4   Global Context: Rural ICT Case Studies from Around the World

A number of representative case studies from different parts of the world were reviewed for purposes of learning their key lessons, establishing an appropriate context for selecting and studying similar case studies in the APEC region, and providing a basis for comparison. Each of the following case studies includes a brief project overview and the key lessons learned:

4.1   China:

With joint funding from the UN Development Program and the Chinese government, a pilot project providing rural community Internet centers to five provinces in central China is scheduled for completion at the end of 2003. In an interim project report, the following recommendations have been made:

- Project should make greater use of the Internet as a medium of communication and not just as an electronic source for information;
- In poor, rural areas, fees for service shouldn't be charged because such practices have rarely succeeded in similar programs demonstrated in other developing countries;
- The project's funding sources should consider satellite technology as the most feasible option for reaching the poorest villages in mountainous terrain.

> **Key Lessons: fees shouldn't be charged; satellite technology is the most feasible in remote locations;**

4.2   India:

An example of the adoption of ICT by a rural community is the Warana "Wired Village" project, in the state of Maharashtra, India. A local cooperative is using ICT to streamline the operations associated with sugar cane growing and harvesting. This project is benefiting small farmers, both in terms of transparency and time saved on administrative transactions, as well as the cooperative, in terms of monetary gains.

The Warana project refers to four key lessons on the use of ICT for development in rural areas:

- Assessing the information needs of the community: Before launching any ICT initiative, the information needs of a community should be thoroughly assessed. Development practitioners and software developers might have in mind a very wide range of resources and applications that are of potential use to a community. However, it is information that has a direct impact on the livelihood of the people that matters most, and any application should be developed only after an accurate assessment of these needs.
- Local ownership and participation: Once the information needs of the community are assessed, content and software applications should be developed with the continuous involvement and feedback from the community. For the Warana "Wired Village" project, NIC developed a software program which is easy to use and all information is in Marathi, the local language. The process of development of the software, however, was far from ideal. The lack of local participation in content creation, as well as in software development, partly explains why much of the information, including that on sugar cane growing and agricultural prices, lies unutilized and has not been updated since 1998. Local ownership and participation, in sum, ensure continuity, while a top-down approach will most probably lead to a waste of resources in the initial period of the project, without ensuring its future sustainability.
- Women and poor people's access: Particular efforts should be made to improve women and poor people's access to information. In Warana, women generally visit information kiosks to obtain sugar factory services; but only men are using the Internet where available. Without finding means to get women involved in the use of ICT and in particular to ensure that women are trained to become information kiosks operators, there is a severe chance that they will be further marginalized. Similar considerations apply to

access to ICT by poor people. In Warana, the information kiosks are mostly accessed by members of the cooperative - farmers who own their land. The poorest, landless laborers and tribal groups currently do not have a reason to visit the information kiosks because they do not need the services connected with sugar cane growing and harvesting. However, information on government schemes offering employment, or on educational opportunities for children, would be of great importance to the poorest.

- Empowering grassroots operators: Finding people with the right mix of skills and motivations is a necessary condition for any project to succeed in bringing ICT to rural communities. In the case of Warana, operators at the information kiosks generally come from the grassroots, and have a great faith in the potential of ICT to improve the standard of living of their community, especially of the rural youth. They feel that the Internet will allow young people to find information about educational and job opportunities, and they see IT as the best sector where to find stable and well-paid employment. Many operators have the capability of teaching computer skills and software to children and youth, and would be willing to provide training if given the necessary incentives. Furthermore, some of the operators have good programming skills; in the village of Tope, for instance, an operator has developed a database to manage the local store's orders and purchases. Some of these young operators have had job experiences in the city and decided to return to the Warana for the strong attachment to their community. If they are given the necessary incentives, these grassroots operators can become champions for ICT in their villages, easing access to information for farmers, providing training to children, and creating new economic opportunities through software development.

> **Key Lessons: it is imperative to assess information needs of the local community; content should be developed with the involvement and continuous feedback of intended users;**

4.3   Senegal:

Browsing web pages using a mobile phone has become popular with market traders in Senegal. Manobi, a joint venture run by French and Senegalese entrepreneurs, uses local teams to gather information about the prices of foods and goods being sold in the markets in and around Dakar. It has been the case that most farmers have no way of finding out the prices before they travel to the market, or to know if their crop is in short supply at a particular location. Pricing information is critical to farmers and the differences in prices can be significant. One farmer using Manobi's service found that he could get more than twice as much for grapefruit than he was offered by the middle men he usually dealt with.

Manobi independently collects prices and uploads them to its central database using mobile phones that dial in to a server via WAP. The price collectors note the price of every item they come across and then farmers in the field can use their mobile phones to check prices and to find out where they will get the best offer for their produce. For a farmer, price is living data and changes all the time. Although many farmers trialing the system are illiterate, they are familiar with a calculator and treat a phone in the same way. Many farmers are producing crops for particular markets and will only bring produce to a market where they know they will get a good price. Others are using it to get a better deal from the middlemen who buy their crops to sell on. Up to 70% of Senegal's population lives in rural areas and few of them would have access to market information without a program like Manobi.

Currently 150 people are trialing the Manobi program, including farmers, importers who use the information to load their boats with the most profitable goods, and fisherman who get weather forecasts. Manobi is now talking to professional organizations that represent more than 250,000 people who work in Senegal's agricultural industry. Prices are kept low and farmers pay for the service as part of a deal between Manobi and the national telephone company.

> **Key Lessons: poor rural farmers can benefit greatly from pricing information being accessible from their mobile phones; such information services can be provided at an extremely minimal cost by using local teams to manually gather the information directly from the markets;**

4.4   European Union:

CTA Workshop on Gender and Agriculture in the Information Society (Sept 2002): CTA – The Technical Center for Agricultural and Rural Cooperation (EU). Workshop statement on gender issues: gender disparities mean that opportunities for ICTs to empower rural people are not immediately available to the poorest of the poor, who are mostly women.

To address these disparities, concerted action needs to be taken in two broad areas:

- enabling rural women to use ICTs, to improve their livelihoods and those of their families and communities and to amplify their voices in local and national fora;
- ensuring that development actors systematically adopt gender-sensitive approaches in their programmes, especially those in agriculture and rural development.

To achieve such action, five priority areas need to be addressed by all stakeholders, including rural communities, governments, civil society and the development community. Priority areas for gender, ICTs, and agriculture:

- Mainstreaming. Gender must be mainstreamed in all development activities, from formulation and design through to implementation and evaluation. Ensuring the participation of poor rural women in these processes is key.
- Policy. National policy on rural issues and ICTs should give high priority to actions that promote gender equity and provide an enabling environment for rural women to improve their livelihood opportunities.
- Access. Affordable ICT infrastructure and support services must be brought to rural areas. Access to this infrastructure should be based on community priorities as well as local gender-sensitive principles.
- Content. The knowledge of rural women is a valuable resource and driver of local livelihoods. Women have specific information and communication needs that should be explicitly recognized – and acted upon. The creation and exchange of local and locally relevant content by rural women themselves or customized to their needs (in local languages, for example) should be given top priority.
- Human capacities. Education and learning opportunities should be made available to all rural women and men to realize the 'education for all' principle. Girls and women should receive priority in ICT and related skills development schemes, to ensure their active participation in rural development and in the information society.

> **Key Lessons: the poorest of the poor in rural areas are women and currently not enough is being done to make ICTs available to them; the needs of women need to be addressed and content developed to meet those specific needs;**

4.5   Jamaica and Tanzania:

International Institute of Communication and Development (IICD): Case studies in Jamaica and Tazania, introducing ICT in the form of an information-service made available through telecenters. Small-scale farmers in the Jamaican and Tanzanian contexts mainly practice subsistence farming. They do not treat agriculture as a business in Western terms, which reflects on their information-practices. Long-term planning, bookkeeping, time-management and training are not as timely or prioritized. When it comes to information sources a Jamaican farmer tends to rely on an Almanac that directs planting activities by the position of the moon and Tanzanian farmers can consult a witchdoctor for the explanation of a low yield. The local value of certain types of information and ways of retrieving it, result in an attitude of farmers that does not necessarily support the use of ICT according to a Western frame of mind.

Due to past extension initiatives and development projects that were tangible-oriented, many Jamaican and Tanzanian farmers are disappointed when they hear that ICT is just about the provision of information. In a tribe where it can even be a disadvantage to have much information, and the use of it for personal progress can lead to social exclusion, it will be problematic for an information technology in a Western format to be adopted. To make ICT valuable for potential users it is necessary to fine-tune the technology and its content to the local context. ICT in less developed countries needs to be based in the local culture. An understanding of the socio-cultural aspects that influence the meaning of ICT and

integration of the local dimensions of information in the project design avoids the introduction of a technology that does not meet the existing practices and reality.

The most legitimate question is how ICT actually will be perceived at the grass root level in less developed countries. Due to socio-cultural aspects like traditions, values, political system, economical developments and institutional relationships, the meaning of a technology can differ from one region to another and even amongst groups of people. Therefore the local context should be studied in order to make ICT work for local people in less developed regions.

> **Key Lessons: it is important to recognize that rural farmers in many parts of the world don't necessarily value the same types of information and ways of retrieving it, resulting in an attitude that does not necessarily support the use of ICT according to a Western frame of mind;**

4.6   Asian Development Bank: World Summit (January 2003 Tokyo):

In his keynote address, President Tadao Chino made the following points:

- Ten years ago, the Internet and e-mail were relatively unknown. Now, at the start of 2003, the information revolution has touched every country on the globe. For example, in the Philippines, where ADB is headquartered, cellular phone users send over 18 million text messages everyday. Many of these messages are not simply friendly greetings; people receive information about crop prices, social insurance benefits, and even politics, in an instant.
- Nearly two-thirds of the world's poor live in Asia and the Pacific. Widespread poverty undermines Asia's ability to take full advantage of its economic potential. Reducing poverty and empowering the poor are crucial ingredients for equitable and sustainable economic growth. Asia's future in the global economy will depend on its ability to make significant and sustainable gains in its fight against poverty.
- ADB's Poverty Reduction Strategy has three pillars: one, pro-poor, sustainable economic growth; two, social development; and three, good governance. The three pillars serve to guide all our operations toward achieving ADB's overarching goal of poverty reduction in each of our developing member countries, and Information and communication technology (ICT) can provide a powerful means of supporting each of these three pillars.
- In addressing the challenge of poverty reduction in the region, we at ADB have learned that the nature and causes of poverty are complex and multidimensional. In today's rapidly changing world, growth and competitiveness are dependent upon access to quality information. The most critical factor in breaking the cycle of poverty is the empowerment that comes from access to information and knowledge. As the ITU's World Telecommunications Development Report 2002 points out, there is a direct correlation between access to telecommunications, economic wealth and social development.
- In applying ICT to reduce poverty, it is important for us to distinguish between information and knowledge, and to understand what that distinction means for developing countries. Increased access to information alone is simply not enough to foster socioeconomic progress and reduce poverty in developing economies. In fact, knowledge is much more than information. Knowledge is acquired through one's own experience as well as the experiences of others. For developing economies to make the best use of information, they need the capacity to interpret and apply information to their own needs and local circumstances.
- As we state in our Long Term Strategic Framework, ADB's roadmap for moving our poverty reduction agenda forward to 2015, ADB is committed to supporting ICT to promote development, and to close the gap between the information rich and the information poor.

> **Key Lessons: there is a direct correlation between access to telecommunications, economic wealth and social development; the Asian Development Bank is committed to supporting ICTs to promote development and to close the gap between the information rich and the information poor;**

4.7   UN ESCAP – The Impact of ICT on Rural Development:

The impact of ICT in rural areas and particularly on rural poverty is limited despite its penetration into every corner of modern life. Although many projects can demonstrate ICT's contribution to reduce rural poverty, the list of failed initiatives in unfortunately very long. One of the major reasons for this is that program management has typically been left either to the private sector or to NGOs. These organizations don't necessarily operate with a clear definition of tasks and responsibilities, and consequently, programs tend to languish or worse, completely fail.

Government leadership is a key element in making ICT work for the rural poor. Country studies in India, Malaysia and Thailand commissioned by the Rural Development Section of ESCAP's Population, Rural and Urban Development Division found that governments have an important role in creating an enabling environment for ICT expansion in rural areas. What is required and in most of the cases missing is a national ICT policy that puts poverty reduction at the center and addresses the inequality bias of ICT development.

Development of national ICT strategies for rural poverty alleviation is a complex matter. There is no single solution or best ICT project to fit all rural situations, but a variety of approaches would be needed, particularly in the early stage of ICT expansion in rural areas. Understanding how ICT can service specific development goals requires both knowledge of appropriate technologies and how these technologies could be operationalized to address socio-economic goals in rural areas. Key policy-makers need to make informed decisions to enact "enabling" policy frameworks appropriate for their contexts and needs.

ESCAP's specific program objectives are to:

Promote the formulation of consistent national policies on ICT for rural poverty reduction and sensitize the need for government leadership in making ICT an effective tool for rural poverty reduction;

- Encourage collaboration among governments, development organizations, NGOs and other stakeholders in finding solutions to the common problem of reducing rural poverty through application of appropriate ICT services in rural areas;
- Develop a framework of national ICT policies for rural poverty reduction and recommendations for defining the role and limitation of government and other parties in developing ICT into an effective tool for rural poverty reduction, including services expected to be rendered by international organizations;
- Assist in defining ESCAP's role in promoting ICT policies for rural poverty reduction, and facilitating access to information on issues related to rural poverty reduction through the identification, analysis and dissemination of best practices.

> **Key Lessons: government leadership is a key element in making ICT work for the rural poor; ESCAP strongly supports national ICT strategies for rural poverty alleviation, but cautions there is no single solution;**