting their priorities and goals. Also, extension agents do not receive the necessary information and cooperation they need from researchers to adapt and then disseminate new technology. Public sector-dominated agriculture research and extension programs, were largely ineffective, had overlapping functions, and did not fully serve the small farmers. Public sector-dominated agriculture research and extension programs in Pakistan, were largely ineffective, had overlapping functions, and did not fully serve the small farmers (Chaudhry, 2007). The linkage problems in Pakistan thus cause disruptions in technology flow and lead to low adoption rates, increased time lags between development and adoption of new technology, reduce efficiency in the use of resources, unnecessary

competition and duplication of efforts, and increase cost of agricultural research and extension activities (Khushk and Memon, 2004). One major cause of inefficient technology generation and transfer systems in Africa was the poor linkages between research and its clients, namely extension services and farmers (Eponou, 1994).

MATERIAL AND METHODS

The population of the study consisted of change agents and their supervisory staff working in Faisalabad district. It was decided to take all the EFS in the selected five tehsils. There were 19 Agricultural Officer (AOs) and seven supervisory staff of AOs. Thus, there were 26 organizational staff members comprising AOs and their supervisory officers. The organizational setup at the district level was as; EDO (Executive District Officer) 1; DOA (District Officer Agriculture) 1; DDAOs (Deputy District Officers) 5; AOs (Agriculture Officers) 19 and FAs (Field Assistants 137. The data were collected by using "survey" method. The initial drafts were shown to the experts in the Department of Agricultural Extension, University Agriculture Faisalabad for their comments and suggestions. After making necessary amendments the researcher proceeded to the study area for pre-testing. Field workers of tehsil "Toba Tek Singh" (one of adjacent tehsil of the study area) were selected for pre-testing the instrument. For obtaining valuable data, the researcher thought to check the validity of the data collection instrument. For this purpose one Associate Professor, two Assistant Professors and one Lecturer in the Division of Education and Extension, UAF, were requested to look critically into the instrument. Each of them was provided instruments along with objectives of the study. They guided and suggested few points for the improvement of the instruments. The researcher incorporated the mutually agreed points in the instruments.

RESULTS AND DISCUSSION

The extension service cannot function singly without an effective research service. These two are therefore, complementary in their role (Kandie, 1991). It is necessary to understand the nature of linkages within the present system, and their roles in speedy transfer of technology. Therefore, field extension workers were asked about the present linkage between research, extension and farming community. The data given in Table 1 show that majority (66.86%) of the respondents perceived the linkages between research and extension between average and strong categories. Only few respondents (8.58%) indicated that the existing linkage was very strong and very weak between research and extension. Few (10.42%) respondents regarded the linkage of research with extension as weak.

The EFS were also asked about the existing linkage between extension and farming community. The data presented in the Table 1 show that majority (58.89%) of the respondents indicated that the extension had strong linkage with farming community. Moreover, only few of the respondents mentioned that extension had very weak (2.45%) and weak (1.84%) linkages with farming community. Some of the respondents indicated that extension had average (14.72%) and very strong linkages (22.08%).

Research institutions need to develop greater capacity to facilitate effective interaction between researchers, technology transfer workers and resource-poor farmers (Merrill-Sands & Kaimowitz, 1994). Therefore, respondents were also asked about linkages between research and farming community. Although, it seems ridiculous to ask from the extensionist about the linkage between research and farming community. But researchers from public sector organization are also responsible to conduct research on farmers' fields and the responsibility of EFS is to provide necessary guideline to researchers. Only few respondents pointed out that very strong (4.29%) and a strong (11.65%) linkage between research and farming community existed. About 10 and 23.92% of the respondents regarded the linkage between research and farming community as very weak and weak respectively. Most (28.83%) of the respondents indicated the existence of average linkage between research and farming community.

Effect of decentralization on the linkage between, research, extension and farming community

The respondents were asked about the effect of the decentralization on linkages between research, extension and farming community and the data are presented in Table 2. The data show that majority (53.98%) of the respondents pointed out that decentralization had positive effect on linkages between research and extension. However, few of the respondents indicated negative effect (17.17%) and no effect (25.76%) on linkages between research and extension. The majority (68.09%) of the respondents indicated positive effect of decentralization on linkages between extension and farming community. Only some of the respondents highlighted that the decentralization had negative (6.74%) and no effect (21.47%) on the linkages. The respondents were further asked about

Table 1. Rating of the respondents about the existing linkage between research, extension and farming community

Scale: 1 = V. Weak 2 = Weak 3 = Average 4 = Strong 5 = V. Strong X = No Response

Linkages	1		2		3		4		5	
	No.	%	No.	%	No.	%	No.	%	No.	%
Research and extension	14	8.58	17	10.42	59	36.19	50	30.67	14	8.58
Extension and farming community	4	2.45	3	1.84	24	14.72	96	58.89	36	22.08
Research and farming community	16	9.81	39	23.92	47	28.83	19	11.65	7	4.29

* 1st and 2nd rows counts are not 100% due to non-response of some respondents

Table 2. Respondents' views about the effect of decentralization on the linkage between research, extension and farming community

Scale: 1 = Positive 2 = Negative 3 = No Effect X = No response

Linkages	1		2		3		X	
	No.	%	No.	%	No.	%	No.	%
Research and extension	88	53.98	28	17.17	42	25.76	5	3.06
Extension and farming community	111	68.09	11	6.74	35	21.47	6	3.68
Research and farming community	40	24.53	8	4.90	61	37.42	54	33.12

the linkages between research and farming community and the data show that most (24.53%) of the respondents reported positive effect of decentralization on linkages between research and farming community. Only a few (4.92%) respondents indicated negative effect and a good number (37.42%) of the respondents indicated no effect of decentralization on linkages between research and farming community.

Effect of decentralization on the information flow between research, extension and farming community

Effective linkages among research, extension and farmers are essentially needed for development and dissemination of farm technologies to increase the adoption rate of technologies at farmers' level. Rolling (1990) argues that scientists involved in basic, strategic, applied and adaptive research, together with subject-matter specialists, village-level extension workers and farmers, should be seen as participants in a single agricultural knowledge and information system. In an agricultural knowledge and information system people and institutions are linked together to promote mutual learning, generate, share and use agriculture-related technology, knowledge, skills and information. The system integrates farmers, agricultural educators, researchers and extensionists and the private sector (support and input services, traders) to harness knowledge and information from various sources for better farming and improved livelihoods (FAO, 2004). In 16 out of 20 research projects evaluated by the USAID and in all 12 projects evaluated by the FAO (Food and Agriculture Organization), communication between research and extension was weak (Stephen & David, 1990). The field extension worker were also asked about the effect of decentralization on information flow from research to extension, from extension to farming community, from farming community to extension and from extension to research. The data are presented in Table 3 which show that majority (53.37%) of the respondents mentioned that flow of information from research to extension has improved. A good number (26.99%) of the respondents indicated that the information flow from research to extension under decentralization has deteriorated. Only (17.79%) respondents were of the view that the decentralization had no effect on the information flow. c Whereas, only few of the respondents indicate deteriorated (7.36%) and unchanged (13.49%) flow of information. Majority (57.66%) of the respondents also indicated the flow of information from farming community to extension has improved and 12.26 and 21.47% respondents mentioned deteriorated and unchanged flow of information. Furthermore, information flow from

Table 3. Respondents' views about the effect of decentralization on the information flow between research, extension and farming community

Scale: 1 = Improved 2 = Deteriorated 3 = Unchanged X = No response

Information flow	1		2		3		X	
	No.	%	No.	%	No.	%	No.	%
from research to extension	87	53.37	44	26.99	29	17.79	3	1.84
from extension to farming community	124	76.07	12	7.36	22	13.49	5	3.06
from farming community to extension	94	57.66	20	12.26	35	21.47	14	8.58
from extension to research	50	30.67	26	15.95	48	29.44	39	23.92

extension to research had improved as mentioned by 30.67% of the respondents and 15.95 and 29.44% of the respondents indicated deteriorated and unchanged flow of information from extension to research.

CONCLUSIONS

It can be concluded that according to most of the EFS respondents (more than 60%) linkages of extension with research and farming community fell between average to strong categories and 60% of the respondents indicated that research had very weak to average linkage with farming community. The majority (68.09%) of the respondents indicated positive effect of decentralization on linkages between extension and farming community. The majority (68.09%) of the respondents indicated positive effect of decentralization on linkages between extension and farming community. Majority (57.66%) of the respondents also indicated the flow of information from farming community to extension has improved and 12.26 and 21.47% respondents mentioned deteriorated and unchanged flow of information.

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