

Communication Behaviour of Farmers Registered Under m4agriNEI

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ABSTRACT

The study was carried out on the farmers registered under the mobile based agro-advisory service m4agriNEI which is operating in Meghalaya. 180 respondents were randomly interviewed for the study. It was found that locality channels were the most utilised and probably the most preferred channels for information seeking, processing as well as dissemination. It is observed that majority of the farmers (69.44%) exhibited medium communication behaviour. Through the services provided by m4agriNEI are highly utilised for seeking information, their utilisation for processing and dissemination of information is relatively low. Formation of m4agriNEI facilitated farmers' forum for discussion and sharing of information is suggested.

Keywords: ICTs; Mobile based agro-advisory; m4agriNEI; Communication behaviour;

In this era of booming Information Technology, the remote villages of North-East India is still looming in backwardness in most important indicators of human development such as income and health. Due to non-availability of improved technological information to the tribal farmers, agriculture exhibits low unstable productivity, which makes food insecurity problem and also poses serious developmental question. *Shabong (2012)* pointed out that the state of Meghalaya is plagued by a great challenge in the rural areas due to lack of access to communication technologies, poor road connectivity and limited transportation system. One important solution can be proper application of available ICT. Mobile telephony is one such ICT tool that has developed significantly in the past few years. Mobile phones are devices that can create, store, access, and share information anytime, anywhere. When teamed with extension and advisory services, they can help improve the livelihoods of rural people by getting much needed timely information to their fingertips at potentially low cost (*Raj and Bhattacharjee, 2015*).

m4agriNEI: m4agriNEI which stands for

'Development and Deployment of mobile based agro-advisory service in North East India' is an ongoing mobile based agro-advisory initiative implemented in of Meghalaya jointly by Central Agricultural University (CAU), Imphal and the Media Lab Asia, New Delhi since 2012. Currently the project is in its second phase and is operating in the Ri-Bhoi, East Khasi Hills, West Khasi Hills & West Jaintia Hills Districts under College of Post Graduate Studies (CPGS) lab Umiam, Meghalaya and West Garo Hills & South West Garo Hills Districts under College of Home Sciences (CHSc) lab Tura, Meghalaya. The core activity of the project is to provide agro-advisory to queries raised through its toll free number by registered farmers. By the end of May 2017, the project had 12000+ registered farmers. The project team is regularly involved in farm and home visits, conducting need based training programme, diagnosis and treatment of crops and livestock problems. Farmer coordinators, who are educated unemployed local youth, are appointed to act as a connecting link between the project and the farmers. Their role is to visit the project villages for need and problem assessment

and encourage the farmers to raise queries through mobile phones. The farmer coordinators are also provided with smart-phones to capture the images showing the problems at the field conditions and send it to the lab for providing the required solutions. Recently, the project had also started sending bulk agro-advisory messages to the registered farmers. The m4agriNEI project won the 4th e-North-East Award – 2013 in the category ‘Livelihood and Enterprise’ organized by Department of Information Technology, Govt of Arunachal Pradesh and North East Development Foundation.

METHODOLOGY

The study was carried out in the three districts of Meghalaya covered under the m4agriNEI CPGS lab viz., Ri Bhoi, East Khasi Hills and West Jaintia Hills Districts. From each of the districts, the CRD block having the maximum number of registered farmers was selected purposively. The selected blocks were Mawryngkneng, Bhoirymbong and Thadlaskein respectively. From each block three villages with maximum m4agriNEI activities were selected. Twenty farmers registered under m4agriNEI were randomly selected from each village as the respondents of the study. Thus a total of 180 registered farmers were interviewed. Communication behaviour of farmers was operationalised as the different channels utilized by the farmers for seeking, processing and disseminating information and the frequency of usage of these channels. A list of all the probable channels of communication of the farmers was prepared after thorough review of literature and pilot survey. Final list of the channels was obtained after refining the exhaustive list through pre-testing on non-sample population of the study area. Extent of use of each communication source was measured on a 3-point (1-3) rating scale and accordingly the score of the information seeking, information processing and information disseminating channels was calculated.

RESULTS AND DISCUSSION

Profile of the respondents: Details of the farmers are presented in Table 1. Majority (67.22%) of the respondents were middle aged. 57.78 per cent of the farmers were male and 42.22 per cent of them were female. A little less than half of the farmers had completed primary school (43.33%) and high school

(32.78%). 16.67 per cent of them were illiterate. This shows that majority of the respondents can read and write which is a positive sign for the use of mobile phones.

Table 1. Profile of the respondents (N=180)

Characteristics	Range	Respondents
Age	Below 36 years	30 (16.67)
	Between 36 and 55 years	121 (67.22)
	Above 55 years	29 (16.11)
Sex	Male	104 (57.78)
	Female	76 (42.22)
Educational Qualification	Illiterate	30 (16.67)
	Primary	78 (43.33)
	High School	59 (32.78)
Occupation	Higher Sec. and Above	13 (7.22)
	Farmer	52 (28.89)
	Farmer and labourer	123 (68.89)
Monthly Income	Farmer and Service	5 (2.78)
	Below ₹ 5,000	33 (18.33)
	Between ₹ 5,000 and ₹ 10,000	133 (73.89)
Expenditure	Above ₹ 10,000	14 (7.78)
	<60% of M.I	0
	60-80% of M.I	31 (17.22)
Attitude towards mobile services	>80% of M.I	149 (82.78)
	Less Favourable	34 (18.89)
	Moderately Favourable	121 (67.22)
	Highly Favourable	25 (13.89)

Figures in parenthesis indicates percentage to the total number of respondents

Majority of the farmers (68.89%) were engaged in both farm and labour activities for livelihood. It can be noticed that majority the farmers (73.89%) have a monthly income between ₹ 5,000 and 10,000 and that they expended more than 80 per cent of what they earned. 13.89 per cent of the respondents had highly favourable attitude towards mobile services while a majority of them (67.22%) had a moderately favourable attitude.

Information seeking behaviour of the farmers: Table 2 presents the information seeking channels used by the respondents for receiving various farms information. From the scores obtained we can see that the farmers sought information the most from television (83.70%) followed by friends (80.74%), neighbours (77.59%), relatives (72.59%), mobile services (71.67%), progressive farmers (71.29%) and m4agriNEI team (70.37%). The extent of information sought by the

Table 2. Information seeking channels used by the respondents in receiving information. (N=180)

Channels	Never	Occasional	Regular	Score	Score%
<i>Personal Localite</i>					
Neighbours	9(5)	103(57.22)	68(37.38)	419	77.59
Friends	5(2.78)	94(54.22)	81(45)	436	80.74
Relatives	27(15)	97(53.89)	57(31.67)	392	72.59
Progressive Farmers	18(10)	119(66.11)	43(23.89)	385	71.29
Local Leader	58(32.22)	106(58.89)	16(8.89)	318	58.89
<i>Personal Cosmopolite</i>					
Extension Personnel	52(28.89)	116(64.44)	12(6.67)	320	59.26
m4agriNEI team	5(2.78)	150(83.33)	25(13.89)	380	70.37
Input Dealers	76(42.22)	99(55)	5(2.78)	289	53.51
<i>Group Contact</i>					
Group Discussion	90(50)	80(44.44)	10(5.56)	279	51.67
Field day/Trip	147(81.67)	31(17.22)	2(1.11)	215	39.81
Demonstration	124(68.89)	56(31.11)	0	237	43.89
<i>Mass Media/ ICTs</i>					
Radio	121(67.22)	46(25.56)	13(7.22)	253	46.85
Television	15(8.33)	58(32.22)	107(59.44)	452	83.70
Newspaper	45(25)	88(48.89)	47(26.11)	362	67.04
Internet	126(70)	30(16.67)	25(13.89)	261	48.33
Mobile Services(m4agriNEI)	0	153(85)	27(15)	387	71.67

Figures in parenthesis indicates percentage to the total number of respondents

Table 3. Information processing channels utilised by the respondents for discussing information (N=180)

Channels	Never	Occasional	Regular	Score	Score %
Neighbours	4(2.22)	105(58.33)	71(39.44)	427	79.07
Friends	2(1.11)	93(51.67)	85(47.22)	443	82.03
Relatives	20(11.11)	112(62.22)	48(26.67)	388	71.85
Progressive Farmers	10(5.56)	138(76.66)	32(17.78)	382	70.74
m4agriNEI team	10(5.56)	149(82.77)	21(11.67)	371	68.70
Local Leader	51(28.33)	116(64.44)	13(7.22)	322	59.62
Other Extension personnel	52(28.88)	118(65.56)	10(5.56)	317	58.70

Figures in parenthesis indicates percentage to the total number of respondents

farmers from the newspapers (67.04%), extension personnel (59.26%), local leaders (58.89%), input dealers (53.51%), and group discussion (51.67%) were relatively lesser. On the other hand, internet (48.33%), radio (46.85%), demonstration (43.89%) and field day/trip (39.81%) were used relatively to a lower extent. However, Mishra (2003) reported that radio was very commonly used medium among farmers followed by television and Yadav *et al.* (2011) reported that among the personal localite channels of agriculture information the ‘progressive farmers’ was mostly utilized and neighbours were also highly utilised.

Information processing behaviour of the farmers: Table 3 shows the channels used by the respondents for processing of information received through various

channels. Information processing refers to discussing and deliberating information received for consideration of use, trial or adoption. It was found that majority of the respondent’s processed the information received on an occasional basis with their neighbours, friends, relatives, progressive farmers, m4agriNEI team, local leader and the extension personnel. If the extent of utilisation of the channels is considered localise channels like friends (82.03%), neighbours (79.07%) and relatives (71.85%) have received the highest score. The respondents also discussed the information received with the progressive farmers (70.74%) and the m4agriNEI team (68.70%). The respondents information processing was relatively lesser with the local leader (59.62%) and other extension personnel (58.70%).

Table 4. Information dissemination channels utilised by the respondents for sharing information (N=180)

Channels	Never	Occasional	Regular	Score	Score%
Shared at Home/Farm	2 (1.11)	79(43.89)	99(55)	457	84.63
Shared at Local Meetings	110(61.11)	62(34.44)	7(3.89)	255	47.22
Shared with Local Members	10(5.56)	100(55.56)	70(38.89)	420	77.78

Figures in parenthesis indicates percentage

Table 5. Distribution of the respondents on the basis of their Information seeking, processing and disseminating behaviour. (n=180)

	Utilization	Farmers		Mean (%)	SD (%)
		No.	%		
Information Seeking Behaviour	Low	29	16.11	66.78	6.71
	Medium	121	67.22		
	High	30	16.67		
Information Processing Behaviour	Low	14	7.78	70.15	7.58
	Medium	112	62.22		
	High	54	30.00		
Information Disseminating Behaviour	Low	48	26.67	69.88	12.23
	Medium	113	62.78		
	High	19	10.56		
Communication Behaviour	Low	27	15.00	68.92	6.40
	Medium	125	69.44		
	High	28	15.56		

Information disseminating behaviour of the farmers: Information dissemination refers to sharing one's knowledge and experiences to other farmers or agri-stakeholders. Channels utilised for sharing information are presented in Table 4. It is observed that the extent of dissemination of the farm information by the respondents is highest at their respective homes and farm (84.63%) followed by the dissemination to other local members (77.78%). The dissemination of the information received and processed by the respondents in local meetings is low (47.22%). Related to these behaviours viz., information processing and disseminating, Dambazau et al. (2015) reported that the farmers processed the received information by discussing with friends and relatives, extension personnel, progressive farmers and local leaders and disseminate the information by sharing at home & farm, conveying to other local members, speaking in local meetings and sometimes through displaying of posters.

It is observed that the most utilised channel of communication for the respondents were the localite channels. Though the utilisation of m4agriNEI channels for seeking information is satisfactorily high, these channels are hardly being utilised for information processing and dissemination.

Communication Behaviour of the farmers: Communication behaviour score of the respondents was calculated as the cumulative score of information seeking, information processing and information disseminating behaviour scores. In Table 5, respondents were categorised into three categories according to communication behaviour score. It is observed that majority of the farmers (69.44%) exhibited medium communication behaviour. This finding that the farmers have medium level of communication behaviour is in accordance with the findings of Kumar et al. (2012), Phukan et al. (2013), Abd et al. (2014), and Kavithaa et al. (2014).

Association of Communication Behaviour and selected independent variables: Association of the communication behaviour of the respondents with selected independent variables were worked out using chi-square test of association and Pearson coefficient of correlation. Results presented in Table 6 reveals that the age of the respondents had negative and significant correlation with the communication behaviour of the farmers at 0.01 level of significance; education, occupation and monthly income of the respondents showed significance association with their communication behaviour at 0.01 level of significance

while expenditure and attitude towards mobile based agro-advisory services shows non-significant association with the communication behaviour of the respondents.

These relationship is in accordance with the findings of Kumar *et al.* (2012) that the age of the NAIP beneficiary farmers had negative and significant correlation while education had positive and significant correlation with their communication behaviour and Dambazau *et al.* (2015) who reported that the age had negative and significant correlation while education, occupation and income education had positive and significant correlation with their communication behaviour.

Table 6. Association of Communication Behaviour and selected independent variables

Independent variables	Results
Age	$r = -0.211^{**}$
Education	$\chi^2 = 17.657^{**}$
Occupation	$\chi^2 = 19.106^{**}$
Monthly Income	$\chi^2 = 15.084^{**}$
Expenditure	$r = 0.005^{NS}$
Attitude towards mobile based advisory services	$r = 0.108^{NS}$

** Significant at 0.01 level of probability; NS = Non-significant

CONCLUSION

m4agriNEI is very promising agro-advisory initiative for the otherwise remote villages of Meghalaya. It is good news that the channels provided by the project (both queries through phone calls as well as team farm and home visits) are utilized well by the farmers. However, it is clearly evident from the findings of the study that localite channels are more utilized and probably more preferred by the farmers. Majority of them have a moderately favorable attitude towards the mobile services. So, the challenge for m4agriNEI is how to properly utilize and streamline the localite channels for effective information processing and dissemination of the information received through various channels. Formation of farmers' groups in village cluster for discussion of problems and advisory services received and sharing of experiences through collaborative learning can be encouraged so to improve effectiveness of information processing and dissemination. Such processes may be facilitated by the m4agriNEI team members. This can lead to increase credibility of the team members and indirectly can lead to seeking of more information through mobile phones.

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