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Effectiveness of R-E-F-M linkage of Post T and V system and ATMA in Assam, India

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Abstract

The purpose of the paper was to assess the effectiveness of Research-Extension-Farmer-Market linkages of Post T and V system and Agricultural Technology Management Agencies (ATMA). The study was conducted in Lakhimpur districts of Assam. The multistage sampling design was followed to collect data from 330 respondents. The linkage effectiveness was studied at district based on assessment of effectiveness by both the actors of a linkage on selected indicators related to the communication and interface activities. In the study, Krishi Vigyan Kendra (KVK) was a unit of research; for ATMA system ATMA personnel (DPD, BTM and ATM), was considered as the extension system and for Post T and V system DAO, SDAO, ADO and AEA were considered as the extension system. A method developed by Biam, K and Barman, U. (2015) was used to obtain linkage effectiveness scores. The findings indicate that the linkage between ATMA extension personnel and farmers was 79.43 per cent. In comparison, the linkage between post-T&V system extension personnel and farmers was 64.32 percent, indicating that extension personnel from both systems work in their respective locations to serve the farming community. However, the extension personnel from the ATMA model are contractually employed. The study suggested that it is the right time to merge ATMA model with the existing post-T&V system to form a single public extension system.

Keywords: Effectiveness, R-E-F-M linkage, Post T and V system, ATMA

Introduction

After community development programme started in 1952 to strengthen the extension system, World Bank funded T&V system was introduced in 1974 in India and in 1976 in Assam as public extension system. During the late 90's when government withdraw financial support, the system collapsed and faced some challenges. When ICAR (1998) studied the impact of T and V system and found that it ignored wide variation in agro-climatic and socio-economic conditions, failed to make any serious impact, at many platforms it was discussed to make reforms in extension. To introduce reforms in the public sector agricultural extension system and increase its relevance, accessibility and efficiency of knowledge sharing among various actors, players, and stakeholders, Ministry of Agriculture and Government of India initiated ATMA programme as extension reforms under National Agricultural Technology Project (NATP). Along with the nation Assam also introduced extension reforms through ATMA in 2005.

ATMA model focus different aspect like demand driven extension, bottom-up planning, integrated technology transfer system, board-based extension system, mobilization of communities, decentralized decision making, gender sensitization etc. After the extension reforms, ATMA was launched in 20 districts of Assam in 2005. ATMA is operating as a separate scheme under Assam Rural Infrastructure and Agricultural Service (ARIAS), society. Under reforms T&V system was abolished as per ATMA guideline. However, the Department of Agriculture, Assam is still following the organizational structure and work schedule of T and V system along with implementation of some government schemes which is termed as post T &V system by many authors. Whatever reforms made in the extension systems implemented through ATMA not reforming through rest of the person of T and V system and as a result, ATMA and post T and V public extension system are functioning concurrently in the state under two different organizations. Under this situation in the case of post T and V system, no intervention was made based on extension reforms. ATMA is operating as per extension reforms with all the components. Recently various studies reported the impact of activities at field level, organizational effectiveness, and linkage effectiveness of ATMA. Linkage mechanism for information dissemination is similar component in both the systems, though 'marketing' is included in ATMA's linkage. Relatively little is understood empirically about the performance of both the linkage mechanisms (R-E-F of post T and V system and R-E-F-M of ATMA). A research gap exists in this part to strengthen the extension systems. Therefore, the study is proposed to investigate effectiveness of linkage mechanism of both ATMA and post T and V system in Assam to fill the research gap. In case of information dissemination, R-E-F linkages of post T and V system and R-E-F-M linkages of

ATMA are similar components. Under this situation, it is important to know the effectiveness of both the mechanisms as agricultural information dissemination.

Materials and Methods

Lakhimpur district of Assam were selected for the study. A multistage sampling technique was used to select 247 farmers and other stakeholders in the ATMA model and Post T&V system; a percent of the population was used for the study (18 ATMA extension personnel, 48 Post T&V extension personnel, 6 KVK scientists, and 11 marketing personnel). The study sampled 330 respondents in total.

"Level of linkage effectiveness" was considered as the dependent variable. Linkage effectiveness in the research, extension, farmers and market for both the system ATMA and Post T&V system is the extent to which one unit communicates and interacts with the other unit/s of the system to achieve desired cooperation and collaboration in the process of ensuring effective technology development, refinement and dissemination in agriculture. The linkage effectiveness is operationalized as the score estimated for inter-units linkage based on assessment of effectiveness by both the actors of a linkage on selected indicators related to the communication and interface activities.

The effectiveness was studied for four linkages for both the system ATMA and Post T and V system. For both the system, Agricultural Scientists from KVK was considered as a unit of the research system and for ATMA system ATMA personnel (DPD, BTM and ATM), was considered as the extension system and for Post T and V system DAO, SDAO, ADO and AEA were considered as the extension system.

To assess the linkage effectiveness some dimensions were used to calculated the linkage effectiveness status. Scores were assigned to each category of the dimensions and finally the overall score was calculated and expressed in percentage using a formula (Procedure developed by Biam, K and Barman, U. (2015) [3].

The linkage effectiveness score for each linkage was calculated by following formula:

$$\text{Linkage effectiveness score} = \frac{\sum_{i=1}^{n} \text{Observed linkage score}}{\sum_{i=1}^{n} \text{Maximum possible linkage score}} \times 100$$

$$\text{Observed linkage score (OLS)} = \text{Frequency} \times \text{score}$$

$$\text{Maximum possible linkage score (MPLS)} = \sum_{i=1}^{n} \text{Summation of the highest score for each dimension} \times \text{Number of } i^{th} \text{ respondents for each n dimension}$$

Results and Discussion

The total linkage effectiveness scores of both the system presented in Table 1. The Table shows that linkage between research (Agricultural Scientists) and extension (ATMA personnel), the linkage effectiveness score was 71.97 per cent, linkage between research (Agricultural Scientist) and farmers the linkage effectiveness score was 51.91 per cent, the linkage between research (Agricultural scientists) and market, the linkage effectiveness score was nil (0.00%), the linkage between extension (ATMA personnel) and farmers, the linkage effectiveness score was 79.43 per cent, the linkage between extension (ATMA personnel) and market the linkage effectiveness score was nil (0.00%) and the linkage between farmers and market the linkage effectiveness score was 14.53 per cent in ATMA model.

In case of Post T and V system, Table 4.2 shows that the linkage between research (Agricultural Scientists) and extension (Post T and V system personnel), the linkage effectiveness score was 53.83 per cent, linkage between research(Agricultural Scientists) and farmers, the linkage effectiveness score was 51.91 per cent, the linkage between research (Agricultural Scientists) and market, the linkage effectiveness score was nil (0.00%), the linkage between extension (Post T and V system personnel) and farmers, the linkage effectiveness score was 64.32 per cent, the linkage between extension (Post T and V system personnel) and market, the linkage effectiveness score was 8.40 per cent and the linkage between farmers and market the linkage effectiveness score was 14.53 per cent.

It is observed that in Table1, the linkage effectiveness mean score was 36.31 per cent 32.17 per cent in ATMA model and Post T and V system in the respective district respectively. To test if there was any significant difference in linkage effectiveness mean score for the both systems, the t-test for two sample mean was used. The 't' value calculated (0.83) was found to be smaller than the table value at 0.05 level of probability. Hence, there is no significant difference between the linkage effectiveness mean score for the both systems.

Table 1: Linkage effectiveness scores for both the system ATMA model and Post T&V system

Linkage	ATMA System	Mean linkage effectiveness score	Post T&V System	Mean linkage effectiveness score	't' Value
Research-Extension	71.97%	36.31%	53.83%	32.17%	0.83
Research-Farmer	51.91%		51.91%		
Research-Market	0%		0%		
Extension-Farmer	79.43%		64.32%		
Extension-Market	0%		8.40%		
Farmer-Market	14.53%		14.53%		

Conclusion

The findings indicate that there is no significance in linkage effectiveness for Post T and V system and ATMA system, extension personnel from both systems work in their respective locations to serve the farming community. However, the extension personnel from the ATMA model are contractually employed. The ATMA model should be merged with the existing post-T&V system to form a single public extension system.

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