



## Extent of Extension Service Utilisation of Farmers in Andhra Pradesh

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### ABSTRACT

*Ex-post facto research design was followed for carrying out the study in the state of Andhra Pradesh. Sample comprised of 120 farmers selected randomly from four randomly selected mandals of Mahaboobnagar district which was a purposive selection. Majority of the respondents had medium extent of utilisation of services followed by high and low utilisation of services. Regarding extent of utilisation of services the diagnostic services ranked first followed by services through training programmes, technology transfer, other services, services through RAWEP students, services through information centre and supply of information material and services through assessment and refinement of technology in the order of ranking. It was revealed through the study that there was significant relationship between profile characteristics and extent of utilization of service and more so in the case of information seeking behavior. It can be concluded that the utilisation of DAATTC services helps the farmers in increasing the level of knowledge, skill and adoption of technology.*

### KEYWORDS :

### INTRODUCTION

Technological innovation has been a key element in the growth of agriculture throughout the world. But the professionals in agricultural development are gradually realizing that modern agricultural science and technology has a certain bias which causes a different impact on development in different regions and areas. Due to the growth of the population and the low price for agricultural produce, there is an urgent need to develop a holistic/ integrated approach to combat the problems of agricultural production and productivity and find out viable solutions to satisfy the various needs of the people of the developing countries. Transfer of agricultural technology through Research – Extension – Farmers systems contributed tremendously in increasing agricultural production in India and also its transfer mechanism has been very purposeful and result-oriented.

Extension is a series of embedded communicative intervention that is meant to develop or induce innovations which help to resolve problematic situations. Agriculture is the most well integrated sector of the economy throughout the world and agricultural extension is the nucleus of the agriculture cell. The development of agriculture is mostly dependent on the effectiveness of agricultural extension – its services, methodologies and processes. Extension network is effective there reason proper agricultural technology will not reach to its users for its efficient adoption.

Extension as an essential pillar for research and development however, unfortunately, a somewhat unhealthy perception of extension prevails in many countries, caused by a weak extension lobby, faulty initial organizational set-up, an inherent lack of trust in extension by most of the research organizations and traditionally poor career development conditions in profession of extension. Agricultural research agendas remain largely academic unless extension workers provide input in terms of the identified and as – yet unsolved field problems of the farmers. Research focusses on the technical aspects for generating useful technologies, while extension focuses on the acceptance, utilisation and finally adoption of technologies by users.

The present study was undertaken to study the utilisation of services of DAATTC by farmers which includes right technology being delivered to right people in right way at right time through right channel.

### MATERIALS & METHODS

The following procedure was followed towards extent of utilisation of services. The services selected for the study was those provided by DAATTC were listed different aspects under each of the services were formulated. This was given to those working in various extension units comprising of twenty judges. They were requested to rate each aspect on a three point continuum according to their relevance ranging

from 'highly relevant' (3), 'relevant' (2) and 'not relevant' (1) with the respective scores accorded. Frequency of respondents against each aspect were multiplied with respective scores, the total scores for each aspect were worked out and the medium value of each aspect was arrived at by dividing total score with number of respondents. The medium value for each aspect was rounded off to the nearest integer. These values have been taken as weights for different aspects. Those aspects whose medium values were finally one and less than one were deleted. The aspects under each of the services whose values were more than one were finally selected.

Those aspects under each of the services included various items like information coverage, timeliness, suitability, accessibility and perception towards past performance. The respondents were asked to initial respond to each of these aspects with relevant scores of two or one accorded. Then they were asked to state their extent of utilisation on a three point continuum namely highly utilised (3), partially utilised (2), less utilised (1) with respective scores accorded. Full utilisation is operationalised as the utilisation of services regularly in each season in every year by the respondents to make improvement in one or all behavioral components namely knowledge, attitude and skill. Partial utilisation is operationalised as the utilisation of services at least once in a year continuously for three years by the respondents to make improvement in one or all behavioral components. Less utilisation is operationalised as the utilisation of services once in three years by the respondents to make improvement in one or all behavioral components. The final score of a respondent against each aspect was obtained by adding these two score i.e., regarding each item of aspect and extent of utilisation against each of these aspects. The maximum score was 198 and minimum score obtained was 120. The total score of respondents was arrived by multiplying the frequency of responses of each aspect of service with corresponding final score. The mean score of each aspect of service was arrived from dividing total score with number of respondents and aspects were ranked based on mean scores.

**Categorization:** The respondents were grouped into following three categories i.e. low, medium and high utilisation of DAATTC services based on inclusive class interval technique.

Category of utilisation	Range
Low	120-146
Medium	146-172
High	172-198

Coefficient of correlation was used to test the relationship between profile characteristics and extent of utilization of extension services.

**RESULTS & DISCUSSION**

Majority (60.00%) of the respondents had medium extent of utilisation of services followed by high (27.50%) and low (12.50%) utilisation of services. These findings are in line with the findings of Reddy (1999).

**Table.1 Distribution of respondents based on extent of utilisation of services n=120**

S. No.	Category	Respondents	
		Frequency	Percentage (%)
1	Low	15	12.50
2	Medium	72	60.00
3	High	33	27.50

It could be inferred that majority of the respondents had medium extent of utilisation of services due to illiteracy, small farm size, medium annual income, medium innovativeness, medium information seeking behaviour, medium social participation and medium participation in DAATTC activities.

**Table.2 Distribution of respondents based on overall ranking of services in utilisation n=120**

S. No.	Services	Total score	Mean score	Rank
1	Services through assessment and refinement of technology	444.43	3.70	VII
2	Diagnostic services	474.40	3.95	I
3	Services through information centre and supply of information material	446.75	3.72	VI
4	Services through training programmes	471.20	3.93	II
5	Services through RAWEP students	453.00	3.78	V
6	Technology transfer	469.57	3.91	III
7	Other services	462.50	3.85	IV

It is evident from the findings of Table.2 that the regarding extent of utilisation of services the diagnostic services ranked first followed by services through training programmes, technology transfer, other services, services through RAWEP students, services through information centre and supply of information material and services through assessment and refinement of technology in the order of ranking.

**Table.3 Distribution of respondents based on services wise and aspect wise ranking in utilisation**

S No	Services	HU		PU		LU		Total score	Mean score	Rank
		F	%	F	%	F	%			
I	Services through assessment and refinement of technology									
1	Provision of complete information	26	21.67	42	35.00	52	43.33	454	3.78	IV
2	Timely provision of service	26	21.67	38	31.67	56	46.67	450	3.75	V
3	Opportunity as given for feed back	17	14.17	15	12.50	88	73.33	409	3.41	VI
4	Consideration of suggestions for refinement of technology	7	5.83	19	15.83	94	78.33	393	3.28	VII
5	Imparted farming situation based technologies	42	35.00	39	32.50	39	32.50	483	4.03	I
6	Suitability of service to the respondent	34	28.33	35	29.17	51	42.50	463	3.86	II
7	Satisfaction of past performance of service	32	26.67	35	29.17	53	44.17	459	3.83	III
	Averages		23.81		24.40		17.98	444.43	3.70	VII
II	Diagnostic services									
1	Provision of complete information	23	19.17	35	29.17	62	25.83	441	3.68	V
2	Timely provision of service	45	37.50	38	31.67	37	30.83	488	4.07	II

Diagnostic services were ranked high in utilisation of services. This finding can supported from the findings of the study wherein their participation in diagnostic visits was high that too in other farmers fields. The utilisation was high as the offered service was found to solve their problems in time and also felt that services were need based as seen from Table.3.

The next utilised service was found to be services through training programmes. This finding was supported through findings of Table.3 that the respondents felt that this service suitable to them as service provided complete information according to their needs.

The next utilised service in order was technology transfer. This finding can be supported with the finding of Table.3 wherein respondents felt that trialability, simplicity of imparted technology and replicability were the reasons for the utilisation of these services. Under ways and means of technology transfer- demonstrations, field days, minikit trials, group meetings were the services utilised in the order of priority. Demonstrations were highly utilised because of high participation and also helped them to do things differently. Field days were highly utilised though their direct participation was less but group psychology influenced them in adoption. Minikit trials were next utilised though majority of respondents had low participation. This was because of the reason that observability of results of technology is quicker.

Other services ranked fourth in order. The reasons for this trend can be derived from Table.3 wherein the respondents felt orientation to own input production, mechanization aspects, information on natural resources management, relevance of services to climatic change were preferred in order for utilisation of services under other services category.

The fifth utilised DAATTC service by respondents was services through RAWEP students. The reasons for their utilisation can be known from Table.3 wherein they sensed satisfactory past performance of service followed by service suitability and provision of complete information to respondents for their utilisation of this service.

The sixth utilised service was services through information centre and supply of information material. The reasons for the utilisation can be drawn from the findings of the study wherein the respondents showed low participation and hence the result.

The last utilised service was found to be the services through assessment and refinement of technology. The reasons for this trend were evident from the findings of the study wherein low participation was recorded. The same findings can also be supported with the findings of Table.3 wherein respondents revealed that opportunity for feedback and consideration of suggestions for refinement of technology were given least importance and hence their utilisation.

3	Need based services	43	35.83	40	33.33	37	30.83	486	4.05	III
4	Services solves problem	48	40.00	34	28.33	38	31.67	490	4.08	I
5	Satisfaction of past performance of service	37	30.83	33	27.50	50	41.67	467	3.89	IV
	Averages		32.50		26.67		24.67	474.4	3.95	I

III Services through information centre and supply of information material										
1	Provision of holistic information	11	9.17	44	36.67	65	54.17	426	3.55	VI
2	Provision of information material	30	25.00	55	45.83	35	29.17	475	3.96	I
3	Timely provision of service	21	17.50	23	19.17	76	63.33	425	3.54	V
4	Services solves problem	27	22.50	8	6.67	85	70.83	422	3.52	VIII
5	Access to concerned officials	26	21.67	11	9.17	83	69.17	423	3.53	VII
6	Suitability of service to the respondent	29	24.17	38	31.67	53	44.17	456	3.80	IV
7	Trustworthy of Service	41	34.17	32	26.67	47	39.17	474	3.95	II
8	Satisfaction of past performance of service	30	25.00	53	44.17	37	30.83	473	3.94	III
	Averages		22.40		29.27		20.63	446.75	3.72	VI
IV Services through training programmes										
1	Provision of complete information	33	27.50	48	40.00	39	32.50	474	3.95	III
2	Timely provision of service	37	30.83	37	30.83	46	38.33	471	3.93	IV
3	Need based services	34	28.33	48	40.00	38	31.67	476	3.97	II
4	Suitability of service to the respondent	32	26.67	49	40.83	39	32.50	473	3.94	I
5	Satisfaction of past performance of service	31	25.83	40	33.33	49	40.83	462	3.85	V
	Averages		27.83		37.00		35.17	471.20	3.93	II
V Services through RAWEP students										
1	Provision of complete information	34	28.33	25	20.83	61	50.83	453	3.78	III
2	Timely provision of service	30	25.00	9	7.50	81	67.50	429	3.58	IV
3	Suitability of service to the respondent	47	39.17	10	8.33	63	52.50	464	3.87	II
4	Satisfaction of past performance of service	41	34.17	24	20.00	55	45.83	466	3.88	I
	Averages		40.00		14.38		12.29	453	3.78	V

VI Technology transfer										
A Technology aspects										
1	Imparted simple technology	35	29.17	34	28.33	51	42.50	464	3.87	II
2	Affordable technology (cost and profits)	27	22.50	36	30.00	57	47.50	450	3.75	IV
3	Triability of technology	29	24.17	48	40.00	43	35.83	466	3.88	I
4	Technology observability	31	25.83	29	24.17	60	50.00	451	3.76	V
5	Technology replicability	27	22.50	38	31.67	55	45.83	452	3.77	III
	Averages		24.83		28.00		25.67	456.6	3.81	
B Ways and means of technology transfer										
1	Utilisation of group meetings	31	25.83	54	45.00	35	29.17	476	3.97	IV
2	Utilisation of kisan meals	30	25.00	49	40.83	41	34.17	469	3.91	V
3	Utilisation of study tours	20	16.67	38	31.67	62	51.67	438	3.65	VI
4	Utilisation of field days	38	31.67	58	48.33	24	20.00	494	4.12	II
5	Utilisation of minikit trials	36	30.00	49	40.83	35	29.17	481	4.01	III

6	Utilisation of demonstrations	45	37.50	45	37.50	30	25.00	495	4.13	I
7	Utilisation of exhibitions	25	20.83	24	20.00	71	59.17	434	3.62	VII
	Averages		26.79		26.90		27.38	469.57	3.91	
	Averages ( A+B)		26.13		34.08		36.11	465.106	3.88	III
VII	Other services									
1	Provision of market intelligence	18	15.00	11	9.17	91	75.83	407	3.39	VI
2	Mechanization aspects covered	43	35.83	48	40.00	29	24.17	494	4.12	II
3	Details of input source availability	25	20.83	49	40.83	46	38.33	459	3.83	IV
4	Orientation to own input production	38	31.67	62	51.67	20	16.67	498	4.15	I
5	Relevance of services to climatic change	29	24.17	23	19.17	68	56.67	441	3.68	V
6	Information on natural resources conservation	41	34.17	34	28.33	45	37.50	476	3.97	III
	Averages		26.94		29.31		22.36	462.5	3.85	IV

**Table.4 Correlation coefficient values between selected profile characteristics of farmers with utilisation of services and extent of adoption of the practices in cotton**

S.No.	Variables	Extent of utilisation of services
1	Age	0.17992*
2	Education	0.18289*
3	Farm size	0.19046*
4	Farming experience	0.18879*
5	Annual income	0.18706*
6	Occupation	0.18841*
7	Innovativeness	0.19201*
8	Economic orientation	0.14126 <sup>NS</sup>
9	Market Orientation	0.18425*
10	Change proneness	0.17083 <sup>NS</sup>
11	Achievement motivation	0.10218 <sup>NS</sup>
12	Information seeking behaviour	0.24516**
13	Social participation	0.20392*
14	Participation in DAATTC activities	0.18709*

\* Significant at 5 per cent level of probability,

\*\* Significant at 1 per cent level of probability

NS - Non significant

The relationship of profile characteristics with extent of utilisation of services and extent of adoption of practices in cotton was tested with null hypothesis.

It is revealed from the Table.4 that the calculated values of age, education, farm size, farming experience, annual income, occupation, innovativeness, market orientation, social participation and participation in DAATTC activities were greater than tabled 'r' value at 5 per cent level of

probability, whereas in case of calculated 'r' value is greater than tabled 'r' value at 1 per cent level of probability in case of information seeking behaviour. Hence, null hypothesis was rejected and empirical hypothesis was accepted. Therefore, it can be concluded that there was significant relationship between above characteristics and extent of utilisation of services and more so, in case of information seeking behaviour.

On the other hand the calculated 'r' of economic orientation, change proneness and achievement motivation were less than tabled 'r' value. Hence null hypothesis was accepted and empirical hypothesis was rejected. Therefore, it can be concluded that there was no significant relationship between above characteristics and extent of utilisation of services. These findings are in line with Kotele *et.al* (2009), Reddy (1999), Kumar (2000), Pallavi (2006) and Sendilkumar *et.al* (2010).

#### CONCLUSION

Majority of farmers felt that as observability of slow moving technologies i.e., maintenance of refugee crop, seed treatment, bio fertilizer applications, biological control measures usage was less. Hence, DAATTC scientists and other stakeholders have to concentrate on these aspects by creating awareness among the farmers, finally convince them through media mix of demonstrations, field days, minikit trials, video presentations and conducting group meetings regularly in model farm of innovative farmers fields. For innovative farmers honorarium should be paid as they in turn train 20 master trainers in mandal to train farmer friends of ATMA who in turn trains farmer interest groups of ATMA at village level. Hence, DAATTC has to link up with the ATMA network in transfer of technology. Moreover, exposure visits to successful fields was suggested by farmers in the study. This method may be considered and innovative farmers may be utilised for this purpose.

Majority of respondents had medium utilisation of services of DAATTC. As there was less utilisation of services through assessment and refinement of technologies and services through information centre and supply of information material, the scientists need to assess and refine the technologies immediately and give feed back to farmers, so that the farmers get satisfied. To develop the information centre and supply the information material, sufficient budget has to be sanctioned so that technologies get widely publicized these will ultimately result in effective service utilisation.

Finally, it can be concluded that the utilisation of DAATTC services helps the farmers in increasing the level of knowledge, skill and adoption of technology.

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