Mysore J. Agric. Sci., 52 (2) : 212-218, 2018

Perception of Extension Personnel Towards Agriculture Technology Management Agency (ATMA)

Y. D. CHITHRA AND B. N. MANJUNATHA
Department of Agricultural Extension, College of Agriculture, UAS, GKVK, Bengaluru - 560 065
E-mail: chithra.chitru@gmail.com, chithrayduasb@gmail.com

ABSTRACT

The present study was conducted during 2017-18 in Bangalore rural, Chickballapur and Kolar districts of southern Karnataka. One hundred and fifty extension personnel were selected with the help of random sampling method for the study. The study revealed that a majority (57.33%) of the respondents had better level of perception towards ATMA programme followed by good (24.00%) and poor (18.67%). A maximum (80.00%) number of the respondents were strongly agreed with the statement that ATMA is a registered society established for promoting convergence of all stake holders at district level. Furthermore, the results also showed that the variables like education, experience in implementing ATMA, achievement motivation, organizational climate had significant and positive association with perception at 1 per cent level of significance, whereas, innovative proneness, attitude towards work, decision making ability, job perception, job performance, job satisfaction and participation in training programme had positive association at 5 per cent level of significance with perception of extension personnel towards ATMA. The R^2 (0.812) value indicated that, the fifteen independent variables put together, contributed a significant amount of variation (81.20%) in the overall perception level of extension personnel towards ATMA.

Keywords : Perception, extension personnel, ATMA, chi-square test, multiple regression

APPROACHES to agricultural extension in India and worldwide continued to evolve, since the Green Revolution during 1970s and 1980s. The acknowledged unsustainability of the Training and Visit (T&V) system (Anderson, 2007), agricultural extension, with its focus on increasing production via technology transfer has adopted decentralized, participatory and demand-driven approaches in which accountability is geared toward the users (Swanson, 2009). While the call for demand-driven agricultural extension has existed for several decades now, new modes of reaching out to farmers could have significant impact in India, as they might better reflect the local information needs of farmers.

In order to address the key constraints faced by extension system in the country with respect to reduced capacity of public extension services, its lack of decentralized and demand driven focus, the innovations in technology dissemination component of the National Agricultural Technology Project (NATP), Agricultural Technology Management Agency (ATMA) was pilot tested in seven states of the country *viz.*, Andhra Pradesh, Bihar, Himachal Pradesh, Jarkhand, Orissa, Maharashtra and Punjab. ATMA programme was launched in Karnataka during 2005-06 in districts *viz.*, Kolar, Bidar, Gulbarga, Koppal and Chamarajanagar and later extended to other districts. Though, ATMA represents an institutional reform which was implemented in project mode the success depends on the implementation process only. ATMA implemented throughout the state of Karnataka since a decade has taken several initiatives to promote a positive change in the farming community and has now become the keyword for extension in the country. It was launched to consolidate the earlier investments and address specific system constraints, weaknesses and gaps that remained un-addressed by previous research and extension projects. Innovations in Technology Dissemination (ITD) component, in particular was expected to test new innovations in technology dissemination with restructured institutional and developmental arrangements resulting in delineation of future direction of the extension system and at the same time, bridge serious Research-Extension-Farmer

(R-E-F) linkage problems that currently constrain the flow of appropriate technology to farmers Chaturvedani *et al.* (2017).

Over the years, India has made progress in the area of agricultural development. This may in the part be attributed to the concentrated efforts of researchers, policy makers, policies of the government and the significant role played by the extension system. Despite these past efforts, there has been considerable debate about the effectiveness of the extension system in India.

Agricultural extension personnel are intermediaries between research and farmers. They operate as facilitators and communicators, helping farmers in their decision-making and ensuring the appropriate knowledge needed to obtain the best results. The present investigation is an modest attempt to assess the perception of extension personnel towards ATMA. The study of this nature is a pioneering effort as there are no research studies on assessing the perception of extension personnel towards ATMA. With this background, the present study was take-up to throw light on perception of extension personnel towards ATMA and to find out the association of socio-psychological and communication characteristics of extension personnel with their perception level towards effective functioning of ATMA.

Methodology

The study was carried out in Bangalore rural, Chickballapur and Kolar districts of southern Karnataka. Data was collected by using simple random sampling technique from 75 Agricultural officers and 75 Assistant Agricultural officers. Thus, the total sample size was 150 respondents. From each selected districts, 25 Agricultural officers and 25 Assistant Agricultural officers were selected randomly. Age, education, experience in implementing ATMA, rural-urban background, achievement motivation, organizational climate, innovative proneness, attitude towards work, decision making ability, job perception, job performance, job satisfaction, perceived work load, participation in training programme and mass media participation were taken as independent variable while perception is considered as the dependent variable. The perception is correlated with the several independent variables. Measuring association and extent of contribution between variables and perception is important as it indicates those factors that make perception more affirmative towards the ATMA programme. The study was conducted by using ex-post facto research design. In order to measure perception of respondents, a comprehensive scale was constructed based on the interaction with the experts. The perception scale consisted of 21 statements and the responses were obtained on a five point continuum of agreement representing 'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree' assigning a weightage of 5, 4, 3, 2 and 1 respectively. The perception score of a respondent was calculated by adding up the scores obtained by the respondent on all 21 statements. The perception score of this scale ranged from a minimum of 21 to a maximum of 105. The respondents were given their level of agreement and disagreement about 21 statements. Based on their scores, perception level were categorized *i.e.*, ($\geq \bar{x} + \sigma$) as good, ($\bar{x} \pm \sigma$) as better, and ($\leq \bar{x} - \sigma$) as poor. Information regarding 15 personal, socio-economic, psychological and communication characteristics (independent variables) of extension personnel were collected using a questionnaire with suitable scales. The collected data was scored, tabulated and analyzed using frequency, mean, percentage, chi-square test and multiple regression analysis.

Results and Discussion

Overall perception of extension personnel towards ATMA

It is evident from the Table I and Fig. 1 that, a more than half (57.33%) of the respondents had better perception about ATMA programme whereas, 24.00 and 18.67 per cent of the respondents had good and poor perception towards ATMA respectively. It can be inferred that as high as 81.33 per cent of the extension personnel had better to good perception towards ATMA. The possible reason for this could be the more experience in implementing ATMA programmes among the extension personnel and also participation in the training programmes. The results were in line with results of Olaniyi *et al.* (2011) and Preethi *et al.* (2017).

TABLE I

Overall perception of extension personnel towards ATMA

(n=150)

Category	Criteria	Extension personnel	
		No.	Per cent
Poor (Mean – ½ SD)	Up to 72.00	28	18.67
Better (Mean ± ½ SD)	>72.00 up to 79.87	86	57.33
Good (Mean + ½ SD)	>79.87	36	24.00
	Total	150	100.00

Mean= 75.94 SD=8.74

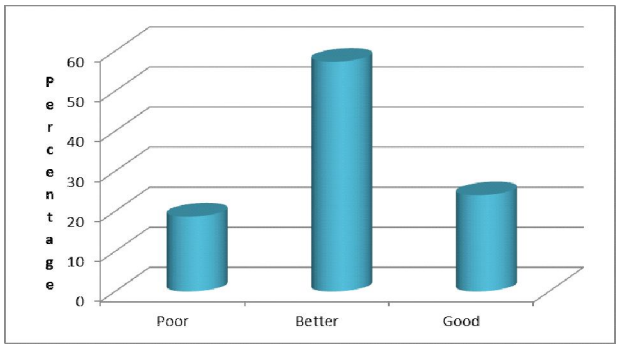

Fig. 1 : Overall perception of extension personnel towards ATMA

Statement wise perception of Extension personnel Towards ATMA

Table II depicts that a great majority of the respondents strongly agreed for the statements such as: a) ATMA is a registered society established for promoting convergence of all the stakeholders at district level (80.00%); b) Strategic Research and Extension Plan (SREP) contains detailed analysis of farming systems (78.60%); c) ATMA is established to strengthen Research-Extension-Farmers linkages (48.00%); d) SREP is prepared for implementation of ATMA (40.00%) and e) SWEP contains cafeteria of activities to be implemented each year (36.00%). The possible reason might be that ATMA is an extension reform converging all the line departments with bottom up planning where all the stakeholders are involved to develop the block action plans and strategic research extension plans for conducting day to day activities. This has reduced the research-farmer-linkages and in turn increased the net income and productivity of the farming community. The results are in conformity with the Josefina *et al.* (2012).

TABLE II

Statement-wise perception of extension personnel towards ATMA

(n=150)

Statements	Perception of extension personnel				
	SA	A	UD	DA	SDA
1	2	3	4	5	6
ATMA is a registered society established for promoting convergence of all the stakeholders at district level.	120 (80.0)	30 (20.0)	0 (0)	0 (0)	0 (0)
ATMA is not an extension reform aimed at farmers development	1 (0.6)	0 (0)	28 (18.6)	72 (48)	49 (32.6)
ATMA is established to strengthen Research-Extension-Farmers linkages	72 (48.0)	35 (23.3)	43 (28.6)	0 (0)	0 (0)
IDWG provides guidance to ATMA Governing Board (Steering Committee) for execution of activities at district level.	40 (26.6)	56 (37.3)	30 (20)	24 (16)	0 (0)
Governing body of ATMA functions as a policy making body but not provides guidance in functioning of ATMA	12 (8.0)	15 (10)	40 (26.6)	23 (15.3)	60 (40.0)

1	2	3	4	5	6
ATMA Governing Board does not reviews and guide for effective implementation of Strategic Research and Extension Plan (SREP)	10 (6.6)	35 (23.3)	15 (10)	69 (46.0)	21 (14.0)
ATMA does not encourages agriculture lending institutions in the district to arrange required capital for farmers	10 (6.6)	6 (4.0)	41 (27.3)	26 (17.3)	67 (44.6)
SREP is prepared for implementation of ATMA	60 (40.0)	45 (30.0)	22 (14.6)	21 (14.0)	2 (1.3)
SREP contains detailed analysis of farming systems	118 (78.6)	1 (0.6)	1 (0.6)	30 (20.0)	0 (0.0)
SWEP is an annual plan based on SREP	46 (30.6)	73 (48.6)	30 (20.0)	1 (0.6)	0 (0.0)
SWEP contains cafeteria of activities to be implemented each year	54 (36.0)	65 (43.3)	31 (20.6)	0 (0)	0 (0.0)
Block Development Team (BDT) helped district core team in upgrading of SREP	14 (9.3)	74 (49.3)	49 (32.6)	13 (8.6)	0 (0.0)
Farm Information and Advisory Centre (FAIC) is an extension arm of ATMA	24 (16.0)	63 (42.0)	41 (27.3)	10 (6.6)	12 (8.0)
Farm Advisory Committee helps in providing farmer feedback mechanism	44 (29.3)	17 (11.3)	58 (38.6)	30 (20)	1 (0.6)
The Farmer Friend (FF) will serve as a vital link between extension system and farmers at village level	23 (15.3)	45 (30.0)	43 (28.6)	27 (18)	12 (8.0)
ATMA involves in formation of Farmers' Advisory Committee [FACs] in each block to advise the Block Technical Team(BTT) in extension priorities	53 (35.3)	45 (30.0)	49 (32.6)	1 (0.6)	2 (1.3)
Farmer-to-farmer extension support at the village level is promoted through Farmers' Group is not much active	30 (20.0)	42 (28.0)	39 (26.0)	26 (17.3)	13 (8.6)
ATMA publishes literature on improved practices related to agriculture is difficult to understand for farmers	27 (18.0)	28 (18.6)	52 (34.6)	37 (24.6)	6 (4)
ATMA extensively use mass media to create awareness about technologies and programmes is expensive	78 (52.0)	16 (10.6)	30 (20.0)	24 (16.0)	2 (1.3)
ATMA envisages on Integrated Farming System	28 (18.6)	38 (25.3)	51 (34.0)	1 (0.6)	32 (21.3)
ATMA does not helps in updating the market information through market intelligence	39 (26.0)	11 (7.3)	50 (33.3)	45 (30)	5 (3.3)

SA=Strongly agree, A=Agree, UD= Undecided, DA= Dis Agree, SDA= Strongly Disagree

Further, more than one third of the respondents agreed for the statements such as IDWG provides guidance to ATMA Governing Board (Steering Committee) for execution of activities at district level (37.3%), SWEP is an annual plan based on SREP (48.6%), SWEP contains cafeteria of activities to be implemented each year (43.3%) and Block Development Team (BDT) helped district core team in upgrading of SREP (49.3%) the results are in conformity with the Sahu *et al.* (2013).

Majority of the respondents strongly disagreed for the statements as ATMA is not an extension reform aimed at farmers development (32.6%), Governing body of ATMA functions as a policy making body but does not provide guidance in functioning of ATMA (40.00%) and ATMA does not encourages agriculture lending institutions in the district to arrange required capital for farmers (44.60%). The results are in line with the Kedarnath Yadaw *et al.* (2013).

Association between personal, socio-psychological and communication characteristics of extension personnel with their perception level

The results in the Table III revealed that education status, experience in implementing ATMA, achievement motivation, organizational climate had significant and positive association with perception at 1 per cent level of probability. Characteristics like innovative proneness, attitude towards work, decision making ability, job perception, job performance, job satisfaction and participation in training programme had positive association at 5 per cent level of probability which means that the perception is dependent on these variables and there existed an association between them. The results are in conformity with Preeti *et al.* (2017)

Extent of contribution of personal, socio-psychological and communication characteristics of extension personnel on their perception level

It is apparent from value coefficient of multiple regression R^2 (0.812) given in Table IV that, the fifteen independent variables put together, contributed a significant amount of variation (81.20%) in the overall perception level of the extension personnel. Further, it is also indicated by the table that, the independent variables like education, experience in implementing ATMA, achievement motivation, organizational climate were having significant and positive relationship with perception at 1 per cent level of significance, while, innovative proneness, attitude towards work, decision making ability, job perception, job performance, job satisfaction and participation in training programme had significant and positive relationship at 5 per cent level of significance with perception of extension personnel towards ATMA. The results signifies the importance of these independent variables as predictors of perception level of extension personnel towards ATMA.

TABLE III

Association between personal, socio-psychological and communication characteristics of extension personnel with their perception level

(n=150)

Variables	Chi-square value	
Age	7.423	NS
Educational status	14.280	**
Rural urban background	1.268	NS
Experience in implementing ATMA	19.040	**
Achievement motivation	18.47	**
Organizational climate	16.657	**
Innovative proneness	10.289	*
Attitude towards Work	10.860	*
Decision making Ability	9.887	*
Job perception	9.999	*
Job performance	9.921	*
Job satisfaction	10.156	*
Perception of work load	3.698	NS
Participation in training programme	13.012	*
Mass media participation	6.698	NS

NS= Non significant; *Significant at 5% level of significance; ** Significant at 1% level of significance;

TABLE IV

Extent of contribution of personal, socio-psychological and communication characteristics of extension personnel on their perception level

(n=150)

Variables	Regression coefficient (B)	Standard error	t' values
Age	0.367	0.287	0.780 NS
Educational status	0.969	0.991	2.612 **
Rural urban background	0.036	0.040	1.100 NS
Experience in implementing ATMA	1.121	1.621	3.420 **
Achievement motivation	0.918	0.994	2.831 **
Organizational climate	1.098	1.145	3.184 **
Innovative proneness	0.404	0.844	1.930 *
Attitude towards Work	0.410	0.912	2.200 *
Decision making Ability	0.997	1.021	2.147 *
Job perception	0.200	0.411	2.050 *
Job performance	0.678	0.931	1.994 *
Job satisfaction	0.546	0.906	1.992 *
Perception of work load	0.064	0.074	0.056 NS
Participation in training programme	0.368	0.925	2.510 *
Mass media use	0.039	0.098	0.868 NS

NS= Non significant; *Significant at 5% level of significance; ** Significant at 1% level of significance; R^2=0.812, F=25.4**

Thus, all these fifteen components *viz.*, age, educational status, Rural urban background, Experience in implementing ATMA, Achievement motivation, decision making, job performance, job satisfaction, perceived work load and participation in training program, organizational climate and mass media use individually and in combination greatly contributed for the perception level of extension personnel. The results are in conformity with the findings of Kin Mar Oo (2005), Tologbonse *et al.* (2010) and Suresh *et al.* (2013).

The findings of the study revealed that as high as 81.66 per cent of the respondents had better to good perception towards ATMA. Still, there is a need to improve the perception of extension personnel towards ATMA by providing adequate technical guidance, trainings, exhibitions and exposure visits by the government agencies to function effectively in ATMA. The variables like education, experience in implementing ATMA, achievement motivation, organizational climate, innovative proneness, attitude towards work, decision making ability, job perception, job performance, job satisfaction and participation in training programme were positively and significantly associated with perception. Hence the concerned agencies should consider these characteristics while selecting the extension personnel for extension educational activities.

REFERENCES

ANDERSON, J. R., 2007, Background paper for *World Development Report 2008*. Agricultural Advisory Services. Washington, D.C.: World Bank, Agriculture and Rural Development Department.

CHATURVEDANII, A. K., MAHESH CHANDER, JITENDRA PRATAP AND JAYANT GOYAL, 2017, Constraints in extension service delivery perceived by ATMA beneficiary farmers of Chhattisgarh. *Int. Arch. App. Sci. Technol.*, **8** (1) : 2277 - 1565.

JOSEFINA ,T., DIZONI, MARGARET, M., CALDERON AND MYRANEL, 2012, Youth's perception and attitudes towards the ifugao rice terraces. *J. Env. Sci. and Mgnt.* **15** (1) : 52 - 58.

KEDARNATH YADAW, M. L., SHARMAAND, L. R., VERMA, 2013, An analysis of role performance of agricultural extension workers in Chhattisgarh. *Agric. Update*, **8** (3) : 324 - 331.

KHIN MAR OO, 2005, Knowledge and adoption of improved dairy management practices by women dairy farmers in Dharwad district. *M. Sc. (Agri.) Thesis*, Univ. Agric. Sci., Dharwad (India).

OLANIYI, O. A., ADEBAYO, O. O. AND AKINTOLA, S., 2011, Rural youth's perception and utilization of agricultural information in Oyo state, Nigeria. *J. Agric. Soc. Sci.*, **7** : 117 - 123.

PREETHI, M., NATARAJU, M. S. AND LAKSHMINARAYAN, M. T., 2017, Perception of farm youth towards agriculture. *Mysore J. Agric. Sci.*, **51** (1) : 139 - 144.

SAHU, BHEDU PRASAD, CHATURVEDI, M. K. AND YADAW, KEDAR NATH, 2013, Impact of agricultural technology management agency ATMA on socio-economic status of tribal farmers. *Agric. Update,* **8** (1 & 2) : 1 - 7.

SURESH C. B., JOSHIB, P. K., CLAIRE, J., GLENDENNINGC, KWADWO ASENSO-OKYEREC AND RASHEED SULAIMAN, V. D., 2013, The state of agricultural extension reforms in India : Strategic priorities and policy options. *Agric. Econ. Res. Review,* **26** (2) :159 - 172

SWANSON, B., 2009, Changing extension paradigms within a rapidly changing global economy. Paper presented at the European Seminar on Extension Education, Assisi, Italy.

TOLOGBONSE, E. B., AUTA, S. J., BIDOLI, T. D., JALIYA M. M., ONU, R. O. AND ISSA, F.O., 2010, Perception of the effects of climate change and coping strategies in three agro-ecological zones of Nigeria, *J. Agric. Extn.*, **14**(1).

(*Received :* May, 2018 *Accepted :* June, 2018**)**