THE ROLE OF MOBILE PHONE COMMUNICATION IN DIFFUSION OF DAIRY GOAT REARING IN MUTONGUNI DIVISION KITUI COUNTY, KENYA

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Summary

The spread of mobile phones into rural areas represents one of the most profound changes in rural Kenya and many other developing countries in the past decade (Global Satellite Messaging, 2008). Farmers, agricultural processors, and marketers have transitioned from a culture in which there was virtually no telephone service of any kind to one in which mobile phones are now widely utilized among farmers and at rural markets. As pointed out by Dean, Faculty of Agriculture, Prof. S Shibairo in Volume 1, Issue 1 of AICM Newsletter; ‘The bridge between the research side of technology and adoption side is the information and communication technologies’. Mobile phone communication provides one of such technologies.

Many digital platforms have been hosted that try to communicate to farmers agricultural information ranging from input advertisements, input-output price fluctuations, extension messages etc., however, there is little documented information on the efficiency and effectiveness of the digital paradigm shift.

Literature Review

Reduced communication costs could not only increase farmers’ access to information, but also to public information such as those provided via agricultural extension services. The marginal cost of providing market information via Short Message Services (SMS) is cheaper than providing the same information via an additional extension visit, and is equivalent to providing the same information via radio. Reducing the costs of disseminating information could increase the extension system’s geographic scope and scale, as well as facilitate more frequent and timely communications between extension agents and farmers. This could, in turn, improve the quality (or value) of the information services provided. Yet the impact of these reduced costs on farmers’ adoption decisions will depend upon the ability of such information to serve as substitute for in-person mechanisms (Aker, 2010).

In Nigeria it was observed that farmers using cell phone made greater number of contact than those made by farmers who had physical contact with extension agents. It could be inferred from this finding that farmers using cell phone are more informed than farmers making contact with extension agents. Experts have also found out that cell phone, could be used as a
tool to reduce extension farmers ratio of 1:2000 per farm families in Nigeria. (Bolarinwa et al, 2011).
In Kenya today platforms like iCow, M-Kilimo and Angaza Mkulima have employed mobile phone technology to pass extension messages to the Kenyan farmers. There is urgent need for our digital government to go full blast in providing e-extension to make available extension messages to the farmers without physical contact. In any case the number of extension agents has been going down since 1990 and the number of farmers has been going up.

**Methodology**
In the study, I investigated how dairy goat farmers used mobile phones in dairy goat rearing. The dairy goat farmers targeted were widows, caregivers and orphans in a World Vision project. The study was justified by the fact that dairy goat rearing has reduced the perennial inflow of relief food into the area. Household survey collected information from 100 dairy goat farmers on heterogeneous variables around ownership and use of mobile phones in keeping of dairy goats. The household survey was enriched by two Focus group discussions and four Key informant interviews.

**Results and Discussion**
From the study it was clear that use of mobile phone reduces the length of channel of communication to a minimum. 99% of farmers interviewed own or have access to mobile phones with a key significant fact that 95% of these farmers use mobile phone money transfer services at least once in a month. Through the use of mobile phone communication dairy goat farmers of Mutonguni division are able to access market information on prices of goat milk, breeding stock, salt lick and livestock drugs and make comparison of the same before making a decision on where to buy or sell.
On management of the animals farmers use mobile phone to contact Livestock officers and the veterinary doctor to attend to their sick animals. This has greatly reduced response time and has saved lives of animals that could have otherwise died.
As a group the chairman of Kitui West Dairy Goat Breeders Association observes that ‘Mpesa has made debt collection very easy. The people we sell goats to just transfer the required amount to the treasurer’s mobile phone once they are satisfied with the goods’. A confession from one of the farmers is and I quote;
‘Ni kukwataa athoii aingi ma mbui, mbaikana nthenge, nanituthing’isyaa kuivwa na nziaya simu mbee wa muthooi ata nesiambui
Loosely translated as; ‘We receive a lot of orders for goats, whether does or bucks, and we insist on payment through mobile money transfer before the customer collects his goat’.
Other team members added that mobile phone communication has also reduced the cost of following up on debts of milk sales.
Farmers of the group pay their monthly dues through mobile money transfer and this has greatly reduced defaulting and strengthened group collection. Mobilization for farmers to come for a meeting has never been easier as all the secretary does is to circulate an invitation all the members most of whom own or have access to mobile phones.
The enormous success of the dairy goat project could not have been captured better than in the Progressive Agribusiness magazine Edition 005 of May/June 2011 where the editor observes that ‘The introduction of commercial goat keeping in Muton-guni as a scalable poverty reduction strategy has turned out to be a best practice with the potential to stimulate this rural economy and offer lessons to other community based projects’ Achievements of the project include; increased family income of those households who are keeping dairy goats. One widow confessed that from sale of milk and offsprings she has educated her daughter from Form one to Form four. Nutrition has also improved from consumption of goat milk. Goat milk is reputed to be more nutritious than cow milk and one needs just half the volume to prepare as much tea. Other benefits are increased crop yields from use of manure and collective action when farmers agreed to castrate local breed of bucks as soon as they mature to avoid breeding with the improved breeds and allow upgrading of local does with Toggenburg group bucks. Truth be told, no innovation comes without challenges. Many farmers (99%) were able to cite one or a combination of challenges that they face as they use mobile phone in carrying out their business of keeping of dairy goats. Ranking highest at 32% is high cost of airtime. This is followed closely 27% by inadequate knowledge on use of mobile phones, which limits the number of features that a farmer can use on his/her mobile phone. Those who cite high cost of airtime, inadequate knowledge on use of mobile phone or both form 79% of the farmers, confirming that there is a burning desire among the farmers to exploit the technology for increased dairy goat production.

**Recommendations**

1. Most farmers (99%) own or have access to mobile phones and yet no farmer communicates over mobile phones on a daily basis. The constraint cited is high cost of airtime (32%). Development agencies coming up with community-based projects should include allocation of airtime especially for leaders of the groups to ease communication to various members of the groups. This will shorten the chain of communication, reduce message distortion and facilitate response from the receiver of the message.

Unlike Ugandan farmers who are capable of using mobile phones to take photos of agricultural demonstrations, using the loudspeaker function to permit a group of farmers to consult with an expert, recording group members pledging when they will repay loans, and storing data such as the date hens should start laying eggs, Kenyan farmers only use voice calls and send SMS as the only means of communication through mobile phone. There is need to build capacity of Kenyan farmers in their respective farmers groups on how to use the other mobile phone applications to reduce the digital divide.

The government should support those firms that offer e-extension platforms by reducing taxes on their equipment and levies on their activities. This will enable such firms to diversify their products and also be able to carry out publicity on their products. This will help them to expand their audience and be able to benefit more framers to boost agricultural production.
Some research should be done among farmers in different parts of the country to bring out their views on the improvements that they think can enhance their use of mobile phones to improve agricultural productivity in their farms. This participation will spur adoption of mobile phone based innovations intended to improve agricultural production.

References
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