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Participation of Farmers About Different activities of Agricultural Technology Management Agency (ATMA) in Tribal Districts Of Madhya Pradesh

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ABSTRACT
The present study was conducted in Mandla and Dindori Districts of Madhya Pradesh. The study revealed that, among the different activities of ATMA programme, most oftenly (47.33%) of respondents participated in group organized programme of Mandla district, In case of often participation (46.66%) respondents participated in training programme, In case of Dindori district, most oftenly participated (65.33%) of respondents in group organized programme, often participation 50.00 per cent respondents participated in visit. The study further revealed that the maximum of the respondents of Mandla district (60.00%) had medium participation, similarly In case of Dindori district, (57.33%) had high participation in different activities.
Keywords: *Level of Participation, Extent of Participation, Activities of ATMA*

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INTRODUCTION

The concept of Agriculture Technology Management Agency (ATMA) has been initiated in 1999 by Ministry of Agriculture, GOI under the NATP. ATMA is an autonomous organization facilitated by National Agricultural Technology Project (NATP) with an objective of integrating research and extension work with the help of stake holders for enhancing the agriculture production including the marketing access, capacity building and empowerment of the farmer for sustainable agriculture development. The concept of ATMA envisages paradigm shift from "top down" to "bottom up" in planning and implementation of agriculture 'development programmes [1].

During 2016-17 out of total ATMAs established so far in 652 districts, ATMAs have been registered in 490 districts. Similarly, out of 5610 blocks, Block Technology Team (BTT) have been notified only in 5990 blocks and Block Farmer Advisory Committee (BFACs) in 5544 blocks. District FACs have been constituted in 561 districts and State Level FACs in 19 States. Over 3,62,31,269 farmers were benefited in different extension activities including 96,37,720 women farmers. Other important achievements were mobilization of 2,15,964 Farmers Interest Group (FIGs) and setting up of 97,803 Farm Schools. Progress of implementation during current financial year (up to September, 2016) Over 12 lakh farmers including 6 lakh farm women have been reportedly participated in farmer oriented activities like exposure visits, trainings, demonstrations & kisan melas. 14045 CIGs/ FIGs organized. 4566 Farm Schools organized. 12906 specialists & functionaries have been reported as deployed under ATMA as on 31st August, 2016 [2].

MATERIAL AND METHODS

The present study was carried out during 2016-17 in the tribal district of Madhya Pradesh. Mandla and Dindori district were selected. Out of total blocks in the districts, 2 blocks selected from each district purposively because maximum number of farmer friend are living in this block as compared to other blocks and proximity to Agriculture University and transfer of technology center. (2 villages = 1 farmer friend) total 150 villages were selected from each block, thus total 600 villages were selected randomly

on the basis of maximum availability of respondents in the villages. From selected block (1 block = 150 villages =75 farmer friend) 75 respondents were selected randomly from each selected villages. Thus, the total 300 farmer friends were considered as respondent for this study. The data were collected personally through pre-tested interview schedule which was prepared on the basis of objectives of the study. Collected data were processed and tabulated by using appropriate statistical methods.

For measuring the participation of respondent in the ATMA, 11 major activities were selected viz. programme scheme, training, demonstration, visit, kisan mela etc. Responses of beneficiary respondents regarding their participation in selected ATMA activities were collected on a four continuum scale namely "most often", "often", "some times" and "never" were done as "3", "2", "1" and "0" respectively. Participation index was worked out by using the maximum obtainable score for each respondent by using the following formula:

$$P.I. \quad \frac{O}{S} x\ 100$$

Where,

PI	= Participation index of respondent
O	= Total obtained score by respondent
S	= Total obtainable score

RESULTS AND DISCUSSION

Distribution of the respondents according to their participation of different ATMA activities

Distributions of the respondents according to their participation of different activities of ATMA are presented in Table 1. The data reveals that among the different activities of ATMA programme participated most oftenly 47.33 per cent participated in group organized programme by respondents of Mandla district, followed by participated in training programme (39.33%), followed by participated in FIGs meeting (33.33%), participated in demonstration (32.66%), participated in visit and kisan sanghosthi (31.33%), participated in farmer school (25.33%), participated in farmer & scientist interaction programme (27.33%), participated in kisan mela (26.00%), participated in farmer interest group (25.33%), and 20.66 per cent were participated in prize distribution programme.

In case of often participation out of different activities of ATMA programme, 46.66 per cent respondents participated in training programme, followed by participated in demonstration programme (42.00%), participated in kisan mela (38.66%), participated in prize distribution programme and farmer interest group (37.33%), participated in visit (34.66%), participated in group organized program (30.00%), participated in farmer school (28.66%), participated in FIGs meeting (26.66%), participated in kisan sangosthi (26.00%) and participated in farmer & scientist interaction programme (37.33%).

As regard to rarely participation in different activities of ATMA programme respondents of Mandla district participated visit and farmer interest group (30.00%), followed by participated in farmer school (28.00%), participated in prize distribution programme (27.33%), participated in kisan mela and farmer & scientist interaction programme (26.66%), participated in FIGs meeting (26.00%), participated in kisan sangosthi (24.66%), participated in group organized programme (21.33%), participated in demonstration programme (18.66%), participated in training programme (11.33%), respectively. The different activities of ATMA programmes, participated in farmer & scientist interaction programme, participated in kisan sangosthi, participated in prize distribution programme, participated in FIGs meeting, participated in farmer school, participated in kisan mela, participated in farmer interest group, participated in demonstration programmes, participated in visit programme, participated in training programme, and participated in group organized programme were never used by 20.66 per cent, 18.00 per cent, 14.66 per cent, 14.00 per cent, 12.66 per cent, 8.66 per cent, 7.33 per cent, 6.66 per cent, 4.00 per cent, 2.66 per cent and 1.33 per cent of respondents of Mandla district, respectively.

In case of Dindori district, distributions of the respondents according to their participation of different activities of ATMA are presented in Table 4.8. The data reveals that among the different activities of ATMA programme participated most oftenly 65.33 per cent participated in group organized programme by respondents, followed by participated in training programme (56.00%), followed by participated in kisan mela (43.33%), participated in farmer interest group (41.33%), participated in farmer school and FIGs meeting (37.33%), participated in farmer & scientist interaction programme (32.66%), participated in kisan sanghosthi (32.00%), participated in visit (31.33%), participated in demonstration (30.66%), and 23.33 per cent were participated in prize distribution programme.

In case of often participation out of different activities of ATMA programme, 50.00 per cent respondents participated in visit, followed by participated in demonstration programme (46.00%), participated in training programme (37.33%), participated in kisan sangosthi (36.66%), participated in farmer interest

group (36.00%), participated in FIGs meeting (34.66%), participated in farmer school (33.33%), participated in prize distribution programme (30.00%), participated in kisan mela (28.66%), participated in farmer & scientist interaction programme (26.00%), and participated in group organized program (24.00%).

As regard to rarely participation in different activities of ATMA programme respondents of Dindori district participated in prize distribution programme (30.66%), followed by participated in farmer & scientist interaction programme (26.66%), participated in kisan mela and participated in kisan sangosthi (225.33%), participated in farmer school (22.66%), participated in demonstration programme (22.00%), participated in FIGs meeting (21.33%), Participated in farmer interest group (20.00%), participated in visit (17.33%), participated in group organized programme (8.66%), and participated in training programme (6.66%), respectively.

The different activities of ATMA programmes, participated in prize distribution programme, participated in farmer & scientist interaction programme, participated in farmer school and FIGs meeting, participated in kisan sangosthi, participated in group organized programme, participated in kisan mela and participated in farmer interest group, participated in visit programme and participated in demonstration programmes, were never used by 16.00 per cent, 14.66 per cent, 6.66 per cent, 4.00 per cent, 2.66 per cent, 1.33 per cent of respondents of Dindori district, respectively.

It could be concluded that 47.33 per cent respondents of Mandla district most oftenly participated in group organized programme whereas, 46.66 per cent oftenly participated in training programme, 30.00 per cent was rarely participated in visit and farmer interest group, 20.00 per cent respondents were never participated in farmer & scientist interaction programme . in case of Dindori district, it could be concluded that 65.33 per cent respondents most oftenly participated in group organized programme whereas, 50.00 per cent often participated in visit, 30.66 per cent rarely participated in prize distribution programme, 16.00 per cent respondents were never participated in prize distribution programme.

The overall participation in different activities of ATMA is present in (Table 2). The data reveals that the majority of the respondents of Mandla district (60.00%) had medium participation, whereas, 35.34 per cent and 4.66 per cent of respondents were having high and low level of participation, respectively. In case of Dindori district, (57.33%) had high participation, whereas, 40.00 per cent and 2.64 per cent of respondents were having medium and low level of participation, respectively. It could be concluded that maximum of the respondents (50.00%) had medium level of participation in the different activities of ATMA programme.

In order to observe the difference between the level of participation about Mandla and Dindori districts of tribal farmers in relation to cafeteria activities of ATMA, a large sample z test was applied and the results are summarized in (table 3). It reveals that tribal farmers of Dindori were found to be significant superior at 1% level of significance rather than that of the tribal farmers of the Mandla district. It showed that ATMA programme had been working an important role in enlarge the participation of the farmers may be due to elevation awareness [3, 4].

Extent of participation among the respondents regarding different activities of ATMA

On the overall basis, in case of Mandla respondents the level of participation regarding different cafeteria activities of ATMA. 74.44 per cent was participated in group organized programme followed by participated in training programme (74.22%), participated in demonstration programme (66.88%), visit programme participation (64.44%), kisan mela participation (60.66%), farmers interest group participation (60.22%), participation in FIGs meeting (59.77%), participation in farmer school (59.11%), participation in kisan sangosthi (56.88%), participation in prize distribution programme (54.66%), and participation in farmer & scientist interaction programme (53.11%) The overall level of participation regarding different cafeteria of ATMA activities was noted to be 62.22 per cent (Table 4) In case of Dindori district, the e of participation regarding different cafeteria activities of ATMA. 84.22 per cent was participated in group organized programme followed by participated in training programme (83.11%), participated in farmer interest group (72.00%), participated in kisan mela (70.88%), participation in visit (70.44%), participation in demonstration programme (68.66%), participation in FIGs meeting (67.55%), participation in kisan sangosthi (64.88%), participation in farmer & scientist interaction programme (58.88%) and participation in prize distribution programme (53.55%). The overall level of participation regarding different cafeteria of ATMA activities was noted to be 69.21 per cent (Table 4). Thus, it may be concluded that majority of respondent (79.33%) had level of participation regarding group organized programme. The overall level of participation regarding different cafeteria of ATMA activities was noted to be 65.71 per cent. Sahu [7] found the similar finding.

Correlation analysis of independent variables with the Participation of famers in different ATMA activities

To determine the relationship of selected independent variables with the participation of farmers in different ATMA activities of the respondents, the correlation analysis was worked out and results are present in Table 5. The finding revealed that out of 18 independent variables only 5 variables i.e. Source of information, Risk orientation, scientific orientation, Economic motivation and Achievement motivation were found to be positive and highly significantly correlated at 0.01 level of probability with the participation of farmers in different ATMA activities of the respondents.

The other variables like age, education, family size and social participation, house type, farm power, material possession, Occupation, land holding, annual income, credit acquisition, Contact with extension personals, and Cosmopoliteness showed statistically non significant relationship with the participation of farmers in different ATMA activities of the respondents.

In case of Dindori respondents out of 18 independent variables only 10 variables i.e. family size, credit acquisition and contact with extension personals were found to be positive and significantly correlated at 0.05 level of probability and Age, annual income, Scientific orientation, Economic motivation and Achievement motivation were found to be positive and highly significantly correlated at 0.01 level of probability and age and social participation were found to be negative and highly significantly correlated at 0.01 level of probability with the participation of farmers in different ATMA activities of the respondents. However, remaining 8 independent variables i.e. house type, farm power, Material possession, Occupation, Land holding, Source of information, Risk orientation and Cosmopoliteness could not indicated any significant relationship with the participation of farmers in different ATMA activities of the respondents [5, 6].

Table 1: Distribution of the respondents according to their participation of different ATMA activities

ATMA activities	Most often				Often			
			Rarely	Never	Most often	Often	Rarely	Never
	f	f	f	f	f	f	f	f
Participated in group organized programme	71 (47.34)	45 (30.00)	32 (21.33)	2 (1.33)	98 (65.34)	36 (24.00)	13 (8.66)	3 (2.00)
Participated in training programme	59 (39.34)	70 (46.67)	17 (11.33)	4 (2.66)	84 (56.00)	56 (37.34)	10 (6.66)	0 (0.00)
Participated in visit programme	47 (31.34)	52 (34.66)	45 (30.00)	6 (4.00)	47 (31.34)	75 (50.00)	26 (17.33)	2 (1.33)
Participated in demonstration programme	49 (32.67)	63 (42.00)	28 (18.67)	10 (6.66)	46 (30.67)	69 (46.00)	33 (22.00)	2 (1.33)
Participated in kisan mela	39 (26.00)	58 (38.67)	40 (26.67)	13 (8.66)	65 (43.34)	43 (28.66)	38 (25.34)	4 (2.66)
Participated in farmer & scientist interaction programme	41 (27.34)	38 (25.33)	40 (26.67)	31 (20.66)	49 (32.67)	39 (26.00)	40 (26.67)	22 (14.66)
Participated in kisan sangosthi	47 (31.34)	39 (26.00)	37 (24.66)	27 (18.00)	48 (32.00)	55 (36.66)	38 (25.34)	9 (6.00)
Participated in prize distribution programme	31 (20.67)	56 (37.34)	41 (27.34)	22 (14.66)	35 (23.33)	45 (30.00)	46 (30.67)	24 (16.00)
Participated in farmer school	46 (30.66)	43 (28.67)	42 (28.00)	19 (12.66)	56 (37.34)	50 (33.34)	34 (22.66)	10 (6.66)
Participated in farmer interest group	38 (25.34)	56 (37.34)	45 (30.00)	11 (7.33)	62 (41.34)	54 (36.00)	30 (20.00)	4 (2.66)
Participated in FIGs meeting	50 (33.33)	40 (26.66)	39 (26.00)	21 (14.00)	56 (37.34)	52 (34.66)	32 (21.34)	10 (6.66)

Parenthesis shows the percentage

Table 2: Distribution of respondents according to their overall participation in different activities of ATMA

Extent of participation	Mandla		Dindori		Pooled	
	f	%	f	%	f	%
Low (1-11)	7	4.66	4	2.64	11	3.66
Medium (12-22)	90	60.00	60	40.00	150	50.00
High (23-33)	53	35.34	86	57.33	139	46.34
Total	150	100	150	100	300	100

Table 3: Difference between Mandla and Dindori respondents with respect to their level of knowledge about different activities of ATMA

Particular	Mandla	Dindori
Mean	20.58	22.72
S.D	2.25	2.24
Z value	14.03**	

** Significant at 0.01 level of probability

Table 4: Extent of participation among the respondents regarding different activities of ATMA

Particular	MOS	Mandla		Dindori		MOS	Pooled		Rank
		TOS	EP (%)	TOS	EP (%)		TOS	EP (%)	
Participated in group organized programme	450	335	74.44	379	84.22	900	714	79.33	I
Participated in training programme	450	334	74.22	374	83.11	900	708	78.66	II
Participated in visit programme	450	290	64.44	317	70.44	900	607	67.44	IV
Participated in demonstration programme	450	301	66.88	309	68.66	900	610	67.77	III
Participated in kisan mela	450	273	60.66	319	70.88	900	592	65.77	VI
Participated in farmer & scientist interaction programme	450	239	53.11	265	58.88	900	504	56.00	X
Participated in kisan sangosthi	450	256	56.88	292	64.88	900	548	60.88	IX
Participated in prize distribution programme	450	246	54.66	241	53.55	900	487	54.11	XI
Participated in farmer school	450	266	59.11	302	67.11	900	568	63.11	VIII
Participated in farmer interest group	450	271	60.22	324	72.00	900	595	66.11	V
Participated in FIGs meeting	450	269	59.77	304	67.55	900	573	63.66	VII
Overall participation	4950	3080	62.22	3426	69.21	9900	6506	65.71	

MOS= Maximum obtainable score, TOS= Total obtained score, EP= Extent of participation

Table 5: Correlation analysis of independent variables with the Participation of famers in different ATMA activities

S. No.	Independent variables	Correlation coefficient (r)	
		Mandla	Dindori
1	Age	-0.017	.389**
2	Education	0.035	-.273**
3	Family size	0.023	.170*
4	Social Participation	0.039	-.255**
5	House type	-0.034	0.128
6	Farm power	0.032	-0.029
7	Material possession	-0.066	-0.039
8	Occupation	-0.145	-0.029
9	Land holding	-0.047	0.058
10	Annual income	0.107	.308**
11	Credit Acquisition	-0.112	.168*
12	Sources of information	.880**	0.158
13	Contact with extension personals	-0.151	.193*
14	Risk orientation	.872**	0.156
15	Cosmopoliteness	-0.076	0.032
16	Scientific orientation	.839**	.922**
17	Economic motivation	.842**	.933**
18	Achievement motivation	.869**	.917**

* Significant at 0.05 probability level, ** Significant at 0.01 probability level

Table 6: Multiple regression analysis of the independent variables with the Participation of famers in different ATMA activities

S. No.	Independent variables	Multiple regression coefficient			
		Mandla		Dindori	
		'b' value	't' value	'b' value	't' value
1	Age	0.007	0.273	0.031	1.562
2	Education	0.099	1.417	0.051	0.910
3	Family size	-0.026	-0.069	-0.653	-1.968
4	Social Participation	0.032	0.688	-0.106*	-2.430
5	House type	0.436	1.61	-0.227	-1.032
6	Farm power	-0.055	-0.683	-0.155	-1.953
7	Material possession	0.029	0.476	-0.005	-0.104
8	Occupation	0.225	1.503	0.143	1.271
9	Land holding	0.519	1.974	0.117	1.188
10	Annual income	0.000*	-2.283	0.000	0.987
11	Credit Acquisition	-0.056	-0.083	-0.257	-0.747
12	Sources of information	0.741*	2.392	0.045	1.287
13	Contact with extension personals	0.561**	4.635	0.070	0.792
14	Risk orientation	1.226**	4.1	0.074*	2.178
15	Cosmopoliteness	-0.063	-0.473	-0.119	-1.331
16	Scientific orientation	-1.315**	-3.127	0.301	1.341
17	Economic motivation	-0.991*	-3.302	0.788**	3.590
18	Achievement motivation	0.918*	2.266	-0.162	-0.586
** Significant at 0.01 probability level		Multiple R^2		0.858	0.895
* Significant at 0.05 probability level		Intercept constant (a)		12.13	6.32
(at 18,131 d.f) (at 18,131 d.f.)		F value		44.05	61.85

Multiple regression analysis of the independent variables with the Participation of famers in different ATMA activities

The result of multiple regression analysis is presented in Table 6 the result of multiple regression analysis reveals that, out of 18 independent variables, the two variables viz. contact with extension personals and risk orientation, contributed positively and highly significantly toward participation in different ATMA activities at 0.01 per cent level of probability and scientific orientation and economic motivation contributed negatively and highly significantly at 0.01 per cent level of probability in ATMA respondents. The three variables annual income, sources of information and achievement motivation contributed positively and significantly at 0.05 per cent level of probability toward participation in different ATMA activities of the respondents. The other variables age, education, family size, social participation, house type, farm power, material possession, occupation, land holding, credit acquisition and Cosmopoliteness had no significant contribution in participation of farmers in different ATMA activities of the respondents.

In case of Dindori farmers, out of 18 variables economic motivation showed the positive and highly significant contribution at 0.01 per cent level of probability and risk orientation showed the positive and significant contribution at 0.05 per cent level of probability and social participation showed the negative and significant contribution at 0.05 per cent level of probability in participation of different ATMA activities. Remaining 15 variables age, education, family size, house type, farm power, material possession, occupation, land holding, annual income, credit acquisition, sources of information, contact with extension personales, Cosmopoliteness scientific orientation and achievement motivation had no significant contribution in participation of different ATMA activities of the respondents.

All the selected 18 variables which were fitted in regression model explained the 85.80 and 89.50 per cent of the total contribution were explained in the participation of different ATMA activities of the Mandla and Dindori respondents, respectively. The corresponding F value was found significant with 18,131 *d.f.* and 18, 131 *d.f*

CONCLUSION

It concluded from the study, according to level of Participation, The study revealed that, among the different activities of ATMA programme participated most oftenly (47.33%) participated in group organized programme by respondents of Mandla district, In case of often participation (46.66%) respondents participated in training programme, as regard to rarely participation respondents

participated visit and farmer interest group (30.00%), participated in farmer & scientist interaction programme never used by 20.66 per cent. In case of Dindori district, most often participated (65.33%) of respondents in group organized programme. In case of often participation 50.00 per cent respondents participated in visit, as regard to rarely participation respondents participated in prize distribution programme (30.66%), The different activities of ATMA programmes participated in prize distribution programme never used by 16.00 per cent. The maximum of the respondents of Mandla district (60.00%) had medium level of participation, 57.33 per cent had high participation in different activities in Dindori district. Regarding extent of participation study concluded that 74.44 per cent was participated in group organized programme and 84.22 per cent was participated in group organized programme regarding different cafeteria activities in Mandla and Dindori district. The overall extent of participation was noted to be 62.22 per cent and 69.21 per cent was noted. Respectively.

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