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The First Mile Project in Tanzania

Linking Smallholder Farmers to Markets Using Modern Communication Technology

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Most small farmers in remote areas like the southern highlands of Tanzania cannot link to markets. Lack of information and lack of power at the negotiating table leave them open to exploitation by other participants in the market chain. Phase 1 of the First Mile Project, implemented from June 2005 to March 2006, set out to help small farmers improve their access to markets and market information. Good communication is vital in marketing. The project encouraged people in isolated rural communities to use new information and communication technologies (ICTs), including the mobile phones that are spreading rapidly throughout Tanzania, as well as E-mail and the Internet to share local experience and learn from one another. At the heart of the project is an innovative approach called Linking Local Learners (LLL). It enables poor farmers, traders, processors, and others from rural areas to learn together how to build profitable marketing chains from producers to consumers. By encouraging smallholder farmers to use mobile phones and the Internet to collaborate and learn together, First Mile enables them to participate more equally in time-sensitive, complex marketing transactions and to take advantage of the opportunities offered by globalization.

A success story

Bahati Tweve is a *mkulima shushushu*, or farmer market spy. He investigates markets and collects information on prices and quantities, and about when, where, and to whom farmers can sell their produce. Using his mobile phone, he can quickly call or send text messages to members of the farmers' associations in his district (Figure 1). Bahati also uses the Internet to share experience and ideas with his more distant peers—in Tanzania and neighboring countries.

Farmers in the remote village of Magunguli in the southern highlands of Tanzania, where Bahati comes from, have benefited considerably from his efforts, which have helped them get better access to markets, reduce inefficiencies along the market chain, and maximize profits. Bahati provides members of the Mwawama farmers' group in Magunguli with information on where they can get the best prices for their beans, paprika, and potatoes. And he has linked them with traders at markets as far away as Dar es Salaam, about 500 km to the north. They collectively earned 23.4 million Tanzanian shillings (Tsh) in profit in 2005–2006 and expect to earn more than Tsh 33 million, equivalent to US$ 29,000, this year. This is a dramatic increase over the Tsh 6 million they earned in 2004. Villagers are rebuilding their houses using fired bricks and tin roofing; the number of children attending secondary school has jumped from 4 to 17 in the past few years.

Magunguli is more than 50 km east of the main road, a major trade route linking northern and southern Tanzania. The village is accessible only by a winding dirt road and is not yet connected to Tanzania's electricity grid: the nearest village with electricity is 15 km away. This is where locals charge their mobile phone batteries. In less than 4 years villagers in Magunguli have gone from being dependent on the information provided by middlemen to being independent negotiators and deal-makers.



FIGURE 1 Bahati Tweve is a *mkulima shushushu*, a farmer market spy, who gathers and shares vital market intelligence with farmers in remote locations in the southern highlands of Tanzania. (Still from a documentary by Declan McCormack, IFAD, 2007)

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FIGURE 2 Violet Cheti, a processor and farmer in Muheza District, uses the Linking Local Learners Internet-based platform to share ideas and experiences with her peers in other parts of Tanzania. (Photo by Mwanzo Millinga, 2006)

The First Mile Project

Poor farmers in Tanzania's southern highlands are among the many thousands throughout the country participating in the First Mile Project, an initiative supported by the International Fund for Agricultural Development (IFAD) and the Government of Switzerland. It is implemented in collaboration with the Tanzanian Government's Agricultural Marketing Systems Development Programme (AMSDP), a 7-year program that will increase poor rural people's food security and incomes by improving the structure and performance of the country's crop marketing systems.

Poor farmers in Tanzania face 2 main challenges when trying to develop access to markets and thus improve their livelihoods. First, they lack access to relevant information and knowledge and to communication technologies such as mobile phones, the Internet, and e-mail. Second, they need better access to other key people in the market chain, including processors, traders, and consumers. Without this information and knowledge, poor farmers are subject to market fluctuations and receive only low prices for their products. Farmers often respond to low prices by cheating, which further increases inefficiencies along the market chain.

The First Mile Project developed an innovative way to tackle these challenges: it encouraged people in isolated rural communities to use new information and communication technologies (ICTs), including mobile phones, to obtain access to pertinent market information. It also used the Linking Local Learners (LLL) approach, which combines face-to-face action learning with use of an Internet-based learning platform (Figure 2). This enabled farmers, traders, processors, and other stakeholders to learn how to build profitable marketing chains from producers to consumers.

The foundations established by AMSDP were key factors for success, including stronger farmers' organizations and the four-person district support teams set up to implement its activities. The district teams were composed of district officials for agriculture or marketing, a representative of the local partner NGO, and representatives of local farmers, processors, and traders. Many of the best ideas for helping small farmers get better access to markets grew from the work of the teams with local farmers—the farmer market spy is one example. The district support teams were instrumental in enabling the First Mile team to reach farmers. In some districts, team members became the intermediaries, helping farmers negotiate with others in the market chain and helping them share and develop ideas over the Internet.

Using new ICTs to improve market access in remote areas

By increasing the speed and immediacy of communication, mobile phones allow participants in a market chain to make comparisons, check back on time-sensitive deals, and better understand what happens along the chain beyond their immediate trading partner. Experience from the First Mile Project shows the advantages of mobile phones for smallholder farmers:

- They help to create the trust needed to eliminate cheating along market chains;
- They can contribute to higher incomes for farmers by improving the efficiency of marketing and reducing losses;
- They make it possible to have the time-sensitive micro-management needed to ensure that produce is at the right place at the right time;
- They enable the rapid pulling together of produce throughout the district when the price is right, which also makes transport to large market centers more efficient and profitable for all concerned.

This is true even for farmers in remote mountain communities such as Magunguli, as long as they are in range of rapidly expanding mobile signal coverage.

Linking Local Learners (LLL) methodology

The LLL methodology integrates learning-by-doing—where local groups learn together through experience and discussion—and peer-to-peer learning, where individuals and groups share knowledge and experience via the Internet. In the First Mile Project, all of the key partici-

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pants in a market chain are brought together—farmers, service providers, and market intermediaries—in a structured process of learning-by-doing. They try out their ideas on the ground and then exchange experience and ideas on new ways of working with their peers in other districts or countries, using the online learning tools of the LLL service. A network of online mentors helps by supporting discussion and analysis of experience.

The combination of face-to-face contact with a range of communication tools is very important. It means that information flows quickly between local groups even when they are geographically distant. Through the sharing process, new and innovative ideas emerge about how to do things, and the district support teams then feed the ideas back into the face-to-face learning process.

The LLL methodology has shown itself to be an important knowledge management tool for sparking innovations and making them locally relevant in a complex system like marketing, where there are many variables influencing the potential for success. Direct exchange of lessons and best practices among peers who are learning while doing has produced innovations that have in turn been reinvented when tried out by groups in different contexts. Experience shows that local groups have gone beyond adoption or adaptation of innovative ideas: they have often deconstructed them and come up with new, locally specific solutions. Successes have been achieved almost exclusively through learning while doing, as opposed to classroom training or the dissemination of manuals and guidelines.

Some farmers' groups have already benefited hugely. One contributor to the Linking Local Learners website related a story of how 5 farmers' associations in the Songea and Namtumbo districts of Tanzania managed to sell 70 tons of maize at a price of US$ 143 per ton in early 2006. They achieved this result by using mobile phones, price updates broadcast by radio, and dedicated *shushushus*. In the same period, other farmers' groups without access to the near-real-time market information made available by the project sold their maize for just US$ 65 per ton, or less than half the price.



FIGURE 3 Market spy Stanley Mchome sends text messages with vital market information that will help other farmers decide when, where, and to whom they should sell their products. (Photo by Mwanzo Millinga, 2006)

The LLL service has proven to be useful in Tanzania, Kenya, and Uganda.

ICTs as an engine of globalization: how can poor, isolated farmers benefit?

After less than 10 months, project participants met to discuss and assess the impact of their work on market chain development. After just one agricultural season, they agreed there had been considerable impact on their access to markets, their production, and their incomes. For an initial investment of US$ 200,000, the project's activities contributed to a gross increase in income of participants of more than US$ 1.8 million. Some smallholder farmers doubled and even quadrupled marketed volume, demonstrating how responsive they can be when assured of a market and a fair price (Figure 3).

The experience of the First Mile Project to date indicates that when smallholder farmers in remote mountain areas use ICTs, they can tap into the income-generating potential of their specialty products. Small farmers become reliable and interesting business partners and they can check market requirements for their specialty products and pick the traders they want to

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FIGURE 4 Twaha Abdallah is chairman of the Umui producer group in charge of updating market information on the billboard in Wili village, Hai district. Information obtained via mobile phones or the Internet is often shared at face-to-face meetings in villages. (Photo Mwanzo Millinga, 2006)



"I will put information on the site for farmers with produce to sell. Traders will then be able to reserve the number of tons they need of a particular crop."
(Bahati Tweve, **mkulima shushushu,** *or farmer market spy)*

deal with. The old, exploitative dependencies give way to negotiated fair trade.

Internet use is still very limited in remote rural areas of Tanzania: farmers have benefited from information exchange on LLL mainly with the support of intermediaries such as Bahati, a member of the Mufindi district support team. As in many districts of Tanzania, Internet access is available only in the main district town. Bahati visits villages throughout the district on his motorbike, often carrying computer print-outs of LLL exchanges to share and discuss with farmers. He plans to set up a website for use by traders looking for produce to buy. Negotiations can then be conducted by mobile phone.

However, it has become clear that fair trade for remote mountain communities can be realized only if 2 conditions are met: if time-sensitive, locally relevant market intelligence is accessible via ICTs; and if reliable servicing for the ICT equipment is available in remote areas. Farmers and traders are willing to pay for these services because they can effect substantial savings and earn higher margins when they have access to the information they need to make profitable, time-sensitive deals.

Mobile phones, the Internet, and other modern ICTs are bringing the world to the tops of mountains and the most remote corners of the globe. The speed of change is dramatic. Communication technologies that allow wireless access within a 30-km radius are spreading throughout Tanzania. Farmers in remote mountain areas could be using their mobile phones to send E-mails in the very near future—without ever having used a fixed phone or seen a computer.

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The way forward

One of the insights from the First Mile experience is that the link between mobile phones and knowledge sharing must be strengthened, by exploring use of SMS to access online databases of locally relevant "market intelligence." A system needs to be in place to gather this intelligence. This is already happening in Tanzania, where a major mobile phone service provider will help to test the required infrastructure. Software developers are already working on a system that is workable for farmers in remote areas and will provide them not only with price information, but also with more detailed "market intelligence."

We also need to ensure reliability and sustainability of ICT services in remote mountain and rural areas. Experience has demonstrated that lack of reliable servicing for communication equipment is the single biggest impediment to better connectivity in remote areas.

First Mile Phase 2, which started activities in June 2007, is focusing on how to achieve sustainable and reliable services along market chains in rural areas. The project is also supporting the emergence of market access companies that can use modern ICTs to provide marketing services to small farmers. Small companies are already being set up around the country, often by members of the former district support teams.

Few development interventions can be copied from one location to another with guaranteed success, especially in complex environments like mountains. Interventions have to be reconstructed by local innovators. Linking Local Learners allows this to happen, which makes it well suited to remote areas such as mountains (Figure 4). Modern ICTs like mobile phones and the Internet in turn enable the learning and innovation sparked by LLL to happen. They also enable time-sensitive marketing of mountain specialty products to become viable. ICTs and LLL are geared towards making the complexity and specialty of mountain areas an asset for earning money in a globalizing world.

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