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Constraints Encountered by ATMA Beneficiaries for Disseminating Agricultural Knowledge in Chhatarpur District of Madhya Pradesh, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

A group of important stakeholders in the district's agricultural development for sustainable agriculture is known as ATMA. It serves as a hub for the decentralization of the public agricultural technology System's regular operations and the integration of research and extension activities. It is a registered society responsible for technology dissemination at the district level. This study was carried out in Chhatarpur district of Madhya Pradesh state. Ex-post-facto research design was followed in the study. For the present study 210 respondents were selected for present study. The study found that constraints encountered by ATMA beneficiaries lack of communication facilities

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was identified as major constraint reported by highest percentage of respondents (87.14%) and ranked first, followed by poor contact between farmers, agriculture officers & scientist with opinion of 83.33 per cent respondents and ranked in second, inadequate and untimely supply of desired inputs reported by 71.90 per cent respondents. Among the suggestion given by ATMA beneficiaries to overcome the constraints in participation of different ATMA activities presented in Table 2 revealed that the majority of beneficiaries (89.05%) were suggested to organize programme in right time and given it first rank. The suggestion on “demonstration should be conduct on farmer’s field” was identified by 80.48 per cent beneficiaries and got it second rank. The 65.71 per cent beneficiaries were suggested to “information must be provided on proper time” and given it third rank. we suggested that latest information regarding agricultural technology should be provided during training programme, interested rural youth and ATMA beneficifies should be selected at as Kisan Mitra and more need focused trainings should be arranged.

Keywords: ATMA; agriculture; technology; dissemination; demonstration and constraints.

1. INTRODUCTION

Agricultural Technology Management Agency (ATMA) has become the most important institutional mechanism at district level for implementation of agricultural extension reforms. Capacity building of farmers through organization of training is one of the most important strategies for implementation of ATMA [1]. With assistance from the World Bank, the National Agricultural Technology Project (NATP) was launched in India in 1998. In the pilot project districts, the Agricultural Technology Management Agency (ATMA) was founded as part of this endeavor. Driving noteworthy improvements in India's agricultural research and extension system was ATMA's main goal (Walling et al. 2018). With funding assistance from the World Bank, the Ministry of Agriculture, Government of India initiated the project and collaborated with MANAGE to implement it. The project was conducted in 28 districts spanning seven states, namely Andhra Pradesh, Bihar, Jharkhand, Himachal Pradesh, Maharashtra, Orissa, and Punjab. The project had a duration of five years, from 1998 to 2003, and was extended until June 2005 [2]. ATMA facilitates the integration of research and extension endeavors while enabling district-level management of the public agricultural technology system (ATS) to be decentralized. This new institutional structure places a strong emphasis on planning and decision-making procedures that are done from the bottom up. About 45% of the total funds in ATMA were used for farmer-oriented initiatives, such as planning demonstrations, training sessions, and farmer exposure trips, as well as encouraging farmers to organise FIGs and SHGs. [3,4]. ATMA had a primary objective of enhancing the linkages between research, extension, and farmers. The successful implementation of ATMA greatly relies on the extent to which the extension functionaries perceive their roles and effectively fulfil them. However, there was a limited body of research examining the performance appraisal of these extension functionaries within this evolving context [5].

The majority of rural people are uneducated and illiterate, and they typically own small plots of land. As a result, they are ill-equipped to handle the complexity of agricultural technology management. Therefore, a few practical choices for boosting production efficiency and attaining quick and sustainable agricultural growth are vocational training and the spread of technology [6,7,8,9]." Extension Reform goes beyond basic technology transfer to include advocacy, information, and communication services facilitation. In order to support farming communities in this turbulent period, the extension system is having difficulty adopting "extension reform" [10]. Operationally speaking, the term "role performance" refers to the carrying out, accomplishing, working out, and completing any tasks that are requested or undertaken (Oxford English Dictionary, 2001). Numerous recent studies conducted in various countries have examined the job performance and expectations of agricultural extension personnel, offering significant insights into this subject. The competencies in programme implementation, programme evaluation and programme planning – contributed significantly to the performance of extension agents [11]. There is huge potential of techno economic aspect by examining the attitudes of farmers towards such alternative way of digital extension [12] . Job involvement, achievement motivation, experience in service and technical knowledge were identified as crucial variables in explaining the change in the

job performance of extension personnel [13]. ATMA sought to address the widespread problem of inadequate funding and personnel. At the district and block levels, it did not, however, address the significance of encouraging commitment and orientation towards demand-driven and participatory processes. It was imperative to concentrate on capacity building, leadership development, and ATMA ownership at the state, district, and block levels in order to genuinely improve the organisational capacity of public-sector extension services. This would contribute to transforming the overall capability of the organization in aligning with these processes [14]. Hence, in this research paper we would study the role performance and role expectations and also constraints faced by the ATMA functionaries.

2. NEED OF THE STUDY

The Agriculture Department's grassroots extension workers are known as ATMA extension functionaries. et al. Chouhan [15] It's conceivable that extension workers didn't fully understand their responsibilities. Furthermore, one of the most crucial issues for a correct comprehension of the elements contributing to the Agriculture department's success is their comprehension of their respective roles. If the issues related to their work performance are identified, it will serve as a guide for the relevant authorities to adopt an efficient strategy to resolving their issues and providing direction. Thus, farmers can utilize the Agriculture Department's ATMA extension workers to their fullest potential. It is anticipated to offer helpful standards for comprehending the challenges faced by ATMA extension employees in carrying out their tasks and obligations within the Agriculture Department. Additionally, the recommendations they make will offer a framework for resolving their issues and improving performance. In light of this, the current investigation was conducted with the aim of determining the following: to determine the issues that ATMA Extension Functionaries encounter while doing their duties and to combine their recommendations for solutions.

3. METHODOLOGY

Madhya Pradesh literally means “Central Province”, and is located in the geographic heart of India, The state with an geographical area of 3, 08, 252 sq.km.(Census 2011) The study sagar Division were selected as purposively. The study was conducted in Sagar Division was selected as purposively. The Sagar division consists of districts of Chhatarpur, Damoh, Panna, Sagar, Niwari and Tikamgarh. Among 6 district Chhatarpur district was selected as purposively because of highest no of ATMA beneficiaries. The Chhatarpur district comprises of 8 blocks namely Chhatarpur, Badamalhera, Buxwaha, Bijawar, Lavkushnagar, Gaurihar, Nowgong and Rajnagar. Out of which Rajnagar and Lavkushnagar blocks were selected on the basis of most progressive block of the district, therefore, this study was carried out in Chhatarpur district of Madhya Pradesh state. Ex-post-facto research design was followed in the study.

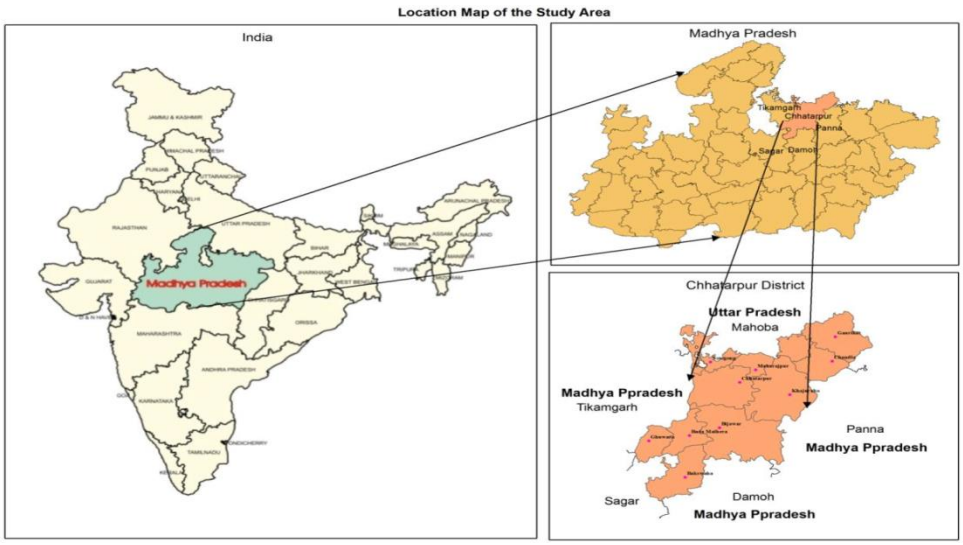

Fig. 1. Location Map of the Study Area

Out of which Rajnagar and Lavkushnagar blocks were selected on the basis of most progressive block of the selected district. 5-5 villages were selected from both block namely Rajnagar and Lavkushnagar. From each village 21 beneficiaries were selected randomly to create unbiased research from the list obtained from ATMA project director office of Chhatarpur District. Thus the total respondents were 210 for present study. The use of a systematic ex-post-facto research design and statistical measures ensures a rigorous assessment of constraints and suggestions. The collected data were analyzed using various statistical measures such as percentage, frequency, mean, mean score and range. IBM SPSS software was utilized for data analysis. Percentage:

The term percentage means a fraction whose denominator is 100 and the numerator of the fraction is called percentage.

$$P = X / N X 100$$

Where, P = Percentage, X = Frequency of respondent's N = Total number of ATMA beneficiries

4. RESULTS AND DISCUSSION

4.1 Constraints faced by ATMA Beneficiaries

The multiple responses were collected to ascertain the problems faced by the ATMA beneficiaries in the participation of different ATMA activities shown in Table no. 1. Among the constraints, lack of communication facilities was identified as major constraint reported by highest percentage of respondents (87.14%) and ranked first, followed by poor contact between farmers, agriculture officers & scientist with opinion of 83.33 per cent respondents and ranked in second, inadequate and untimely supply of desired inputs reported by 71.90 per cent respondents and ranked in third, poor financial condition ranked IV by 64.76 per cent respondents, poor education status of farmers got V rank by 60.95 per cent respondents, lack of technical guideline got VI rank by 46.67 per cent respondents (Saryam and Jirli [16] also reported that Inadequate Extension services were thirteenth with garret score (32.735) and Lack of knowledge about recommended practices were fourteenth ranked with garret score (25.915)., transport problem got VII rank by 42.38% respondents while, lack of proper training on selected topic got last and VIII rank by 34.29 per cent respondents.

Among the suggestion given by ATMA beneficiaries to overcome the constraints in participation of different ATMA activities presented in Table 2 revealed that the majority of beneficiaries (89.05%) were suggested to organize programme in right time and given it first rank. The suggestion on "demonstration should be conduct on farmer's field" was identified by 80.48 per cent beneficiaries and got it second rank , the similar study found by Jena *et. al* [12] 'training need' referred to the need to be minimized by imparting training towards participating in Income Generating Activities of rural women. The 65.71 per cent beneficiaries were suggested to" information must be provided on proper time" and given it third rank. Mohapatra *et. al.* [17] also observed that observed that some respondents were receiving information about cultivation practices 33.33% followed by greengram cultivation practices 29.16% and black gram cultivation practices 25%. Some of the respondents were receiving information on marketing i.e. 45.83% in rice, 45.83% also in blackgram and 44.16% in greengram The 60.00 per cent beneficiaries

Table 1. Distribution of ATMA beneficiaries according to theirconstraints

S. No.	Constraint	Frequency	Percentage	Rank
1.	Poor education status of farmers	128	60.95	V
2.	Transport problem	89	42.38	VII
3.	Poor financial condition	136	64.76	IV
4.	Lack of proper training on selected topic	72	34.29	VIII
5.	Poor contact between farmers, Agriculture officers and Scientist	175	83.33	II
6.	Inadequate and untimely supplyof desired inputs	151	71.90	III
7.	Lack of technical guideline	98	46.67	VI
8.	Lack of communication facilities	183	87.14	I

Table 2. Distribution of ATMA beneficiaries according to theirsuggestions

S. No.	Suggestions	Frequency	Percentage	Rank
1.	Information must be provided on proper time	138	65.71	III
2.	Regular contact should be madeamong farmers, Agriculture officers and scientist	126	60.00	IV
3.	Programme should be organizedin right time	187	89.05	I
4.	Transportation facilities shouldbe provided	97	46.19	VI
5.	Demonstration should beconduct in farmers field	169	80.48	II
6.	Training should be organized regularly	101	48.10	V

were given weightage to “regular contact should be made among farmers, agriculture officers and scientist “with forth rank. The 48.10 per cent beneficiaries were given their opinion on “training should be organized regularly” and got it fifth rank whereas, only 46.19 percent beneficiaries suggested that to provide transportation facilities and given it sixth rank [18-22].

5. RECOMMENDATION

To minimize these constraints which hinders the adoption of improved practices of crop production, several suggestions perceived by ATMA beneficifies discussed as increased the communication channels for effectiveness, improved seed variety should be provided at right time & quantity of fertilizer with other inputs should be available at a time and a common Place, The major crop should have improved practices for training purposes, plant protection information should be available when needed, poor and small farmers should be able to purchase input at a reduced cost, and there must to be a suitable marketing channel in the area. To sell their produce in bulk, farmers should organize into cooperative groups; the government should also build reliable transportation infrastructure and nearby storage facilities.

6. CONCLUSION

From the above research works it can be concluded that Lack of communication facilities, followed by Poor contact between farmers, Agriculture officers and Scientist and Inadequate and untimely supply of desired inputs. Regarding suggestions given by the respondents of Chhatarpur were opinion that Programme should be organized in right time, followed by Demonstration should be conduct in farmer’s field and Information must be provided on proper time. In other words, we suggested that latest information regarding agricultural technology should be provided during training programme, interested rural youth and ATMA beneficifies should be selected at as Kisan Mitra and more need focused trainings should be arranged.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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