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The Use of Mobile Phone Among Farmers for Agriculture Development

Communication

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Abdul Razaque Chhachhar — Department of Communication, Faculty of Modern Languages and Communication, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.

Md Salleh Hassan — Department of Communication, Faculty of Modern Languages and Communication, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.

ABSTRACT

Mobile phone usage in third world countries is playing a vital role for the enhancement of farmers business towards agriculture. Recently, communication through mobile phones is considered very important in enhancing farmers' access to better understand agricultural market situation. Farming communities appreciate mobile phone as easy, fast and convenient way to communicate and get prompt answers of respective problems. Nowadays, the mobile phone has generated an opportunity for the farmers especially to get the information about marketing and weather. Through this important technology, they directly keep in touch with market personals and offer their produce with reasonable prices. The use of mobile phone also keep them aware for weather forecast for agriculture input application like fertilizer and pesticides which might be affected by un fore seen disasters as communicated by metrological department. This device has given new direction and approach to farmers to communicate directly and share about recent advances with each other. The studies showed that mobile phones have saved energy and time of farmers and ultimately improved their income. Mobile phones have provided an opportunity to the farmers to communicate directly with market brokers and customers for sell their product in good price.

Introduction

The dissemination of information and communication technologies (ICTs) in developing countries provides much opportunity to transfer knowledge and information by private companies and government department. Last many years mobile phone coverage has been spread fast in Asian, African and Latin American countries. It was indicated that more than sixty per cent of the population of sub-Saharan Africa, Asia and Latin America had access to mobile phone coverage in 2009. In the past the adoption of the mobile phones was primarily by rich people residing in urban areas. Nowadays mobile phones have been adopted by rural and urban populations in developing countries and getting a good benefit and latest information regarding weather, market and other related issues (Aker and Mbiti, 2010).

Mobile phones significantly have reduced communication and information costs for the rural people. This technology has provided new opportunities for rural farmers to obtain knowledge and information about agricultural issues, problems and its usage for the development of agriculture. Similarly, use of ICTs in agricultural extension services especially mobile phone services in the agricultural sector has provided information on market, weather, transport and agricultural techniques to contact with concern agencies and department (Aker, 2011).

Mobile phones have provided new approach to farmers to make tentative decisions much more easily than before. Use of mobile phones leads to greater social cohesion and improved social relationships among farmers and business community. However, short message service SMS and voice record have given improvements in social relations. Mobile phone based social-networking in the developing countries goes to show the growing importance of this aspect Mobile phones are considered as important for agriculture development. This technology has provided connectivity and offer benefits such as mobility and security to owners (Bayes et al., 1999, Goodman, 2005, Kwaku & Kweku 2006, Donner, 2006).

In Pakistan there was one centre with the name of Information and Communication (ICC) was established in district Sialkot Punjab province on pilot basis. The main function of this centre was to provide information to farmers about weather, forecast market prices and adoption of modern information technology. Being located within the community, the ICC brought the latest information at the doorstep of the farmers. By getting innovative information, the farmers' community initiated a powerful social discourse and dialogue to evaluate the applicability and relevance of the new information by use of mobile phone and other technology. There is need to inform farmers about choose appropriate variety of seeds, fertilizers, pesticides and a range of other agricultural inputs. Farmers should be updated about knowledge and information regarding land preparation, intermixture of cropping, water management, harvesting and so many farm related activities. This information could transfer by use of information communication technology such as mobile phone radio and television to farmers (Zakar & Zakar, 2009).

Mobile phones still very expensive in different developing countries where the poor farmers/entrepreneurs could not afford to purchase this technology (Frempong et al., 2007). The cost of the phone itself, maintenance factors such as cost of recharging the phones are also important considerations in regions such as rural Kenya. There were some critical issues were indicated that important similarities exist between the patterns of mobile phone use by the poor and the farmers and small entrepreneurs. Furthermore, mobile phone uses by this group to access market information were very low (Ashraf et al., 2005, de Silva, 2008; Ashraf et al., 2005).

The rural community especially farmers were facing many problems, obstacles and challenge in the use of ICT tools such as mobile phones. There were many challenges were indicated such as organizational, technical, financial, social and illiteracy. In the terms of organizational factor the lack of interest by higher authorities and extension experts to use ICT tools were also observed. However, the low quality of services provided by the companies and lack of interest by private sector to participate in developing ICT programs for rural area was big issue for the development of agriculture development in rural areas of developing countries (Hosseini et al., 2009).

The lack of knowledge was also a big problem among rural communities and farmers in use of ICT, while another study indicated in the context of Malaysia that the level of ICT usage among rural community especially farmers were low due lack knowledge and skills. The illiteracy was also a cause of use ICT among farmers because famers could not contact with related officers and department and get information about market price, weather or pesticides even farmers was not knowledge about use of mobile phone to contact with their family and friends due to illiteracy (Samuel et al., 2005, Musa et al., 2008).

The preference ICT tools among farmers in Philippine was indicated that the use of mobile phones was not discovered as a famous choice for sourcing information. The fact is that

the rural households surveyed there was at least one mobile phone owned by one household. The findings and interpretation showed that multiple social issues do effect on use of ICTs such as illiteracy, socio-economic status and willingness and conditions to participate in ICT training are legitimate concerns (Manalo & Eligio, 2011).

The farmers who had no access to mobile phones were facing many problems in selling their produce and getting information regarding market compare with farmers who use phone users. In the context of the Malaysia most of the farmers are facing problem to contact with agriculture experts by due to lack of communication. This community still are depending on conventional methods such as posters and voice amplifiers. By use of this method the information might not reach its intended. These situations indicated that communication is the main cause of the problems faced by the farming community (Duncombe, 2011.S, hiang et al., 2012).

The trend of the mobile phone is increasing among Malaysian youth agro-based farmers but due to lack of infrastructure services and inefficiency of government and other related organizations has created many problems for farmers to get information about agriculture markets, promoting investment. Therefore the contribution and empowerment of economic sector where agro-based entrepreneurs could make big profits, and pay taxes for development were not entertained (Shaffril, et al., 2009).

The millions of the people in the developing world depend heavily on agriculture and small businesses. The recent increase in food prices has also created many problems one major problem in many rural areas that farmers and small entrepreneurs generally have no way of knowing prices before they travel to the market due to poor communication facilities. In particular, small farmers have poor market infrastructure, inadequate marketing experience, and agricultural inputs.

Use of Mobile phones for marketing information

Mobile phones have been spreading fast among farmers and they are exchanging their marketing, weather and business information among each other. Farmers directly contact markets brokers and near cities for sell their product. Similarly farmers focus, search useful and up-to-date market information from social and business networks (Ilahiane, 2007).

It could prove that mobile phone was very powerful tool in providing basic information about agriculture. For instance in Malaysia mobile line companies such as DIGI, CELCOM, MAXIS and U-MOBILE, could provide new direction and approach to farmers for communicating with market and agriculture extension officers to get information about latest market rates as well as weather information (Szilagyi and Herdon, 2006, Lio and Chun Liu, 2006).

One extension programme was started in Philippine about use of mobile phone for farmers to get information about deliver fertilizer advice by text message over mobile phones which were given a positive result to the farmers and they enhanced their production. Similarly in Kenya farmers obtain information about costs of seeds, fertilizers and pesticides of growing crops against bad weather by using mobile phone that link solar powered weather stations to an insurance company. The most important and significant improvement were occurred in Uganda where farmers get fertilizers and certified seeds is being delivered through the use of mobile phone (KASHEM, 2010).

In the perspective of economic development mobile phone has effect on low income groups. Mobile phones have vital impact on agriculture where the use of mobile phone among poor farmers in developing countries could unexpected. The most vital aspect the mobile phone was the information about the market that was in past were very difficult for small farmers to obtained. Nowadays mobile phone has provided producers with information and knowledge on the correct market price, quantities, and availability of a particular product and technical advice. It could enable the producer to have direct communication with the buyer and to avoid the costs associated with intermediaries (Goggin & Clark, 2009).

The study was conducted in Tanzania where the organization deployed the farmers which was called market spies near cities to inform about the latest price of the product and its availability in market by mobile phone. This strategy improved the market access and provided a good profit to the farmers. Such kind of awareness were changed the market trends and given a new opportunities to farmers. The first mobile project was established in Tanzania to bring farmers, buyers for learn about develop strategies and share their knowledge and experience to meet their identified needs. The mobile phone provided new trend among farmers to work together and sharing their experience and develop a better way for increase their income (Lightfoot et al., 2008).

The importance of access, accurate and timely information could provide a good benefit and enhance the capacity of the farmers (Asaba et al., 2006). In the terms of community development mobile phone has played a positive impact on poor farmers and their communities and mobile phone strengthen their position in the market chain. Mobile phone has provided access to facilitate active citizen participation in development (HRCA, 2001).

The mobile phones could help the farmers as well as traders to sell their fresh product in market quickly to avoid waste. This technology has also provided new approach and chance to farmers decide whether to accept the price offered by buyers by obtaining price information from other sources. Farmers' rate is expected to increase as information flow increases due to mobile phone network coverage and the size of the impact is larger in remote areas. When the mobile phone network was not available in Ghana traders were spent many day to fill the trucks of banana and beard the transport charges and could not get appropriate price from market. Now mobile phone has not only saved the transport charges of traders and farmers, but same time provide fresh banana in market and get good price (Smale & Tushemereiruwe, 2007).

The mobile phones have provided new approaches and thinking to the farmers for get the information and sell their product in market with any bargaining to brokers. Before the mobile phones mostly farmers were depend on broadcasting media such as radio and television to get knowledge and information about crops. This time mobile phone technology has given quick communication and approach to community with their community. The educated farmers use short service message (SMS) to get latest update agricultural information such as marketing information that facilitate the farmer about making logical decisions (Murthy,2009).

The use of mobile phones as providing agricultural related information and it was showed that how mobile phone has been able to connect the farmers to market information on the specific time and provide accurate information from brokers and customers. The effect of mobile phone could measure in the term of increased or decreased their sell productivity (Mittal & Tripathi, 2008).

The importance of market information for the farmers could not deny for the economic and efficiency development. It was observed that mobile phones have provided timely and accurate information and by these farmers has increased their performance knowledge (Helmberger, Campbell et al. 1981). Mobile phone has provided new opportunities and access to farmers in different ways to communicate with market people and get latest information about commodities. It is no doubt that radio and television was also played an important role in diffusing information among different rural communities. Traditional media and new ICT have played a major role in diffusing information to rural communities (Munyua, 2000).

The pre- paid mobile system has also give new directions to farmers and they use text message to their customers for sell their product in good price mobile phones have saved the time,

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money and energy of farmers (Aloyce, 2005). Mobile phone technology has closed the distance and farmers get most important information within a time without any problems (Campbell, 2005). In Pakistan many studies showed that widely available information on usual market prices for seed cotton strengthened farmers' position when bargaining with traders (Lohano, Smith, & Stockbridge, 1998).

Mobile phone and weather information

Information and communication technology could play an important and potential role in increase the reach of agricultural extension. in the terms of the India where farmers explore the use of a voice message forum to provide interactive and access to appropriate and timely agricultural knowledge and information from experts by use of mobile phone. Now mobile phones are being adopted by rural communities in India to get information about weather disaster as well as pesticides.

In the context Philippine mobile phone has also given a good benefit to dealers for getting better market information when negotiating with farmers over the price of their produce. The adoption of mobile phones has increased among farmers. Furthermore, farmers could get price information from friends and relatives or to get an estimate from another trader for selling their produce in good price. Similarly adoption of mobile phones could impact farmers' decision to travel to market rather than to sell at farm-gate. Indeed, without local market information, farmers might be reluctant to take the costly trip to markets to sell their goods (Patel et al., 2010).

In remote areas farmers and small businesses could gain rapid access to market and get information about prices and commodity availability. By use of mobile phones farmers could save money and time consuming travelling. It also makes it possible to reach markets or new customers who would not be contactable without mobile phones (Wald & Koblo, 2008).

The mobile phone could provide help the cattle farmers to contact with veterinary officers for get the information about communicable diseases. This could change attitude and encourages new ways of thinking to cattle during calving which could reduce in stillborn calves. In the longer term this increases the income and welfare of the cattle farmers. Nowadays many farmers contact with metrological department to get information about weather before start a pesticides in their crop (Duncombe, 2011).

One study was conducted of animal health workers and farmers in Kenya about use of mobile phone to identify and management of livestock diseases it was indicated that mobile phone was reduced the cost of transport and mobile phone enable farmers to obtain agricultural and livestock information from concern authorities. Another study showed that before mobile phone many dairy farmers were travelling many miles to the main market in searching for buyers. Now the adoption of mobile phone by dairy farmers in Uganda provided access to contact with buyers and suppliers about up to date price information as well as communicated with them by use SMS for selling their milk in good price (FARMAfrica, 2007, Karamagi, & Nalumansi, 2009).

The web-based system could use to disseminate information among farming communities via Short Message Service (SMS) and keep alert to farmers about weather, price and pesticides. In this context the mobile phone is one of the best sources to disseminate related information among the farmers. This method could benefit to farmers because farmer can purchase mobile phone easily than other communication tools. Mobile phone is a good medium to disseminate information to different layers of the society (May & Hearn, 2005).

The level of usage of mobile phone spreading rapidly in developing countries for the purpose of business, education and agriculture development. Furthermore, there is a lack of signal of usage of mobile phones and infrastructure service delivery in different countries has a big issue mainly to the difficulty in measuring their social and economic impacts. However same time farmers use mobile phones and get the information about weather from different sources. Impact on development and identifying the sectors where further research is needed (Ahmed & Elder, 2009).

Conclusion

The information communication technologies are increasing in developing countries for the development of different people such as educationist, doctors, and agriculturist. The farmers are one of the big communities in developing countries where they have not facilities in their area for increase their product and income. Mobile phone is increasing among farmers but still there is gap available among business, customers and farmers. There is need of enhancement different project about mobile phone technologies where farmers could get easy access to communicate with people to sell their goods in market. The government and other related department should also plan to reach these farmers and provide latest information about seed, weather and market on the time and provide good price of their product.

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