

Kisan Mobile Advisory Service- An Effective ICT Tool for Technology Dissemination

Jagannath Patra, D. V. Singh and J. K. Pati

Senior Scientist & Head, Krishi Vigyan Kendras, Orissa University of Agriculture & Technology, Bhubaneswar
(Odisha) INDIA

ABSTRACT: *The shifting emphasis of Indian agriculture towards diversification, commercialization, sustainability and efficacy has made it necessary for the state extension organizations to critically examine their extension approaches in relation to livelihood of rural masses. It was observed that our population is growing; per capita availability of arable land and irrigation water is shrinking. The frequent suggestion for food import ignores the fact that agriculture is not food producing machine, but is the backbone of the livelihood security system for over 60 per cent population. Development in science and technology in general as well as information and communication technology in particular endorses with ways of facilitating a wide range of communication, information and advisory services in process of technology transformation. Actually extension official are grappling with the question of how best to harness information and communication technology to improve rural livelihood with sustainability. Sustainability emerges out of shared human resources objectives, knowledge, decision, technology and organization. Kisan Mobile Advisory Services (KMAS), which is a part of the ICT tools is employed by the most of the Krishi Vigyan Kendras in Orissa. In the programme the mobile numbers of progressive farmers, Krishak Sathis (Farmers' friend), extension officials, and input dealers were registered and grouping is done as per the enterprise/activity basis for facility of filtering purpose. Till April, 2014 about 15000 numbers were registered. The usual messages are being serving twice a week and timely information/advice are communicating as per the need of the situation. From the list of progressive farmers, seventy five farmers were selected for the study with the objective to know their preferences and utility in their field situation. Majority of the farmers opined that time specific advisories are most important followed by weather forecasting and marketing information. The messages on agronomic practices are most suitable followed by management of disease & pests are found to be most suited as per the result. They suggested to serve the message on local language.*

Keywords: *ICT, KMAS, Technology Dissemination*

I. INTRODUCTION

Farmers are more desirous and become anxious to get quick, exact and authentic information in the changing scenario of agriculture at global level. Dissemination of the required and recent agricultural information to the farmers in scattered villages at the variegated geographical situation in India is very difficult task. Transfer of technology to farmers is not a onetime exercise because new farm technology is being constantly evolved (Mehta, 2003). A continuous flow of technologies in an appropriate manner is vital to provide quick benefit of this development to the farmers. There has been a technological explosion in the field of agriculture. This demands that the farmer has to know all aspects of technology prior to its adoption.

Scientists observed our population is growing; per capita availability of arable land and irrigation water is shrinking. The frequent suggestion for food import ignores the fact that agriculture is not food producing machine, but is the backbone of the livelihood security system for over 60 per cent population. The shifting emphasis of Indian agriculture towards diversification, commercialization, sustainability and efficacy has made it necessary for the state extension organizations to critically examine their extension approaches in relation to livelihood of rural masses. Development in science and technology in general as well as information and communication technology in particular endorses with ways of facilitating a wide range of communication, information and advisory services in process of technology transformation. Actually extension official are grappling with the question of how best to harness information and communication technology to improve rural livelihood with sustainability. Sustainability emerges out of shared human resources objectives, knowledge, decision, technology and organization. The extensive use of ICT needs to be promoted for communication between researchers, extension workers and farmers to transfer technologies and information in a cost effective manner. ICT has many potential applications in agricultural extension (Zijp, 1994). It can bring new information services to rural areas where farmers, as users, will have much greater control than before over current information channels.

The 'Task Force on India as Knowledge Superpower' (GOI, 2001) emphasized the necessity of developing the capacity to generate, absorb, disseminate and protect knowledge and exploit it as a powerful tool to derive

societal transformation. Information and Communication Technology (ICT) can play a significant role in achieving such a transformation as it consists of three main technologies. They are: Computer Technology, Communication Technology and Information Management Technology. These technologies are applied for processing, exchanging and managing data, information and knowledge. Recent developments in information and communications technology (ICT) offer a great opportunity to facilitate the flow of information and technology services delivery especially to the farmers (Maningas, 2006). It is comprehensible that on the one hand agriculture is becoming highly science driven and knowledge intensive, but on the other hand the existing public extension system, has become less effective, more time consuming and costly and fails to meet the expectations of those involved in agricultural production (Mruthunjaya and Adhiguru, 2005). The use of ICT is an important pillar of agriculture extension and in the current scenario of a rapidly changing world, has been recognised as an essential mechanism for delivering knowledge (information) and advice as an input for modern farming (Jones, 1997). There is an increasing realization about the potentialities of Information and Communication Technology (ICT) in dissemination of agricultural technologies among the farmers. The use of ICT is an important pillar of agriculture extension. Here, attempt has been made to analyze the reaction of the farmers towards ICT as a source of reliable and timely information about best production practices, processing, marketing, input and output prices, financial and risk covering institutions etc.

Kisan Mobile Advisory Services (KMAS), which is a part of the ICT tools is employed by the most of the Krishi Vigyan Kendras in Odisha. In the programme the mobile numbers of progressive farmers, Krishak Sathis (Farmers' friend), extension officials, and input dealers were registered and grouping was done as per the enterprise/activity basis for facility of filtering purpose. Till April, 2014 about 15000 numbers were registered. The usual messages are being serving twice a week and timely information/advice are communicating as per the need of the situation.

Here, an attempt has been made to analyze the reaction of the farmers towards Kisan Mobile Advisory Service as a source of reliable and timely information about best production practices, processing, marketing, input and output prices, financial and risk-covering institutions etc. The favorable attitude of farmers towards ICT as an effective and efficient information support tool would lead to stronger conviction and efficient extension programme planning in changing agri-rural environment.

II. METHODOLOGY

From the list of progressive farmers, seventy five farmers were selected as the sample for the study. Stratified random sampling technique was used in the selection from different categories like farmers, krishak sathis, input dealers and extension personnel. A pre-tested structured interview schedule was used to elicit information from the respondents. The data were analyzed using appropriate statistics tool.

III. RESULTS AND DISCUSSION

Socio-economic Profile of Respondents: Socio-economic characteristics of respondent farmers utilizing KMAS services were analyzed and presented in table 1.

Table.1. Distribution of respondents based on their socio economic characteristics

Table.1.a. Distribution of the respondents according to their age n=75

S. No.	Category	Number	Percentage
1.	Young (18-35 years)	33	44.00
2.	Middle (36-50 years)	27	36.00
3.	Old (more than 50 years)	15	20.00

From the table.1.a, it was indicated that most of the respondents (44 per cent) were belong to young age group (between 18- 35 years) followed by medium age group (between 36-50 years) 36 percent whereas only 20.00 per cent represents to old age group (above 50 years). So, it is clear from the table that the respondents those were more accessed to mobile services belonged to young and medium age group (80 per cent).

Table.1.b. Distribution of the respondents according to their gender n=75

S. No.	Category	Number	Percentage
1.	Male	67	89.33
2.	Female	08	10.67

Gender is a major factor for determining the mobility. From the above table it was found that male respondents were more (about 89.33 per cent) than the female respondents (10.67 per cent) which imply the dominance of the male persons over the female person in the farming operation.

Table.1.c. Distribution of the respondents according to their educational status n=75

S. No.	Category	Number	Percentage
1.	Illiterate	00	00.00
2.	Primary Level	07	09.33
3.	Middle school Level	15	20.00
4.	Matriculation	15	20.00
5.	Higher secondary	08	10.67
6.	Graduation	23	30.66
7.	Post-Graduation and above	07	09.33

Education is the way of life for socio-economic development. The table implied that majority of the respondents were graduates (30.66 per cent) followed by matriculation and middle level (20.00 per cent each). Only few were post graduate level (9.33 per cent) and no one was illiterate. From the observation it is evident that most of the respondents were literate and well versed with mobile sets.

Table.1.d. Distribution of the respondents according to their land holding n=75

S. No.	Category	Number	Percentage
1.	Large	15	20.00
2.	Small	38	50.67
3.	Marginal	22	29.33

From the table mentioned above it was found that the majority of the respondents had small land holding (50.67 per cent) and also 20.00 per cent belonged to large farmer category. It implies that the mobile service was availed by most of the small and large farmers.

Table.1.e. Distribution of the respondents according to their mass media exposure n=75

S.No.	Mass Media	Very often	Often	Occasionally	Never	Mean	Rank
1.	Radio	23 (30.66)	23 (30.66)	29 (38.67)	00	1.92	IV
2.	Television	44 (58.67)	16 (21.33)	15 (20.00)	00	2.38	II
3.	Internet	07 (09.33)	08 (10.67)	15 (20.00)	45(60.00)	0.69	V
4.	News paper	29 (38.67)	15 (20.00)	31 (41.33)	00	1.97	III
5.	Mobile	52 (69.33)	23 (30.67)	00	00	2.69	I

*The figures shown in the parentheses are percentages

From the table it was clearly stated that most of the respondents had mass exposure by using mobile sets than any other mass media gadgets.

Table.1.f. Distribution of the respondents according to their social participation n=75

S. No.	Organization	Extent of Participation							
		Very often		Often		Occasionally		Never	
		N	%	N	%	N	%	N	%
1.	Village level society	67	89.33	08	10.67	00	00	00	00
2.	Block level society	22	29.33	23	30.67	30	40.00	00	00
3.	District level society	07	09.33	15	20.00	15	20.00	38	50.67
4.	State level society	00	00	07	09.33	08	10.67	60	80.00
5.	National level society	00	00	07	09.33	08	10.67	60	80.00

The table reflected that all the respondents had participation in village level society out of which 89.33 per cent and 10.67 per cent had very often and often participation. Among them only 09.33 per cent and 10.67 per cent had participation often and occasionally in state level and national level society respectively. They had fairly involvement in the block level societies.

Table.1.g. Distribution of the respondents according to their extension contact n=75

S. No.	Personnel	Extent of Contact							
		Very frequently		Frequently		Sometimes		Never	
		f	%	f	%	f	%	f	%
1.	Field level official/worker	52	69.33	15	20.00	08	10.67	00	00

2.	Block level officials	22	29.33	30	40.00	23	30.67	00	00
3.	Sub division level officials	15	20.00	07	09.33	22	29.33	31	41.34
4.	District level officials	07	09.33	08	10.67	22	29.33	38	50.66
5.	State level officials	00	00	07	09.33	15	20.00	53	70.67

For development in the field of agriculture and allied sector, extension contact is very important in which the individual come across with different official at different level and gets consultancy. The table displayed the extent of extension contact of the respondents under study in which it was found that very few were in contact with state, district, sub division and block level, However they had quite fair contact at the field level and block level officials.

Table.2. Distribution of the respondents according to Importance of the information as perceived by the respondents n=75

S. No.	Type of information	Most Appropriate		Appropriate		Least Appropriate		Mean	Rank
		N	%	N	%	N	%		
1.	Weather information	49	65.33	23	30.67	03	04.00	1.61	II
2.	Production practices	44	58.66	23	30.67	08	10.66	1.48	IV
3.	Time specific advisory	51	68.00	22	29.33	02	02.67	1.68	I
4.	Market information	52	69.33	15	20.00	08	10.67	1.58	III
5.	Value addition	08	10.67	22	29.33	45	60.00	0.51	VIII
6.	Live stock management	33	44.00	22	29.33	20	26.67	0.90	VII
7.	Awareness message	29	38.67	30	40.00	16	21.33	1.17	V
8.	Event information	31	41.33	14	18.67	30	40.00	1.01	VI

From the analysis of the above table, it was inferred that time specific advisory services had more importance for kisan mobile service followed by weather forecasting and market information.

Table.3. Distribution of the respondents according to usefulness of the information received through KMAS as perceived by the farmers n=75

S. No	Area	Very much useful	Useful	Partially useful	Not at all useful	Mean
1.	Land preparation	22(29.33)	30 (40.00)	23(30.67)	00	1.98 (VIII)
2.	Selection of crop and variety	36(48.00)	23(30.67)	16(21.33)	00	2.26 (VI)
3.	Agronomical practices	52(69.33)	23(30.67)	00	00	2.69 (I)
4.	Nutrient management	36(48.00)	31(41.33)	08(10.67)	00	2.37 (IV)
5.	Plant protection techniques	45(60.00)	30(40.00)	00	00	2.60 (II)
6.	Post harvest management	22(29.33)	22(29.33)	23(30.66)	08(10.67)	1.77 (X)
7.	Animal husbandry	31(41.33)	21(28.00)	15(20.00)	08(10.67)	2.00 (VII)
8.	Fishery	23(30.66)	29(38.66)	15(20.00)	08(10.67)	1.89 (IX)
9.	Input support	45(60.00)	14(18.67)	16(21.33)	00	2.38 (III)
10.	Marketing support	37(49.33)	22(29.33)	16(21.34)	00	2.28 (V)

*The figures shown in the parentheses are percentages

From the above table, it implied that the farmers were utilizing the mobile services mostly in the field of agronomic practices followed by plant protection measures and input support.

Table.4. Prioritization of Suggestions as perceived by the respondents

n=75

S. No.	Suggestions	Mean	Rank
1.	The message should be served in local language	1.61	I
2.	The message should be simple and understandable	1.45	III
3.	The message have practical applicability	0.68	V
4.	Voice message facility should be provided	1.48	II
5.	Apart from technology information on inputs and marketing should be provided	0.91	IV

IV. CONCLUSION

From the list of progressive farmers, seventy five farmers were selected for the study with the objective to know their preferences and utility in their field situation. Majority of the farmers opined that time specific advisories are most important followed by weather forecasting and marketing information. The messages on agronomic practices are most suitable followed by management of disease & pests are found to be most suited as per the result. They preferred to serve the message on local language.

REFERENCES

- [1]. Adhiguru, P.; Mruthunjaya and Birthal, P. S. (2003). Project on 'Innovative Institutions for Agricultural Technology Dissemination: Role of Information and Communication Technology,' *National Center for Agricultural Economics and Policy Research*, New Delhi.
- [2]. Chauhan, Nikulsinh M. (2010). Expectations of the Farmers from ICT in Agriculture. *Indian Res. J. Ext. Edu.* 10 (1), January, 2010
- [3]. Dhaka, B.L. and Chayal, K. (2010). Farmers' Experience with ICTs on Transfer of Technology in Changing Agri-rural Environment. *Indian Res. J. Ext. Edu.* 10 (3), September, 2010:114
- [4]. GOI (2001). 'Report of Prime Minister's Task Force on India as Knowledge Superpower'. Planning Commission, Government of India, New Delhi.
- [5]. Jones, G.E. (1997). The history, development and the future of agricultural extension. In: B. E. Swanson, R .P. Bentz, and A.J. Sofranko (Eds), *Improving agricultural extension – A reference manual*. Rome: FAO.
- [6]. Maningas, R. V. (2006). Mainstreaming Farmers and Intermediaries Into Information and Communications Technology (ICT): A Strategy Towards Adopting ICT for Rural Development and Agricultural Extension. *Computers in Agriculture and Natural Resources, 4th World Congress Conference*, Proceedings of the 24-26 July 2006 (Orlando, Florida USA) Publication.
- [7]. Mehta, P. (2003). *Information Technology in Agriculture: Reaching the unreached*. Theme paper presented by at national workshop on ICT for Agriculture and Rural Development organized by Indian Association for Information Technology in Agriculture and Dhirubhai Ambani institute for information and communication technology.
- [8]. Mruthunjaya and Adhiguru, A. (2005). ICT for livelihood security: a reality check. *Mainstreaming ICTs*, II (2):14-18.
- [9]. Zijp, W. (1994). Improving the transfer and use of agricultural information – *A guide to Information Technology*. Washington DC: World Bank.