Research Application Summary

Creating channels, connections, and communities: Experimenting with virtual rural agricultural learning communities in Nkhotakota district, Malawi

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Abstract

In the simplest form, an agricultural innovation system has three elements: the organizations and individuals involved in generating, diffusing, adapting and using new knowledge; the interactive learning that occurs when organizations engage in these processes and the way this leads to new products and processes; and the institutions that govern how these interactions and processes takes place. Social learning – iterative and learning-based processes of collective decision making and problem solving in the face of change- is the core of innovation processes, as any change in social or economic organisation improving a certain state of the matters brings to a change in the available knowledge. This paper describes the experiences of smallholder farmers in Nkhotakota district in creating channels for social learning through social media and ICTs. Whatsapp has enabled farmers to create virtual learning communities that allow them to access agricultural information from various specialists. ICTs are able to bridge the digital divide between specialists and farmers within the rural areas.

Key words: Agricultural innovation systems, information and communications technology, Malawi, social media, virtual learning communities, whatsapp

Résumé

Dans la forme la plus simple, un système d'innovation agricole comporte trois éléments: les organisations et les individus impliqués dans la production, la diffusion, l'adaptation et l'utilisation de nouvelles connaissances; l'apprentissage interactif qui se produit lorsque les organismes se livrent à ces processus et la façon dont cela conduit à de nouveaux produits et procédés; et les institutions qui régissent la façon dont ces interactions et processus se déroulent. L'apprentissage social – un processus itératif et fondé sur l'apprentissage de prise de décision et résolution de problèmes collectives à l'égard du changement – est au cœur des processus d'innovation, étant donné que tout changement dans l'organisation sociale ou économique visant l'amélioration d'un certain état des choses amène à un changement parmi les connaissances disponibles. Ce document décrit les expériences des petits exploitants agricoles dans le district de Nkhotakota dans lsa création de canaux pour l'apprentissage social par le biais de médias sociaux et les TIC. WhatsApp a permis aux agriculteurs de

créer des communautés virtuelles d'apprentissage qui leur permettent d'accéder à l'information agricole provenant des divers spécialistes. Les TIC sont en mesure de combler la fissure numérique entre les spécialistes et les agriculteurs dans les zones rurales.

Mots clés: Les systèmes d'innovation agricoles, les technologies de l'information et de la communication, le Malawi, les médias sociaux, les communautés virtuelles d'apprentissage, WhatsApp

Introduction

The agricultural innovations systems (AIS) approach is increasingly being used to explain how an innovation takes place and how and by whom benefits are gained out of complex technological and institutional processes (World Bank, 2006). This approach makes social learning the core of innovation processes. Here, social learning entails the interactive learning that occurs when actors engage in a process of innovation and the way this leads to new products and processes'. Information and Communication Technologies (ICTs) hold the potential to facilitate social learning amongst various actors in the agricultural sector. The contexts in which social learning can take place are proliferating as rapidly as the range of technologies that can be used to facilitate this type of learning. Radio, mobile phones and increasingly, social media are gradually being recognized as platforms that can assist the facilitation of social learning amongst various actors.

In Ghana, for example, rural radio has been used successfully to create platforms for social learning within and beyond specific communities. Taiwo and Asmah (2013) report that community radio was used to promote adoption of a high-yielding rice seed and this resulted in doubling the demand for the seed among farmers between 2008 and 2009. However, the report shows that adoption of the seed variety was made possible by having farmers talk to themselves on radio. Citing interviews from farmers who experienced turnaround in their rice farms, the report makes the case that it is often more convincing to learn about a new yield-improving technology from a farmer than from an extension agent. To farmers, hearing about the rice from other farmers made it more convincing. ICTs can indeed enable the delivery, facilitation, and enhancement of both formal and informal learning and knowledge sharing at any time, any place, and at any pace (World Bank, 2011).

In recent times, social media is also gaining popularity in the rural and agricultural development sector. Professionals are forming 'Communities of Practice' to network and share information; in addition, farmers are using social media to talk to peers, agricultural experts, and even find markets for their produce. Prominent happenings in agriculture including newly released technologies or innovations, seminars, reports and publications are also increasingly being made widely known or discussed via social media.

Suchiradipta and Saravanan (2016) indicate that in the future, social media is going to shape the way people interact, share information, form opinions and also lead individual and collective actions. More and more, it is evident that this is already taking place. The young and old alike – are fascinated by social media. Especially for agricultural extension and advisory

services, whose primary element is communication, social media can be a potential goldmine. Engaging with clients online, helping rural community gain a voice, making development bottom-up, more fruitful innovation brokering, and engaging with all the actors in agricultural innovation systems on the same platform- social media has more than one use in agricultural extension.

While social media seems to be promising for agricultural development, the major debate on how 'pro-poor' the whole notion of internet is especially for the average smallholder farmer remains uncontested. While around 40% of the world has access to the internet, only 9.6% of this percentage is in Africa. Malawi, which has an estimated population of around 17.7 million, has internet penetration of only 6.5%.

A survey conducted by the Malawi Communications Regulatory Authority (MACRA), the national regulator of Information and Communications Technologies (ICT) in Malawi in 2015 estimated that national mobile phone usage was around 45% with a larger share of the mobile phone owners in urban areas. This may imply that within the rural areas, those who own mobile phones may significantly be the well-to-do, who in principle may also be the economically active farmers. While this can be looked at as a threat to pro-poor development, it is an opportunity to empower those with the economic ability to do better with information that enables them to do so.

With an example of Nkhotakota district in Malawi, this paper analyses the role of social media in facilitating social learning and demonstrate how rural communities are organically adapting and utilizing ICTs for the betterment of their livelihoods.

Project description

In 2015, Farm Radio International (FRI) with funding from the International Fund for Agricultural Development (IFAD) designed an initiative namely the 'Her Farm Radio' project which aimed at providing special support systems that enable women farmers to identify and capture their own agricultural issues and share them with a wide audience through the farm radio programs in Tanzania, Uganda, Malawi and Ethiopia. The project specifically aimed at developing the media skills of at least 1000 female farmers belonging to at least 120 community listening groups in four countries, and ensuring that their needs, perspectives and issues are shared with the vast audiences of 12 rural radio stations in those countries. Specifically, in Malawi, Farm Radio Trust (FRT) trained at least 150 female farmers belonging to 30 already existent community listening clubs to use mobile phones so that their needs, perspectives and issues are shared with the audience of at least three radio stations in three districts in Malawi namely Kasungu, Nkhotakota; both located in the Central region and Mangochi district located in the Southern region of Malawi. Radio broadcasters together with the smallholder farmers designed questions and topics of discussion around gender equality and equity in agriculture.

In order to create a system for interactivity between the clubs and the radio station, each of the 30 community listening clubs were equipped with one basic android mobile phone which

would allow them to respond to and comment on the topic or question being discussed that week. The broadcasters were supported to install WhatsApp onto the mobile phones and created group chats for women. They were trained on basic technical issues of android phones to provide technical backstopping to women whenever need arises. They were also oriented on their role of moderating group chats to achieve the objectives of the innovation. To make sure they were conducting the right interviews, broadcasters were given the schedule of topics and guides on how to gather materials. A schedule was developed indicating dates, topics and groups that would be contributing their voice each week. This was to make sure each and every community listening club participated and contributed their voices. The Whatsapp technology was not part of the initial design of ICT-services to be used in the project. However it was included as a result of the failure to use Interactive Voice Response (IVR) systems which was abandoned during the initial stages of project implementation due to high internet costs and low literacy levels which would necessitate extensive training. Thus, it was decided that a low cost internet based application be used.

It was viewed that women would be interested to try out something new and challenging and yet simple, while in the same vein, gaining new skills and experience in utilizing mobile phones and internet platforms. Two women from each group were identified by fellow members to undergo the one day training which included the basic use and handling of Android smart phones, recording audios, capturing photos and videos as well as conducting interviews. They were also oriented on basic use of WhatsApp and how it would be used in the project.

WhatsApp Messenger is a proprietary, cross-platform, encrypted instant messaging client for smartphones. It uses the Internet to send text messages, documents, images, video, user location and audio messages to other users using standard cellular mobile numbers. Like any other Internet Messaging platform, WhatsApp is simple to set up and use. It requires a basic android phone and mobile number. It can be installed from an app store or using download link which can be shared by another user. Once installed, the app displays a quick access icon which a user clicks to open the platform. WhatsApp requires staying updated with a new version. It can be set to auto-update or for manual update.

As of February 2016, WhatsApp had a user base of one billion, making it the most popular messaging application. Its popularity among users is one of the primary reasons it was selected for this project. This is because there are many whatsapp users even in the rural areas these days and it would be easy for women in the community listening groups to seek help on technical issues like updating the app from other individuals in their area who use the application apart from Broadcasters and FRT staff.

WhatsApp has a user friendly chat wall that displays both sent and received messages. Audio clips, photos and videos are also displayed on the same wall and are downloadable to the phones memory. It has the advantage that user is shown notifications giving assurance that the message has been received and seen. WhatsApp has an internal recording by tapping on a record button on the chat wall. Recordings can be sent instantly after finishing or stored on the phones. Recording is unlimited depending on the phones memory and storage

capacity. The womens' recordings were limited to 2-3 minutes per interviewee in consideration of the time of the radio program. Every member of the group was encouraged to participate in sending their voices using WhatsApp recording.

By the end of a year, a review of the project was made, and it was realised that unexpected innovations had evolved from the whatsapp group that was created in one of the districts, Nkhotakota. Specifically, it was found that the whatsapp group had evolved into a "virtual learning community". The whatsapp group had initially comprised of the phone numbers of 10 community listening clubs, and the broadcasters, making a total membership of 12 on the group. However, two local extension workers; two Lead farmers; the District Agricultural Extension Officer, Agribusiness Officer and Communications Officer were also been added to the group. Increasingly, farmers who owned mobile phones requested to be added to the group thus expanding the total number of phone numbers for the group to 28. Thus in addition to discussing topics on gender equality and equity, farmers were seeking agricultural advice from their fellow farmers and experts on the group.

Experiences with the use of Whatsapp

Experiences from agricultural experts. Interviews with the extension workers and officers on the whatsapp group indicated that social media is one of the ways they can be able to provide farmers with agricultural advisory services in real time. Farmers are able to take pictures and/or post their questions which are responded to immediately by extension workers. It was also noted that the group has helped extension workers to know what is happening in other extension planning areas within the district. In most cases, due to spatial distances within the district, extension workers meet when there are meetings at the district office. However, the group has helped them to know each other and the work they are doing in each of their locations.

Topics that were discussed centred around conservation agriculture, climate change, crop protection, minimizing post-harvest losses, food budgeting, marketing, and HIV/AIDS. The group helped the extension workers to orient farmers on how they can communicate agricultural messages to their fellow farmers. Also, when there are field days or demonstrations happening in the district, the members post pictures so that others are able to appreciate what is happening. The major success indicated by Mr Chizimbi, a local extension worker is the facilitation of learning on Conservation agriculture. "*People were posting pictures of their conservation agriculture fields which allowed other farmers to see and emulate how exactly to do it*".

Experiences from broadcasters. Community Radio stations often have a shortage of staff to run across collecting materials for their various projects and programs they work on. They also have limited financial capacity to travel long distances to visit and conduct interviews with farmers. According to the broadcasters at Nkhotakota Community Radio, they have used WhatsApp to gather materials they need for programming by posting a question on the group chats and requesting any group or individual to respond by recording their voices. This

has increased opportunity to feature diversity of farmer voices on different farming practices and content in broadcasts.

There also has been an increase in women voices who find the comfort of being interviewed by fellow women farmers. While broadcasters could physically visit a few farmer groups monthly, they interact with several farmers weekly on WhatsApp. In addition, while they hardly find time to visit farmer fields sometimes, they are able to see farmer fields through pictures shared on the group chats. Thus, with WhatsApp, broadcasters can interact with farmers as individuals or group at any time. Sometimes they remind them of broadcast times, share tips on good farming practices, initiate discussion on other relevant issues and link farmers to extension workers by adding the later to the group chats to help respond to farmer queries which benefits more farmers.

Despite the success broadcasters have faced challenges with quality of some recordings by farmers which has resulted into some being un-usable. On the other hand, low quality audios are also a result of poor network from farmer locations.

Experiences of community members. The innovation is attracting farmers as they find the group very useful and a solution for keeping in touch with broadcasters and extension workers.
One community listening club called Chigumukile, indicated that women and other villagers touched a smart phone for the first time when they received one from the project. Three months later, three other members of the village bought their own low cost smart phones just to have WhatsApp on them and be able to join fellow farmers on the group chat moderated by the radio station broadcasters. According to the farmers, they have found it interesting to interact with other farmers and sharing information about farming and other development issues of common interest on daily basis. While extension workers were confined to man their sections only, the WhatsApp group chat broke the boundaries allowing extension workers to share tips and respond to farmers from other sections. The group chat has become a community network for solutions to farming needs. Beyond WhatsApp, some groups have created Facebook accounts while others have joined other WhatsApp group chats for social interactions.

The major challenges cited by the farmers include limited coverage; it was quickly noted that one mobile phone might not necessarily suffice for all of them to interact with the broadcasters and other experts considering that they have diverse needs. Nevertheless, they are able to learn from others who ask questions that at times relate to their experiences. In addition, despite moderation, sometimes members are prone to sending irrelevant and unrelated information. This necessitated group rules so that everyone is comfortable with what is posted. Another challenge was lack of basic interviewing skills especially in other groups where members that were trained had left the village. This resulted into low quality recordings that went un-used in programs while others made too long recordings which they failed to send through WhatsApp; this required them to travel to the station or wait for broadcasters visit to download. Purchase of mobile airtime was another challenge in some groups which resulted them in not meeting their deliverables.

All in all, the community listeners groups cited that the creation of online community learning platform for farmers is a major milestone in bridging the digital divide especially in rural areas.

Conclusion

Social media has the potential to penetrate even the remotest of the rural areas with relevant information that smallholder farmers need for their livelihoods. However, there is need to pay attention to the dynamics in the target local areas in order to adapt what works for them, in their context.

Acknowledgements

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