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Constraints faced by ATMA and Non-ATMA farmers in the adoption of Wheat crop technology in the central zone of UP

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Abstract

Agriculture Technology Management Agency (ATMA) is a registered society in India with various agricultural activities for sustainable agricultural development in the state, with a focus at the district level. It is a hotbed for integrating research, extension and marketing activities and decentralizing day-to-day management of the public Agricultural Technology Development and Dissemination System. The present study was carried out in the central zone of Uttar Pradesh state to explore the Adoption level of ATMA and Non-ATMA farmers about improved Wheat cultivation technologies. Six villages of Banikodar, a block of Barabanki District were selected. Data were collected through 120 farmers in which 60 ATMA farmers and 60 Non-ATMA farmers with the help of a well-prepared interview schedule. In terms of overall constraints majority of both ATMA (0.82MS) and Non-ATMA (0.92MS) farmers were perceived the constraint 'high cost of diesel' ranked first. And other important constraints faced by ATMA farmers along with their mean score showing the seriousness of constraint viz., 'not availability of seed drill' (0.76MS), 'lack of soil testing facility' (0.48MS), 'high cost of fertilizers' (0.48MS), 'lack of electricity' (0.39MS) third-a, third-b, fourth and fifth, respectively. Likewise, Non-ATMA farmers along face constraint viz., 'not the availability of seed drill' (0.90MS), 'lack of soil testing facility' (0.84MS), 'lack of awareness of seed treatment' (0.78MS) and 'high cost of chemicals of seed treatment' (0.73MS), was ranked at second, third, fourth and fifth, respectively.

Keywords: ATMA, constraints, suggestions, farmers, wheat crop, agriculture development, etc.

Introduction

In India, the public extension system was working at the state level by integrating research, extension and marketing activities for the development and dissemination of technology to the farmers. From 1998 to 2005, extension reforms in India were pilot tested in 28 Districts in seven States. This successful experiment served as a basis to launch the Scheme "Support to State Extension Programmes for Extension Reforms" in the year 2005-06 which is called Agricultural Technology Management Agency (ATMA). It was revamped, expanded and strengthened comprehensively in the year 2010. The district-level ATMA project is often highlighted as an innovative model of public-sector agricultural extension involving decentralization as well as participatory and bottom-up approaches. ATMA represents a unique institutional platform that aims to integrate at the district level the weakly linked research and administration arms of public-sector agricultural extension in India. The key institution in implementing this new approach was the ATMA which was responsible for facilitating and coordinating "farmer-led" extension activities within each district.

Key elements of the ATMA

- 1) "Farming-systems" approach which required the integration of extension activities across the different line departments.
- 2) Organizing small-scale farmers, including women, into farmer interest groups (FIGs).
- 3) Decentralizing extension decision-making down to the district and block levels including farmer input.
- 4) Linking the farmer-interest groups to markets
- 5) Introduction to increase farmer income and create rural employment.

Objectives of ATMA

1. To strengthen research – extension – farmer linkages
2. To provide an effective mechanism for coordination and management of activities of different agencies involved in technology adaption/validation and dissemination at the district level and below.

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- To increase the quality and type of technologies being disseminated.
- To move towards shared ownership of the agricultural technology system by key shareholders.
- To develop new partnerships with private institutions including NGOs.

Participatory Bodies

The following participatory bodies shall be set up at various levels in the State.

State Level: Inter-Departmental Working Group (IDWG)

SAMETI Executive Committee

State Farmers Advisory Committee (SFAC)

District Level: ATMA Governing Board

ATMA Management Committee

District Farmers Advisory Committee (DFAC)

Block Level: Block Technology Team (BTM)

Block Farmers Advisory Committee (BFAC)

ATMA focused on a bottom-up planning process to make the entire extension system farmer-driven and farmer accountable. This has helped to strengthen research and extension capabilities, restructure public extension services and test new institutional arrangements for technology transfer with the involvement of all the stakeholders of Government and Non-Governmental agencies at the district

Results and discussion

Constraints faced by farmers

Table 1: Distribution of farmers according to constraints faced by them {N=120 (60+60)}

S. No.	Constraints	ATMA Farmers		Non-ATMA Farmers	
		Mean Score	Rank	Mean Score	Rank
1.	High cost of diesel	0.82	I	0.92	I
2.	Not availability of seed Drill	0.76	II	0.90	II
3.	Lack of soil testing facility	0.48	IIIa	0.84	III
4.	The high cost of fertilizers	0.48	IIIb	-	-
5.	Lack of electricity	0.39	IV	-	-
6.	Lack of awareness of seed Treatment	-	-	0.78	IV
7.	High cost of seed treatment	-	-	0.73	V

Farmers identified many constraints in the adoption of wheat crop technology in the local area. It has been clear that the majority of both ATMA (0.82MS) and Non-ATMA (0.92MS) farmers were perceived the constraint 'high cost of diesel' ranked first. And other important constraints faced by ATMA farmers along with their mean score showing the seriousness of constraint viz., 'not availability of seed drill' (0.76MS), 'lack of soil testing facility' (0.48MS), 'high cost of

level. New institutional arrangements were created at different levels to put the project into operation.

Methodology

The study was conducted in the central zone (Barabanki district) in the state of UP in January 2018. Out of the total number of blocks in Barabanki district only one block namely, Banikoder was selected for the study. A cumulative list of villages was prepared based on farmers who received training under ATMA in recent year (list of villages collected from ATMA office, Barabanki). The villages having the maximum number of ATMA farmers were selected from a prepared list and three villages namely Mawaiya, Dandupur and Deviganj were selected, similarly three villages, Pehla, Jarauli and Lakadiya were also selected from the same block that is not covered under ATMA project for a selection of Non-ATMA farmers. So, the total number of six villages was selected to select respondents. With the objective of constraints faced by ATMA and Non-ATMA farmers in adoption of Wheat crop technology, total 120 farmers in which 60 ATMA farmers were selected through Probability Proportion to Size Method (PPS) from the selected villages (list of beneficiaries of one block namely, Barabanki collected from ATMA office, Barabanki) and 60 Non-ATMA farmers (untrained) also selected from the same block's villages those are not covered under ATMA project. The data collected from the respondents with the help of a well-prepared interview schedule.

fertilizers' (0.48MS), 'lack of electricity' (0.39MS) third-a, third-b, fourth and fifth, respectively.

Likewise, important constraints faced by Non-ATMA farmers along with their mean score showing the seriousness of constraint viz., 'not availability of seed drill' (0.90MS), 'lack of soil testing facility' (0.84MS), 'lack of awareness of seed treatment' (0.78MS) and 'high cost of chemicals of seed treatment' (0.73MS), was ranked at second, third, fourth and fifth, respectively. These data are presented in table 1.

Table 2: Distribution of respondents according to constraints faced by them {N=120 (60+60)}

S. No.	Categories	ATMA Farmers		Categories	Non-ATMA Farmers	
		Respondents	Percent		Respondents	Percent
1.	Low (Scores less than 30)	16.00	26.66	Low (Scores less than 44)	17.00	28.33
2.	Medium (Scores 30 to 44)	28.00	46.66	Medium (Scores 44 to 62)	24.00	40
3.	High (Scores 44 & above)	12.00	20	High (Scores 62 & above)	19.00	31.66
	Total	60	100	Total	60	100

It is inferred from the above Table 2 that the majority (46.66%) of farmers from the ATMA category has belonged to medium category followed by low (26.66%) and high

(20%). Likewise, the majority (40%) of farmers from Non-ATMA category belongs to the medium category followed by high (31.66%) and low (28.33%), respectively.

Suggestions perceived by farmers

Table 3: Distribution of respondents according to their perceived suggestions {N=120 (60+60)}

S. No	Remedial Measures	ATMA Farmers			Non-ATMA Farmers		
		No.	(%)	Rank	No.	(%)	Rank
1.	Improved seed variety should be provided at the right time	49	40.83	IIIa	71	59.17	Ia
2.	The loan should be easily available and at a low rate of interest	40	33.33	IV	50	41.67	V
3.	The quality & quantity of fertilizer with other inputs should be available at a time and a common Place	33	27.50	VIIa	39	32.50	VIII
4.	The training program should be organized in time to time regarding improved practices of a wheat crop	23	19.17	VIIb	71	59.17	Ib
5.	Information regarding Plant protection should be available at the right time	37	30.83	Va	59	49.17	III
6.	The input should be provided at low cost to poor and small farmers	51	42.50	II	69	57.50	II
7.	There should be proper marketing channel in the area	31	25.83	VI	54	45.00	IV
8.	Farmer should form a cooperative group to sell their produce in bulk Quantity	57	47.50	I	49	40.83	VI
9.	Transportation facilities should be strong	37	30.83	Vb	47	39.17	VII
10.	The government should provide storage facilities at the vicinity	49	40.83	IIIb	38	31.67	IX

There are many remedial measures as perceived by ATMA and Non-ATMA farmers. The majority of ATMA farmers were perceived the suggestions i.e., 'farmer should form a cooperative group to sell their produce in bulk quantity' (47.50%) ranked I, 'the input should be provided at low cost to poor and small farmers' (42.50%) ranked II, 'improved seed variety should be provided at right time' (40.83%) ranked IIIa, 'government should provide storage facilities at vicinity' (40.83) ranked IIIb, 'loan should be easily available and at a low rate of interest' (33.33%) ranked IV, 'information regarding plant protection should be available at right time' (30.83%) ranked Va, 'transportation facilities should be strong' (30.83%) ranked Vb, 'the quality & quantity of fertilizer with other inputs should be available at a time and a common place' (27.50%) ranked VI, 'there should be proper marketing channel in the area' (25.83%) ranked VIIa and 'training program should be organized in time to time regarding improved practices of the wheat crop' (19.17%) ranked VIIb.

In case of untrained farmers, the majority of Non-ATMA farmers were perceived the suggestions i.e., 'improved seed variety should be provided at right time' (59.17%) ranked I, 'training program should be organized in time to time regarding improved practices of the wheat crop' (59.17%) ranked Ib, 'the input should be provided at low cost to poor and small farmers' (57.50%) ranked II, 'information regarding plant protection should be available at right time' (49.17%) ranked III, 'there should be proper marketing channel in the area' (45%) ranked IV, 'loan should be easily available and at a low rate of interest' (41.67%) ranked V, 'farmer should form a cooperative group to sell their produce in bulk quantity' (40.83%) ranked VI, 'transportation facilities should be strong' (39.17%) ranked VII, 'the quality & quantity of fertilizer with other inputs should be available at a time and at a common place' (32.50%) ranked VIII and 'government should provide storage facilities at vicinity' (31.67%) ranked IX. The above-discussed data are presented in table 3.

Conclusion

Thus, it is concluded that the price of diesel increasing over time while the price of other products (agriculture produce) still there. The farmers were found unknown from seed drill machine therefore, they were doing seed treatment manually.

Soil testing facility was not available in their area therefore farmers found were much concerned about soil testing. As the Indian farmers already pro-poor and the increased rate of fertilizers is beyond his access. The electricity is not met available to farmers or available for a few hours with low voltage and most of the time diverted towards the city. After harvesting farmers are forced to sell their agriculture products in the market because the income source only farming at this time market price was very low.

To minimize these constraints which hinders the adoption of improved practices of wheat cultivation technology, several suggestions perceived by both ATMA and Non-ATMA Farmers discussed as improved seed variety should be provided at right time, the loan should be easily available and at a low rate of interest, the quality & quantity of fertilizer with other inputs should be available at a time and a common Place, the training program should be organized in time to time regarding improved practices of the wheat crop, information regarding Plant protection should be available at right time, the input should be provided at low cost to poor and small farmers, there should be proper marketing channel in the area, the farmer should form a co-operative group to sell their produce in bulk quantity, transportation facilities should be strong and the government should provide storage facilities at the vicinity.

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