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Participant Farmers Perception about Effectiveness of ATMA

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A B S T R A C T

The present study was carried out in Ahmedabad district of Gujarat State. From the ten talukas of Ahmedabad district, four talukas were selected on the basis of maximum number of Farmer Interest Group (FIG's) functioning under ATMA. Five villages were randomly selected from each taluka. Thus, total 20 villages were selected. Ten respondents were selected from each village. Thus, total 200 respondents were selected randomly from four talukas. A standardized scale to measure the perceived effectiveness of ATMA was developed by using the Normalized Rank Order Method recommended by Guilford (1954). The scale consists of ten indicators namely attitude of beneficiary farmers toward ATMA, benefits derived from ATMA, task functions of ATMA, organization of extension activities, quality training, innovative ideas implementation, performance of FIG, demonstrations and its horizontal spread, technical capability of ATMA personnel and performance of farm school. As far as various indicators of perceived effectiveness of ATMA are concerned majority of ATMA participants had perceived favorable attitude towards ATMA having high benefits derived from ATMA with fair to good perception about task functions of ATMA having excellent perception regarding organized extension activities by ATMA with good perceived quality of training but fair perception about innovative ideas implemented from ATMA and had good perceived performance of FIG with high level of perception about demonstrations and its horizontal spread and were having good perception about technical capabilities of ATMA personnel as well as performance of farm school. Input delivery for demonstration is not timely, farm school activities are inadequate, insufficient out state exposure visit and tight schedule of farming were the major constraints experienced by the ATMA participants in deriving benefits.

Introduction

Reforms like decentralization, privatization, participatory services, and public–private partnerships resulting in pluralistic extension services in Agricultural extension sector have been addressing the problems that are considered innovative in their move from the top-down methods of public funding and provision of extension services, with its linear process from research to extension to farmers. Despite extension being a state-level concern, many reforms have come from

the central government in a number of different projects. One such project was the Support to State Extension Programs for Extension Reform (SSEPER), which functions at the district level through the Agricultural Technology Management Agency (ATMA). The National Agriculture Technology Project (NATP) is a bold initiative of the Government of India to reutilize Indian agriculture and Agriculture Technology Management Agency (ATMA) is the part of NATP. The Indian Council of Agricultural Research (ICAR) and Ministry of Agriculture (MOA) have jointly implemented the ATMA project in the country. Since the pilot study in 28 districts of India from 1998 to 2003, ATMA has been scaled up to all 591 development districts of India over the five years from 2005 to 2010.

In Gujarat State, all the districts have been selected for ATMA project as a part of the Innovations in Technology Dissemination (ITD) component of the project. ATMA is mandated to develop a demand driven, situation specific, multi-actor oriented Strategic Research and Extension Plan (SREP) to accelerate agricultural development in the project district.

The responsibility of ATMA is to bring together researchers, extensionists, farmers and other stakeholders (including NGOs, and co-operate and private sectors) to make, on the basis of joint diagnostic studies, district extension plan and recommendations for expanded adaptive research to introduce innovations in technology dissemination to cater local needs and situations. ATMA is functioning in the Ahmedabad district since 2007 and all the activities of ATMA got momentum. Since considerable period has been passed, it was felt necessary to assess its perception about effectiveness of ATMA by ATMA participant farmers. Keeping this view in mind, the present study entitled, "Perception of Participant Farmers about Effectiveness of ATMA."

Effectiveness is "success in producing a result of an object to the subject (Chambers, 20th century Dictionary). The interpretation of the sensory experiences is termed as perception. A farmer shows different degree of perception towards various aspects of the ATMA. In this study, perception abouteffectiveness of ATMA can be conceptualised as the change in opinion of the participant farmers about the accomplishment of activities set forth. That includes resultant changes due to intervention of various indicators of ATMA activities.A standardized scale to measure the perceived effectiveness of ATMA was developed by using the Normalized Rank Order Method recommended by Guilford (1954) was found to be reliable and valid. The scale consists of ten indicators namely, attitude toward ATMA, benefits derived from ATMA activities, its various task functions, its ability in terms of organization of extension activities, providing quality training, innovative idea implementation, demonstrations and its horizontal spread, performance of farm school, FIG and technical ability of ATMA staff etc. Based on previous researches and extensive review, all these indicators have been conceived as various dimensions of perceived effectiveness of ATMA.

Materials and Methods

The present investigation was carried out in the four talukas of Ahmedabad district, where maximum number of FIG's functioning under ATMA. Five villages were randomly selected from each taluka.

Thus the sample consisted of 200 respondents for the study from twenty villages. The purpose of the study was to know the perception of participant farmers about effectiveness of ATMA. The data was collected through personal interview using a structured interview schedule. "Ex-post Facto" research design was used for this study. The collected data were classified, tabulated, analyzed and interpreted in order to make the finding meaningful.

To study the participant farmers' perception about effectiveness of ATMA and constraints faced by them in proper execution of ATMA activities

Results and Discussion

Different indicators played an important role in determining the ATMA effectiveness as perceived by participant farmers. Indicators such as attitude of beneficiary farmers toward ATMA, task functions of ATMA, organization of extension activities, quality training, innovative ideas implementation, performance of FIG, demonstrations and its horizontal spread, technical capability of ATMA personnel and performance of farm school are closely linked to effectiveness of ATMA. In this study, ten indicators were judged for determining the effectiveness of the ATMA and the data reflecting their level with respect to all ten indicators was presented in Table1.

Attitude of beneficiary farmers toward ATMA

Attitude is a way of thinking, acting or feeling of a person towards a situation or cause. It is accepted fact that an attitude of an individual plays an important role in determining his behaviour. Thus, attitude toward ATMA is certainly be an important variable in motivating ATMA participants to make maximum use of ATMA activities which leads them towards improvement of farming.

It is evident from the Table 1 that more than two-third (65.00 per cent) of the ATMA participants had favorable attitude toward ATMA followed by strongly favorable and neutral attitude towards ATMA with 23.50 and 10.50 per cent respondents, respectively. Only 1.00 per cent ATMA participants had unfavorable attitude toward ATMA. None of the ATMA beneficiary farmer was observed under strongly unfavorable attitude towards ATMA. To summarize the result, it can be stated that a great majority of the ATMA participants had favorable attitude toward ATMA. Bottom up approach, demand driven information system and convergence of ATMA with various development department were the major reasons for developing positivism of participants toward ATMA. This result is in line with result reported by Patel (2015); Karegaonkar (2003) and Satyaprakash *et al.,* (2010).

Perceived benefits derived from ATMA

Benefits derived refers to the facilities availed by ATMA farmers through different activities of ATMA. The result revealed that more than two-fifth (44.00 per cent) of the ATMA participants had high level of benefits derived from ATMA followed by 28.00 per cent, 24.00 per cent had medium and very high level of benefits derived from ATMA respectively. Only 4.00 per cent of them had low level of benefits derived from ATMA. None of the ATMA beneficiary farmer was observed under very low level of benefits derived from ATMA.

Concluding the findings, it can be stated that that great majority of the ATMA participants belonged to have high to medium level of benefits derived and therefore one can said that activities of ATMA reaches to the grass root level and farmers are definitely benefited. This result confirms the result reported by Patel (2011).

Task functions of ATMA

Task functions of ATMA include those activities or behaviors that focus or direct the ATMA activities towards achievement of ATMA movements involving work or labour. Such functions includes the region specific need assessment of the area, organization of region specific training, involvement of grass root workers in SREP development, SREP execution as per norms, facilitation of Farm School, formation of FIGs, monitoring of FIG members, regular meeting with ATM/BTM, regular visit to demonstration plots, supply of critical inputs for demonstrations, regular monitoring for award to farmers, monitoring by apex authority as per norms, third party monitoring and evaluation, regular review of activities etc. Efforts were made to understand whether ATMA was executing all such task functions in the study area and the ATMA participants had perceived these task functions?

The Table revered that slightly less than half (47.50 per cent) of the ATMA participants had perceived fair level of performance about ATMA task

functions, followed by 30.00 per cent of them had perceived good and 13.50 per cent of them had perceived excellent level of performance about ATMA task functions. Only 09.00 per cent of them had perceived poor level of performance about ATMA task functions. None of the ATMA beneficiary farmer was observed under very poor level of performance about ATMA task functions.

To epitomize the findings, it can be said that great majority of the ATMA participants had fair to good perception about the task functions of ATMA. Perception of the ATMA participants about the need assessment of the area, organization of region specific training, facilitation of Farm School, formation of FIGs, monitoring of FIG members and supply of critical inputs for demonstrations were good whereas involvement of grass root workers in SREP development, SREP execution as per norms, regular meeting with ATM/BTM, regular monitoring for award to farmers, monitoring by apex authority as per norms, third party monitoring and evaluation, regular review of activities were poor to fair. This might be the possible explanation for fair to good perception about task functions of ATMA. This result confirms the result reported by Pandya (2013).

Organization of extension activities

An extension activity is an activity that extends the learning. Demand driven and need based extension activities of ATMA are must for its effective and efficient execution. Need based, applicable, attainable and timely extension activities like training, demonstrations, farm school, *kisan goshties*, farmer-scientist interaction, field days, farm exhibition, exposure visits etc. were listed out and data in this regard were collected from ATMA beneficiary farmers. The data regarding this indicator are presented in Table1.

The Table 1interpret that vast majority (83.00 per cent) of the ATMA beneficiary farmers had felt that level of organization of extension activities was excellent by ATMA followed by good and fair with 13.50 per cent, 03.00 per cent, respectively. None of the ATMA beneficiary farmer had perceived this activity as very poor.

Concluding the finding it can be said that over whelming ATMA beneficiary farmers had perceived organization of extension activities as excellent. All the extension activities carried out by ATMA in the district were as per the plan and in coordination with other line department.

Perceived quality of training

Training is one of the important farmer centric extension activity under ATMA. Training helps in capacity building of farmers. Farmers are able to improve their information, knowledge and skills through such need based training. Inter-State Training, Within-State Training and Within-District training were organized through ATMA. The quality of training with respect to its need, curriculum, trainer, training material used, means or channels used, facilities availed etc. were taken into consideration.

It is obvious from the data presented in Table 1 showed that more than half (59.50 per cent) of the ATMA beneficiary farmers had perceived good quality of training provided from ATMA, followed by 26.50, 12.00 and 2.00 per cent of the respondents had perceived the quality of training as excellent, fair, and poor respectively. None of the ATMA beneficiary farmer were observed under very poor quality of training received from ATMA. To epitomize the result, vast majority of the ATMA beneficiary farmers had perceived good to excellent quality of training provided from ATMA. The result might be due to the facts that, the training on various subjects ranging from scientific farming, dairy farming to post harvest technology were conducted by calling KVK scientists, horticultural specialists and other outside professionals by ATMA. The inter-state training was most thrust area of training as preferred by the farmers. This result is in conformity with the result reported by Tyagi and Tyagi (2014).

Innovative ideas implementation from ATMA

Innovative ideas implementation from ATMA includes any new ideas, services and technologies utilized by ATMA for promotion of location specific demands of the agriculture.

Various innovative approaches like use of Community Radio Station (CRS), establishment of district level training institute, use of distance learning mode for development of capacities of public sector extension functionaries, involvement of agripreneuers trained under agri-clinic and agri-business center(ACABC), involvement of corporates under public private partnership mode, replication of success stories and good agricultural practices (GAP), development of various modules on agriculture practices, use of telecast programmes, SMS and mobile app services and promotion of location specific innovative agricultural practices were taken into consideration. The ATMA beneficiary farmers perception with this aspect is grouped into five categories and presented. The data with this regard were presented in Table 1.

The data presented in Table 26 portray that slightly more than two fifth (41.00 per cent) of ATMA participants had perceived innovative idea implemented by ATMA as fair, followed by 32.50 per cent and 09.50 per cent of them perceived as good and excellent. Whereas 15.50 per cent and 01.50 per cent of them had perceived innovative idea implemented by ATMA as poor and very poor, respectively.

On the basis of the above results, it can be concluded that majority of the ATMA participants had perceived the innovative idea implemented by ATMA as fair to good. The results indicate that sometimes innovative ideas are not region specific, even though ATMA have taken a number of innovative extension initiatives in consultation with ATMA participants and scientists.

Performance of FIG

The FIGs are informal, voluntary and self-governing associations of farmers and farm women, formed at village level to achieve a common purpose, ultimately resulting in sustenance of the resource base and the farm family in their own geo-socio-economic environment.

FIGs are a very important tool enabling farmers to pave the way for their capacity building collectively by sharing technical know-how, skills, interest and obligation on the basis of group strength.

Table.1 ATMA participants' farmers according to different indicators of ATMA effectiveness

n = 200

Sr. No.	Indicators	Category	Frequency	Per cent
1	Attitude towards ATMA	Strongly Unfavorable (up to 39.6)	00	00.00
		Unfavorable (39.61 to 57.20)	02	01.00
		Neutral (57.21 to 74.80)	21	10.50
		Favorable (74.81 to 92.40)	130	65.00
		Strongly Favorable (above 92.40)	47	23.50
2	Perceived benefits derived from ATMA	Very low (up to 2.80)	00	00.00
		Low (2.81 to 5.60)	08	04.00
		Medium (5.61 to 8.40)	56	28.00
		High (8.41 to 11.20)	88	44.00

		Very high (above 11.20)	48	24.00
3	Task functions of ATMA	Very poor (up to 2.80)	00	00.00
		Poor (2.81 to 5.60)	18	09.00
		Fair (5.61 to 8.40)	95	47.50
		Good (8.41 to 11.20)	60	30.00
		Excellent (above 11.20)	27	13.50
4	Organization of extension activities	Very poor (up to 8.80)	00	00.00
		Poor (8.81 to 17.60)	01	00.50
		Fair (17.61 to 26.40)	06	03.00
		Good (26.41 to 35.20)	27	13.50
		Excellent (above 35.20)	166	83.00
5	Perceived quality of training	Very poor (up to 21.60)	00	00.00
		Poor (21.61 to 31.20)	04	02.00
		Fair (31.21 to 40.80)	24	12.00
		Good (40.81 to 50.40)	119	59.50
		Excellent (above 50.40)	53	26.50
6	Perceived innovative ideas implementation from ATMA	Very poor (up to 2.0)	03	01.50
		Poor (2.1 to 4.0)	31	15.50
		Fair (4.1 to 6.0)	82	41.00
		Good (6.1 to 8.0)	65	32.50
		Excellent (above 8.0)	19	09.50
7	Performance of FIG	Very poor (up to 18.0)	00	00.00
		Poor (18.1 to 26.0)	02	01.00
		Fair (26.1 to 34.0)	19	09.50
		Good (34.1 to 42.0)	136	68.00
		Excellent (above 42.0)	43	21.50
8	Demonstrations and its horizontal spread	Very low (up to 10.80)	00	00.00
		Low (10.81 to 21.60)	03	01.50
		Medium (21.61 to 32.40)	12	06.00
		High (32.41 to 43.20)	104	52.00
		V. high (above 43.20)	81	40.50
9	Technical capability of ATMA personnel	Very poor (up to 23.40)	01	00.50
		Poor (23.41 to 33.80)	16	08.00
		Fair (33.81 to 44.20)	32	16.00
		Good (44.21 to 54.60)	112	56.00
		Excellent (above 54.60)	39	19.50
10	Performance of farm school	Very poor (up to 16.20)	00	00.00
		Poor (16.21 to 23.40)	04	02.00
		Fair (23.41 to 30.60)	23	11.50
		Good (30.61 to 37.80)	106	53.00
		Excellent (above 37.80)	67	33.50

Table.2 ATMA beneficiary farmers according to constraints faced by them in proper execution of ATMA activities

(n = 200)

Sr. No.	Problem faced by ATMA participants	Number of respondents		
		Frequency	Per cent	Rank
1.	Lengthy documentation and procedure for getting benefit	89	44.50	**VII**
2.	Tight schedule of farming	120	60.00	**IV**
4.	ATMA personnel are frequently replaced at grass root level	117	58.50	**V**
5.	Lack of co ordination	95	47.50	**VI**
7.	Insufficient out state exposure visit	135	67.50	**III**
8.	Input delivery for demonstration is not timely	153	76.50	**I**
9.	Personal bias in selection for awards	32	16.00	**X**
10.	Personnel bias in selection for out state exposure visit	74	37.00	**VIII**
11.	Inadequate activities in farm school	141	70.50	**II**
12.	**Inadequate technical efficiency of ATMA personnel**	**60**	**30.00**	**IX**

The performance of FIGs under ATMA were focused with respect to different components like participation of members, team work, group atmosphere, decision making procedure, group cohesiveness, group leadership, interpersonal trust, task function, achievement of FIGs and interpersonal communication. The data regarding performance of FIGs are categorized in five categories and presented in Table1.

The finding revealed that more than two third (68.00 per cent) of the ATMA participants had perceived good performance of FIGs, followed by 21.50 per cent of them had perceived excellent performance of FIGs. Whereas 09.50 per cent and 01.00 per cent of them had perceived the performance of FIGs as fair and poor respectively. No respondents found in the category of very poor level of performance of FIGs.

Concluding the finding it can be said that vast majority of the ATMA participants had perceived the performance of FIGs as good to excellent.

This might be due to fact that, the district ATMA has focused on strict selection of FIG group members and motivated FIG members to remain intact for constructive lobbying and advocacy that are conducive for development of agricultural & allied activities.

Demonstrations and its horizontal spread

Demonstrations provide farmers an opportunity to practically view the performance of new technology their region. They also help farmers to compare new technology with currently used technology. Demonstrations and its horizontal spread is effective tool for successful extension of new technology. The data regarding effective planning, conducting or implementing and monitoring of the demonstrations were collected and categorized in five categories and presented in Table.1.

The data presented in Table26 revealed that the perceived effectiveness of the component "demonstrations and its horizontal spread" was as rated high by more than half (52.00 per cent) of the ATMA participants, followed by 40.50,06.00 and01.50 per cent of them had perceived it as very high, medium and low respectively. No respondents had perceived it as very low level. To epitomize the findings, it can be said that overwhelming (92.50 per cent) of the ATMA participants had high to very high level of perceived effectiveness about demonstrations and its horizontal spread, which reflects that planning, implementation and monitoring of the demonstrations by ATMA were up to the mark and satisfy the needs and demands of the ATMA participants.

Technical capability of ATMA personnel

The technical capability of ATMA personnel is the ability of ATMA personnel to acquire new technologies, technical resources, development processes and practices in the framework of its proper implementation.

The capabilities like sufficient knowledge about agricultural practices, effective communication skill and convincing ability, ability of using ICT tools, ability of collecting feedback for further research etc. were considered for knowing the technical capabilities of ATMA personnel. The data related with this are collected and categorized into five categories and presented in Table No.1.

A perusal of Table 1 reveal that more than half (56.00 per cent) of the ATMA participants perceived that technical capabilities of ATMA personnel were good, followed by 19.50 per cent, 16.00 per cent, 08.00 per cent and 00.50 per cent of them had perceived the capabilities of ATMA personnel as excellent, fair, poor and very poor respectively.

Concluding the findings, it can be said that, majority ATMA participants perceived that technical capabilities of ATMA personnel as good to excellent even though most of the technical personnel functioning in ATMA on contractual basis.

ATMA is empowering these technical personnel by sending them at EEIs, SAMETIs, TTCs to make them efficient for effective implementation of ATMA activities might have improve their technical capabilities.

Performance of farm school

With a view to replicate & diffuse the proven farming technologies in nearby farms and area of a progressive farmer, farm schools are organized. The farm schools are visualized to provide season long technical backstopping/on field training to participating farmers. These were conducted on various agriculture and allied subjects and are important means to upgrade the process of dissemination in crops and livestock in farmer-to-farmer approach. The data related with this are collected and categorized into five categories and presented in Table No.1.

The data presented in Table 1 revealed that more than half (53.00 per cent) of the ATMA participants had perceived performance of the farm school as a good followed by 33.50 per cent, 11.50 per cent and 02.00 per cent of them had perceived as excellent, fair and poor respectively. No respondents found in the category of very poor level of performance of farm school.

Concluding the findings, it can be stated that that great majority of the ATMA participants had rated performance of farm school as good to excellent. Therefore, one can say that activities of ATMA get accelerated due to active involvement of progressive farmers and thereby it reaches to the grass root level through farmer-to-farmer interaction.

Constraints Faced by the Beneficiary Farmers in Proper Execution of ATMA Activities

Constraints never end but they can be minimized. Constraints in this study were operationalized as the item of difficulties faced by the ATMA beneficiary farmers in proper execution of ATMA activities.

The ATMA participants were requested to express the constraints faced by them. The results regarding the same are summarized in Table 2. Critical look at the data given in Table bring into focus that among the various constraints faced by the ATMA participants, input delivery for demonstration is not timely (76.50 per cent) was ranked first, followed by farm school activities are inadequate (70.50 per cent), insufficient out state exposure visit (67.50 per cent), tight schedule of farming (60.00 per cent), ATMA personnel are frequently replaced at grass root level (58.50 per cent), lack of co-ordination (47.50 per cent), lengthy documentation and procedure for getting benefit (44.50 per cent), personal bias in selection for out state exposure visit (37.00 per cent), inadequate technical efficiency of ATMA personnel (30.00 per cent) and personal bias

in selection for awards (16.00 per cent) which ranked 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, and 10th, respectively.

Concluding the findings, it can be stated that input delivery for demonstration is not timely, farm school activities are inadequate, insufficient out state exposure visit and tight schedule of farming were the major constraints experienced by the ATMA participants in deriving benefits.

From the above study it can be concluded that, a standardized scale to measure the perceived effectiveness of ATMA was found to be reliable and valid which consists of ten indicators. Perception of these indicators about effectiveness of ATMA revealed that overwhelming of the ATMA participant farmers had high to very high level of their perceived effectiveness of ATMA which is attributed to favorable attitude towards ATMA, high level of benefits derived by them, excellent extension activities implemented, good quality training provided, proper implementation of demonstrations and its horizontal spread and good performance of FIGs and farm schools through ATMA.

The organizational structure, wide network of *mitrakisan* in the district, work culture and flexibility in utilization of fund might have help the competence authority to execute the ATMA activities smoothly and effectively.

Input delivery for demonstration is not timely, farm school activities are inadequate, insufficient out state exposure visit and tight schedule of farming were the major constraints experienced by the ATMA beneficiaries in deriving benefits.

References

Guilford, J. P. (1954). *Psychometric Methods*. Tata McGraw-Hill Publication Co. Ltd., Bombay: 378-382.

Karegaonkar, S. D. (2003). *A study on attitude of the farmers towards Agricultural Technology Management Agency in Aurangabad district*. (Master's Thesis, Marathwada Krishi Vidyapeeth, Parbhani).

Pandya, R. D. (2013). Project report on strategic evaluation of ATMA districts of South Gujarat.

Patel, V. M. (2015). *Evaluation of Agricultural Technology Management Agency in Gandhinagar district of Gujarat state* (Doctoral Thesis, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar).

Patel. M. R. (2011). *An impact analysis of peasantry modernization in agriculture under integrated tribal development project of Vadodara District*.(Doctoral Thesis, Anand Agricultural University, Anand).

Satyaprakash, Kumari, N., Kumar, A. & De, D. (2010). A study on attitude of participants towards the technology dissemination programme of ATMA. J. C. S., 18: 206-209.

Tyagi A. K. & Tyagi B. D., (2014). Assessments of Effectiveness of Training Programmes Through Perception of Krishi Vigyan Kendra Trainees. Agriways 2 (2): 73-76

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