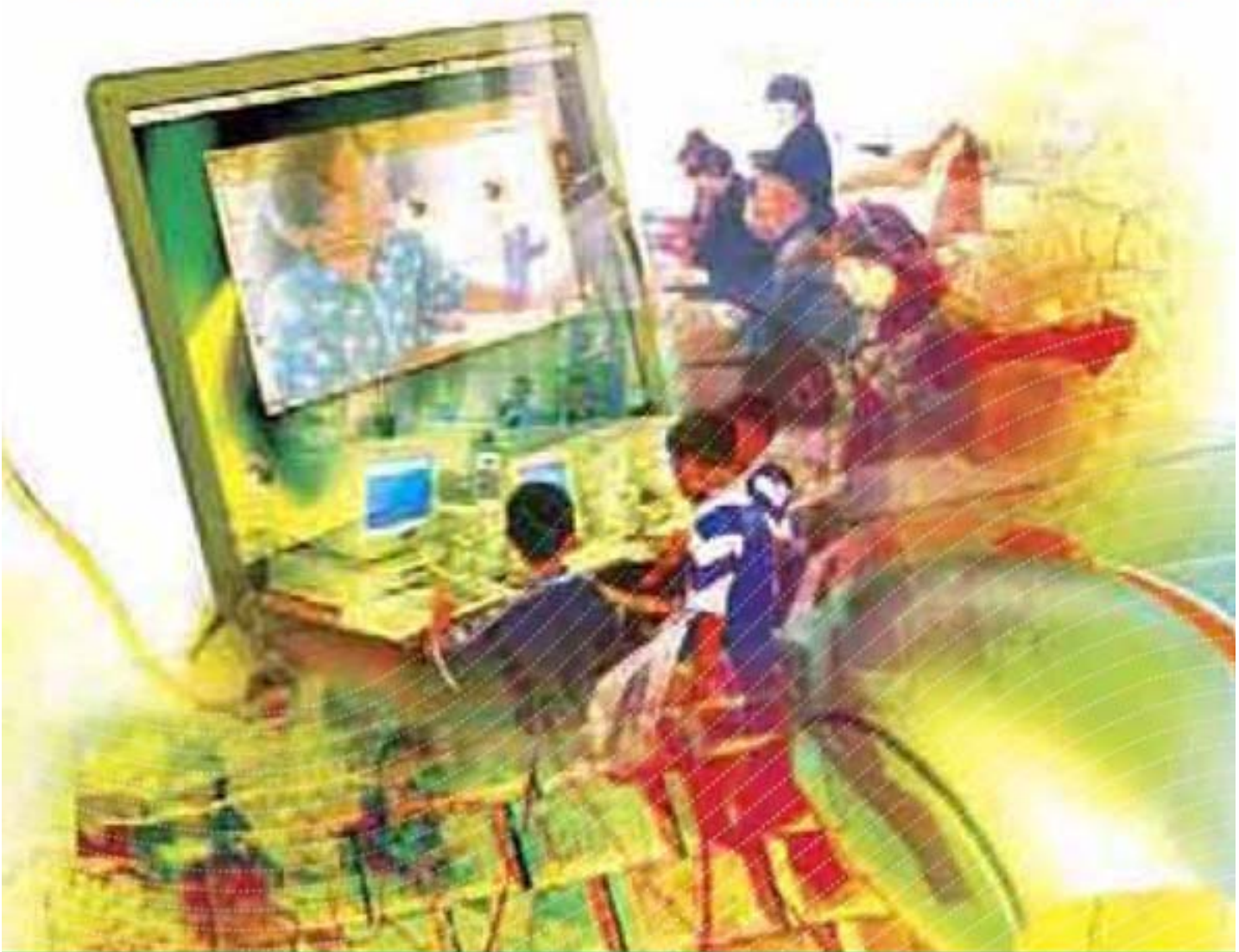




*Experiences from Lao PDR, Sri Lanka,  
Thailand and Uzbekistan*

# Information *and* Communication Technologies (ICTs)

*for* **Community Empowerment** *through* **Non-Formal Education**



Asia and Pacific Regional Bureau  
for Education  
Bangkok, Thailand



Asia-Pacific Programme of  
Education for All



**Information *and*  
Communication Technologies (ICTs)**  
*for Community Empowerment through Non-Formal Education*

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## • Introduction

Over the last two decades, a country's ability to create, select, adapt, use and profit from knowledge has become increasingly important to its sustainable economic growth and improvement of living standards. The growing role of information and knowledge has led to a new rationale for the function of information and communication technologies (ICTs) in diverse societies. These technologies are now recognized as tools not only for training, but also for progressive social change, the strengthening of human intellectual capacity, and the formation of modern lifestyles. Combined with opportunities for lifelong learning, ICTs can provide individuals with the skills and knowledge they need to cope with the global changes taking place in countries everywhere and with the challenges arising in various areas of daily life.

ICTs are tools that help individuals expand their consciousness and capacity for empowering themselves. They provide people with a broader perspective on the nature of technology and its usefulness in everyday life. The use of ICT ideally should increase access to a greater variety of information and lead to possible ways to improve the quality of life. If people know how to use ICT, they can tap into information and services that will help empower them to initiate development activities in their communities.

ICT has the greatest potential to effect positive change in developing countries and create opportunities for the poor when it is specifically adapted to local needs, priorities and circumstances. As Kerry S. McNamara has recently argued (Information and Communication Technologies, Poverty, and Development: Learning from Experience, The World Bank, 2003), ICT strategies and "e-strategies" should be strictly subordinated to, and designed to be instrumental to, national development and poverty reduction strategies.

ICT can be used for various basic education and skill training activities through both formal and non-formal mechanisms. ICTs encompass more than just computers and the Internet – they also include radio and television, the telephone and fax machine, and the various kinds of disc media (CD/VCD/DVD). All of them can be used for the purposes of communication and learning.

There is a strong conviction that ICTs can be harnessed to promote non-formal education (NFE) activities in the Asia-Pacific region. Although there is increasing awareness of technology's potential in the region and growing access to ICT, many countries have yet to fully benefit from the possibilities offered by this technology.

In particular, much more work needs to be done to reach the target beneficiaries: socio-economically disadvantaged people who generally live in rural, remote and isolated areas in the region. They include farmers, disadvantaged minorities, women and girls, unemployed rural people, and out-of-school children, youth and adults, among others. The digital divide between the poor and the rich threatens to increase already existing educational and socio-economic disparities. It is, therefore, important to ensure that disadvantaged groups learn to benefit from the use of ICT in an increasingly knowledge-based society.

In 2002, UNESCO's Asia-Pacific Programme of Education for All (APPEAL) launched the ICT-NFE project with financial support from the Japanese Funds-in-Trust for ICT. The purpose of the project is to use the potential of ICT to explore the effective delivery of education and skill training for quality of life improvement, poverty alleviation and community development through community learning centres (CLCs) and other community-based mechanisms.

Prior to the launch of the project, APPEAL staff surveyed current ICT use for NFE in countries of the region. Here are some of the main findings of the survey:

- There is no separate policy on ICT for NFE, even though ICT is included in the formulation of education policy in general.
- The use of the existing ICT infrastructure in formal education, in both public and private institutions, is considered feasible for expanding ICT into the area of NFE.
- CLCs are potential NFE delivery mechanisms for effectively using ICT in community development.
- ICT tools include not only computers, but also radio, television, VCRs, etc.
- Online programmes were identified as a useful means for training personnel at various levels.
- Challenges to introducing and expanding ICT include the lack of qualified personnel, the high cost of hardware, and the unstable supply of electric power in remote rural areas.

An "Expert Meeting on ICT Applications in Non-formal Education" was organized in Lampang, Thailand, from 28 April to 2 May 2003 to finalize the details and action plans of the project, and also to train project personnel from the participating countries, namely Indonesia, Lao PDR, Sri Lanka, Thailand and Uzbekistan.

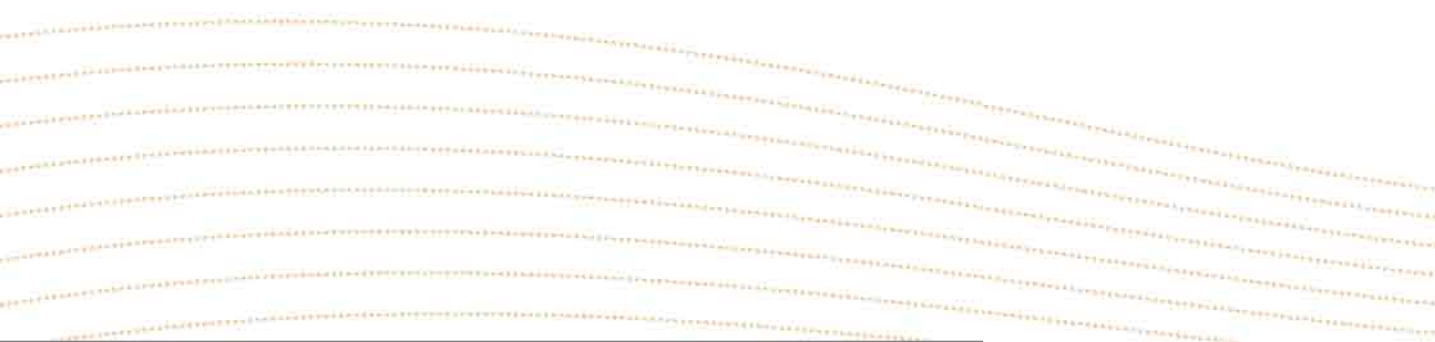
Using the survey results as a basis for their discussions during the meeting, the experts identified key strategies for community empowerment through ICT. These included promoting community ownership through capacity-building, ensuring context-based needs assessment, and developing appropriate infrastructures using locally available resources. To support the community empowerment process, the experts also agreed that an NFE resource package for both online and offline use should be developed. They also emphasized that information sharing and evidence-based policy dialogues at the national

and regional levels were essential for supporting ICT initiatives in NFE programmes taking place at CLCs.

Participating countries have implemented national activities during 2003 and 2004 according to the overall strategies and specific country action plans developed during the expert meeting. The country experiences were shared during the “Regional Workshop on ICT for Community Empowerment through CLCs” held in Vientiane, Lao PDR, on 22-25 June 2004. During the workshop, 27 participants and 3 observers from 8 countries participated in sharing their country experiences and determining possible future directions for implementing ICT projects through CLCs.

This report presents summaries of country experiences and key findings, as well as lessons learned from this project, communicated through the presentations and discussions during the Regional Workshop in Lao PDR.



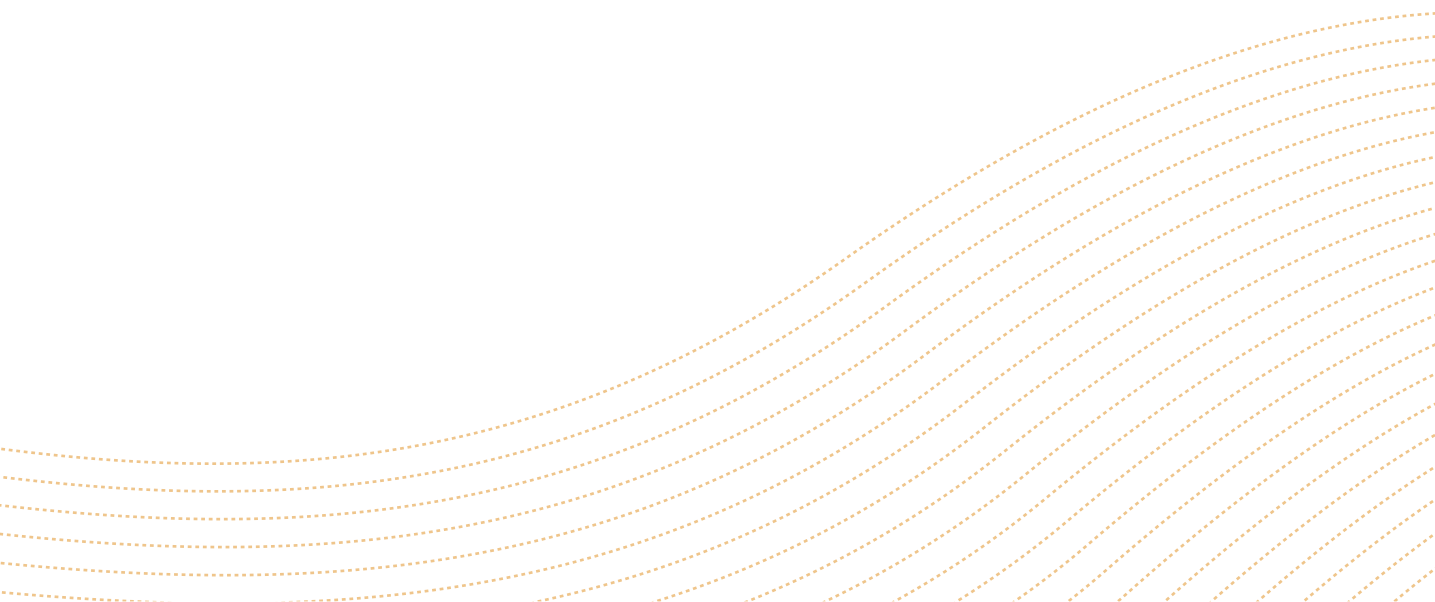




# Part One:



The Use of ICTs for Community Empowerment:  
Country Experiences







## **T**hailand Inter-village Connectivity and Empowerment through ICT in Rural Areas

One of the emphases of Thailand's Ninth National Plan is the improvement of the quality of life in rural areas through community empowerment. This empowerment is fostered through developing and adapting ICT in order to disseminate knowledge and information to support economic stability and increased international competitiveness.

During 2001-2002, the Office of the Non-Formal Education Commission (ONFEC) received support to implement a project on "literacy development through computer software" at two village sites: Ban Samkha, Mae Tha District, Lampang Province, and Ban Bomagrood, Photharam District, Ratchaburi Province. The project aimed to develop a prototype software package for literacy and post-literacy education. The software was used to train illiterates and neo-literates to consolidate and expand their literacy skills. The project also helped community learning centres (CLCs) to build their capacity in developing and disseminating local experiences and knowledge in literacy and non-formal education, taking advantage of the use of ICT.

Following the experiences from the computer software project, the ONFEC implemented another ICT project on "Inter-village Connectivity and Empowerment through ICT in Rural Areas" to expand the use of ICT at the community level to other rural areas of Thailand. The Northern Regional Non-formal Education Centre (NRNFEC) was given the responsibility to implement this project on behalf of the ONFEC.

Children, youths, housewives and the community leaders of Ban Samkha and other villages learned much about the benefits of information technology for the development of school and community. All of them made remarkable contributions to the successful use of ICT at the community level.

## Using ICTs for Community Development

The people of Ban Samkha village started to use ICT with the help of the "Constructionism Lab" of the Northern Region Non-formal Education Centre. (This computer laboratory is based on the principles of "constructionist" learning theory formulated by Dr. Seymour Papert of the Massachusetts Institute of Technology Media Lab. "Constructionism" assumes that people learn more by actively constructing new knowledge than they do when "having information poured into their heads.") The Laboratory organized orientation and training on computer use for the villagers. Some village children and youths obtained ICT knowledge and skills from attending a computer camp held by the Laboratory. These young people have applied their new skills to develop their own community. They have designed a Web site for the village to promote and market local products through e-commerce. They have also learned how to use the computer for digital photography, as well as for editing videos. Using these skills, they have come up with better photographs to illustrate the Web site, electronic magazines and village posters.

These children and youth, with the support of village adults, are doing much more for the development of their own community. Many of the adults, themselves, are learning ICT skills at the CLCs. But the younger people, utilizing the potentials of ICT, are leading the way when it comes to local empowerment.

## Youthful Empowerment

Children and youths have gradually built up their self-confidence through experience in managing the "Samkha Constructionism Lab" and undertaking other community activities. They have organized several "camps" or training courses, such as those for the English language and the Lanna (northern Thai) language. They created new institutions such as the Brain Bank and a meditation centre. They also actively participated in creating the community bank and a guesthouse, both of which were new to this rural community. Adults accept this newly developed capability and are pleased with the young people's participation in various community affairs.

### *The Brain Bank*

The children and youth of Ban Samkha organized an English language camp in the village and saved some money to start a junior "brain bank." They encouraged people to come up with some creative ideas for small-scale business schemes. Such good ideas were deposited into a "brain bank." Those proposing the best ideas could take out small loans to initiate micro-scale business projects. If a project failed, there would be a chance to pursue some other alternatives. If it worked, then the entrepreneur could invest further in the project. A committee was formed to manage the brain bank. The committee of the community savings fund supported the youths and helped to create the initial "brain bank fund." Any borrower can submit a proposal to the committee, identifying the sum they require, the expected interest rate and plan for repaying the loan. They do not need to have any collateral, but only to ensure the committee of their trustworthiness. The bank committee takes the final decision. After providing the loan, bank members can visit and learn from the borrower's occupational activities. This is one way to learn occupational and life skills from the adults, as well as to monitor the loan. Thus, they can explore the role of an entrepreneur in such activities as growing chemical-free vegetables for sale or raising cattle with one's parents.

Some visitors have donated money to the Brain Bank after getting information about it from the committee. A professional accountant from the Siam Cement Company (Lampang) is helping to develop a bookkeeping system and software for the bank. A database for handling knowledge management is also being prepared.

### *Learning about eco-tourism*

Some visitors commented on the beauty of the landscape and natural surroundings of the village in addition to the remarkable hospitality of the villagers. Both would be natural assets for starting up an eco-tourism business. However, the villagers are still reluctant to proceed in this new direction. Some children who participated in an English language camp at the Ban Samkha elementary school noted the suggestion by foreign volunteers that there should be a separate dwelling for travelers to stay in the village. Foreign visitors staying there can get the opportunity for direct contact with rural northern Thai ways of living and can learn about aspects of the cultural heritage, such as traditional herbal medicine and massage, woodcarving, weaving and the Lanna language. At the same time, young people in the village would have a great chance to learn foreign languages from the travelers. The guesthouse can also be used for other purposes like training, discussions or special courses. Appreciating the initiative of the villagers, the Siam Cement Company helped them to construct a guesthouse for tourists and is also assisting in the development of a website to highlight the attractions of the village for travelers. Some children and youths have also had a chance to undertake a study visit in order to learn about resort management.

### *Mindfulness*

Buddhist meditation or mindfulness practice is an important factor in the constructionist learning process. It can also be one of the “spiritual” services to be offered to tourists. Thus, villagers have set up a meditation centre at the Ban Samkha elementary school as part of the ICT project. They hoped that the practice of continuous mindfulness could transform the school into a “dhamma” school providing the best possible learning environment for good students. The children and youth of the village are excited about exploring this activity. The adults have already observed positive behavioural changes among the children.

### *Translation of herbal medicine texts from the local language*

There were some famous traditional doctors in Ban Samkha village who had undertaken research on herbal medicine and recorded their findings in several texts made from local mulberry paper. These texts were written in the local Lanna script, which only a few people in the village can read and understand.

Knowing this, some of the village young people were motivated to learn the traditional Lanna language for the purpose of uncovering the wisdom of herbal medicine. Thus they started up a “Lanna language camp” with a volunteer teacher in the village who was able to teach the language. The Lanna language classes were held in the evenings and some

children picked up the language very quickly. The advanced learners started to translate some of the herbal texts with the help of a village elder who could read the Lanna script.

After that, the students of the Lanna language classes sought to develop software for controlled typing of both Thai and Lanna scripts on a normal keyboard. An engineer helped them to develop the software and installed it in the Samkha Constructionism Lab. This innovation makes an enjoyable and meaningful learning environment for both Thai and Lanna. Currently, students can save the translated texts on the computer as part of a database of local herbal knowledge. The database will help them to make special herbal medical products in the future.

## Connectivity Among Rural People

The use of computers in Ban Samkha village has created an opportunity for villagers to exchange ideas and experiences with people of other villages.

Mrs. Sanit Tipnangrong (Na Noi) of Ban Lim Tong of Nangrong District, Buriram Province was a poor illiterate woman who in time became an effective user of ICT for financial planning and other purposes. The Suksapatana Foundation and other partners, including the ONFEC, provided Na Noi with special training to record her everyday observations in order to identify the causes of her family's poverty. Through self-learning by doing, Na Noi gradually became literate and completed Grade 4 of the local elementary school.

Na Noi and her mentors both agreed that she needed to learn about household financial planning. Thus, they started to specify the money needed to invest in each plot of family land. Then Na Noi wanted to figure how much she could earn from growing vegetables and how she should invest or spend what she earned. Production planning then extended to family planning as Na Noi started to cumulatively record the details of daily income and expenditure for her family. The record book, thus, became "learner-generated material." A scheme of expenditure classification was also established for the purpose of financial analysis. At the end of each month, she calculated and compared all types of expenditure and presented the results for family discussion and decision-making. During this learning process, Na Noi had an opportunity to practice literacy and numeracy skills every day.

Undertaking this type of recordkeeping on paper at the end of each month, Na Noi understood that it was time-consuming, inflexible, and difficult to verify. Hence, she wanted to learn computer skills to make the whole process much easier. She received a computer and training in Microsoft Excel at her home. She then had a good chance to practice a new form of technology as a tool for learning. She found that financial data could be analyzed faster than before and represented in a more understandable way. She could forecast income and expenditure for each month throughout the year, and represent them in a line graph for comparison with actual monthly data. She could compare income, expenditure and expected risks in order to reach more reasonable decisions concerning future production plans.



When Internet access was set up at her home, she had a better chance to contact external agencies and ask for needed information. She could also offer advice and exchange experiences with other villagers who had similar problems and interests.

Now Na Noi and her daughter have set up a mini-computer club at her house. She teaches basic computer skills to the children and youth of the village -- especially how to use Microsoft Excel for analyzing family financial records. She is still helping neighbours who are trying to overcome similar family financial troubles.

## Lessons Learned from the Project

Implementing the first phase of the project using ICT at the community level, the organizers have learned some lessons that can help them to develop new plans for using ICT in the future.

1. If the use of ICT is linked to solving different community problems, and not restricted to learning in school, the villagers will realize its functional importance and become more interested in acquiring ICT skills.
2. Community people need various types of expertise to develop their community with the joint efforts of partners.
3. If all learning, including ICT, emphasizes the process of community development, a learning-rich environment will be created for each group of learners.
4. ICT is one tool used to create a good learning environment in the community. So it is not necessary to start with ICT in every learning activity.
5. A capable facilitator, who thoroughly understands the learning process, is very important for creating a learning-rich environment. It always takes time to come up with good training.
6. There are two types of facilitators. The **internal facilitator** is directly responsible for organizing and supervising learning activities for villagers. The external facilitator comes from outside the village, usually from partner organizations with special expertise. The **external facilitator** will work with the internal facilitator at a suitable time. Both of them work together for optimizing villagers' learning.
7. Children and youth have a great potential for learning and using ICT and should have a chance to contribute to community affairs for the purpose of obtaining a more meaningful learning experience. They can help to alter the mindset of adults by coming up with some unusual, but effective, ways of doing things.
8. Encouraging children and youth to become active partners in the process of community development is an effective way to achieve a higher level of sustainability for both ICT and community development activities.
9. An effective application of ICT is to identify and make use of local resources, including the cultural heritage, for the development of the community. Connecting villagers from various rural learning communities, both through face-to-face interaction and the Internet, is worthwhile and should be encouraged.







## Sri Lanka Multi-purpose Community Telecentres for Community Development

The Sarvodaya Shramadana Movement, a leading NGO in Sri Lanka, is administering this project at 18 sites (village banks and CLCs) under the supervision of the NFE Unit of the Ministry of Education.

The purpose of the project is to help village entrepreneurs by enabling them to use ICT in marketing and selling their products. Project activities include training in the use of ICT, the development of a community database, the dissemination of appropriate information to villagers and entrepreneurs through Sarvodaya's Mobile Multimedia Unit, an entrepreneurial skills development programme, and computer training for village bank staff, volunteers and CLC officials. Under the project, each telecentre provides a computer, printer, scanner, photocopier and binding machine for community members' use.

### Village Information Centres and Youth Empowerment

Before starting this project in Sri Lanka, Sarvodaya identified several significant problems hindering the application of ICT in rural communities. The major ones were poor infrastructure, the lack of computer literacy, and the inability to bear the costs of the technology. The NGO staff also tried to come up with possible solutions that would facilitate the use of ICT for community development. They finally decided to provide "a single computer for many heads." But before placing a computer into the community, there had to be at least one "head" who knew how to use it. For this reason, the NGO selected some village youth from the target communities and provided them with comprehensive training at the Sarvodaya headquarters in the use of ICT. As a follow-up activity, the youth were assigned to mobilize the people in their respective communities. They formed "information circles" in their villages, and asked villagers to explain their expectations about how an information centre could contribute to the community and to their own needs. The youth also informed community people about the use of ICT

to meet these needs. In this way, the young people were empowered to introduce ICT into their communities and also to familiarize villagers with its relevance for community development.

### **The Telecentre – Providing Technical Support for ICT**

A “telecentre” is a rural ICT window located in the townships where Sarvodaya has its own infrastructure facilities. Each telecentre contains basic equipment, such as computers, printers and other office machines, for providing services (photocopying, scanning, e-mail, faxing, Internet access at the cheapest rates, telephone services, laminating and binding services, document printing and digital photography) in order to generate income through ICT.

Each telecentre coordinates the village information centres located in its respective district by providing the necessary guidance, support and training to information centre personnel. In order to help sustain the activities of the telecentre, the staff offers computer training to villagers depending on local requirements. Since the community people’s main objective is to promote the trade of their products with other rural communities, the telecentre also maintains connectivity to different village information centres, as well as with CLCs run by the Ministry of Education and other agencies in the area. The purpose is to build an effective network for rural e-commerce.

### **The Village Bank**

Although the majority of rural people in Sri Lanka are involved in various kinds of agribusiness, few of them are self-employed. Many people would like to improve their quality of life by initiating some sort of small-scale trade, but they are not financially strong enough to get started. They need initial support from banks or other local-level micro-finance organizations. Sarvodaya has established village banks at the community level to help villagers create an environment of entrepreneurship in the community. Sarvodaya village banks are linked with the telecentres and village information centres to disseminate information about their micro-credit services to members of the community, and also to promote the proper use of micro-credit. Community people have easy access to the bank, and do not need to provide personal guarantees for loans from the bank. The bank also advises them on the best possible ways to make use of the loans.

### **Entrepreneurial Skills Development Programme for Poverty Alleviation**

Thirty villagers attended a five-day residential training programme for potential entrepreneurs. In addition to studying basic English, they learned about general computer applications in business and the principles of financial management. They also obtained vital skills needed for using a computer in one’s business, developing and managing a database, and using the Internet to obtain necessary information.

The programme provides village entrepreneurs with the ability to use ICT to find out the current market prices of products, which minimizes the possibility that they will be cheated by middlemen or other traders. They can also tap information resources independently, improve their marketing skills, formulate business plans and correspond effectively with other businesses.

## Development of Databases

A database is an indispensable requirement for accumulating, sharing and disseminating information among farmers, fishermen, and all those who are engaged in small-scale business enterprises at the grassroots level. In the Sarvodaya project, the purpose of this database is to promote the products of the small-scale enterprises in poor village communities. The database also comprises Frequently Asked Questions (FAQs) posed by the village community to the village information centres, telecentres and Mobile Multimedia Unit. Participating villages enjoy a great advantage by sharing resources and vital information through the network of village information centres and telecentres.

Before designing the database, there was an initial survey of small-scale rural entrepreneurs in twelve targeted villages. The purpose of the survey was to collect information about the needs of these entrepreneurs, along with details about the products that they wanted to sell. The design and content of the database were based entirely on the results of this survey.

The database, currently under development, will consist of three sections: Market Information, Product Information, and Technology Information. Villagers will soon appreciate the benefits of this database once it is available at the village banks and CLCs.

## Lesson Learned from the Project

1. By using ICT at the community level, people can improve their literacy skills and other technical skills related to their needs.
2. Community people use ICT for promoting their products by searching for customers in neighbouring communities.
3. The use of ICT is improving participation in different activities at CLCs and telecentres.
4. Youths are trying to find jobs where they can use their newly acquired ICT skills.
5. Some resource persons who have ICT skills are available at the community level.
6. An effective network has been established at the community level for sharing information related to selling products and buying raw materials.







## Lao PDR Radio Broadcasting, CDs and Village Development

The Non-Formal Education (NFE) Department of the Lao PDR is implementing a project on the use of ICT at the community level. The purpose of the project is to increase village incomes amongst rural ethnic minority Hmong youth and adults in Namone Nuea and Pha Hom Hom villages in Vientiane Province. The use of ICT at the community level is developing people's capacity for effective leadership, as well as income-generating activities.

During the course of the project, the NFE Department is strengthening two community learning centres (CLCs) to serve as resource centres where ICT equipment is used to disseminate news and information in various areas, including life skills and income-generating activities. The project staff provides training in CLC planning and management, and in the skills needed to use ICT for maintaining a community database, community accounting and the marketing of community products, among other activities.

### Radio Broadcasts on Community Activities in the Mother Tongue

Radio broadcasting is very popular among community people in Lao PDR. CLC learners also enjoy listening to radio programmes. Some of them are inspired to produce and broadcast their own programmes. One CLC has provided a loudspeaker and an amplifier for disseminating village news and other information throughout the community. Using their literacy skills, CLC learners prepare scripts on various topics in their mother tongue, Hmong, and practice delivering the material out loud. In this way, they prepare themselves to broadcast the content over the radio. The CLC loudspeaker is connected with a radio tower for broadcasting. Not only do the learners enjoy creating and broadcasting their own programmes, they also obtain skills and confidence in public speaking.

The use of community radio has the potential for application in distance learning. Community people can highlight their local problems and offer solutions through radio

broadcasts. They also use the loudspeaker in conducting literacy classes and discussion meetings at the CLC. Through writing radio scripts for broadcasting, learners improve their literacy skills. Through the use of the loudspeaker and the amplifier, they become more familiar with the use of equipment that depends on electricity.

### **Villagers as ICT Trainers**

A few talented villagers have been selected to serve as trainers. They received training in basic computer skills, including PowerPoint presentations and the use of CDs and video. In turn, the trainees transmit these skills to others in their villages.

### **ICT for Income-Generating Activities**

Most of the people in Pha Hom village are farmers. Usually they rely on traditional farming methods for cultivating fruit, green tea, silk and other products. The learners at the CLCs believe that if they had some systematic and scientific knowledge about farming, they could benefit from producing additional agricultural products. However, there are no experts in the village who can provide them with this kind of knowledge. Instead, the computer (given to the Pha Hom CLC by the project) is offering them this opportunity. The NFE Department of Non-formal Education provides CDs containing training programmes in different areas, such as raising mushrooms and other food crops, fish processing, and marketing local products. From these CDs, villagers pick up new ideas to apply in efforts to increase their productive capacity and, ultimately, their incomes.

### **Linkages and Networking**

At the village level, village leaders are active and capable. They are willing to cooperate with the CLC committees in mobilizing the community to participate in the ICT project.

Because the ICT project is a new activity in the Lao countryside, NFE personnel lack the knowledge and experience to work with electronic media. As a result, they need to cooperate with ICT specialists who can provide technical support. These include the employees of computer companies and, in particular, technicians and experts from the Lao National Radio who advise community people on matters related to script writing and broadcasting.

### **Establishment of a Support System**

The ICT-NFE project is strongly supported by district authorities. They have set up an information and cultural centre at the district level to serve as a resource centre that provides technical support to the two CLCs. The information and cultural centre supplies the necessary equipment, and facilitates overall supervision of the CLC activities. Centre staff members collect information from the CLCs and disseminate it to the general public, tourists and interested agencies. In addition, in order to promote ethnic minority handicrafts, the centre sells products made at the two CLCs. Each CLC is trying to develop a database of local information and resources. By means of this village connectivity, community people can promote their local products and potential for tourism.

## **Lessons Learned from the Project**

1. The introduction of ICT increases the active participation of community people in different activities at the CLC.
2. The use of ICT encourages community people to consider the potential of the community for income generating activities.
3. Literacy skills, as well as the capacity of CLC learners to increase their incomes, are improved.
4. Community people can use electronic media to highlight and disseminate information about their traditional culture and local resources.
5. Listening to the radio helps village communities keep informed about current events in the country.
6. Through script writing and delivering their scripts over the loudspeaker, some community members develop self-confidence and leadership skills.
7. By using CDs, community people can upgrade their traditional knowledge of farming and other professional skills.







## Uzbekistan

### ICT Applications for Non-Formal Education and Community Empowerment

The Republican Education Center of the Ministry of Public Education is implementing a project involving community learning centres (CLCs) in both urban and rural areas of Uzbekistan. The objective of the project is to apply ICT to the education process in order to bring about social transformation through community empowerment. Project activities include the creation of community learning networks for strengthening family life and promoting socio-economic stability. The main advantages of the project are the provision of a direct results-oriented and ICT-based learning environment in local communities and the opportunity to share experiences between education organizations and other socio-economic partners. Through the introduction of ICT into local communities, Uzbekistan is helping to improve the planning and management of local resources in order to increase community people's efficiency and quality of life. Selected CLCs in the Samarkand, Andijon and Bukhara regions of Uzbekistan have received computers, laser printers, scanners, CDs, digital cameras, digital video equipment, LCD projectors, and other items.

#### **“Mahalla” - An Effective Community Database**

*Mahalla* is an Uzbek word that means “community.” This name has also been given to the community database. Members of a community understand that if they collect enough information about their village or neighbourhood in a systematic way, they can analyze this information to find out their strengths and weaknesses. According to the findings of their analysis, they can prepare future plans for community development.

Experts from the Ministry of Education provided technical assistance for developing a database to each CLC after CLC members decided the content of the database according to the needs of the community. Afterwards, the CLC personnel received training in how to maintain the database. A community database typically includes the following information:

- Community profile: size of area, population, literacy rates, health issues, unemployment rate, success stories and current CLC activities
- Information about community products and services, along with workshops available in the community and district
- Information about existing legal documents
- Information about various training opportunities in the country
- International information resources from the Internet

The database is updated on a regular basis, and linked to various websites for disseminating and sharing information with other CLCs and partners.

**Networking** The CLCs participating in the project have used the Internet to form an effective network for sharing their experiences. The CLCs in Samarkand and Bukhara have been especially active in the exchange of information. Each CLC has undertaken activities related to income generation, small-scale enterprise or e-training. Through this computer network, CLCs can share the results of these activities, as well as new ideas and plans for developing their communities.

**Development of Resource Materials** The lack of resource materials in the local language for training CLC facilitators and trainers is one weakness in the country's NFE programming. To solve this problem, the National Resource Centre at the Republican Education Centre has organized several training workshops for CLC personnel. Through ICT, the training procedures of the workshop are documented and saved on CDs. These disks are then used as resource materials for training other CLC personnel. These materials can also be shared with other CLCs for their training. CLC personnel have the scope to update or change the content according to their needs. These resource materials have reduced their dependency on outside trainers.

**Cooperation with NGOs** The Media Resource Center (MRC) is a non-governmental organization that was created in 1997 with the support of the International Programme for the Development of Communication (IPDC). In close collaboration with the National Commission for UNESCO, the MRC has produced the following CD-ROMs:

- "Blue Ceramics of Central Asia"
- "Miniatures: the Electronic Heritage of Uzbekistan"
- "Educational Materials on World Heritage Sites in Uzbekistan"
- "Oriental Miniatures in the 19th and 20th Centuries"

The Republican Education Center has concluded a contract with the MRC to prepare learning materials for the ICT project.

## Lessons Learned from the Project

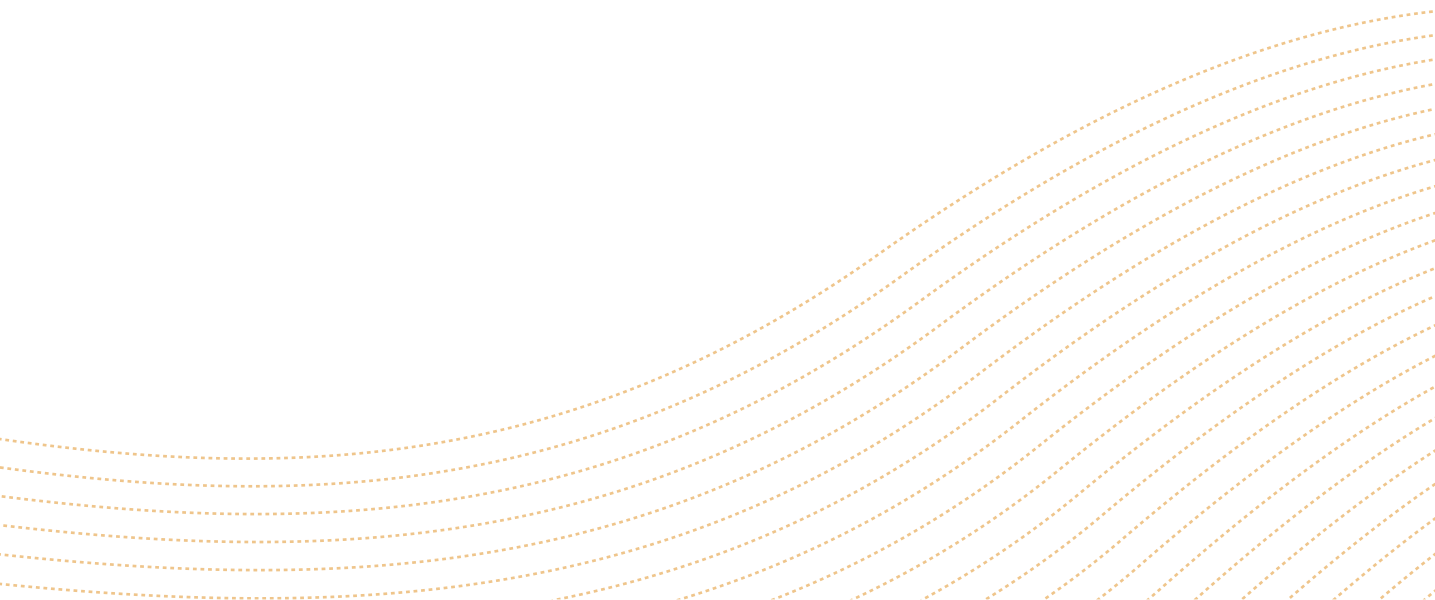
1. Community people realize the importance of collecting information and using it for planning community development.
2. The sharing of experiences among CLCs is an incentive for community people to actively participate in development work.
3. Necessary resource materials can be developed at the community level using various types of ICT equipment.
4. The use of ICT at the community level creates an enthusiastic environment in the community. This environment is important for the development of literacy skills.
5. Community databases help local people to discover and analyze the real problems in the community.
6. Databases also help people to plan community development activities.
7. The CLCs are more active when members use ICT for different activities.
8. Community development planning becomes more realistic when people are able to take into account the experiences of other communities.





# Part Two:

Experiences and Findings from the Region





## Community Empowerment

Community participation can take place voluntarily, but a community may need to be mobilized by means of ICT tools such as radio, television and mobile sound vans to raise public awareness. Community empowerment occurs not all at once, but step by step. It begins when people see that their immediate needs (especially economic) are being met. Then, their confidence gradually increases until they are ready for active decision-making. The case of Thailand has shown us the process of empowerment, starting with initial participation in the project and leading to the decision to create the “brain bank.”

ICT tools -- computers in particular -- have mobilized youth interest and participation in CLC activities and management, as we have seen in the Sri Lankan and Thai projects. Traditionally, community elders have taken responsibility for activities that give them the opportunity to transmit their knowledge and skills to young people. In the case of ICT-related activities, the positions are reversed, with youth and even children collecting new information from websites and providing it to adults. The leadership of CLC activities and the dynamics of community participation have become diversified because of the introduction of ICT tools.

Because ICT for NFE is new to many countries in the region, it has taken some time to mobilize support and develop local stakeholders’ sense of ownership in regard to project activities. This mental barrier was sometimes found to be the biggest obstacle to introducing new ICT tools into village communities. Demonstrations are important for convincing people, especially elders, of the usefulness of new technologies. This is a crucial first step for empowering the community through its full participation in and ownership of activities.

## ICTs for the Effective Implementation of NFE

ICT has expanded the scope of education and other socio-economic activities at CLCs. Access to the Internet via a CLC computer has encouraged people to explore new initiatives and the experiences of others. **Websites** are used not only for obtaining this information, but also for disseminating information about one’s own experiences and resources. The Thai project has introduced the Web-based marketing of village agricultural products and handicrafts that attracts customers both from Thailand and overseas.

**Computers and digital cameras** have changed the processes of materials development, management and dissemination at CLCs. In particular, locally relevant and culturally suitable materials now can be developed more easily, using templates and digital photos



for booklets and posters. **Video CDs** can also be produced locally using a video camera and a computer without requiring too much professional skill. CLCs in Lao PDR use CDs for different training programmes. In Uzbekistan, trainers have recorded training workshops organized for some CLCs in order to disseminate to others. At certain CLCs, the adoption of VCD and CD technology has enabled staff to use less space to store materials, compared to the space needed to keep print versions.

The organization of activities at CLCs has changed with the introduction of ICT tools and materials. For example, skills training doesn't necessarily have to occur after literacy classes, but can be introduced to illiterate or semi-literate people using video CDs. In the case of the Lao project, mobile training activities in rural areas were organized more easily with a laptop computer and video CDs. Such visual presentations can attract learners and provide concrete illustrations of the skills to be acquired. These materials can also be used for self-learning whenever learners want to use them. The main advantages of VCD technology are its relevance to the local situation and its flexibility compared with television or radio programmes, which are one-way communication according to a fixed timetable.

ICT doesn't have to be restricted to computers. Some types of media - such as radio, television, and audio technology - can be more useful for building public awareness, and are also more cost-effective than computers. In the case of the Lao project, **radio broadcasting** in the mother tongue over a **loudspeaker** is an effective way to get village people involved in CLC activities and to disseminate information related to community development.

## ICTs for Poverty Alleviation

Skills training in income generation is a common activity at almost all CLCs in the region. The use of ICT as a tool for such training is an attractive and easy way for learners to understand and pick up these skills quickly. The Lao project makes use of CDs for skills training. In the Thai project, participants created a website for advertising community products, as well as the youth "brain bank" for setting up small-scale enterprises. The Sri Lankan project links the village telecentre with the village bank for people to access information about micro-credit and loans. In addition, the Sri Lankan project also provides entrepreneurial skills development using PC applications and the Internet for business development and planning.

## Capacity-building

Providing equipment does not automatically ensure the success of teaching/learning and other CLC activities. Teachers and learners have to know how to use ICT correctly for classes and management activities. For example, the use of a video for skills training requires the design of lesson plans to promote better interaction between media and learners, thereby avoiding one-way information transmission. Similarly, computer-based accounting has to be introduced with management skills related to security protection and backup.

Capacity-building is required at all levels, and should be developed according to the specific needs of the respective stakeholders. For example, different computer skills are needed at the central, provincial, district and community levels. The training of individuals

should contribute to capacity-building at the institutional level. The exchange of training resources (programmes, databases) among institutions can be promoted through ICT-based networks. Priority should be given to disadvantaged people - including women, ethnic minorities and persons with disabilities - who are often left behind by ICT development. Institutional capacity-building is also important, and should be linked with individual and partner needs and collaboration.

Capacity-building is a continuous process of transmitting a wide range of knowledge, skills and attitudes to help people cope with and take advantage of socio-economic change. There are a variety of methods for transmitting this information – media campaigns, workshops, study visits, peer learning, action research, self-study and others. ICT applications, such as user-friendly software for online learning and multimedia training offered via video CD, help make capacity-building easier and more enjoyable for participants.

**Networking** NGOs must coordinate their activities with government and other organizations to maximize the available resources and expertise for training activities. The Lao project coordinates with the Lao National Radio for providing training to villagers in radio broadcasting. Because some ICT equipment is expensive, cooperation with the private sector and government agencies is very helpful. Some CLCs contact embassies for used computer donations. In the case of Uzbekistan, the Media Resource Center is providing assistance in producing multimedia materials for CLCs. In Thailand, the Siam Cement Company is providing technical support, as well as ICT equipment, to the CLCs.

**Monitoring and Evaluation** Monitoring and evaluation are important components of project planning and management. Monitoring is the process of gathering and analyzing information while activities are taking place in order to make the project more effective. Monitoring should take place on a continuing basis. Evaluation is the process of determining the worth of a project and deciding whether to continue it or start up a different one. Evaluation can occur periodically; not only at the end of a project.

Monitoring and evaluation should be built into the entire planning and management of CLCs. Those responsible for these activities need to decide what they are looking for through the selection of qualitative and quantitative indicators. They also need to identify the relevant tools and techniques (including ICT), and train those who actually collect and analyze the data.

The use of appropriate ICT tools can improve the effectiveness of monitoring and evaluation at CLCs. For example, evaluators can provide a visual documentation of activities with a digital camera, or use an online general information system (GIS) for purposes of overall management and assessment. However, these tools for monitoring and evaluation must be easy enough for CLC personnel to manage information as part of their day-to-day activities.

## Documentation and Information Sharing

The documentation of CLC activities has become more organized and systematic through the use of ICT, especially computers with simple software. Print documentation has always taken the form of reports, newsletters, magazine articles, leaflets or posters. These documents can be digitized for dissemination in a variety of online formats (e.g., html, PDF), or put on a CD or database.

Visual documentation by means of digital camera and video is a recent phenomenon not only in urban areas, but also in rural communities. The potential of visual documentation to convey clear images to others through ICT should be fully used for the internal monitoring and evaluation of activities at CLCs, as well as for the meaningful sharing of experiences with others.

The dissemination of information about successful experiences at CLCs can help foster a sense of community pride and ownership that will ensure continuing support and enthusiastic participation. These experiences should be shared through the media in order to mobilize policy dialogue on ICT for community empowerment. Awareness promotion and training programmes should be arranged for policy makers to introduce to them the potential of ICT for NFE and community development.

Information can be effectively disseminated by means of seminars, meetings and workshops, or during large-scale campaigns, exhibitions and other public relations efforts. Public announcements over a loudspeaker are another means of informing people at the neighbourhood or village level. More sophisticated methods include print materials of various kinds and radio/TV broadcasts. An e-newsletter or a specially created website can harness ICT for the purpose of disseminating information about a project to individuals with online access.

Information sharing does not have to be restricted to the traditional hierarchy of administrative structures. Using the Internet, even a CLC in the countryside can contact organizations in the capital city for exploring possible joint projects. In addition, as in the case of Uzbekistan, Internet networking among CLCs has enabled them to share resources and experiences more easily.

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## • Challenges

Taking their experiences into account, project staff in the participating countries have identified the following challenges arising as a result of project implementation:

- 1) The lack of infrastructure (e.g., electricity, telephone connections and hardware) is still the major challenge for introducing ICT into disadvantaged areas. There have been some experiments with the provision of secondhand computers and the use of alternatives such as solar energy and satellite communication, but much more needs to be done in these areas.
- 2) Although many countries believe that ICT means computers and the Internet, the use of other kinds of ICT such as radio, television, and audio technology are worth further exploration. Some of these media are more useful for raising awareness and also more cost-effective than computers.
- 3) There is a certain belief at all levels that ICT tools are something given by outside experts rather than developed locally. Although external support is essential for initiating new activities and updating knowledge and skills, local people need to develop a sense of ownership of their ICT programmes, including the technology itself. Thus, the younger generation should be further encouraged to develop home-grown ICT tools and applications.
- 4) Information sharing or exchange has taken place because of ICT (particularly the Internet), but it's not always done in a systematic manner. Developing a database at the national level is useful for collecting and sharing information through various means like websites, CDs and print materials. Higher education institutions and development agencies should be involved in creating such a database and also providing the resources and expertise.
- 5) Language becomes an important issue at the global and national levels because approximately 80 per cent of the world's websites are in English. Thus, English literacy is needed to access the global online information network. Likewise, literacy in the national language is necessary to read documents related to local and national programmes. Unfortunately, this means that many members of ethnic minority communities will not find it easy to access this information.
- 6) The successful outcomes of the project should be publicized through the media in order to make both the public and policy makers more aware of the potential of ICT for NFE and community development.

## • Conclusions

ICTs can be of great use in helping to achieve the goals of EFA and lifelong learning in developing countries. Its priority focus should be on reducing the digital divide between the urban and the disadvantaged rural areas, and on increasing equal access to education programmes.

The outcomes of the APPEAL ICT-NFE project indicate that the following factors are important for success: 1) involvement by everyone in the community, especially young people; 2) networking with technical agencies; 3) flexible training, including mobile training teams; 4) local materials generated with ICT tools; and 5) visual documentation for monitoring and evaluation. Similar innovations at the grassroots level in each country should be well-documented and shared with other practitioners for policy planning and formulation.

The applications of ICTs for NFE should be developed within the overall framework of EFA and lifelong learning in each country. There should be a particular focus on improving access and quality of services for disadvantaged groups/areas. Current initiatives and experiences at the grassroots level can be the basis for consolidating and formulating new strategies. Even though government has the main responsibility for achieving EFA and promoting a learning society, we cannot expect the government alone to provide all the necessary services to communities. Local people can take the lead in developing their own community by mobilizing the available human, material and financial resources through local institutions such as CLCs. ICTs are powerful and promising tools for assisting communities towards this development.

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