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Outcomes of KVK's Kisan mobile Sandesh in seeking of agricultural information for increasing the income of tribal farmers in Barwani district Madhya Pradesh

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Abstract
ICT is an innovative technology that provides access to useful information through telecommunication. This telecommunication is a means of spreading information over large distances in a timely manner. It is similar to information technology or it can be considered equivalent to information technology but especially it is useful as a good medium of effective communication. Agriculture related advisory services is the innovative services of ICT which provides advisory services for specific crops and specific locations and facilitates the farmers for seeking new agricultural information on time. K.V.K. avail the different types of farm support to the agricultural sector and Kisan Mobile Sandesh (KMS) is a special tools for providing the timely knowledge and information to the tribal farming community. This present research work was conducted in district Barwani of Madhya Pradesh. The total sample consisted of 120 tribal respondents for this study. A large portion of the respondents (72.48%) perceived high efficacy of agriculture related farm advisory category in seeking of agricultural related information. In this research, the zero order correlation coefficient between independent and dependent variables was determined. Education, social participation, land holding size, annual income of farmer, credit orientation, mass media exposure, innovativeness, participation in extension activities, information seeking behaviour of farmer, frame of mind towards farm broadcast were noted having significant relationship with efficacy of farm advisory. A large portion of the respondents (63%) tribal farmers reported that farm messages should be based on innovative technologies of agriculture and allied sectors.

Keywords: ICTs, consequences, farm related advisory, agricultural knowledge and information, mobile, internet, KMS, simple random sampling and tribal farmers

Introduction
ICTs have played an important role in timely disseminate the new technology and knowledge of farm related information to the homes of farmers. The information and communication technologies like Mobile, Radio, T.V., Newspapers, Social media platforms and farmers friendly Krishi Magazines are playing a crucial role in sustaining the agriculture sector since, early decade and now the modern information communication technologies like (ICTs) as mobiles and computers have bought an era of revolution. ICT is a method for the viewers, this source is cosmopolite in approach and it is very appropriate for effective communication to millions of Farmers widely diffused and appropriated in faraway and remote areas. The availability of mobile phones has been very helpful to the farmers penetrate deeply into the rural circumstances. Effective communication of scientific findings research and allied field to millions of the farmers is a necessity and key to economic development of any nation. in a very short time, mobile has made a place among the farming community as a good means of getting information and acquiring knowledge. At present, KMS has also started as an effective technology of ICT in the state of Madhya Pradesh, the objective of which is to provide real time agricultural information and customized knowledge to the farmers, so that leadership abilities and decision making can be developed among the farmers. Due to which they can increase their production and productivity. Also, they will be able to know the correct price of sale of their produce so that they can achieve good all-round development. this is more so in developing country like India, where the huge communication gap between scientists and common man like a farmer. This gap can be lessen through effective use of different communication media. Among the mass media available in India, Mobile has an edge over other in a sense that even the illiterate people can listen and watch to the programme without bothering about unfriendly conditions at their home. mobile phones have emerged as a very effective means of gathering information in rural areas.

It also broadcasts latest news, bulletins, weather forecast, latest market prices, and special Krishi Mitra programs for farmers, women and children in rural areas. It also has an important role in spreading information about the latest techniques of agriculture in rural areas. Therefore, we can say that mobile is an excellent medium to satisfy the information related curiosity of farmers. A farm related advisory service is a great initiative of ICT which provides crop and area specific farm related advisory services and facilities to the farming community. The Kisan Mobile Sandesh services have been provided to the farmers through SMS in consultation with experts from various disciplines, which are provided in a timely manner with the aim of improving the agricultural technical knowledge along with decision making ability of the farmers, so that they can increase their production and productivity to fulfill market demands. Farm advisory had been one among those and worked successfully in disseminating the latest information to the ultimate users.

Krishi Vigyan Kendra or farm science center is an institution established at the district level which provides various types of agriculture related facilities to the agriculture sector so that farmers can be connected with agricultural innovations. KVK is functioning as an agricultural knowledge and resource center in the district, which works to convey the useful technical knowledge of agricultural research and innovation from lab to the field of farmers. The main mandate is to help public, private and non-profit organizations in bringing about desired improvements in the agricultural economy of the district. Kisan Mobile Advisory (KMA) is a special programme of information delivery for advising the farmers with need based timely information. Kisan Mobile Advisory Service is best on the liner model of communication, which involve four major component of communication process viz. Sender, Message, Channel and Receiver, Mobile phones, Short Message Service (SMS) are important tools and can be used by the KVK specialist. Considering importance of the ICT's, the present research was conducted to achieve the following specific objectives-

- To revealed the perceived efficacy of kisan mobile sandesh in seeking of agricultural information by farmers.
- To study the effect of kisan mobile sandesh in seeking of agricultural information for increasing the income.
- To find the relationship between perceived efficacy of KMS in seeking of agricultural related information by farmers & farmers profile.
- To explore the user opinion to make farm advisory facility more effective.

Materials and Methods

The blocks I have selected includes a total of 199 villages. Out of these villages, only 10 villages were selected randomly. Five villages were selected from each selected blocks. A village wise list of farmers who want advice on agriculture related information was prepared from each village. 12 Farm Advisory viewing tribal farmers were selected by using simple random sampling method. Therefore, a total of 120 respondents were selected for the study. Independent variables i.e. age, education, caste, social participation, size of land holding, annual income, credit orientation, mass media exposure, innovativeness, extension participation, information seeking behaviour, attitude towards farm broadcast and dependent variable- efficacy of farm broadcast were considered for the study.

Results and Discussion

The KMS facility was started with the objective of providing agricultural information to as many farmers as possible in a timely, effective and low-cost manner. Apart from this, agriculture related advice, knowledge and information have to be delivered without any communication barrier, interruption and message distortion. Technical useful and informative SMS were sent in the local language only (Hindi). A total of sixty messages were sent on agriculture and other different discipline related to agriculture in 2020-21. Most of the messages 28.33 percent were sent to farmers under plant protection and for horticulture only 20.00 percent messages were sent. Crop Production (16.66%) and weather information related messages only 16.66%) were sent. Rest of 18.35 percent messages included information on Animal Husbandry, poultry and Agriculture Extension.

Table 1: Discipline wise Kisan Mobile Sandesh forwarded to respondents

S.N	Thematic areas	Number. of Messages	Messages (%)
1	Crop Production (Agronomy)	10	16.66
2	Plant protection (Disease & Insect control) Information	17	28.33
3	Horticulture Information	12	20.00
4	Weather related information	10	16.66
5	Animal husbandry & Poultry	07	11.66
6	Agriculture. Extension	04	06.69
Total no. of Messages		60	100.00

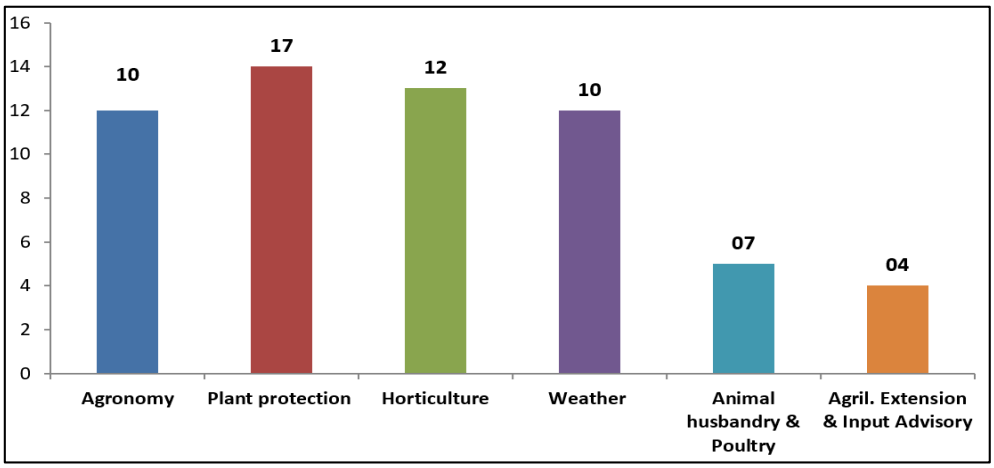

Fig 1: No. of Messages pertaining to different areas

Perceived efficacy of KMS in seeking of agricultural information for doubling the farm income-

This program was assessed on different components in terms of farmers' perceptions and detailed explanation is provided in this section.

Data of Table-2 revealed that higher portion (50.00%) of the respondents are viewing farm advisory irregularly after that 25.00 percent who are viewing sometimes and only (22.50%) respondents viewed everyday. The higher portion (45.83%) of the respondents viewed farm advisory with partial attention followed by little attention (26.66%) and Full attention (25.83%). By the time, the farmers reach their homes it is already 6-7 p.m. in the evening. This could be the reason why after working all day in the farm and then at home, the farmer feels very tired and is unable to give his full attention.

Table-2 data also revealed that most of the respondent (60.42%) rated the Visual or audio quality of program was average, followed by Good (31.00%) and Poor category (16.66%).

About the visual quality it is revealed that majority (49.16%) of the respondents reported the visuals used in program and Agril. News as clear, simple for understanding and relevant to the subject matter presented, followed by Extremely clear (29.16%) and poor (16.66%). Most of the respondents (83.33%) felt that the messages given in farm advisory were 'On Time'.

Table 2: Efficacy of KMS for seeking agricultural related information

S. N.	Attributes	Categories	No. of respondents	Percentage
1	Frequency of watching	Everyday	27	22.50
		Irregularly	60	50.00
		Sometimes	30	25.00
2	Consideration of Message	Full	31	25.83
		Partial	55	45.83
		Little	32	26.66
3	Visual quality	Extremely clear	35	29.16
		Clear	59	49.16
		Poor	20	16.66
4	Timeliness of messages	On time	100	83.33
		Not on time	21	17.50
5	Relevancy of messages	More relevant	97	80.83
		Not relevant	24	20.00
6	Adequacy of information	Excellent	30	25.00
		adequate	61	50.00
		Inadequate	19	15.83
7	Lucidity of messages	Very clear	29	24.16
		Clear	60	50.00
		Confusing	26	21.66
8	Practicability of messages	Practicable	73	60.83
		Some are practicable	33	27.50
		Not practicable	13	10.83
9	Utility of information	Very useful	47	39.16
		Useful	66	55.00
		Not useful	09	07.50

The great majority (80.83%) of the respondents expressed that the messages were 'Relevant'. Majority, 50.00 percent of the viewers opined the adequacy of information in KMS was adequate followed by Excellent (25.00%), and Inadequate (15.83%). further in this sequence about the lucidity of messages majority (50.00%) of the respondents perceived the messages as 'Clear' followed by very clear (24.16%) and confusing (21.66%). With regards to practicability of messages more than half (58.34%) of the viewers spelt out 'Practicable' followed by 28.33 percent of the viewers are reported 'Some are practicable'.

It is further clear that 55.00% respondents reported that farm information, which was farm advisory, was useful, followed by 39.16% respondents in very useful category and rest of them (07.50%) could not utilize or not useful for the practices.

Regarding useful for increasing the production that majority 70.83% respondents were agreed for farm advisory play the role in increasing the productivity and production followed by 15.83 percent respondents were disagree and only 06.66 percent respondents were undecided in category.

Impact of KMS in seeking of agricultural related information for increasing the farmers income-

With regards to useful for increasing the income that majority 70.00 percent respondents were agreed for farm advisory play the role in increasing the income followed by 14.16 percent respondents were disagree and only 09.16 percent respondents were undecided and confused for farm advisory was responsible for increasing their income.

Table 3: Effect of KMS in seeking of agricultural related information for uplift the income of farmers

S. N.	Attributes	Categories	No. of respondents	Percentage
1	Useful for increasing the production	Agree	85	70.83
		Disagree	19	15.83
		Undecided	08	06.66
2	Useful for increasing the income	Agree	84	70.00
		Disagree	17	14.16
		Undecided	11	09.16

The data clearly shows that efficacy of farm advisory service in disseminating awareness on lower cost and on farm inputs for sustainable agriculture. Farming community could also utilize the relevant, timely and practicable messages and agriculture related information though farm advisory.

The Overall Efficacy of Kisan Mobile Sandesh in seeking of agricultural related information

The Table-4 indicated that the majority of the farmers (74.16%) perceived high category of utility of farm advisory in ToT and also farm advisory services can be responsible for increasing the income of the farmers.

Table 4: Distribution of the respondents according to perceived efficacy of KMA in seeking of agricultural information for increasing the income of farmers

S. No.	Categories	Respondents (N=120)	
		Frequency	Percentage
1.	Low	10	08.34
2.	Medium	21	17.50
3.	High	89	74.16
Total		120	100

After that Some farmers (17.50%) were perceived medium level of efficacy of farm advisory and only (8.34%) farmers were perceived low efficacy of farm advisory category in seeking of agricultural related information. Thus, it can be concluded that most of the farmers were perceived medium efficacy of farm broadcast category in seeking of agricultural related information for doubling the income of the farmers. Nearly same outcomes were also reported by of Kansana and Singh, (2015) [4]

The correlation coefficient between independent and dependent variable

A correlation of zero order means the same that there is no relationship between the two variables.

Independent variables i.e. age, education, caste, social participation, size of land holding, annual income, credit orientation, Mass media exposure, innovativeness, extension participation, information seeking behaviour, attitude towards farm broadcast and dependent variable- effectiveness of farm advisory services were considered for the study.

Table 5: Relationship between the profile of tribal farmers and efficacy of KMS services

S. No.	Characteristics	Correlation coefficient (r)
1	Age	0.069^{NS}
2	Education	0.576**
3	Caste	0.133^{NS}
4	Social participation	0.438*
5	Size of land holding	0.303*
6	Annual income	0.469**
7	Credit orientation	0.303*
8	Mass media exposure	0.487**
9	Innovativeness	0.499**
10	Extension Participation	0.304*
11	Information seeking behaviour	0.423**
12	Attitude towards farm advisory	0.467**

* Significant at 1% level of probability

** Significant at 5% level of probability

Except for only two independent variables, age and caste all other independent variables were found to have significant relationship with the dependent variables. The same findings were also reported by Badodiya *et al*. (2010) [1]

Users opinion about KMS service in making services more efficacious

Opinion of KMA service users in making services more efficacious as far as opinion of KMA service users in making services more efficacious is concerned, the results disclosed regarding KMS service most of the farmers were of the opinion that messages should be on latest technologies on agriculture and allied sector reported by (66.66%) after this the message should be given in the local language. This was followed by (59.16%) farmers and was at 2nd ranked.

Table 6: Users opinion about KMS service in making services more efficacious

SN.	Farmers opinion about KMS services	Frequency	%	Rank
1	The message should be simple & clear	53	44.16	IV
2	Messages should be based on latest technologies on agriculture and allied sector	80	66.66	I
3	The message should be sent in local language only	71	59.16	II
4	Message should be fit to the farming situation	42	35.00	VI
5	Voice message facility should be provided	54	45.00	III
6	All the market related information should be provide on time	49	40.83	V

Further in this sequence, about 45% of the farmers were of the opinion that messages should be sent in the form of voice message. And it was found on the 3rd ranked. Followed by (44.16%) farmers were of the opinion that message should be simple & clear and its rank was 4th. One more obstacle was felt by the respondents that all the market related information

should be provide on time was explicated by 40.83.

Conclusion

This entire study concluded that KMS (Kisan Mobile Sandesh) service is a very effective and beneficial tool to deliver the latest useful agriculture information and technology to the farmers at the right time and also this service is playing an important role in making agriculture extension services more strong and effective by reaching the farmer on a large scale. Most of the farmers (74.16%) were perceived high efficacy of farm advisory category in seeking of agricultural related information. In this research, the zero order correlation coefficient between independent and dependent variables was determined. Independent variables like Education, social participation, size of land holding, annual income, credit orientation, Mass media exposure, innovativeness, extension participation, information seeking behavior, attitude towards farm broadcast were found significant relationship with effectiveness of farm advisory. most of the farmers were of the opinion that messages should be on latest technologies on agriculture and allied sectors reported by (66.66%) and the message should be given in the local language only this was followed by (59.16%) farmers.

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