International Journal of Marketing and Technology
Vol. 9 Issue 4, April 2019,
ISSN: 2249-1058 Impact Factor: 6.559
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN FARM MANAGEMENT DECISION: STATUS OF JORHAT DISTRICT

Raktim Ranjan Lahan*

Nivedita Deka**

Abstract

The study on the application of information and communication technology (ICT) in farm management decision in Jorhat district of Assam revealed that farmers in the study area had received agricultural information from various sources and media. These included newspaper, radio, television, mobile phones, internet, KVK, other farmers etc. The television was the predominant source of information in the study area. Most of the farmers relied on more than one sources of information. Farmers received different information like weather, soil, market price, irrigation, bank loan, modern tools, fertilizer and pesticide application. The frequency of accessing information from different sources was different. The mkisan web portal played an important in providing different agricultural related information in the study area. The agricultural technology information centre (ATIC) under Assam Agricultural University which is in study area helped in enriching the farmer's knowledge on farm management by giving information. Low level of education and less awareness hampered in proper use of ICT in the study area.

Keywords:

Information,Agriculture, farmer, farm management, KVK

* **Junior Research Fellow Dept. of Agricultural Economics anf farm management,AAU,Jorhat**

** **Professor, Dept. of Agricultural Economics anf farm management,AAU,Jorhat**

1. Introduction

Information Communication Technology shortly ICT can be defined as the diverse set of technological tools and resources used to communicate, disseminate, store and manage information. Information Communication Technology is an extended term for information technology (IT) which is an important field to upgrade the traditional methods of the farmers to new methods. Information plays key role in strengthening a farmer's daily decision-making related to agricultural activities by enhancing their knowledge about new technology, inputs and markets. Each stage of the agriculture production requires a number of specific actions or decisions by the farmer (Mittal *et al.,* 2010). Despite the huge investment, Indian public sector extension services are usually criticized for their ineffective targeting, limited reach and the huge administrative cost of delivering information (Mittal *et al.*, 2010; Sulaiman and Holt, 2002). The use of sources of communication like television, radio and newspapers have limited effectiveness (Mittal *et al.*, 2010 and Aker, 2011) and these are unable to meet the growing information needs of farmers, relating to crop and technology choice, processing, utilization, storage and marketing of their produce. Experiences of the vulnerable communities in Asia, Africa, Latin America and the Caribbean prone to the use of applications such as mobile phones, internet and community radio in strengthening access of farmers to the relevant information, networking opportunities and increased awareness (Ospina and Heeks, 2010). There are various ICT tools for agricultural sector specifically such as **AgMarknet**, which helps the farmers in agricultural marketing information. Another web portal **e-Choupal** is serving **as** transaction platform which brings together sellers and buyers along with information and service providers. **Kisan Subidha,** is a mobile application developed to help the farmers by providing relevant information for their farm in a short duration of time. **Agriwatch,** the website is developed by Indian Agribusiness Systems Ltd. (IASL), by professionals who have a long association with Indian agriculture sector. **Farmers' portal** is an endeavor to create a one stop for meeting all informational needs relating to agriculture, Animal Husbandry and Fisheries sector production, sale, and storage of an Indian farmer. The efficiency and effectiveness of network service providers must ensure that network is made available by asking them to give a boost to network installations in the countryside, since farming is largely predominant in the rural area (Aigeakaen*et al.*,2007). In Assam, the use of ICT tools is in infant stage in case of farm management. The farmers of the state were using ICT to some extent for various farm management activities such as weather

information, soil testing, seed, crop management, post harvesting and marketing etc. Farmers faced different problems while using tools of information for their field to increase their production. Some farmers even did not know the effectiveness of ICT. The education level, skill and attitude of the farmers played an important role for accessing the information on agriculture and allied fields. Most of the farmers are applying the traditional methods because of lack of knowledge on modern technologies. Farmers were not aware about the new technologies which can minimize their working time in the field and also reduces the number of labour required in the field. Because of lack of information, the proper utilization of agricultural land is comparatively less in India in comparison to the developed countries. The poor marketing facility is one of the major problems for the farmers. The information about product price helps the farmer whether they are in profit or loss. So far in India most of the farmers are not able to get timely information for their farm. ICT can help the farmers in production, marketing and financial management. For increasing the production, ICT can help the farmers in many ways by giving information like seed, weather, soil testing, crop management and post harvesting technique. ICT gives the marketing information like increasing and decreasing of price information of various crops. With increasing the use of modern technology in the farm, farmers also have to equally maintain modern tools for accessing information to get maximum profit from the farm. In that case the education level of the farmers also plays an important role for using the modern tools. The objective of the study was-

- Study the nature of ICT tools in farm management
- Study the frequency of getting information through ICT

Methodology

The data have been collected from both the primary and secondary sources. The primary data was collected from three blocks of Jorhat district, namely Dhekorgorah, Baghchung, Kaliapani. To fulfill the objective of the study a proper methodology is very necessary. The type of research conducted was descriptive in nature. Total sample size of the study was sixty and from every village twenty numbers of farmers were interviewed. The farmers were selected randomly and their major occupation was agriculture. Land holding patterns of most of the farmers were small and marginal. Most of the farmers were reported to use both modern and traditional ICT tools for getting farm related information. To fulfill the objective sixty farmers were interviewed with pre-

tested schedule. The responses of the farmers were found to be different on application of ICTs in farm management practices. Tabular and percentage analysis were undertaken according to the needs of first and second objectives of the study. The data were subjected to frequencies and percentages used to know the distribution of respondents according to selected variables.

RESULT AND DISCUSSION

Identification of difference sources of information for the farmers

In the study area most of the farmers were using different types of sources to get farm related information like television, radio, newspaper, mobile phones, internet, extension agent, KVK, commission agent etc. But all sources were not used by the farmers. A total of nine types of sources were found used by farmers to get information in the study area. Most of the farmers were using television to get information than other sources of information. Also some farmers were using radio to get information. Some educated farmers were using newspaper for information. Regarding online communication farmers were found less user in e-services (Gogoi M., Tamuli D. 2015).Less numbers of farmers were getting information from extension agent and KVK in the study area. In the study area fellow farmers were also good source of information.(Table 1).

Table1. Main sources of information used by the farmers to get information

Sl. No.	Media	User	Non user
1	Television	46 (76.67)	14(23.33)
2	Radio	38 (63.34)	22 (36.66)
3	News paper	21 (35.00)	39 (65.00)
4	Mobile	36 (60.00)	24(40.00)
5	Internet	11 (18.33)	49 (81.6)
6	Extension Agent	32 (53.33)	28 (46.66)
7	KVK	16 (26.67)	44 (73.33)
8	Commission Agent	9 (15.00)	51(85.00)
9	Fellow farmers	41 (68.34)	19(31.66)

(Figure within parentheses indicate percentage to the total respondents, n=60)

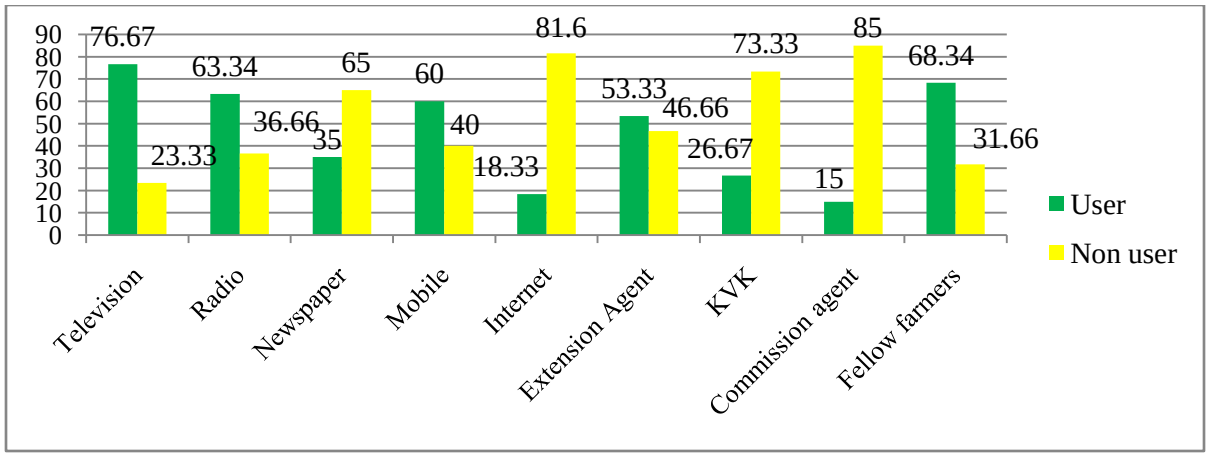

Fig.1. Main sources of information used by the farmers to get information

Frequency of getting information by the farmers from different sources

Farmers were receiving different types of information in the study area. In the study area farmers were more aware about weather information than other information. Most of the farmers getting information about soil monthly basis. Farmers reported that they were getting soil information from television, radio and KVKs. The majority of farmers were getting information of bank loan from various sources like newspaper, television etc. About 36.7 per cent of farmers were availed information about modern ICT on monthly (Table no 2). Same result was found in case of government policy on agriculture. Farmers received information on modern agricultural tools and government policy from television, radio, newspaper and other sources. The information about irrigation source and water management availed by the farmers from various sources which was not fixed. The majority of the farmers availed about fertilizer and pesticide application on monthly basis in the study area. Farmers received information about fertilizer and pesticide application from television show, KVK, fertilizer shop and other farmers. In the study area farmers were availed crop disease management information on weekly basis. Farmers received information about crop disease management from television, KVK and other farmers. Same result was found in information about marketing of agricultural commodities. Most of the farmers availed information about seed on weekly basis from various sources.

Table2. Distribution of respondents according to frequency of information type n=60

Sl.No.	Information about	Daily	Weekly	Monthly	Not fixed
1	Weather	34(56.67)	15(25.00)	7(11.67)	4(6.66)
2	Soil	4(6.67)	12(20.00)	23(38.33)	21(35.00)
3	Bank loan	9(15.00)	2(3.33)	38(63.34)	11(18.33)
4	Modern tools	8(13.33)	15(25.00)	22(36.67)	15(25.00)
5	Government policy on agriculture	10(16.67)	19(31.67)	26(43.33)	5(8.33)
6	Irrigation source and water management	11(18.33)	16(26.67)	4(6.67)	29(48.33)
7	Fertilizer and pesticide application	15(25.00)	15(25.00)	22(36.67)	8(13.33)
8	Crop disease management	13(21.67)	37(61.67)	3(5.00)	7(11.66)
9	Buying and selling of agricultural product	21(35.00)	27(45.00)	6(10.00)	6(10.00)
10	Market price	19(31.67)	27(45.00)	10(16.67)	4(6.66)
11	Seed	17(28.33)	21(35.00)	4(6.67)	18(30.00)

(Figure within parentheses indicate percentage to the total respondents)

CONCLUSION

For sustainable agricultural growth Information communication technology (ICT) is most important. Farmers in the study area received agricultural information from various sources and media. These included- newspaper, radio, television, mobile, internet, KVK, other farmers etc. The television was the predominant source of information in the study area. Most of the farmers relied on more than one sources of information. Farmers received different information like weather, soil, market price, irrigation, Bank loan, Modern tools, Fertilizer and pesticide application. The frequency of accessing information from different sources was different. Most of the aged farmers seek information from other farmers, relatives and traditional media. But the more educated farmers were less interested to get information for other farmers. Large farmers were more interested to get information from traditional media and modern ICT. The kisan call

centre also played an important for the farmers to get information in the study area. The mkisan helped the farmers by giving different agriculture related information in the study area. Different difficulties faced by farmers for accessing traditional and modern information were erratic and unstable power supply, computer illiteracy, operating problem etc. Here extension agent can play an important for training the farmers.

References

- Aigbeakaen, E.O.; Sanusi, R.A. and Ndagi, I. (2007). Constraints to the Use of Global System of Mobile Communication (GSM) by Crop Farming Household in South-west Nigeria. *Communications of the IIMA* **7**(1), 111-118. Retrieved from https://www.ajol.info/index.php/jrfwe/article/download/84721/74704
- Aker, J.C. (2011). Dial 'A' for Agriculture. A Review of Information and Communication Technologies for Agricultural Extension in Developing Countries. *Agricultural Economics* 42(6), 631-647. Retrieved from https://doi.org/10.1111/j.1574-0862.2011.00545.x
- Gogoi, M and Tamuly, D,(2015) perspective of ICT in strengthening agricultural extension system: a real time sms services through mkisan portal 4(3): 49-54.*International Journal of Humanities and Social Sciences (IJHSS), Retrieve from www.scribd.com*
- Mittal, S.; Gandhi, S. and Tripathi, G. (2010). Socio Economic Impact of Mobile Phones on Indian Agriculture. *International Council for Research on International Economic Relations*, Retrieved from http://www.icrier.org
- Osondu,C.K,Ibezim,G.M.C(2015). Awareness and Perception of Farmers to the Use of Information and Communication Technologies (ICTs) in Agricultural Extension Service Delivery: A Case Study of Imo State, Nigeria. *International Journal of Agriculture innovations and research* 4(1):2319-1473 Retrieved from https://ijair.org
- Ospina, A. V.,and R. Heeks. (2010) Unveiling the Links between ICTs & Climate Change in Developing Countries: *A Scoping Study, Centre for Development Informatics, Institute for Development, Policy and Planning* (IDPM), University of Manchester. Retrieved from http://www.africa-adapt.net

- Patel and Sayyed, (2014).Impact of ICT in agriculture sector, *International journal of food, agriculture and veterinary sciences* 4(2): 17-22.
- Sulaiman, R. and Holt, G. (2002). Extension, Poverty and Vulnerability in India: Country Study for the Neuchâtel Initiative. *Poverty and agricultural extension*, Retrieved from https://www.odi.org/sites/odi.org.