

Mobile Telephony in Rural Areas

“The quickest way to get out of poverty right now is to have one mobile telephone.

Muhammad Yunus, Nobel Peace Laureate,
Founder and Director of the Grameen Bank, Bangladesh

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Almost 70 per cent of the world's mobile phone subscribers are in the developing world. As an affordable and accessible means of communication, both men and women are realizing the potential of this technology to create economic opportunities and strengthen social networks in rural areas. The mobile telephone is no longer just an audio communication tool but capable of providing additional integrated functions.

“Today, mobile telephony is being used to provide information to the farmers... through SMS and multimedia-supported systems in many Asian countries. This has been made possible through public, private as well as NGO sector initiatives.

Sapna A. Narula, Asst. Professor, G.B. Pant University of Agriculture & Technology, India

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Socio-economic benefits

Mobile telephony effectively reduces the “distance” between individuals and institutions, making the sharing of information and knowledge easier and more effective. Social networks can be strengthened and individuals empowered through use of their handset.



Credit: Gamos Ltd.

“Mobile telephones have been a “dream come true” for rural areas. Connectivity to the outside world... has been made so easy. Unnecessary commuting to urban centers has been tremendously reduced.

Mwesigwa Collins, Uganda National Council for Science and Technology

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Rural benefits

Mobile telephony offers some unique opportunities, including:

- 👉 providing a **direct** global communication channel to rural communities;
- 👉 extending the **impact** of established rural media, such as rural radio;
- 👉 making **local** content available;
- 👉 making rural services more **efficient** (logistics, coordination, etc) and **cost-effective**.

These benefits are amplified by the fact that the spread of mobile technology in some rural regions has occurred much faster than with other information and communication technologies (ICTs).

In countries such as Bangladesh, with high rural population densities, mobile telephony has quickly become much more cost-effective for telecommunication provision.



Credit: C.Masiello/Katalyst

“ [At] a meeting with farmers, one of the key discussion was, “How ICT can help rural farmers get access to required agriculture-related information?” Interestingly many of the farmers never heard of computer technology but ... tried to relate ICT with mobile phone. They clearly understand the value & benefits of mobile phones ... in past they had to travel long ways to give or collect any information, now they get information and can connect to people at their fingertips.

Shahid Uddin Akbar, Bangladesh Institute of ICT in Development

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Innovations in mobile telephony

Stakeholders are exploiting various aspects of mobile telephony to enhance rural development because it:

- 👉 is a **reliable** and **timely** communication channel in the context of markets, extension advice, monitoring, finances, health, etc.;
- 👉 offers **multiple formats** for information in one device;
- 👉 provides **accessibility** for illiterate users (i.e. voice and images);
- 👉 gives **speed** of communication for time-sensitive information (e.g. disease outbreaks).

Limitations of the technology

Mobile telephony, like all technologies, does face limitations and challenges, including:

- 👉 **high costs**, especially for new generation handsets, and the potential trade-offs being made by rural individuals and communities to find funds to acquire and use phones;
- 👉 **limited network coverage** and **low bandwidth** in some rural areas, which could lead to further marginalization of certain individuals and groups;
- 👉 **limited capacity** of rural people to use the technology, particularly for more complicated applications for images, GPS data, etc.;
- 👉 **low awareness** of the technology's potential benefits;
- 👉 **technology limitations** such as the 140 character limit for SMS (impact on complex information sharing), and the lack of available non-Roman scripts.

Future potential for mobile telephony

With growing awareness of mobile telephony in rural areas, the technology is expected to:

- 👉 **reduce costs** of information access in agriculture;
- 👉 play a **role in planning** and setting up systems for disaster management;
- 👉 place greater emphasis on **rural enterprise** and **partnership networks** distributing mobile handsets at little or no cost to resource-poor farmers to enable communication;
- 👉 help establish **large-scale interventions** through small-scale pilot initiatives;
- 👉 be **used in a more systematic manner** to share user-generated multimedia content describing indigenous knowledge.

Technological advances include

- 👉 incorporation of location/spatial data with other media (audio, image, SMS, etc.)
- 👉 proliferation of voice SMS response systems that overcome illiteracy and add emotion and complexity to content



Credit: C.Masiello/Katalyst

Important considerations

The Grameen Foundation provides some important lessons to consider when establishing mobile telephone services such as:

- 👉 identifying specific **users' needs**;
- 👉 catalyzing and support **strong partnerships** for sustainability;
- 👉 building on **existing technologies**;
- 👉 providing **content in local language(s)**;
- 👉 providing sufficient **training**;
- 👉 **marketing** the benefits.



Credit: S. Treinen

The chances of success and sustainability of rural services based on mobile telephony are greater when they do not duplicate services provided by existing information sources (e.g. kiosks and telecentres).

Lack of evidence

While strong anecdotal evidence exists of positive outcomes from the use of mobile telephony, there is a lack of large-scale interventions and hard evidence of impact in rural areas.

“It has been demonstrated that as individuals are willing to pay for a service... then these people must be obtaining some tangible benefit. However, monitoring and evaluation is fundamental to guarantee a positive evolution of the use of mobile telephony...”

Laura Drewet, Busylab Ltd, Ghana

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Next steps

The continued success of mobile telephony in rural areas depends on policymakers and stakeholders:

- 👉 encouraging **appropriate legislation and policies** to enable rural enterprises to develop business models that exploit mobile telephony;
- 👉 gathering **evidence of impact** through carefully planned monitoring and evaluation;
- 👉 **documenting and disseminating good practices** gathered from successful innovations which have had a clear impact on rural livelihoods, and can be replicated elsewhere;
- 👉 **tailoring applications** specifically to address the needs of rural communities.



Credit: Gamos Ltd.

This Policy Brief is based on the input of e-Agriculture Community members who participated in the online forum held from 17 to 28 November, 2008.

The complete discussion can be found (in English) in the Forum Archive at www.e-agriculture.org/forum/archives.

Further information and resources can be found in the Key Topics section of www.e-agriculture.org