Original Research Article

Usefulness of Mobile Phone based Agro-advisories in Manipur

Abstract

Mobile phones are the devices that can help to improve the livelihoods of rural people by getting much needed timely information at~~to~~ their fingertips at potentially low cost. Manipur is one of the North-Eastern states of India, covering an area of 22,327 sq km which nearly accounts for 0.7 per cent of the total land surface of India. The study was conducted in Bishnupur, Thoubal, Kakching, Imphal East and Imphal West districts of Manipur with 110 ~~nos. of~~ randomly selected respondents. It was observed that majority of the respondents (70.91 %) perceived that mobile based agro-advisories were~~are~~ responsive~~early~~ in terms of timeliness of the messages and 73.64%~~ per centof the respondents~~ mentioned that the messages were~~are~~ highly relevant. In terms of the comprehension ~~understanding of massage~~of massages, 98.18%~~ per cent~~ of respondents stated~~responded~~ that massages were ~~are~~ easy to ~~understand,~~understand, while 59.18% observed that the messages were less technical ~~(58.18 %)~~ and 83.64% mentioned that the messages were~~ adequate (83.64 %)~~ in terms of message treatment and content adequacy~~. respectively.~~ Mobile phone based agro-advisories was said to be ~~is~~ more useful ~~(83.64%)~~ for~~in~~ weather forecasting by 83.64%; followed by 82.73% for plant protection measures; 80.91% indicated that mobile advisories improved their knowledge about ~~(82.73%), improving the knowledge in~~ agriculture and allied sector~~ (80.91 %) and~~ as well as 80.00% for fish health management~~. (80.00 %).~~ Majority of the respondents, that is, ~~(~~68.18 %~~)~~ had positive perception about~~towards~~ mobile based agro- advisories, followed by 4.55%~~ per cent~~ with~~ had~~negative perception for the same services.~~towards the advisories.~~

Comment [IO1]: Good abstract, but must be improved to include 'recommendations' at least one or two. Example: The following are therefore some of our recommendations……,…… and……

Key Words: *Mobile phone, Agro-advisory, Usefulness*

Introduction

Poor farmers in the backward communities in India ~~Agriculture in the state~~can~~could~~ benefit tremendously with the application of ICTs (Information and Communication Technologies) in agriculture, especially ~~in bringing~~ changes in their ~~to~~ in socio-economic conditions~~ of the poor in the backward areas.~~ The Indian government has in the past introduced many technologies and development plans to alleviate the conditions of the numerous small-scale and poor farmers. ~~Therefore, d~~

For instance, different initiatives in IT ~~sector~~ have been launched in Manipur to improve poor farming and farmers welfare through agro-advisory services ~~were launched in the state to provide the agro-advisory to farmers~~ (Singh *et. al.,* 2019). The most widespread ICTs in developing countries (including India), today,are the mobile phone. Mobile phones are ICT ~~the~~ devices that can create, store, access and share information anytime, anywhere. However, these devices have many other potentials ~~But, they are more than that,~~ when teamed with extension and advisory services. They ~~, they~~ can help improve the livelihoods of rural people by getting much needed timely information to their fingertips at potentially low cost (Reddy *et. al*., 2017). Among the initiatives, a mobile based agro-advisory system was launched under the project of "Mobile based agro- advisory system" by the Central Agricultural University, Imphal, Manipur in the state of Manipur. It is a mobile based pull and push system where agriculture and allied sector related information can be pulled/pushed by the farmers using their mobile phones.

Manipur is one of the North-Eastern states of India, covering an area of 22,327 sq km which nearly accounts for 0.7 per cent of the total land surface of India. The state is unique in producing varieties of paddy. Agriculture being the backbone of the state's economy and paddy is the dominant crop grown by farmers in Manipur. Imphal West district is classified under high productivity of paddy in the state of Manipur (Thangjam, 2020). Area under paddy cultivation in the state is 225.77 thousand ha with a production of 602.21 thousand MT (Anonymous, 2020-21). Keeping this in view, the study was undertaken to find out the usefulness of mobile phone based agro-advisories in Manipur

Comment [IO2]: It will be more accurate to indicate the year this initiative was launched.

Comment [IO3]: What crop is this? Do you mean rice? If so, use 'rice' which is the common and international word in extension and agricultural communication. If not, can you describe this crop further for quick understanding for foreign readers?

Comment [IO4]: I believe you can get this data by other authors that can be quoted. Please do in order to improve the validity of this article. This is because this looks like an impact assessment study to me. Thus, it is important to know when the initiative was launched in order to genuinely classify the assessment (short, mid or long term).

Comment [IO5]: The entire intro is weak. You can strengthen it by adding more insights into why the government decided to use mobile phone, the structure of the initiative, and implementation process.

Methodology:

The study was conducted in Bishnupur, Thoubal, Kakching, Imphal East and Imphal West districts of Manipur with 110 nos. of randomly selected project ~~beneficiaries~~beneficiaries. The perception of the respondents towards mobile phone based agro-advisories in terms of timeliness of the messages, relevance, understanding of message, message treatment and content adequacy were studied and measured in terms of frequency and percentage. Usefulness of mobile phone based agro-advisories by the respondents were measured in terms of level of usefulness, *viz.*, most useful, useful and not useful. ~~category; f~~ Frequency and percentage were calculated for each category. Overall parameters of mobile phone based agro-advisories by the respondents were also calculated. A well-structured interview schedule was used to collect the data according to the objectives of the study. Statistical tools like mean, frequency and percentages were used for data analysis. ~~of data.~~

Results and Discussion:

The perceptions of respondents towards mobile based agro-advisories are~~is~~ presented on~~in~~ Table 1. Data ~~presented in Table 1~~ reveal~~s~~ that majority of the respondents (70.91 %) perceived that mobile based agro-advisories are early in terms of timeliness of the messages and 73.64 per cent of the respondents responded that the messages are highly relevant. ~~The~~ Table 1 also reveal~~s~~ that, in terms of understanding of massage 98.18 per cent of respondents observed that massages are easy to understand, message is less technical (58.18 %) and adequate (83.64 %) in terms of message treatment and content adequacy respectively.

Table.1 Perception of the respondents towards Mobile Phone based Agro-advisories

N=110

Parameter	Category	Frequency	Percentage
a. **Timeliness of the messages**			
	Coinciding with the farm activity	8	7.27
	Early	78	70.91
	Late	24	21.82
b. Relevance			
	Highly relevant	81	73.64
	Somewhat relevant	25	22.73
	Irrelevant	4	3.64
c. Understanding of message			
	Easy to understand	108	98.18
	Difficult to understand	2	1.82
	Not understand	0	0
d. Message treatment			
	Less technical	64	58.18
	Moderately technical	41	37.27
	Highly technical	5	4.55
e. Content adequacy			
	Adequate	92	83.64
	Needs more details	12	10.91
	Not at all adequate	6	5.45

The usefulness of mobile phone based agro-advisories is presented ~~in~~on Table 2. Data presented ~~in Table 2~~ reveal~~s~~ that mobile phone based agro-advisories is more useful (83.64 %) in weather forecasting followed by plant protection measures (82.73%), improving the knowledge in agriculture and allied sector (80.91 %) and fish health management (80.00 %). The Table 2 also reveals that majority of the respondents (65.45 %)observed that messages are useful for

animal breeding management followed byinformation about new technologies, selection of crop & variety and sale of produce with 60.91 per cent, 58.18 per cent and 56.36 per cent respectively. Highest percentage of respondents (20.91%) mentioned that agro-advisories related to information about new technologies is not useful followed by fish production techniques (19.09 %), animal health management (15.45 %) and fish pond preparation (13.64 %).

Table 2: Usefulness of Mobile Phone based Agro-advisories by the respondents

(N=110)

Sl. No.	Particulars	Level of Usefulness					
		Most Useful		Useful		Not Useful	
		F	%	F	%	F	%
1.	Improving the knowledge in agriculture and allied sector	89	80.91	19	17.27	2	1.82
2.	Information about new technologies	20	18.18	67	60.91	23	20.91
3.	Selection of crop and variety	36	32.73	64	58.18	10	9.09
4.	Use of fertilizer and other micronutrients	69	62.73	34	30.91	7	6.36
5.	Seed purchase and seed bed preparation	41	37.27	56	50.91	13	11.82
6.	Land preparation and planting/sowing	64	58.18	43	39.09	3	2.73
7.	Nutrient management	48	43.64	58	52.73	4	3.64
8.	Seed treatment	71	64.55	37	33.64	2	1.82
9.	Weed management	39	35.45	61	55.45	10	9.09
10.	Plant protection measures	91	82.73	17	15.45	2	1.82
11.	Harvesting/picking and storing	50	45.45	54	49.09	6	5.45
12.	Sale of produce	28	25.45	62	56.36	20	18.18
13.	Animal health management	35	31.82	58	52.74	17	15.45
14.	Animal feeding management	44	40.00	56	50.91	10	9.09
15.	Animal shelter management	59	53.64	36	32.73	15	13.64
16.	Animal breeding management	29	26.36	72	65.45	9	8.18
17.	Fish health management	88	80.00	18	16.36	4	3.64
18.	Water management in fish pond	67	60.91	55	50.00	2	1.82
19.	Fish pond preparation	44	40.00	51	46.36	15	13.64
20.	Fish production techniques	39	35.45	50	45.45	21	19.09
21.	Market information	37	33.64	59	53.64	14	12.73
22.	Weather forecasting	92	83.64	12	10.91	6	5.45

F= Frequency, %= Percentage

The overall parameter of mobile based agro- advisories by the respondents is presented on ~~in~~ Table 3. Data presented on~~in~~ Table 3 reveal~~s~~ that majority of the respondents at ~~(~~68.18

%) has positive perception towards mobile based agro- advisories followed by 4.55 per cent has negative perception towards the advisories. The Table 3 also reveals that 52.73 per cent of respondents has moderate usefulness of the messages, 55.45 per cent has highly satisfied with the messages whereas 50.00 per cent of the respondents showed it as very much problem solving and 71.82 per cent of as very much need based.

Table 3: Overall parameter of Mobile Phone based Agro-advisories by the respondents (N=110)

Parameter	Category	Frequency	Percentage
Perception			
	Positive	75	68.18
	Neutral	30	27.27
	Negative	5	4.55
Usefulness			
	Most useful	43	39.09
	Moderate useful	58	52.73
	Less useful	9	8.18
Performance			
	Highly satisfied	61	55.45
	Moderately satisfied	47	42.73
	Not satisfied	2	1.82
Problem solving			
	Very much	55	50.00
	Moderate	51	46.36
	Not at all	4	3.64
Need based			
	Very much	79	71.82
	Moderate	23	20.91
	Not at all	8	7.27

Conclusion:

It may be concluded that use of mobile phone networks for dissemination of agricultural knowledge as one of the powerful means of increasing access to quality information to farmers who may not be reached by the extension programmes. To provide the agro-advisory in sustainable manner, the convergence of such type of programmes with state line departments, KVVKs is highly recommended so that it will help to uplift the livelihood of rural mass. With the increased availability, access and ownership of mobile phones in India, mobile based agro-

advisories would play a significant role in reducing the information gap and information asymmetry between the farmers.

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Comment [IO6]: I am not sure of the journal's referencing style but I am aware that most international journal use APA Format. Thus, I advise you stick to one format as your references are dotted in more than one format. I have provided the APA 7th Ed format for reference number one. Moreso, it is very important to provide Internet (sites) addresses of the referenced works where required. That is, if you got the materials form the Internet.

Comment [IO7]: This is not allowed. Just four references and you could not cite one of them (author)! No please do the needful.