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# The Mobile Phone: A Solution to Rural Agricultural Communication A Case Study of Rakai District, Uganda

Godfrey Bukenya

Series: ICTs for agriculture





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The Technical Centre for Agricultural and Rural Cooperation (CTA) is a joint international institution of the African, Caribbean and Pacific (ACP) Group of States and the European Union (EU). Its mission is to advance food and nutritional security, increase prosperity and encourage sound natural resource management in ACP countries. It provides access to information and knowledge, facilitates policy dialogue and strengthens the capacity of agricultural and rural development institutions and communities.

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## Executive summary

Communication and information are fundamental building blocks of social and economic development. In recent years, there have been incredible advances in technologies that have facilitated communication and the flow of information. The explosion of new information and communication technologies on to the agricultural development scene offers an opportunity to extend the reach of current information systems. ICTs can amplify the efforts of extension and advisory service providers in disseminating various kinds of information to large, dispersed audiences.

In Uganda, the government is promoting the use of ICTs in all sectors of development but the infrastructure and access to ICTs in rural areas is still lacking in spite of increased access to ICTs, especially the mobile phone.

Rakai district is a rural district in southern Uganda with a lot of challenges in terms of rural communication; the introduction of the mobile phone and its subsequent adoption by farmers has helped them to enjoy better access to information. Although mobile network coverage differs from village to village, farmers have embraced the technology. However, the adoption and use of mobile phones is still challenging; problems range from lack of charging facilities due to lack of electricity, illiteracy and high cost of air-time (call credit) which has limited the use of different phone functions. The district agricultural extension service providers are expected to play a key role in brokering between communication technologies and the farmers they serve. In this role, they are expected to examine the appropriateness of various ICTs and their accessibility. Rakai district extension services have taken advantage of the expansion of mobile phone technology to communicate to farmers and the farmers have adopted this ICT which has transformed their lives, especially through voice calls and Short Messaging Service (SMS) which is simple, convenient and affordable. With coverage of over five mobile telephone operators and with an accessibility of 87%, the mobile phone has become a magic solution in accessing agricultural information, mobile money transfer and general development of information in Uganda.

In 2009, Rakai district extension service decided to investigate this matter through interviews, workshops and focus group discussions with 80 farmers. This paper reports findings of this work and it elaborates how the use of ICTs has transformed the farmers and their farming activities. In the last 3 years, Rakai district extension service have realised that technology- enabled service provision integrates more fully with mobile phones and farmer's ownership and control over mobile phones has become increasingly necessary if they are to access information.

The research shows that mobile phones appear to be one way of facilitating rural communication; they are beneficial as they enable people to access instant information, stimulate communication between people and strengthen social networks. With more farmers embracing the technology, individual farmers and farmer groups are getting results, ranging from accessing instant market information, communicating with extension workers as well as receiving money from their mobile phone handsets. This case study looks at the community context, their communication problem, how they adopted the technology, its impact and the future expectations of the community members in their quest for improved rural communication.

**Box 1. The research**

The research for the case study was conducted over a 3-week period in August 2009 in Rakai district. The research covered four sub-counties in Rakai district and interviews, workshops and focus group discussions were conducted with a total of 80 farmers, extension officers and private service providers working with farmers. This work was inspired by the growing challenges in rural communication by extension organisations; there are a growing number of initiatives in the mobile agriculture space that aim to enhance and extend extension services through use of ICTs. The research tools were guided by previous interactions by the author with individual farmers, farmer groups and extension agents in his assignments as a training coordinator and communications officer for the District Agricultural Training and Information Centre.



## **ICTs for rural development**

In rural areas of developing countries, the need for ICTs is usually necessary for medical emergencies (e.g. calling a hospital) and for social reasons (e.g. getting in touch with relatives abroad). Rural people need communication and personal contacts and traditional communication does not always achieve that. There is no doubt that today's society is increasingly globalised and interacts economically (Zappacosta, 2001:522). This process involves developing people and capital mobility, changing modes of production, consumption, learning, working, leisure and increasing global competition. Information and communication technology (ICT) includes all electronic and digital means of capturing, processing, sharing, storing and retrieving information is widely recognised as a catalyst in that evolution. The development of new ICTs can affect millions of people's lives but issues around ownership of the technology and the costs may mean that relatively few individuals benefit to the exclusion of everyone else.

Access to or ownership of the new technology matters but also the integration of the ICT could be quite important. Radios and mobile phone are being used but they have different levels of use that can be enhanced if they are well integrated.

The availability and use of ICTs in rural communities, especially for the farming community should not be taken for granted; availability doesn't always result in anticipated development. The use of ICTs to the farmers in alleviating their knowledge and information needs is an important consideration. Chapman and Slaymaker (2002) stated that there is sharing external knowledge and information inherent in most ICT-related initiatives, but there seems to be less willingness to provide them as a catalyst for development without dictating how they should be used and for what purposes. In an effort to improve communication in rural areas using ICTs, some aspects of local needs must be considered. Therefore, ICTs could be promoted as open and flexible to enhance information exchange in rural areas based on locally designed priorities.

## **Rural communication in Rakai district**

Rakai district is one of the rural districts located in southern Uganda, 200 km from the capital, Kampala. The district has a population of 500,000 (2002, population Census) with 90% of the population involved in farming. The district has 16 sub-counties and four counties.

It faces many challenges in terms of rural communication and access to information due to a poor road network and mountainous terrain. The district extension organisations are expected to play a key role in brokering between communication technologies and the farmer groups they serve. In this role, they are expected to examine the appropriateness of various ICTs and their accessibility to the farming community. However, the communication infrastructure of the district is weak and poor communication skills of the extension workers hamper effective and efficient rural communication.

Rakai district has access to a number of ICTs including radio, TV, the internet, fixed phones and mobile phones. However, it is mainly the radio and mobile phone which can be accessed in rural areas as the internet is mainly limited to urban areas. However, despite the

availability of a wide range of ICTs in Rakai, the district extension organisations have been using the traditional extension methods that rely on knowledge transfer through home visits, demonstrations and small group training. In addition, due to the government restructuring process, the number of extension workers has been reducing while that of farmers has been growing hence the need to address the communication gap between farmers and extension organisations.

According to Munyua (2007), for effective communication to be achieved through the use of ICTs, connectivity, content and context all have to be assured and this can be made possible by converging the new ICTs with traditional ones. Among the new ICTs is the mobile phone.

The mobile phone has transformed rural communication in Rakai; a mobile phone has become a handy tool for farmers, but they are challenges such as the connectivity (air-time/call credit expense) and access to charging phones, as the area has limited connection to the national grid and solar power is still expensive.

## Mobile phone infrastructure

Rakai district is covered by four main telecommunication companies which offer mobile telephone services and these include: Mobile telephone network (MTN), Air Tel, Warid Telecom and Uganda Telecom. The network coverage varies from village to village; MTN, Warid and Airtel have the widest coverage.

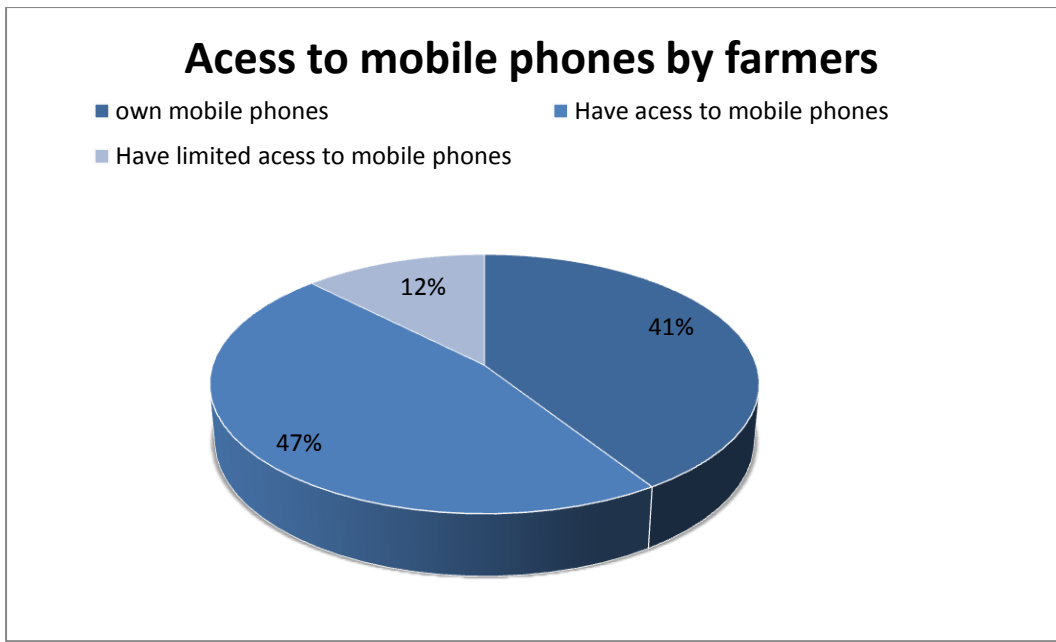
**Table 1.** Mobile phone network coverage by network in Uganda.

Telecommunication network	Coverage %
Uganda Telecom (UTL)	14
Mobile Telephone Network (MTN)-Uganda	50
Zain Uganda	30
WARID telecom	5
Orange Telecommunication	1
Total	100

Source: Fieldwork

## Mobile phone accessibility and use by farmers

From the research findings, 41% of farmers own mobile phones and 47% have access to mobile phones i.e. they can use a mobile phone by borrowing either from a family member or a neighbour.



**Figure 1.** Access to mobile phones by farmers.

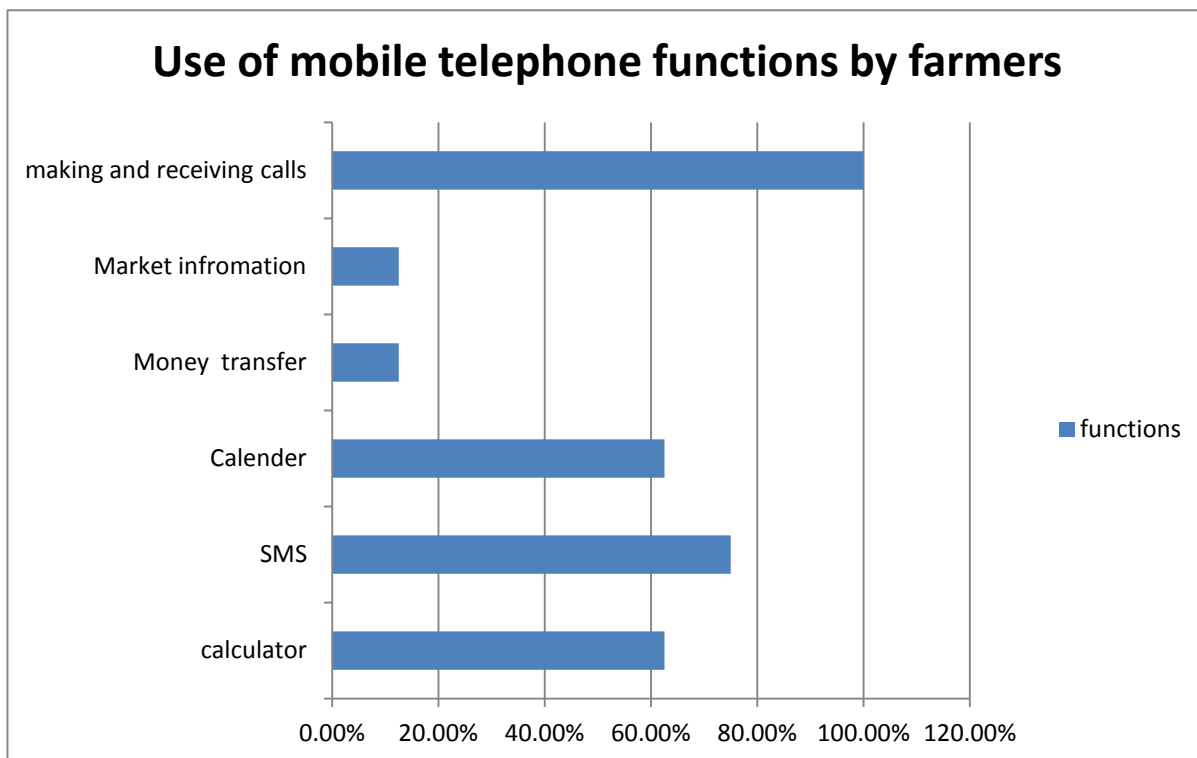
Source: Fieldwork

Mobile phones are used by farmers to communicate with other farmers, to share information, get market information and communicate with family members who live in urban areas. The farmers report that mobile phones saves them time and money for transport. The most effective, convenient and affordable service is the Short Message Service (SMS). But it is limited to those who are literate. Just 35% of the mobile phone owners use voice calls as they find it hard to retrieve messages or to write them down.

The farmers also agreed that mobile phones provide quick information delivery from extension workers; farmers usually call extension workers and private service providers to get technical advice. In a quick survey, 65% of the farmers who own mobile phones can send and read incoming SMS from their phones while 10% can also send SMS messages (Figure 2). However 47% of the farmers were unable to use some of the mobile phone functions.

### Change of strategy by extension workers

The mobile phone is a reliable and timely communication channel for markets and extension advice and offers accessibility for illiterate users through videos and images. Mobile phones like all technology face limitations including high costs (especially for the new generation handsets), limited network coverage and low bandwidth in some rural areas. Rural people have limited capacity to use the technology, particularly complicated smartphones; they have low levels of awareness about the technology benefits. However according to Munyua (2007), the mobile phone is now being considered as an emerging ICTs that has not only revolutionised the manner in which business is transacted, but also enabled a large constituency of agricultural producers to access markets and market information using phone-in and SMS. According to *CTA ICT Update Issue 50 August (2009)*, the SMS service has become an extremely important way to send and receive information. These SMS messages are simple, convenient and affordable and they are (usually) free to receive.



**Figure 2.** Use of mobile telephone functions by farmers.

Gakuru *et al.* (2008) says that radio dial-up is a new, innovative ICT that provides agricultural advisory services. This system allows farmers to ask questions through SMS and by calling in during radio programmes. Monitoring the impact of rural mobile telephony in the agricultural sector requires better understanding of the farmer's context for the adoption and adaptation of this innovative information tool. The interaction between mobile phone and radio has already been tried in Uganda; according to Oryokot (2003), the NAADS programme has used the radio as a key channel for communicating NAADS messages. The radio was chosen on the basis of regional distribution and its popularity and listenership figures. In order to make the radio programmes more interesting, the target audience call in and ask questions over the radio. The NAADS call-in programmes are very popular because writing and calling-in allows people to voice their concerns, questions and ideas. Radio phone-ins have also been facilitated by the recent growth and expansion of mobile phone coverage across the country.

In Rakai district, the extension service has taken advantage of the expansion of mobile phone technology to communicate particularly urgent messages. However, according to the Science Forum (2009), there is a need to improve communication infrastructure and bandwidth, investing in lower cost hardware, software and applications that connect science right along the development chain. Also there is a need to increase and improve formal education and training in information and communication science that contributes to innovation in the use of new ICTs in agriculture.

## Box 2. Meet the farmer in Rakai

Maria is a farmer and a member of Twezimbe women farmer's group in Kyebe sub-county, which is 60 km from Rakai district headquarters. Maria owns a mobile phone and no longer needs to travel to Rakai to get agricultural information and messages for her group; she is in charge of publicity in her group and she doesn't miss any meetings due to late delivery of letters. She can make calls (usually she beeps and they call back) to get the latest updates on her phone. Maria's favourite radio programme is the 'famous court' Yamaka (domestic court) aired on the national Radio Star FM, a subsidiary of Uganda Broadcasting Service (UBC). This is an interactive programme where listeners call in and give their opinions and testimonies on the day's topic. Maria also likes to call in and give her views but it's expensive for her to make this call since there are no toll-free numbers as the case with police and health care emergencies. In addition, Maria has to travel 5 km to a nearby trading centre to charge her phone with a solar powered charger. She collects her phone after 2 days and by the time she has collected it, the only agriculture programme on the local radio has been aired. Though Maria has a mobile phone and it has eased her communication problems, she still has a problem of charging and getting the air-time (call credit) to call into interactive radio programmes.

As I finish an interview with Maria, she receives an SMS – a gift of mobile money from her daughter in Kampala. But she has to travel 15 km to the nearest mobile money booth to cash her transaction. Although it is some distance away, it is better than the 40 km she would have had to travel to get to the nearest bank.

As more and more farmers continue to gain access to mobile phones, the district extension service and the private service providers have started using the mobile phone to communicate agricultural information. This has been done through SMS messages to farmers providing quick information on issues such as disease outbreaks in animals and plants, disease control methods, and invitations to training courses and meetings. In addition, the converging of radio and mobile phone means that farmers can call in during radio talk shows and ask questions and request market information as well as advertise their own products.

One such radio programmes is *Agafa Mu Butale*, which is aired on Sundays on a local radio Central Broadcasting Service (CBS). During the programme, farmers can call in and get market information and can contact potential buyers through their phones. *Kungula* is aired on Sunday night on Bukedde FM radio owned by the government Vision Group; in this programme farmers can send their questions in by SMS or call in and they are answered by an agricultural specialist who is hosted on a particular day.

To emphasis the point, Mrs Mukalana Noelena said: "All people here can afford mobile phones but they we fear to buy them because of the charging problem. We have to take our phone to Kyotera<sup>1</sup> for charging and I spend a lot of money on charging a month."

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<sup>1</sup> Kyotera town is located 50 km from the location of the respondent.

### **Box 3. Meet the farmer group**

Mr Matovu is the chairman of Twegatte farmers group in Kyalulamgira sub- county. He has a meeting with an extension agent at 2.00 p.m. who needs to meet the group members to talk about the latest development in the NAADS programme.

Due to the urgency of the meeting, Mr Matovu have a short time to mobilise the members and he decides to use his phone by sending an SMS to invite the group members since all of them have mobile phones. The strategy works and as a result 25 members out of the 30 members have turned up for the meeting. As the group members wait for the extension agent to arrive, they start discussing the issues which were raised in the previous meeting and in the process he receives a phone call from the sub county agricultural officer informing him about an urgent meeting with farmers representatives at the district 2 days ahead. The meeting is to be held at the district headquarters. He is expected to go with five farmers' representatives and the district official assures him that their transport money will be sent by mobile money.

As the meeting takes off, Mr Matovu excuses himself and makes three calls to the three of the farmers and sends SMSs to the two farmers as the two farmers has limited telephone network and they can receive the message when they go to a place where there is a network. Mr Matovu completes all his assignments without walking a single kilometre thanks to his mobile phone handset and good network coverage.

Mr Matovu is lucky that he is literate and can read and write English. But some of his group members are illiterate but they own mobile phones. When I asked one of them how they use their phones, she was quick to say:

*"Who told you that we illiterate people can't use mobile phones? When I bought my mobile phone, the service provider adjusted it in such way that when I press any key, I answer all calls."*

Despite the wide accessibility to mobile phones, some telephone functions are still not well utilised.

As the farmer group ends the meeting, the extension agent is requested to organise a short training course on how to effectively use mobile phones including accessing the internet.

In Uganda, most rural areas have no electricity and therefore lack regular power to charge mobile phones. Those who have generators charge a lot for charging phones and there are few people who own solar systems that can charge mobile phones. Even when one successfully gets his/her phone charged, there are more problems as on many occasions the phones are not fully charged and hence they phones need to be brought back for charging and more money has to be paid. Many farmers reported that many workers at phone charging posts removed phone batteries and replaced them with old ones, which made the phone loose power more quickly. This finding agrees with Munyua (2007:23) who said that farmers in Africa experience challenges with mobile phones due to poor infrastructure such as electricity to charge phones, while solar chargers were too expensive.

Farmers complained that call rates (air time) were too high which limited their use of the mobile phone including the number of calls that could be made to radio programmes.

Some of the unexploited potential of mobile phones includes voice messages, images, videos, internet and video applications. If farmers can be trained to use such functions, it will be a great contribution to increasing ICTs accessibility and adoption.

## **Key observations**

As mobile phones are becoming an important communication tool for farmers, there is potential to communicate more information to farmers using the mobile phone, but the limited number of people who own mobile phones is a challenge to development efforts. Even those who own mobile phones experience poor network coverage and high costs of charging their handsets. The implementers of ICT initiatives need to provide affordable and accessible ICTs and improve the infrastructure to address the prevailing inadequacy of ICT skills and capacity of both farmers and extension workers.

There is also a genuine need to address gender inequalities, languages and media preference by farmers.

## **Lessons learned**

There is potential to use ICTs in the provision of agricultural advisory services in Rakai district mainly during the transformation process of extension service and rejuvenation of smallholder agriculture. Networking among information providers and agricultural service providers in different ICT use facilitates the development of the full potential of adoption of ICTs for agriculture.

The 2009 assessment found that there was great potential in using ICTs in the provision of agricultural advisory services in Rakai district, in particular to support the transformation process of extension services and the rejuvenation of smallholder agriculture. Networking among information providers in different ICT use was considered important to allow the development of full potential on adoption of ICTs for agriculture.

Technology-enabled service provision will become more and more integrated with mobile phones, and farmer ownership and control of mobile phones will become increasingly necessary if they are to access information. With increasing information services and increased use of mobile technology as a dissemination tool, the stakes become higher for reducing the gap between mobile and ownership.

A clear finding of the assessment was that equipping extension officers with ICT tools and knowledge to use them would contribute greatly to enhancing trust in and use of mobile technology.

## **Impact of the study**

On the basis of the 2009 study, it was decided to invest in providing extension officers with ICT tools. In order to achieve this, the district extension service in collaboration with other private advisory service providers carried out a training needs assessment, which revealed that 61% of extension agents lacked knowledge about ICT initiatives that could complement and enhance their work. Given their role as trusted information intermediaries, the extension agents needed to build their knowledge of various ICT-enabled services to enhance both their role and their knowledge, as well as promote the use of ICTs by farmers.

After carrying out the training needs assessment, training courses were organised; budgets were drawn up and submitted to the Directorate of Extension Service, training proposals were made and submitted to different funding agencies in order to train the extension

officers and bridge the identified gaps. However due to government budgetary constraints and funding priorities of funding agencies, many of the planned training courses were not realised and those which were realised, the extension officers had to be trained far away from their stations due to lack of a functional internet-connected computer laboratory in the district. Although the officers grasped some of the tools, practicing them became a challenge. There was increased use of mobile telephone functions such as sending bulk SMS messages, conferencing and using internet-enabled phones.

Although government through the district extension service failed to provide enough funds for the training of extension workers, through its the NAADS programme, the government encouraged its extension workers to enhance their services by being hosted on radio programmes since radio can improve their reach and get information from farmers.

In the last 3 years since 2010, there has been a rise in mobile handset ownership and use due to increased importation of cheap phones from China; from 2009 to date, mobile telecom companies have increased their network coverage and access to the internet. With the reduction in prices of mobile phone handsets, more and more farmers have acquired mobile phones and the coverage has increased from 41% to 65% while radio coverage has increased from 50% to 87%.

The government has also worked on the extension of electricity through the rural electrification project hence reducing the problem of charging phone. With an increase in income, more homes have acquired solar systems that are also equipped with solar chargers.

The use of new ICT tools by extension workers means quality information for farmers e.g. mobile phones are used to call extension workers and enquire about general information on new agricultural practices, crop varieties and diseases. As more farmers embrace the technology, more are using mobile money to send and receive payments from buyers. Farmers also use mobile phones to get specific technical information on for example, how to treat a plant disease. The farmer will call the extension agent and describe the symptoms and receive advice over the phone. In some cases, the extension agent will visit the farm. Farmers also call veterinary staff to come and treat or inseminate their animals and inquire about the effectiveness of different veterinary drugs bought from unreliable sources. Calls are also made to middlemen to inquire about market prices and other calls are made to customers, buyers or transporters. By calling fellow farmers in the area or network, farmers can connect with buyers and other actors to sell their products in a timely manner and gain information to improve their farming business.

Farmers found that mobile phones gave them direct access to information on market prices, crop varieties, planting times and agro input prices. Some farmers used the phone calculators, radio and some played games during their leisure time. Farmers who are literate preferred using SMS to voice calls as they could be used to follow up someone who did not answer the phone immediately. If SMS was used, it facilitated communication with other farmers already within their social networks to arrange meetings.

Mobile phones were also found to be more reliable and were preferred to radio because they allowed farmers to confirm forgotten information and helped them to make contact with



middlemen. Although radio is reliable, farmers prefer using a combination of complementary ICTs with non-ICT extension and advisory services in improving their farming businesses.

Despite the findings of the study on the potential and use of ICTs in transforming the district extension services and reaching more farmers through technology-enabled service provision, little has been achieved by the district extension service to date; this is due to low funding of the district extension services and the reduction in the number of extension agents through privatisation of the extension service. There is high turnover of extension workers; many are leaving the district extension service to become private advisory service providers so training them in ICT use is irrelevant as they continue to leave the district extension service. This has left farmers to fend for themselves, mainly relying on members of their social networks for agricultural information and ICT support, not extension workers.

## References

- Chapman, R. and Slaymaker, T. 2002. *ICTs and Rural Development: Review of the Literature, Current Interventions and Opportunities for Action*. Working Paper 192, Overseas Development Institute, London.
- CTA ICT Update Issue 50. August 2009. Article. *Where they are many mobile phones*.
- Munyua, H. 'ICTs and small- scale agriculture in Africa: A scoping study'. IDRC, May 2007. <https://idl-bnc.idrc.ca/dspace/bitstream/10625/50998/1/IDL-50998.pdf> Accessed July 2009.
- Gakuru, M.K., Winters, F. and Stepman, K. 2008. 'An inventory of innovative farmer advisory services.' Forum for Agricultural Research in Africa, 29 December 2008. 66 pp. <http://www.iicd.org/files/Innovative-Farmer-Advisory-Systems-Feb09.pdf>. Accessed August 2009.
- Oryokot 2003. The role of ICTs in provision of agricultural information and knowledge to farmers under Uganda's National Agricultural Advisory services (NAADS) a Uganda case study. Presented to the ICTs – Transforming Agricultural Extension? CTA's ICT Observatory for ACP Agricultural and Rural Development Workshop, Wageningen (The Netherlands), 23–25 September 2003.
- Zappacosta, M. 2002. 'Information technologies for rural development: Between promises and mirages'. *Journal of Policy Regulation and Strategy for Telecommunications Information and Media* 3 (6): 520–525.

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