Original Research Article

Socio Economic Statusof the beneficiaries of Agricultural Technology Management Agency in central part of India

ABSTRACT

ATMA is a society of key stakeholders involved in agricultural activities for sustainable agriculture development in the district. It is a focal point for integrating Research and Extension activities and decentralizing day-to- day management of the public Agricultural Technology System (ATS). 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. The study found that the majority of the beneficiary respondent in the study area belonged to middle age groups (36 to 50 years) and having education up to middle school and residing in nuclear family system with small size of family (up to 5 members). Majority of the ATMA beneficiaries had medium level of social participation. Majority of the respondents were performing agriculture, however majority of them were also engaged in 2 to 3 occupation to support their livelihood. Further majority of the respondents were having marginal farmers (up to 1 ha.). Majority of the beneficiaries were medium level annual income earnings.

Keywords-ATMA, sustainable agriculture, rural development and technology dissemination etc.

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Comment [c4]: Mention the key outcomes and implications of the obtained results.

Introduction

India's agricultural extension system is at a pivotal point in its development. During the past 50+ years, the Indian extension system has evolved to reflect national priorities. At the outset, extension worked to bring about broad-based rural development. However, the food crises starting in the late 1950s refocused the efforts of extension on food security and increasing food production. The combination of Green Revolution technology in the late 1960s and Training and Visit (T&V) Extension in the mid-1970s enabled India to achieve food self-sufficiency during the 1980s-1990s. At the same time, malnutrition and poverty continue to be persistent problems

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for the rural poor.Therefore, Effective extension and communication strategies are crucial for technology transfer and rural development (Chowhan, 2021).

During the mid-1990s the Government of India and the World Bank began exploring new approaches to extension that would address these system problems and constraints. The result was a new, decentralized extension approach, which would focus more directly on agricultural diversification and increasing farm income and rural employment. The central institutional innovation that emerged to address these system problems was the Agricultural Technology Management Agency or "ATMA" model that was introduced at the district level to 1) integrate extension programs across the line department (i.e., more of a farming systems approach), 2) link research and extension activities within each district, and 3) decentralize decision-making through

"bottom-up" planning procedures that would directly involve farmers and the private sector in planning and implementing extension programs at the block and district-levels. This model was pilot tested through the Innovations for Technology Dissemination (ITD) component of a World Bank funded, National Agricultural Technology Project (NATP) that became effective in 1998 and concluded in June 2005.

The Indian agriculture is at the turning point today. The agricultural growth has powerful leverage effects on the rest of the economy and all the three basic objectives of economic development of the country, viz. poverty alleviation, output growth, and price stability is best contribute by the growth of the agricultural sector (Agnihotri *et al.*, 2018). Agricultural Technology Management Agency (ATMA) is a registered society responsible for more effective and efficient dissemination of available agricultural technologies at district level.

It has linkage with the extension-related activities of ICAR institutes, including KVKs, research organizations line departments, NGOs and the private sector associated with agricultural development at the district andblock levels (DAC, 2010). The AgriculturalTechnology Management Agency (ATMA) isthe flagship programme for agricultural extension reforms in India. Agricultural technology management agency (ATMA) at district level was pilot tested under innovations in technology dissemination (ITD) component of World Bank funded national agricultural technology project (NATP) with effect from November, 1998 to 2004.

Materials and Methods

This study was carried out in Chhatarpur district of Madhya Pradesh state. Ex-post-facto research design was followed in the study.The study was conducted in Sagar ~~Division~~ division which was selected as purposively. The Sagar division consists of districts of Chhatarpur, Damoh, Panna, Sagar, Niwari and Tikamgarh.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 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.

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Result and Discussion

Age:

The data on age group presented in Table 1 and illustrated in Fig. 1revealed that the majority of the ATMA beneficiaries comes under middle agegroup with 53.33 percent, 30.95 percent beneficiaries comes under old agegroupwhile15.71 percentbeneficiariescomesunderyoungagegroup.

Table1: DistributionofATMAbeneficiariesaccordingtotheirage

S.No.	Categories	Frequency	Percentage
1	Young(upto35years)	33	15.71
2	Middle(36-55years)	112	53.33
3	Old(above55years	65	30.95
	Total	**210**	**100.00**

Level of Education

Education is an important indicator of socio-economic status that determines the knowledge and the rate of adoption of any technology. It has been observed that higher is the level of education,

greater the knowledge and adoption of the technology. The respondents were classified into seven categories on the basis of their educational attainment.

Table 2: Distribution orange growers according to their level of Education

n= 210

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S.No.	Category	Frequency	Percentage
1	Illiterate	5	2.38
2	Functionally Literate	15	7.14
3	Primary School	28	13.33
4	Middle School	29	13.81
5	High School	69	32.86
6	Intermediate	31	14.76
7	Graduate and above	33	15.71
	Total	210	100

The Table No. 2 showed that the majority of the ATMA beneficiaries (32.86 %) attained high school education, followed by graduate and above (15.71 %), Intermediate (14.76 %), middle school education (13.81 %), Primary level (13.33 %), functionally literate (7.14 %) and Illiterate 2.38 per cent. Out of 210 respondents.

Family Type

Table No. 3 Distribution of the ATMA beneficiaries according to their family type

Sr. No.	Type	ATMAbeneficiaries	
		f	*%*
1	Nuclear Family	111	52.86
2	Joint Family	99	47.14
	Total	**210**	**100**

The data of the Table 3 revealed that out of the total 210 ATMA beneficiaries, 52.86 per cent were belong to nuclear family, 47.14 per cent belong to joint family. ~~Thus~~Thus, it can be concluded that in the study areas nuclear family which are found two parents and one or more children.

Family Size

Table 4:Distribution of the ATMA beneficiaries according to their family size

n= 210

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S. No.	Family Size	Frequency	Percent
1	Small (Up to 3 members)	29	13.81
2	Medium (4 to 6 members)	126	60.00
3	Large (Above 6 members)	55	26.19
	Total	210	100

Mean= 5.1, SD= 2.1

The Table 4 showed that majority of ATMA beneficiaries (60.00%) had Medium family size, having 4 to 6 members, while 26.19 per cent ATMA beneficiaries belonged to large family size, having more than 6 members. ~~The more~~The greater number of members in the families might be due to dominancy of joint family system in the area.

Social participation

Active involvement of respondents in various social activities plays an important role in developing knowledge and skills as well as in forming positivism towards agricultural innovations, which ultimately leads them to adopt new technology. In the present context, it was conceptualized as the "degree of participation of respondents in various non-formal educational activities'' to obtain information, knowledge and skills related to new technologies.

Table No. 5 Distribution of the ATMA beneficiaries according to their social participation n=320

Sr. No	Organizations	Nature of participation			
		As a member		Position holder	
		f	*%*	*f*	*%*
1	Gram Panchayat	199	94.76	2	0.95
2	Block/Tehsil/District	110	52.38	3	1.43
3	Milk co-operative society	78	37.14	3	1.43
4	Argil. Service cooperative society	65	30.95	1	0.48

5	Farmers' club/co-operation	77	36.67	4	1.90
6	Youth club	46	21.90	3	1.43
7	NRLM	33	15.71	0	0.00
8	Any other, please specify	5	2.38	0	0.00

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Table No. 5 revealed that 94.76 percent respondents were worked as members in gram panchayat, but only 0.95 percent respondents were acquired ~~positon~~position holder in gram panchayat level. In the milk co-operative society 37.14 percent respondents were involved as members, while 21.90 percent and 15.71 percent respondents were involved as members in Farmers' club/co-operation and NRLM respectively.

Size of Landholding

Table 6: Distribution of the ATMA beneficiaries according to their size of landholding

S. No.	Category	Frequency	Percentage
1	Marginal (below 1 ha.)	64	30.48
2	Small (1.1 to 2.0 ha.)	53	25.24
3	Semi- Medium (2.1 to 4 ha)	70	33.33
4	Medium (4.1 to 10 ha.)	21	10.00
5	Large (above 10)	2	0.95
	Total	**210**	**100**

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Table 6 revealed that 30.48 per cent of ATMA beneficiaries were having less than 1 ha. of land, thus belonged to marginal farmer's category. ATMA beneficiaries belonged to small, Semi-medium and medium categories were 25.24 per cent, 33.33 per cent and 10.00 per cent, respectively. Data also shows that less than one per cent of ATMA beneficiaries were having large land holding. Thus, it may be concluded that majority of the respondents were marginal farmers having less than 1 ha. of agricultural land. This is due to the fact that in Chhatarpur district, per capita agricultural land is comparatively less. The other reason may be the fragmentation of the holdings due to small family system.

Occupation

Table No. 7- Distribution of the respondents according to their occupation

S.No.	Occupation	ATMA beneficiaries	
		f	*%*
1	Agriculture	160	76.19
2	Agriculture + Service	15	7.14
3	Agriculture + Business	30	14.29
4	Labor	5	2.38
5	Others	0	0.00
	Total	210	100

In this study, main occupation was agriculture. It is the most important variable that plays key role in adoption of new technology. It is the factor which determines the extent of liquidity and flow of fund which ultimately affects the rate of adoption. The above Table No. 4.1.7 indicated that from ATMA beneficiaries (76.19%) were dependent upon agriculture for annual income, while 7.14 percent ATMA beneficiaries had their Agriculture + Service. The possible reason might be that the most of the respondents get the income from farming.

Material possession

Table No. 8- Distribution of the ATMA beneficiaries according to their Material possession

Materialpossession	ATMA beneficiaries	
	f	**%**
Low(1-8)	35	16.67
Medium (9-16)	121	57.62
High (17-25)	54	25.71
Total	210	100

The data presented in the Table 8 depicts that incase of Mandla district the majority of 57.62 per cent had medium materialpossession, followed by 25.71 per cent high and 16.67 per cent had lowmaterial possession. Thus, it can be concluded that majority(57.62 per cent) of the respondents were having medium level of materialpossession.

Annual Family Income

This can be said as an income earned throughout the year from all sources by the orange growers. Normally, it is believed that the farmers with high income generally invest more in the development of agriculture, which brings up them towards the higher adoption of new agricultural technology.

Table 9: Distribution of the ATMA beneficiaries according to their Annual Family Income

S. No.	Income Categories (Rs.)	Frequency	Percentage
1.	Low Income (up to 100000)	58	27.62
2.	Medium Income (100001 to 200000)	134	63.81
3.	High Income (Above 200000)	18	8.57
	Total	210	100

The Table 9 revealed that the annual income of majority of the ATMA beneficiaries (63.81%) were found in the medium category of 100001to 200000 followed by 27.62 per cent ATMA beneficiaries in low income category (upto 100000) and 8.57 per cent ATMA beneficiaries in high income category (Above 200000).

Conclusion

From the above research works it can be concludedthat the majority of the beneficiary respondent in the study area belonged tomiddle age groups (36 to 50 years) and havingeducation up to middle school and residing in nuclear family system with small size offamily (up to 5 members). Majority of the ATMAbeneficiaries had medium level of social participation.

Majority of therespondents were performing agriculture, howevermajority of them were also engaged in 2 to 3occupation to support their livelihood. Furthermajority of the respondents were having marginal farmers (up to 1 ha.). Majority of thebeneficiaries were medium level annual incomeearnings.

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