



Coordination of ATMA with different agencies in Andhra Pradesh: a pluralistic drive for development of Agriculture sector in Rural India

Hema Sarat Chandra. N^{1*}, Kadian, K.S.²

¹Department of Agricultural Extension, College of Horticulture, DRYSRHU. ² Principal Scientist and Head, Dairy Extension Division, NDRI, Karnal

Corresponding author: sarathchandra.neelam@gmail.com

ABSTRACT

The reformed public agricultural extension system of India, ATMA is serving at its best to incorporate all the four Cs for agricultural development. Through this paper, an attempt has been made to show the extent coordination of ATMA with multiple agencies at district level and comparative analysis of coordination. It is an ex-post facto hypothesis testing type of field study conducted in three selected districts of Andhra Pradesh. It has been found that phase one in comparison to two and three phases of ATMA introduction in the state has highest coordination. ATMA has not shown any significant difference in coordination with different agencies. The overall coordination score of the study area is 0.6 on ATMA Coordination Index (ACI) which has developed for the purpose of this study. Five categories were made through cumulative square root frequency method, and it has found that most of the members (29.85%) categorized for high coordination of ATMA in the study area.

Key words: Coordination of ATMA, ATMA coordination index, ATMA-KVK Convergence

Received 30.07.2017

Revised 02.08.2017

Accepted 27.08. 2017

INTRODUCTION

It has been realized that Convergence, Coordination, Collective action and Capacity building are “four Cs” the way forward for agricultural sector at present situation in India. The reformed public agricultural extension system of India, ATMA is serving at its best to incorporate all these four Cs for agricultural development through its’ unique bottom up approach and convergence of extension with KVKs & other such organizations. There is a possibility to converge ongoing developmental activities, schemes with ATMA to improve efficiency in implementation. It is pertinent to study the innovative initiation of ATMA’s effort to converge and coordinate multiple agencies, for better implementation to avoid duplication of work as well as to introduce policy changes for coordination. ATMA coordination Index (ACI) has been prepared and used to measure the coordination level of ATMA with different agencies. Through this paper, an attempt has been made to show the extent coordination of ATMA with multiple agencies at district level and comparative analysis of coordination.

RESEARCH METHODOLOGY

Research design and Method of data collection adopted for this study was “ex-post facto hypothesis testing type of field study”.

Locale of study: The study was conducted in Andhra Pradesh due to its longer exposure to ATMA since its pilot testing stage i.e., 1998 under NATP. ATMA has been introduced in the Andhra Pradesh state in three phases. One from each phase three districts have been randomly selected for this study. **Chittoor** from phase one, **Nellore** from phase two and East Godavari from phase three were randomly selected for this study. According to Andhra Pradesh reorganization Act 2014 presently there are 13 districts in the Andhra Pradesh state so only those thirteen districts have been considered for random selection.

Selection of respondents: ATMA functions through its Block Technology Teams (BTTs) to cover up all blocks (one BTT to each Block) in the district. All BTTs from three districts were considered for study. Each BTT is supposed to have one Block Technology Manager (BTM) and two Assistant Technology

Managers (ATMs) who are considered as the actual field extension functionaries in ATMA model. All block technology and assistant technology managers under selected three districts were considered as respondents. Persons from ATMA management committee like Project director, deputy project director and the officials of state department of agriculture & allied sciences belonging to selected districts and resource person from KVK were also considered for study.

Measuring Instrument: ATMA coordination Index has been developed to measure the extent of coordination of ATMA with different agencies. Kerlinger (1973) defined an index as “the number that is composed of two or more other numbers”. A composite index can be defined as an aggregation of sets of variables for the purpose of meaningfully condensing large amounts of information (Dash *et al.*, 2007). Three dimensions such as Coordination between ATMA and line departments (D1), Coordination between ATMA and KVKs (D2), and Coordination between ATMA and farming community (D3) were used for ATMA coordination index (ACI). Normalized rank order method was used to assign specific weights to each dimension. Ranking for the dimensions was done by the judges who were the policy researchers, experts from ATMA, KVKs, extension education subject experts, extension scientists and the research scholars working in the relevant research problems of this research study. C values were determined for each rank from the **Table M** (Guilford, 1954 p.577).

RESULTS AND DISCUSSION

Coordination of ATMA with different agencies at district level in Andhra Pradesh: The coordination of ATMA with Agriculture and allied departments, KVKs, Farming community in Andhra Pradesh was assessed. The data obtained from the ATMA professionals was tested with F test to know whether there is any discrimination in coordination of ATMA with these different agencies and the test details are as follows

H0: There is no significant difference in the level of coordination by ATMA with different agencies

H1: There is a significant difference

Table 1: ANOVA of Coordination of ATMA with different agencies at district level

Source of variation	sum of squares	df	variance estimated	f	p
Between agencies	846.176	2	423.088	0.815	0.448
Within agencies	28,535.33	55	518.824		
Total	29,381.51	56			

F Table value at $v_1=2$, $v_2=55$ degrees of freedom and at 5 percent level of significance is 3.17. Thus computed value is (0.815) less than F Table value therefore **the null hypothesis (H0) is accepted**. It has been realized from Table 1, there is **no significant difference** among coordination levels of ATMA with different agencies. ATMA in the study area is not showing discrimination in coordination for convergence of extension activities. The difference showing in the Fig 1 is non-significant difference. The mean scores of each agency for ATMA coordination has consider to plot a web graph, which represents coordination of ATMA with farming community is slightly less in comparison with the coordination of ATMA with KVKs and Department of Agriculture and Allied sectors, but statistically it has been realized, this difference is no significant.

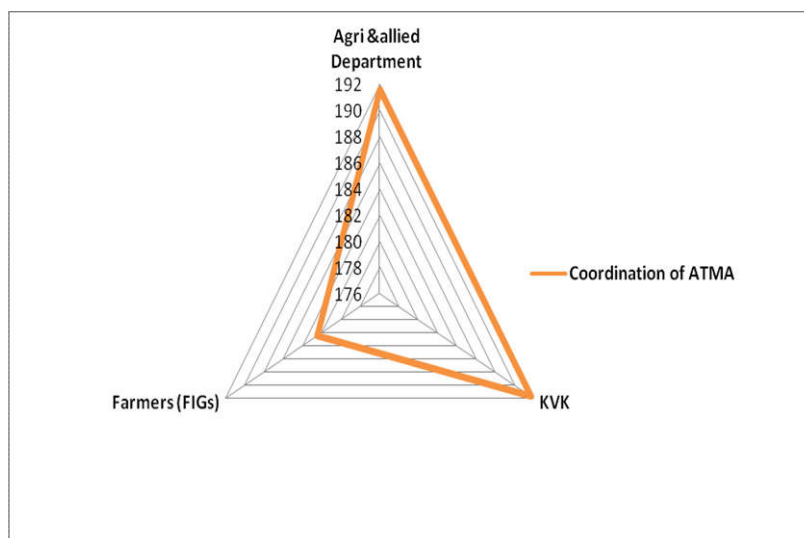


Fig 1: Coordination of ATMA with different agencies

Coordination of ATMA with different agencies in three phases of its introduction in Andhra Pradesh state: To check this coordination has significantly no difference in all three phases, again f test has followed here. To show the level of coordination is significantly equal in three phases of ATMA introduced in Andhra Pradesh. The details of the test conducted was as follows

- H0: There is no significant difference in coordination levels among three phases (districts) of which ATMA has introduced in Andhra Pradesh
- H1: There is a significant difference

Table 2: ANOVA of coordination of ATMA in three phases of its introduction in state

Source of variation	sum of squares	df	variance estimated	f	P
Between phases	14,209.89	2	7,104.94	42.746	0
Within phases	10,637.71	64	166.214		
Total	24,847.59	66.00			

As P value is (p=0.000) less than level of significance (0.05) *the null hypothesis (H0) is rejected and alternate hypothesis (H1) was accepted.* It has been realized from Table 2, there was a significant difference in coordination of ATMA in three phases. There were three distinct phases where ATMA has introduced in the Andhra Pradesh as pilot cum phase 1 (1998, 2005-2006), phase 2 (2006-2007) and Phase 3 (2008-2009). The test reveals there was a significant difference among these phases about coordination offered by ATMA. However, to know in which phase coordination of ATMA is significantly more, these three phases were tested in three different combinations. Z test has conducted for phase 1 and phase 2 to know which phase has significantly more at coordination, it has been realized phase 1 is having significantly more coordination of ATMA than phase 2. Similarly when Z test conducted for phase 1 and phase 3, again phase 1 was having significantly more coordination of ATMA than phase 3. Z test conducted for phase 2 and phase 3 reveals that phase 3 has significantly more coordination of ATMA than phase 2. Since the results obtained from the F test and three Z tests revealed that there was a significant difference among the coordination of ATMA in three phases. Hence these phases were ordered about their coordination of ATMA as: **Phase 1 > Phase 3 > Phase 2**. Coordination of ATMA in Phase 1 (Chittoor) was significantly more than Phase 3 (East Godavari) followed by Phase 2 (Nellore).

Table 3: Phase of ATMA with respective scores on ATMA Coordination Index

Phase of ATMA in Andhra Pradesh	Score on ACI
Phase 1 (Chittoor)	0.7
Phase 2 (Nellore)	0.46
Phase 3 (East Godavari)	0.62

During pilot testing phase of ATMA, 28 less progressive districts from 7 Indian states have been selected; Chittoor district of Andhra Pradesh is one of them. This study revealed ATMA in Chittoor district scored more for coordination than ATMA in East Godavari district (Phase 3) which is agriculturally more progressive, often called as a rice bowl of Andhra Pradesh state. ATMA has functioning in Chittoor district since 1998, which made this agriculturally backward district into more progressive one.

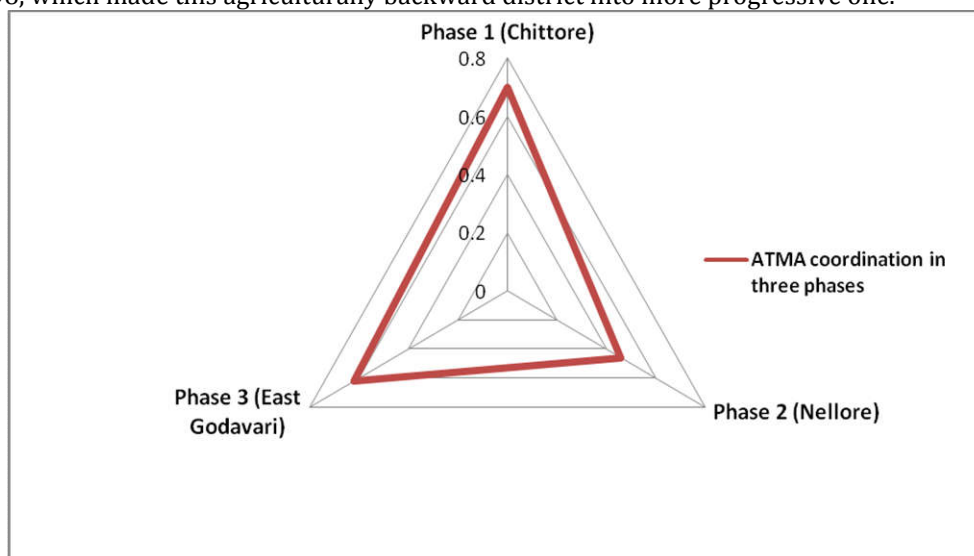


Fig 2: Coordination of ATMA in three Phases of its' introduction in Andhra Pradesh

Extent of Coordination by ATMA in Andhra Pradesh state: The coordination of ATMA in Andhra Pradesh was assessed by interviewing 67 ATMA professionals including all ATMA extension functionaries

(BTMs and ATMs), ATMA management committee members (PD, DPD, experts from Agriculture and allied departments, in-charge from KVK and NGO personnel) from selected three districts of Andhra Pradesh state. Interview schedule was well prepared in order to represent the items of ACI and administered to respond in a four point rating scale (very true, true, somewhat true, and not true). Obtained scores of ATMA professionals on the ATMA coordination index (ACI) were categorised into five categories based on cumulative square root frequency method. Under this method Class interval obtained was 0.07292, CSRF value was 20.57495, Minimum value was 0.323657 and Maximum value was 0.834096. Majority (29.85%) of the ATMA professionals expressed there was a high coordination of ATMA followed by Medium (25.37%) and Low coordination (16.42%). Few of them expressed very low coordination (14.93%) followed by very high coordination (13.43%).

Table 4: Coordination of ATMA with different agencies represented by the respondents by CSRF method (n=67; 4- point rating scale)

Sl.No	FIVE CATEGORIES	RANGE (CSRF)	Frequency	Percentage (%)
1	VERY LOW	till 0.462253	10	14.93
2	LOW	0.462254-0.566817	11	16.42
3	MEDIUM	0.566818-0.643067	17	25.37
4	HIGH	0.643068-0.714737	20	29.85
5	VERY HIGH	from 0.714738	9	13.43

Class interval: 0.07292, CSRF value: 20.57495, Minimum: 0.323657, Maximum: 0.834096

CONCLUSION

It was realized that ATMA has not shown any kind of discrimination at coordinating different agencies and most of the ATMA staff represents there was a high coordination. But when we observe the overall score of ATMA of the study area (0.6) on the ACI index, still there is lot of scope to improve it. The ATMA management committees, Farmers advisory committees of two and three phases must consider the best practices have noticed in phase 1 of ATMA and should adopt, in order to enhance the level of coordination. Further, it has been found during the study, with introduction of adequate policy changes like enhancing working conditions of the jobs of BTMs and ATMs by regularizing it with effective salary pay, provision of training facility time to time and strengthening the monitoring & management of ATMA, there will be an improvement coordination with other departments, convergence of various important developmental schemes, group facilitation etc. the performance of ATMA will be improved. It can be concluding that Government of India can proceed further to strengthen ATMA like programs. Through this study it has been proved the role of this program in improving the performance of an agriculturally less progressive district.

REFERENCES

1. Dash, R., Chattopadhyay, P. and Pahuja, N. 2007. Environmental sustainability index for Indian states. Centre for development Finance Institute for Management and research, Chennai.
2. Kerlinger, F.N. 1973. Foundations of Behavioural Research. Holt, Rinehart and Winston Inc., New York.
3. Guilford, J.P. 1954. Psychometric methods (2nd ed.). McGraw-Hill, the University of Wisconsin – Madison, New York.

CITATION OF THIS ARTICLE

Hema Sarat Chandra, N, Kadian, K.S.: Coordination of ATMA with different agencies in Andhra Pradesh: a pluralistic drive for development of Agriculture sector in Rural India . Bull. Env. Pharmacol. Life Sci., Vol 6 Special issue [3] 2017: 64-67