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Constraints Faced by Agricultural Technology Management Agency Extension Functionaries of Assam, India and Their Suggestions to Overcome Them

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Authors' contributions

This work was carried out in collaboration between both authors. Author PD under the guidance of author SB designed the study, performed the research work, done statistical analysis, wrote the protocol, managed the literature searches and also wrote the first draft of the manuscript. Both authors managed the analyses of the study. Both authors read and approved the final manuscript.

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ABSTRACT

Agricultural Technology Management Agency (ATMA) extension functionaries are authorized personnel, who help the farmers by transferring technology from research station to them. But during technology dissemination, they have to face a lot of difficulties. Therefore, the present study was conducted in Assam to enumerate the constraints faced by the functionaries and also tried to pool out the probable suggestions as opined by the respondents themselves. Personal interview method was used to collect the data from 120 respondents and appropriate statistical measures like frequency, percentage were applied to analyse the data. The study listed out the constraints

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encountered by the ATMA extension functionaries such as lack of training on new technologies, lack of knowledge on efficient and appropriate methodologies in extension activities, lack of cooperation from senior colleagues, delay in availability of salary, lack of orientation training for newly recruited staff, non-availability of agricultural inputs at an affordable price etc. The main suggestions given by them for improving their role performance were to provide training on new technologies, to prepare proper programme planning, to develop internal organizational structure and to dispense salary in time. Therefore, the concerned departments and organizations need to pay attention to their problems in order to solve these and make the ATMA extension functionaries more efficient.

Keywords: Extension functionaries; technology dissemination; constraints; personal interview method; statistical measures.

1. INTRODUCTION

Effectiveness of any organization for performing a specific work largely depends upon job satisfaction and job performance of the personnel involved in it [1-3]. Job satisfaction with work and promotion are significantly related to the personnel's commitment to the organization [4]. ATMA extension functionaries are mainly appointed to enable the transfer of technology from research station to farmers, the ultimate users [5,6]. Agricultural extension organizations worldwide face challenges of professional competence among their employees [7,8]. Planning, training and management of human resources within extension organizations are essential to increase the capabilities and overall effectiveness of extension personnel [9].

1.1 Statement of the Problem

The ATMA extension functionaries are the grass-root level extension worker in the Agriculture Department [10]. This may be possible that extension functionaries may or may not have perceived their role properly. Moreover, whether they have understanding of their role or otherwise are some of the problems which are of a great importance for proper understanding of the factors responsible for the success of the Agriculture department. If the problems associated with their job performance are known, it will be guideline for the concerned authorities to take effective approach for solving their problems and giving guidance. Thus, farmer can make the best use of services of ATMA extension functionaries working in the Agriculture Department. It is expected to provide useful criteria for understanding the problems encountered by the ATMA extension functionaries in performing their responsibilities and duties in the Agriculture Department. Also, the suggestions given by them will provide a platform for solving their problems and for better performance. Keeping this in view, the present study was undertaken to identify the following objective: To identify the problems faced by ATMA Extension Functionaries in carrying out their responsibilities and pool their suggestions thereof.

2. METHODOLOGY

2.1 Research Methods

The study was conducted in 4 districts of Assam during April, 2016. During the data collection, Assam was having 26 districts. In those 26 districts, 14 districts were having Centrally Sponsored Scheme ATMA (CSS-ATMA) and 12 districts were having World Bank sponsored Scheme ATMA. ATMA is being implemented in the state of Assam since 24th February, 2005 and sponsored by World Bank and CSS of Government. With this in view, four districts of Assam, Jorhat and Dibrugarh (World Bank sponsored ATMA) and Golaghat and Sivasagar (CSS sponsored ATMA), were selected purposively for the study. Since there were no ATMA offices at sub-division level, the blocks were directly selected from the district. From the 4 selected districts, a total numbers of 32 blocks has been surveyed for collection of data. All the Extension Functionaries were selected purposively as respondents from selected ATMA of Jorhat, Golaghat, Sivasagar and Dibrugarh districts of Assam. Total of 120 ATMA extension functionaries (30 from each district) were selected by random sampling for carrying out the study (Table 1). The constraints were collected by using personal interview method with a pre-tested structured questionnaire from the respondents. There were some open ended questions in the questionnaire which were asked to write major problems and suggestions to the respondents.

Table 1. Survey design

Districts	Respondent					Total no. of selected functionaries
	ATMA GB member	Project director	Deputy project director	BTT members/ ATM/ BTM	Convener	
Jorhat	2	1	1	18	8	30
Golaghat	NA	1	1	21	7	30
Sivasagar	NA	1	1	20	8	30
Dibrugarh	NA	NA	NA	28	2	30
Total						**120**

GB: Governing Board; BTT: Block Technology Team; ATM: Assistant Technology Manager; BTM: Block Technology Manager; NA: Not Available

2.2 Methods of Analysis

The collected multiple responses with respect to constraints and suggestions were tabulated and descriptive statistical measures like frequency and percentage were taken to analyse the data. Percentage was calculated with the following formula:

$$\text{Percentage} = \frac{\text{Number of response obtained}}{\text{Total number of respondent}} \times 100$$

3. RESULTS AND DISCUSSION

3.1 Problems Faced by ATMA Extension Functionaries in Carrying Out Their Responsibilities

It is evident from the Table 2, that 70.83 per cent, 66.67 per cent and 54.17 per cent of respondents respectively reported that the problems faced by the extension functionaries in different areas. In case of Extension and Training, major problems faced by the extension functionaries were 'lack of knowledge on efficient and appropriate methodologies in extension activities' (70.83%), 'in-adequate training on new technologies' (66.67%) and 'lack of efficient means of transportation for functionaries' (54.17%) [11-13].

In case of Management aspects, 79.17 per cent of the respondents lacked cooperation from some senior colleague [14]; This is closely followed by 'lack of seating arrangement for field functionaries under one roof' (71.67%) and 'delay in availability of funds/salary' (70.83%) [15].

From the technical aspects, it was found that 65.83 per cent of the respondents identified the problem of 'lack of orientation training for newly recruited staff'; Followed by 49.17 per cent respondents have the problem of 'lack of experts in all discipline' [16].

Table 2. Frequency and percentage distribution of respondents according to the problems faced by them in performing their job (N=120)

Sl. no.	Problems / Constraints	Frequency	Percentage
A.	**Extension and training**		
1.	In-adequate training on new technologies	80	66.67
2.	Lack of knowledge on efficient and appropriate methodologies in extension activities	85	70.83
3.	Lack of efficient means of transportation for functionaries	65	54.17
B.	**Management aspect**		
1.	Lack of cooperation from some senior colleague	95	79.17
2.	Lack of seating arrangement for field functionaries under one roof	86	71.67
3.	Delay in availability of salary/funds	85	70.83
C.	**Technical aspects**		
1.	Lack of experts in all discipline	59	49.17
2.	Lack of orientation training for newly recruited staff	79	65.83

- *Multiple responses*

Table 2. (continued). Frequency and percentage distribution of respondents according to the problems faced by them in performing their job (N=120)

Sl. no.	Problems / Constraints	Frequency	Percentage
D.	**Input Supply**		
1.	Agricultural inputs were not available at an affordable price to farmers	94	78.33
E.	**Administrative and Financial Aspects**		
1.	Inadequate staff	78	65.00
2.	Delay in release of funds	88	73.33
3.	No promotion	95	79.17
F.	**Communication and Human Relations**		
1.	Lack of coordination among the staff	93	77.50
2.	Transportation problem for the extension functionaries	47	39.17
3.	Lack of infrastructural facility	76	63.33
G.	**Feedback Mechanism**		
1.	Lack of accurate and effective feedbacks due to time lag of functionaries	55	45.83

- *Multiple responses*

Majority (78.33%) of the ATMA extension functionaries noted that 'agricultural inputs were not available at an affordable price to farmers' during their performing of job in the area of Input Supply and due to this it is difficult to continue their production avenues [17-19].

The major constraints faced by ATMA extension functionaries were 'lack of promotional facilities' (79.17%) in performing their jobs, 'un-time release of funds' (73.33%) and because of this ATMA have not having its own staff for implementation of different activities, and it was carried out by different agriculture and allied departments of State Government [14,16,18-21].

In case of Communication and human relations, the following problems are encountered by the respondents which are 'lack of coordination among the staff' (77.50%), 'lack of infrastructural facility' (63.33%) [16, 22] and 39.17 per cent of the respondents perceived that 'lack of transport facility' at Block Technology Team (BTT) level for effective monitoring and evaluation of ATMA activities in the district [14,18,23]. It was found that ATMA extension functionaries and KVK functionaries were facing non availability of vehicles to travel in the interior places of areas and lack of infrastructural facilities [21,24].

In case of feedback mechanism, 'lack of accurate and effective feedback due to time lag of functionaries' were faced by (45.83%) of the respondents.

3.2 Suggestions Provided by the ATMA Extension Functionaries

It is revealed from Table 3, that in case of Extension and Training Aspects, a majority (70.83%) of the respondents suggested, that 'proper programme planning should be prepared' [25]. The other suggestions given by the respondents in case of Extension and Training Aspects were 'training should be provided on new technologies' (66.67%) and 'extension functionaries should be appointed to solve a specific problem' (54.17%).

In case of Management Aspects, a majority (79.17%) of the respondents suggested that 'internal organisational structure should be developed' that is closely related to 'provide sufficient seating arrangements' (71.67%).

In case of technical aspects, the suggestions given by the extension functionaries were 'national level workshop should be conducted yearly' (62.50%), 'orientation training should be compulsory for all newly appointed staffs' (65.83%) and 'should provide effective training programme' (49.17%).

In case of Input Supply Aspects, a majority (78.33%) of the respondents suggested that 'Government should take initiative to reduce agricultural input price' [18].

In case of Administrative and Financial Aspects, suggestions given by a majority (79.17%) of the respondents were making of 'provision of

incentive to staff' [23,26] and 73.33% of the respondents suggested that 'fund should release on time' and 65.00% of the respondents suggested that it is necessary to 'recruit right people for right post' [27].

In case of Communication and Human Relation Aspects, majority (77.50%) of the respondents strongly agreed with the suggestions for 'developing coordination between the staffs of ATMAs' and 63.33 per cent of the respondents gave their suggestion to 'maintain infrastructural facility' and only 39.17 per cent of the respondents told about 'proper transport to be provided' [28-30].

In case of Feedback Mechanism Aspects, a majority (45.83%) of the respondents provided suggestion that 'accurate and satisfactory feedback should be provided in time'.

Results from the Tables 2 and 3 revealed that high percentage of the functionaries were not satisfied with the infrastructural facilities. The major problems faced by the respondents were 'lack of adequate training on new technologies', 'lack of knowledge on efficient and appropriate methodologies in extension activities', 'agricultural inputs were not available at an affordable price' and 'lack of coordination among the staff of ATMA'. Therefore, the concerned departments and organizations need to attend their problems in order to solve the problems of extension functionaries and make them more efficient.

Table 3. Frequency and percentage distribution of respondents according to the suggestions provided by them to overcome the problems (N=120)

Sl. no.	Suggestions	Frequency	Percentage
A	**Extension and training**		
1	Provide training on new technologies	80	66.67
2	Proper programme planning should be prepared	85	70.83
3	Extension functionaries should be appointed to solve a specific problem	65	54.17
B	**Management aspect**		
1	Develop internal organisational structure	95	79.17
2	Provide sufficient seating arrangements	86	71.67
C	**Technical aspects**		
1	National level workshop should be conducted in yearly	75	62.50
2	Provide effective training programme	59	49.17
3	Orientation training should be compulsory for all newly appointed staffs	79	65.83
D	**Input supply**		
1	Government should take initiative to reduce agricultural input price	94	78.33

**Multiple responses*

Table 3 (continued). Frequency and percentage distribution of respondents according to the suggestions provided by them to overcome the problems (N=120)

Sl. no.	Suggestions	Frequency	Percentage
E	**Administrative and financial aspects**		
1	Recruitment of right people for the right post	78	65.00
2	Strict measures to be taken by government to timely release of funds	88	73.33
3	Provision of incentive to staff	95	79.17
F	**Communication and human relations**		
1	Develop coordination between the staffs	93	77.50
2	Proper transport should be provide	47	39.17
3	Infrastructural facility should maintained	76	63.33
G	**Feedback mechanism**		
1	Accurate feedback should be provided in time	55	45.83

**Multiple responses*

4. CONCLUSION

The findings of the study reveals that the ATMA extension functionaries are facing infrastructural problems, lack of adequate training on new technologies, lack of knowledge on efficient and appropriate methodologies in extension activities, lack of coordination among the staff of ATMA and unavailability of agricultural inputs at affordable price to farmers. The reported constraints are needed to be addressed seriously for better and timely dissemination of improved agricultural information and technologies. Therefore, the present study was conducted to knock the concerned authorities' responsibilities to identify the problems and their probable solutions of the ATMA extension functionaries to make them more efficient.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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