

**ICT in Community-Based Lifelong Learning Center: Model for Northeast
Thailand**

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Glossary

APEC	Asia-Pacific Economic Cooperation
APE	Association of Progressive Communication
APO	Asian Productivity Organisation
APPEAL	Asia-Pacific Programme of Education for All
ASEM	Asia-European Meeting
ATM	Automatic Transfer Machine
CBR	Community Base Research
CDD	Community Development Department
CD-ROM	Compact Disc Read Only Memory
CEDEFOP	European Centre for the Development of Vocational Education
CLC	Community Learning Center
CLCs	Community Learning Centers
DNFE	Department of Non-Formal Education
DNFEC	District Non-Formal Education Center
DOLA	Department of Local Administration, Ministry of Interior
DVD	Digital Versatile Disc
EA	Education Act
EFA	Education for All
EU	European Union
ICT	Information Communication Technology
ICTs	Information Communication Technologies
ILO	International Labour Organisation
IT	Information Technology
KBE	Knowledge based economy
KBS	Knowledge based society
KYCF	Khok Yai Community Forest
KYCFC	Khok Yai Community Forest Committee
MDGs	Millennium Development Goals
MICT	Ministry of Information Communication Technology
MOE	Ministry of Education
MOI	Ministry of Interior
MOL	Ministry of Labour
MOST	Ministry of Science and Technology

NEA	National Education Act 1999
NECTEC	National Electronics and Computer Technology Center
NESDB	National Economic and Social Development Board
NFE	Non-Formal Education
NGOs	Non Government Organisations
NITC	National Information Technology Committee
NRC-NFE	National Resource Center for Non Formal Education
NSTDA	National Science and Technology Development Agency
OEC	Office of the Education Council
OECD	The Organisation for Economic and Cultural Development
ONEC	Office of National Education Committee
ONESDB	Office of the National Economic and Social Development Board
ONFEC	Office of the Non-Formal Education Commission
OTOP	One Tambon One Product
PCO	Public Call Office
RDIC	Rural Development Information Centre
SAO	Sub-district Administration Organization
SIPA	Software Industry Promotion Agency (Public Organisation)
TAO	Tambon Administrative Organisation
TOT	Telephone Organisation of Thailand
TRF	Thailand Research Fund
UIE	UNESCO Institute for Education
UMAP	University Mobility in Asia and the Pacific
UN	United Nation
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VCD	Video Compact Disc
WHO	World Health Organisation
WSIS	World Summit on the Information Society

ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which, to a substantial extent, has been accepted for the qualification of any other degree or diploma of a university or other institution of high learning, except where due acknowledgement is made in the acknowledgements.

Chanthana Wech-o-sotsakda: _____

Date: _____

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Abstract

This thesis investigates how rural and remote communities in northeast Thailand harness information and communication technologies (ICTs) for community development and develops a new model of ICT-based lifelong learning center for local communities.

The main research questions are:

1. How to adapt ICTs to fit rural communities?
2. How to integrate ICTs into their lifestyle?
3. How to use ICTs to forge stronger ties within and between local communities?
4. How to develop ICTs in community-based lifelong learning center?

The objective of this research is to develop a model of ICT in community-based lifelong learning centers (CLC) that is suitable for northeast Thailand, and to propose policies for implementing ICTs in CLCs.

This study used qualitative methodologies to explore the problem. Data collection took place in Thailand between April 2005 to March 2006. The fieldwork covered two communities in Krainun Village, Katharawichai District and Khok Yai Community Forest, Wapi Pathum District, Mahasarakham Province. The data collection procedures included using surveys and questionnaires to develop the research agenda with the target groups while focus group techniques were used as the main data-gathering instrument to further investigate their needs and develop the CLC model. Interviews, observations, workshops and study trips were needed for additional data.

A triangulation approach was used to analyse the data from surveys, interviews, observations and discussions. The basic data from the surveys were categorised into four aspects: geographical data, public utilities, social data, and economic data. Using the issues-based analysis methodology, the qualitative data from the focus groups were analysed and interpreted and triangulation was applied to difference data sources. The recorded materials were transcribed and issues related to the research questions were identified. The next step focused on developing the CLC model which applied Knowles' program development model for adult education and training.

This focus on process is a distinguishing feature of this research and comprises the 'new' characteristic in the model presented.

The study showed that the rural communities grasped the benefits of ICTs and through concrete situations, realised that ICTs could meet their needs. ICT learning activities using a hands-on practical approach motivated them to adapt and integrate ICT in their daily life. They applied their experiences to acquire new knowledge and technology. Their CLCs were developed based on a similar model of their understanding of, and motivation to use, ICT. The model of CLC in both communities is based on their needs, including the concept of establishing a CLC, CLC objectives, CLC management, implementation and evaluation.

CHAPTER 1

INTRODUCTION

Background

The economic crisis of 1997 affected many countries, particularly developing nations, including Thailand. Since then, the Thai Government has implemented many strategies and urgent policies to help the economy recover. The Thai Government introduced plans to improve the country by creating a stronger knowledge-based society and economy. More importantly, the master plan of Information Communication Technology (ICT) and Education of the Ministry of Education BE 2547-2549 (2004-2006) was promulgated so that Thais have opportunities to access and take advantage of ICT to continually study throughout their lives and to ensure equity and improved quality of life.

A key factor in the Thai government's *Eighth National Economic and Social Development Plan (1997-2001)* (NESDB, 1997) was to develop strategies to strengthen community development centred on people and self-reliance. The strategy was to move away from communities being directed by central and local government, to one where communities of people were considered as key factors of community development. The strategy viewed communities as people who were capable of thinking, doing, problem-solving and achieving self-reliance. Human development, furthermore, was a focus of the *National Education Act 1999* that aimed to strengthen a community by underpinning their strategies with effective participation from educational institutions.

In section 25 of the *National Education Act 1999*, the Government's duty was to contribute to the establishment of lifelong learning sources and to expand them throughout Thailand. It emphasized a basic structure of Thai society, where each person could learn generally from available resources to build up knowledge. In addition, section 29 (*National Education Act 1999*) emphasised that educational institutions have to support the community through managing the learning process in a community in partnership with individuals, families, communities, local organizations, local administrative organizations, private sectors, non-governmental organizations, vocational institutes, religious foundations, working places and other social institutes. To assist the community with its current problems and needs, it recognized the need to

develop exchanges of people's experiences through community seminars and workshops so that knowledge and information are recorded.

Despite the fact that section 25 (*National Education Act 1999*) referred to various lifelong learning sources, such as public libraries, museums, art galleries, zoos, public parks, botanical gardens, sanctuaries, centres of science and technology, sports and recreation centres, information sources and other learning sources, there were obviously challenges on how to bring the community's attention to these learning sources. Furthermore, in terms of the Government's strategic proposals, the establishment and operation of lifelong learning sources for people in a community must provide the people with opportunities to engage in participatory management as well as learning from different sources through experiences and exchanges between the learners and the local scholars.

Personal background and motivation

As an undergraduate student, I worked part time as a research assistant travelling extensively throughout Thailand collecting data using surveys, interviews, and observation techniques from 1978 to 1980. During these years, I noted a major difference between urban and rural Thais. Urban Thais have better job opportunities compared with rural people. I met many rural people who immigrated to the city for work. Most of them had not had this opportunity for paid work before. Although they wanted to live with their family and worked in their home town, they could not make a living in their rural community due to a lack of facilities and technology. When I surveyed areas in northeast Thailand, I saw unhealthy, malnourished children. Poverty within the rural communities prevented these children from having the opportunities and privileges of going to school and having an education. Villages needed help from the government to support participation in education and skills training.

From 1982 to 1992, I worked as a librarian at the Library for the Faculty of Medicine, Khon Kaen University. At that time, the library wanted to computerize their library systems. I took a library computer course in Bangkok and started creating databases for the Library. My experiences as a librarian provided me opportunities to learn computer and adaptive technology. In 1995, I graduated with a M.A. in Library and Information Science, from Srinakarinwirot University. As part of my research aimed at studying

how medical students learn and use library resources, I presented an educational poster, *A comparative study on the usage of information resources between problem based learning approaches and the approaches of conventional students*, at the South-East Asian Regional Conference on Medical Education in Pattaya, Thailand in 1996. This study employed survey and observation techniques for data collecting from March 1994 to March 1995.

Since 1997, I have been a lecturer in the Department of Information Science, Faculty of Informatics, Maha Sarakham University teaching courses on systems analysis, information technology and records management as part of the undergraduate and graduate majors in library science and information science. I noted that students from remote areas had few ICT skills, some had never seen a computer before. They said they were scared of the computer and they had to be more attentive than students who lived in the city. I also taught introductory information technology to graduate students in a special program, many of them were between 35 and 50 years old. Their aim was to gain knowledge to further their careers. One student had a problem when his mouse came off the mouse pad. He was agitated and asked for help. He said, "I am afraid to spoil the computer and lose my work on the screen". One year later, he became an SPSS programme expert and provided training for his colleagues. This situation impressed me and motivated me to help develop projects in remote areas.

At the same time, my colleague and I had a research project, *Community Information Systems Management*, creating databases for local government officers and training local government staff to use ICT. This project provided valuable training and research experience, including establishing better relationships with my participants.

During this period, I created ICT programs for the Tambon Administration Organization (TAO) to promote ICT usage and to teach staff to use ICT. The Thai government had launched the e-Thailand policy and hoped that ICT might encourage transparency in local administration. People could investigate TAOs' operations by assessing the information through ICT. I conducted the program on three levels:

1. Introduction to computer for TAO staff who had never used a computer.
2. Computer use in their offices for those who had attended the basic computer training.
3. Advanced courses focusing on software to create databases.

Each course consisted of four weekend block courses. 30 TAO staff in Maha Sarakham, Roi Et, and Kalasin Provinces participated at each level. The evaluation of this program indicated that the staff gained knowledge and used their office computer to support their work. Furthermore, they wanted to take advanced courses. Unfortunately, this project was abandoned after I left for study in New Zealand because a replacement coordinator was unavailable.

In 2000, I received a scholarship from University Mobility in Asia and the Pacific (UMAP¹), a project supported by the Ministry of University Affairs, to participate in information technology and library application training at the University of California. This study trip made me realised that I should start from a narrow base based on our capabilities in Thailand, and then expand. It was important for developing countries, like Thailand, that ICT investments occurred in small places, rather than the whole country. In 2001, I received a scholarship from the Ministry of University Affairs as a consultant for the information science curriculum at the National University of Laos. The curriculum focused on information technology use in offices and the project started with a short course to develop the skills of lecturers and government officers.

As a university lecturer, my duty was not only to teach students but also to develop and support communities surrounding the university. I believe that education is crucial for development and solving problems. In this age of information technology and global competition, education should not be limited to the classroom and teachers are not the sole source of knowledge. Education must aim to provide students with skills of self-learning to obtain knowledge so that they can learn continually at any time and any place throughout their lives. In addition, the *National Educational Act 1999*, section 4, stated that “Thai education should be a lifelong education, resulting from the integration of formal, non-formal and informal education so as to build capacity in development of continuous lifelong learning for promotion of people’s quality of life”. Although many agencies took responsibilities for non-formal education, their efforts have not met the demands as a result of insufficient information and data, disparities of the quality of

¹ University Mobility in Asia and the Pacific (UMAP) is a voluntary association of government and non-government representatives of the higher education (university) sector in the region. It aims to achieve enhanced international understanding through increased mobility of university students and staff.

course offered by different agencies and lack of coordination (Ministry of Education, 2001, p. 5).

In terms of my present research, reflecting on these previous experiences assisted my interaction with my research participants and influenced my methodology. My ambition is to assist rural communities to use ICT to solve problems. I am committed to empowering rural communities through innovative adult lifelong learning.

Development research focus

Human development depends on a combination of social, cultural, and economic factors together with education and health science (van den Besselaar & Heimeriks, 2001, p. 1-2). The process of development must use a holistic approach. From my experiences as a librarian, the library is a great democratic institution that serves people of every age, income, ethnicity and physical ability, and also provides a range of information resources needed to live, learn, govern and work.

In Thailand, there were many kinds of learning resources or centres. Several strategies were implemented to promote literacy in the remote areas, including *Education for All and the Lifelong Learning Process* which was implemented by the Department of Non-Formal Education (DNFE) at sub-district and village levels. These were called *Village Reading Centres 1972*, *Village Learning Centres 1985*, *National Literacy Campaign 1985* and *Community Learning Centres 1998*. There were further projects which involved communities working with government, non-government and international organisations. Although the DNFE changed its role from implementation to facilitation, the communities took responsibility for running the centres themselves. Evaluative research on learning centres in Maha Sarakham revealed there was insufficient funding, insufficient skilled workers suitable for individual projects, inadequate work plans and inadequate public relations between the learning centres and other related organisations (Ooncharen, 1999, p. 129-137; Vipax, 1999, p. 91-94). The *Report on a Community Management* (Department of Non-Formal Education, 1998, p. 2) stated that there were 1,200 established learning centres throughout Thailand in 1997. Only 22% of these learning centres were deemed successful and these were reported to be operating at a low level. Furthermore the UNESCO (2001b) report, *Technical Workshop on Basic Education and Lifelong Learning for Gender Equality through CLCs*, stated that the

CLCs in Thailand were “available in the sub-district level, not at the village level” (p. 30). The *CLC Regional Activity Report (1999-2000)* (UNESCO, 2001a) suggested that “action research will be undertaken to identify replicable models of village-level CLCs” (p. 41).

Thailand’s ICT policies prioritized access for all (Thuvsethakul & Konanatakoo, 2002), including SchoolNET² and Sub-district Internet (Internet Tambon). The Internet Tambon aimed to bridge the digital divide between rural and urban communities, and also to train local communities to use the local Sub-district offices as access points for their information need. However, Srisamai (2003, p. 164-166) suggested that the barrier for using ICT in the Kung–An Sub-district Administration Organisation, Prasart District and Surin Province was that the rural people lacked education and computer literacy while the organisation that provided ICT lacked promotion skills. From my experience, ICT projects in Thailand launched by the government were often inappropriate and provision was not made to meet the needs of the local communities. Due to lack of organisation, budget and planning, many of these projects ceased at the end of the pilot studies.

My proposal focused on enhancing human development in rural areas. Essential components for human development in the knowledge-based society comprised of 1) adequate and diverse learning resources, 2) data information systems, 3) networking and linking to learning resources and 4) assisted learning development centres to modify and develop knowledge.

Purpose of the study

The Thai government’s approaches had been “top-down”. This thesis worked from the bottom up, focusing on communities and their needs for lifelong learning, and aims to provide a bottom-up perspective and methodology to counter-balance the government’s top-down approach. This study adopted education and learning process theory for its framework and data collection.

² SchoolNet is part of the human development initiative of the E-ASEAN Task Force aimed to link students, teachers, researchers and education administrators within the ASEAN region and connect them to their counterparts around the world.

This project aimed at forming an education model for Thai rural communities delivered through ICT. It is based on the Thai Government's policy to grow a knowledge-based society and economy. Technological innovations bring new opportunities for accessing new information which can enhance social and economic well-being, particular in rural areas. Accepting the notion that education is crucial to the enhancement of rural communities, that people can learn anywhere at anytime throughout their lives (lifelong learning), this project will provide a channel for people to learn and develop skills to compete in the global economy.

Research question

The purpose of this study is to develop a model of ICT in community-based lifelong learning centre (CLC) that is suitable for northeast Thailand and to propose policies for the implementation of ICT in CLC. The research questions are:

1. How to adapt ICT to fit rural communities?
2. How to integrate ICT into their lifestyle?
3. How to use ICT to forge stronger ties within and between local communities?
4. How to develop ICT in a community-based lifelong learning centre?

I believe that ICT can benefit communities considerably if introduced properly and that ICT can be a tool for sustainable development to increase the basic value of human capital in a developing country. ICT can help facilitate and share knowledge, which is essential in a knowledge-based society, and also empower people in developing countries. More specifically, ICT can provide educational opportunities and programs that address the needs of people. Freire (1984) outlined the need for everyone to reflect and understand what in their life inhibits the development of their potential and their ability to become empowered.

Chapter overviews

The first chapter in this thesis describes the background of the thesis, including the important themes and the areas studied, and provides the scope of the study and its research questions.

Chapter two deals with the impact of ICT on society, economy and education which led to the Thai Government educational reforms and focus on lifelong learning as part of its human resource development. A review of the literature and policies relating to the development of ICT and lifelong learning for development programs, with emphasis on ICT programs for rural communities, is presented.

The third chapter reviews the community learning centre (CLC) in Thailand and the Asia-Pacific CLCs established by Asia-Pacific Programme of Education for All (APPEAL), UNESCO, including how ICT is used in CLCs.

In chapter four, a framework for the selection of the mixed-method research methodology for this study and the justification for its selection are presented. This chapter presents the research design and the processes for data collection, which includes survey, focus groups, interviews, observations, workshops, telling stories and study trips, as well as data analysis. The last section considers the ethical issues associated with this research.

Chapter five offers a regional overview and a narrower focus on northeast Thailand. A brief description of Thailand, its geography, demography, Thai administrative structure and the National Plans are presented. The second section describes Krainun Village, its geography, society, education system, economy and technologies such as mobile phones and computers that affect their daily lives. The last section outlines the background of the Khok Yai Community Forest, its education, social and cultural systems, the technologies that affected their daily lives and the discussions on the barriers and solutions for the community.

Chapter six presents the findings from both communities based on an investigation of their needs, proposal writing and computer courses, their motivations and discussions regarding setting up the CLC. It also presents the needs of local government and the barriers on using and harnessing ICT in rural communities. The final section evaluates the common features of CLC.

Based on these findings, the discussions in chapter seven highlight the main themes of adapting, integrating, using and developing ICT model in community based lifelong learning centres.

Chapter eight summarizes the research and draws conclusions from the data analysis and literature review. Recommendations for action and future investigative studies are also included.

CHAPTER 2

LITERATURE REVIEW

My research on lifelong learning on rural communities in northeast Thailand examines information and communication technologies and the effects of globalisation on the development of a knowledge-based society and economy. It highlights the main issues surrounding information and communication technologies (ICT) and education, particularly adult education, and their impacts on lifelong learning for Thai rural people. The discussion locates lifelong learning in the Thai policy framework, including the legislation, policies and government agencies which are influential in this policy sector. Within this section, I will provide insights into the diverse contextual factors that shaped and influenced this study.

Lifelong learning

The rapid advances in information and communication technologies (ICT) in the 21st century have led to a significant creation of wealth, creating unprecedented means and opportunities to share information sources and knowledge. Knowledge and information are increasingly forming the basis of economic and social relationships. Creating, sharing and using information and knowledge are key factors of economic growth and essential for global competitiveness. The crisis of this new global economy has serious implications for the nature and purpose of education. Globalisation leads to new structures and demands in the labour market and hence lifelong learning must be viewed as a prerequisite for ensuring economic development and social inclusion. Education is no longer limited to formal schooling; it needs to be expanded to a lifelong activity using formal and non-formal, as well as informal, styles of learning. Also, the learning processes for attaining tacit knowledge occur within all economic and social activities, including research and development, production, product development, marketing, and the application of innovative technologies.

The World Education Forum in 2000 adopted the *Dakar Framework for Action*, reaffirming their commitment to achieving *Education for All (EFA)* by the year 2015 (UNESCO, 2000). The strategy is organised around two themes: "eradication of extreme poverty" and the "contribution of information communication technologies

(ICT) to the development of education, science and culture and the construction of a knowledge society” (International Federation of University Women, n.d., para. 3). A significant way forward for human development is to provide lifelong learning and training opportunities for all as the foundation for educational and training policy.

Development of lifelong learning

The lifelong learning debate has gained considerable currency since the 1960s. In 1970, Paul Lengrand, Head of the Adult Education Division of the Education Sector of UNESCO, presented the report, *An Introduction to Lifelong Learning*, aimed to inform the experts and called for further study on this aspect of education. UNESCO recommended “lifelong education as the master concept for education policies in the years to come for both developed and developing countries” (UNESCO, 1972, p. 182) In Edgar Faure’s report, *Learning to Be*, he stated that

Every individual must be in a position to keep learning throughout his life.

The idea of lifelong education is the keystone of the learning society. The lifelong concept covers all aspects of education, embracing everything in it, with the whole being more than the sum of its parts. There is no such thing as a separate ‘permanent’ part of education which is not lifelong. In other words, lifelong education is not an educational system but the principle on which the over-all organisation of a system is founded, and which accordingly underlies the development of each of its component parts. (UNESCO, 1972, pp. 181-182)

The Organisation for Economic Cooperation and Development’s (OECD, 1973) publication, *Recurrent Education: A Strategy for Lifelong Learning*, focused on how learning, in particular, post-compulsory education and training, could be utilized to respond to the demands of the market. This explanation marked the reframing of the lifelong learning discussion in largely economic and labour capacity terms. During that time, the World Bank continued to promote the market driven lifelong learning perspective, in contrast to the more holistic and more encompassing discourse of UNESCO. Some argued that in the 1970’s, the UNESCO discussion was too idealistic and therefore impossible to attain. By the late seventies, OECD had cut its budget and there was not much discussion about lifelong education. It re-emerged in the nineties in

the context of economics and labour skills (Medel-Anonuewvo, Ohsako & Mauch, 2001).

The 1990 World Conference on Education for All introduced the *Education for All* (EFA) goals which would become the principal educational discourse for developing countries (UNESCO, 1990a). EFA was a key issue for discussion and led to many countries articulating concrete policy focusing on lifelong learning in national plans as well as national policies toward achieving universalisation of quality education for its citizens. For example in the UK, lifelong learning became a popular agenda of government, employers, employees, students and institutions (Brophy, Craven & Fisher, 1998). Moreover Kennedy's perspective suggested that "the needs of the country the heart of that strategy" (as cited in Brophy, 2000, p. 19). Another reason which influenced lifelong learning as a key element in education is the *World Declaration on Education for All* (UNESCO, 1990b). This declaration initiated the concept of "basic learning needs" as characteristic of literacy in a continuum embracing formal and non-formal education for all ages of people and that the four pillars of education are learning to be, to know, to do and to live together as proposed by Jacques Delors, chair of the International Commission on Education in 1996 (UNESCO, 1996). Hence the link between lifelong learning and literacy. OECD, UNESCO, Asian Productivity Organisation (APO) and other international organisations have since collaborated on lifelong learning activities. In Europe, the European Union (EU), International Labour Organisation (ILO) and European Centre for the Development of Vocational Education (CEDEFOP) also provided adult and community education and also continue vocational education (Chisholm, n.d.).

Concept

In 1975, the UNESCO Institute for Education (UIE) developed these characteristics to operationalise the lifelong education concept:

1. The three basic terms upon which the *meaning* of the concept is based are *life*, *lifelong* and *education*.
2. Education does not terminate at the end of formal schooling but is a *lifelong process*.

3. Lifelong education is not confined to adult education but it encompasses and unifies all stages of education – pre-primary, primary, secondary and so forth. It thus seeks to view *education* in its *totality*.
4. Lifelong education *includes formal, non-formal and informal patterns of education*.
5. The *home* plays the first, most subtle and crucial role in initiating the process of lifelong learning. This process continues throughout the entire life-span of an individual through *family learning*.
6. The *community* also plays an important role in the system of lifelong education from the time the child begins to interact with it. It continues its educative function both in professional and general areas throughout life.
7. *Institutions of education* such as school, universities and training centers are important, but only as agencies for lifelong education. They no longer enjoy the monopoly of education and no longer exist in isolation from other educative agencies in their society.
8. Lifelong education seeks continuity and articulation along its vertical or longitudinal dimension (*vertical articulation*).
9. Lifelong education also seeks integration at its horizontal and depth dimensions at every stage in life (*horizontal integration*).
10. Contrary to the elitist form of education, lifelong education is *universal* in character. It represents *democratisation of education*.
11. Lifelong education is characterized by its *flexibility and diversity in content, learning tools and techniques, and time of learning*.
12. Lifelong education is a *dynamic approach* to education which allows adaptation of materials and media of learning as and when new developments take place.
13. Lifelong education allows *alternative patterns* and forms of acquiring education.
14. Lifelong education has two broad components: *general and professional*. These components are not completely different from each other but are *inter-related and interactive* in nature.
15. The *adaptive and innovative functions* of the individual and society are fulfilled through lifelong education.
16. Lifelong education carries out a *corrective function*: to take care of the shortcomings of the existing system of education.

17. The ultimate goal of lifelong education is to maintain and improve the *quality of life*.
18. There are three major prerequisites for lifelong education, namely *opportunity*, *motivation* and *educability*.
19. Lifelong education is an *organising principle* for all education.
20. At the *operational level*, lifelong education provides a *total system of all education*.

(Dave, 1975, pp. 55–57)

OECD, an organisation that focuses on economic development in the developed countries, views lifelong learning as a connection between learning and work that includes community learning throughout the lifespan of the individual (Griffin, 1999, p. 335). This concept became an organisational principal and social goal, and its majority target group were adults. It supported the view that learning resources should exist in communities to foster environmentally sustainable economic development and social inclusion. ‘Lifelong learning’ owes its origins to the experts in UNESCO Institute for Education (UIE) who coined the term ‘lifelong education’. In the mid 1990s, OECD abandoned ‘lifelong education’ and instead adopted ‘lifelong learning’. The conceptual framework of lifelong learning implied broad “responsibility not only from the state to the world of work and the civil sector of society, but also from the state to the individual. The emphasis on ‘learning’ rather than ‘education’ is highly significant because it reduces the traditional preoccupation with structures and institutions and instead focuses on the individual” (Tuijnman & Bostrom, 2002, p. 102). Hence the term ‘lifelong learning’ is used presently instead of ‘lifelong education’.

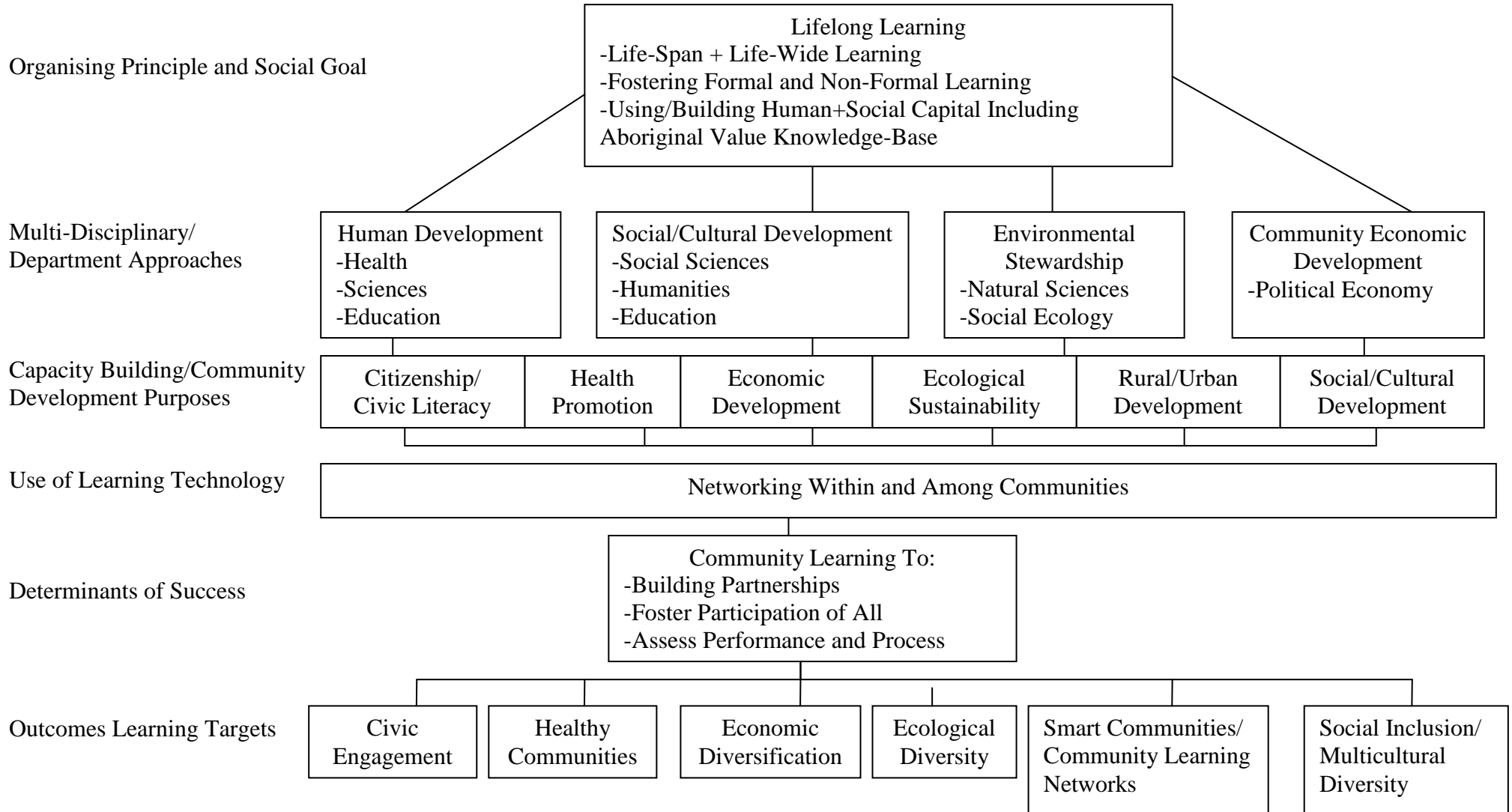
In a rapidly changing world, globalisation together with telecommunication and computer technologies has major impacts on education, society and the economy. The knowledge-based economy not only needs autonomous, independent individuals to undertake learning for personal growth but also to ensure that all communities, especially rural or remote communities are not left behind due to lack of information literacy and poverty. ICT provides opportunities as a channel to seek knowledge (Kessels & Poell, 2004, pp. 147-148). The concept of lifelong learning can be more narrowly defined as relevant knowledge needed to cope with the demands in a persons’ society and that education and training need to be related to home, community, companies and organisations (Brophy, Craven, & Fisher, 1998, p. 8). Therefore,

lifelong learning faces new challenges re-inventing itself in a knowledge-based society and economy as it explores and supports new dimensions of learning such as self directed learning, learning on demand, informal learning, collaborative and organisational learning.

Faris (2001) believed that the lifelong learning framework will “enhance human and social capital and their contribution to human well being, sustainable economic growth and social development” (p. 4). This multidisciplinary concept promoted holistic community supported learning based on community development (Adult Learning Australia, 2005, p. 29). This concept “can also serve as a basis for a possible national strategy to strengthen community life across the nation” (Faris, 2003, p. 5).

Figure 2.1 Faris Lifelong learning concept

A lifelong learning community conceptual framework: A learning-based community capacity building/development approach



Note: From “Learning community by community,” by R. Faris, 2003, *Education Canada*, 43(1), p. 7

Definition of lifelong learning

Lifelong learning under the slogan “from cradle to grave” or “from womb to tomb” does not have the same connotation as recurrent education within the educational system. Lifelong learning reflects a more holistic view of education and recognises learning in, and from, many different environments. Lifelong learning is related to recurrent training available within the framework of the formal education system, but it is not the same thing. Lifelong and life-wide learning is a concept with broader scope and consequences (Rubenson, 2002, p. 243). Lifelong learning involves activities which people perform throughout their life to improve their knowledge, skills, and competence in a particular field, given some personal, societal, or employment related motives (Aspin & Chapman, 2000; Field, 2001; Griffin, 1999; Koper, et al, 2005). Lifelong learning can be defined “as all purposeful learning activity undertaken on an ongoing basis with the aim of improving knowledge, skills and competence” (Duchesne, Mestre, & Monplet, 2002, p.34). Tuijnman and Bostrom (2002) states that lifelong learning is “undertaken not only for job and career related reasons but also and especially for personal development, self-fulfilment and quality of life” (p.103). John Field, an education expert in lifelong learning, defined lifelong learning as a “relative new concept” even though it has traditionally been referred to as adult education (Field, 2003). In an international conference in 1981, the UK Minister of State, Department for Education and Employment suggested to the government that

Learning is the key to the future well being of this country. It is essential to a strong economy and an inclusive society. It is the heart of the Government’s programme. Our aim is to create a fairer, more prosperous society. We wish to empower all people to lead a fulfilling life. Learning does just that. The development of skills can give people confidence and hope. They can help people overcome the barriers to work and so open up the route out of poverty (Blackstone, 1999)

Lifelong learning has a wide meaning and depends on different contexts, cultures, abilities and motivations of individual to take responsibility for their own learning. It involves different forms: continuing education, training, life skills development activities, e.g. the traditional school system from primary to tertiary level, free adult education, informal research and training, undertaken individually, in a group setting or within the framework of social movements.

Lifelong learning process

A strategy of lifelong learning must focus on people who differ widely in their interest, motivation, needs and ways of learning. Most of them are working, have families and have community responsibilities (Somtrakool, 2002, p. 32). Adult learning is not limited to formal education, it needs to take into account “families, community action groups, voluntary societies, support networks, workgroups and interpersonal relationship” (Brookfield, 1986, p. 4). Knowles’ (1975, p. 18) theory of andragogy emphasized that adults are self-directed and are expected to take responsibility for their decisions. Adult learning programs must accommodate these fundamental aspects:

1. Diagnosing learning needs.
2. Formulating learning needs.
3. Identifying human material resources for learning.
4. Choosing and implementing appropriate learning strategies.
5. Evaluating learning outcomes. (M. Smith, 2002)

Knowles proposed a theory of adult learning pedagogy for adults, called androgogy, (Knowles, Holton and Swanson, 2005, pp. 64-68) based on six principles. The first principle is the learner’s need to know; how learning will be conducted, what learning will occur, and why learning is important. Secondly, self-directed learning is the ability of taking control of the techniques and the learning process. Thirdly, prior experience of the learner impacts learning in creating individual differences, providing rich resources, creating bias and affecting one’s self-identity. The fourth principle is readiness to learn. Adults become ready to learn when their life situations create a need to learn. The fifth principle is orientation to learn. In general, adults prefer a problem solving orientation in learning. In particular, they learn best when knowledge is presented in a real-life context. The sixth principle is motivation to learn. Furthermore, a number of researchers (Lawler, 1991; Pennington, 1980) suggested the use of needs assessment as a first step in understanding the unique characteristics of adult learners to create a framework for successful practice.

Also, adults have high motivation to learn when the learner can see that the new knowledge will help them solve important problems in their life (Lieb, 1991; Nichols, 2001, pp. 20-21)

The lifelong learning process is centered on the learners, in particular, adult learners have special needs and requirements compared to children and teens. It is necessary to

understand the needs of learners, identify products and implement learning appropriate to their needs. More importantly, adults want to see the reason for learning. The learning needs to be applicable to their work or responsibilities to be of value to them. They are interested in knowledge that is useful to them on the job (Lieb, 1991).

Other social theories were considered. For example, Freire supported adult learning, mainly focused on changes in social aspects and opposing any “top down” policies that were oppressing the people (Roberts, 1996). But my perspective is on adult learning theory focused on the needs of the people that involve a “bottom up” approach.

The next section will trace the evolution of Thailand’s modern educational system and its government’s commitment to, and policies on, the development of adult education and lifelong learning.

Educational system and reform in Thailand

Historically education in Thailand was primarily provided in temples and royal institutions. The monks provided a basic education to boys at the monastery. Girls were taught weaving, cooking, sewing and helping in the fields by their mothers and relatives. Children in the royal family and nobility were educated in the court and government in the provinces (MOENet Thailand Service, 1998; Walter, 2002: p. 82).

The four crucial educational reforms periods were:

1. In 1868-1910, during the reign of King Rama V, Thailand changed its government system from an absolute monarchy to a constitutional monarchy. It began with the 1898 Education Proclamation which modernized the Thai education system. This system was influenced by the British system and it had two streams, academic and vocational. Education was deemed important for national progress and development and compulsory education was introduced.
2. In 1973, educational reforms focused on equity, unity and freedom of expression.
3. In the early and mid 1990s, educational reforms adapted to changes caused by globalisation.
4. The new constitution of 1997 and the economic crisis forced the Thai government to adopt strategies, including educational policies, to accelerate economic rehabilitation (Fry, 2002, p. 2; Wasi, 1998).

Thai education system

The Thai education system has three strands:

1. Formal education based on rigid curricula serves the majority of people. This is based on western educational patterns. It divides into primary or elementary, secondary, high school and university levels.
2. Non-formal education is an alternative for out-of-school youth and adults, usually school programs and short courses related to daily life problems.
3. Informal education is a lifelong process where individuals acquire attitudes, values, skills and knowledge from daily experiences. This embraces formal, and non-formal education and any principles of learning using diverse knowledge resources including those attained through conversations, reading books, newspapers, watching television, listening to radio and using the Internet (Office of the National Education Commission, 2001, pp. 19-25; Somtrakool, 2002, pp. 29-30).

Although formal education is mandatory for all people, remote communities do not have full access. This is because these villagers do not have enough spare time to attend formal education; they need to spend time on their jobs, family and community. The individual person and their community have their own education needs. In addition, formal education focuses on general knowledge, it does not support development skills nor provide for training opportunities. Moreover, the educational institutions and public services have insufficient or non-existent resources. Rural villages do not gain the same benefits from formal education as compared to urban communities (Somtrakool, 2002, pp. 30-31).

Lifelong learning in Thailand

In 1937, illiteracy in Thailand was a serious problem; the Ministry of Education (MOE) reported that about 69 % of the population over 10 years of age were illiterate. This situation forced the Thai government to make adult education a state responsibility and it appointed the National Adult Education Committee (Sungsri, 2001). In 1940, the government declared that all Thais had to learn the Thai language, be able to read and write. In 1941, the special program was developed for adult learning which combined reading and writing. The aim was to learn how to live in a democratic society. In 1943, a law announced that all Thais aged 20-45 who were illiterate had to pay an annual education fee until they met the Ministry of Education literacy standards. Through the implementation this program, the literacy rate increased by 20%, i.e. almost 1.5 million adults. (Sungsri, 2001)

In 1979, the Thai government established the Non-Formal Education Department to (NFED) promote adult education with the aim to supply compensatory education for people who had missed, or were unable to continue, their formal education. Also, the *National Economic and Social Development Plan 1982-1986* (NESDB, 1982) stressed literacy for all Thai people, especially those in rural areas. The Ministry of Education designed a five year *National Literacy Campaign*. At the end of this project launched by NFED, the literate population increased by half a million (Office of the Non-Formal Education Commission, 2006).

In the past, lifelong learning in Thailand focused on illiteracy and lack of opportunities in formal education. It was not imperative for public and private sectors to provide relevant education and there was no cooperation between organisations to create a culture of lifelong learning.

Factors related to lifelong learning in Thailand

Due to globalisation and rapid technological changes, to remain competitive in the trading world, it is imperative that a nation develops its human resources. Lifelong learning helps up-skill workers to adapt to these changes and provides organisations with a competitive advantage. UNESCO's (1996) education policy confirmed the need for lifelong learning for the global society. The Thai Government supports lifelong learning as part of its educational system integrating learning activities, upgrading basic skills and offering opportunities at advanced levels. In 2001, Thailand participated in the Asia Pacific Regional Forum for Lifelong Learning (Somtrakool, 2002) to set up guidelines to manage education for communities effectively.

In addition, Sections 30, 42, 69 and 81 of the *1997 Constitution* (see Figure 2.2, 2.3, 2.4 and 2.5) provide a framework which supports the education of all Thai people equally.

Figure 2.2 *1997 Constitution of the Kingdom of Thailand* Section 30

Section 30. All persons are equal before the law and shall enjoy equal protection under the law. Men and women shall enjoy equal rights. Unjust discrimination against a person on the grounds of difference in origin, race, language, sex, age, physical or health condition, personal status, economic or social standing, religious belief, education or constitutionally political view, shall not be permitted. Measures determined by the State in order to eliminate obstacles to or to promote a persons' ability to exercise their rights and liberties as other persons shall not be deemed as unjust discrimination under paragraph three.

Figure 2.3 *1997 Constitution of the Kingdom of Thailand* Section 42

Section 42. A person shall enjoy academic freedom. Education, training, learning, teaching, researching and disseminating such research according to academic principles shall be protected; provided that it is not contrary to his or her civic duties or good morals.

Figure 2.4 *1997 Constitution of the Kingdom of Thailand* Section 69

Section 69. Every person shall have a duty to defend the country, serve in armed forces, pay taxes and duties, render assistance to the official service, receive education and training, protect and pass on to conserve the national arts and culture and local knowledge and conserve natural resources and the environment, as provided by law.

Figure 2.5 *1997 Constitution of the Kingdom of Thailand* Section 81

Section 81. The State shall provide and promote the private sector to provide education to achieve knowledge alongside morality, provide laws relating to national education, improve education in harmony with economic and social change, create and strengthen knowledge and instil right awareness with regard to politics and a democratic regime of government with the King as Head of the State, support researches in various sciences, accelerate the development of science and technology for national development, develop the teaching profession, and promote local

Hence, Sections 30 and 69 of the *1997 Constitution* protect the right to education for all Thai citizens. Furthermore, Section 81 states the government shall “improve education in harmony with economic and social change”. The Thai government is committed to initiate education reforms whenever it is necessary to keep up with the pace of change as Thailand moves towards a knowledge-based society and economy. (Department of Vocational Education, 2003).

The new constitution promulgated in October 1997 provided for education relating to religion and culture and also to improve education in line with economic and social change. This reflected the government’s commitment to implement, review and revise a continuous program of educational reforms to keep up with the pace of change. Specifically, the *1977 National Education Scheme* was foremost in recognising lifelong learning as an aim of education and as a continuous lifelong process. Subsequently, the *National Education Act 1999* promoted lifelong learning as a framework of national education prescribed in Figure 2.6, 2.7, 2.8, 2.9, 2.10 and 2.11.

Figure 2.6 *National Education Act (NEA 1999) Section 4: Education sub-section***Section 4,**

“Education” means the learning process for personal and social development through imparting of knowledge; practice; training; transmission of culture; enhancement of academic progress; building a body of knowledge by creating a learning environment and learning society and the availability of factors conducive to continuous lifelong learning.

“Lifelong education” means education resulting from integration of formal, non-formal and informal education so as to create ability for continuous lifelong development of quality of life.

Figure 2.7 *NEA 1999 Sections 6, 8 and 9: General provisions: Objectives and principles*

Section 6 Education shall aim at the full development of Thai people in all aspects: physical and mental health; intellect; knowledge; morality; integrity; and desirable way of life so as to be able to live happily with other people.

Section 8 Educational provision shall be based on the following principles:

- (1) Lifelong education for all;
- (2) All segments of society participating in the provision of education;
- (3) Continuous development of the bodies of knowledge and learning

Section 9 In organisation the system, structure, and process of education, the following principles shall be observed:

- (2) Decentralization of authority to educational service areas, educational institutions and local administration organisations;
- (5) Mobilisation of resources from different sources for provision of education;
- (6) Partnership with individuals, families, communities, community organisations, local administration organisations, private persons, private organisations, professional bodies, religious institutions, enterprises, and other social institutions.

Figure 2.8 *NEA 1999* Sections 10, 12 and 14: Educational rights and duties

Section 10 In the provision of education, all individuals shall have equal rights and opportunities to receive basic education provided by the State for duration of at least 12 years. Such education, provided on a nationwide basis, shall be of quality and free of charge.

Section 12 Other than the State, private persons and local administration organisations, individuals, families, community organisations, private organisations, professional bodies, religious institutions, enterprises and other social institutions shall have the right to provide basic education as prescribed in the ministerial regulations.

Section 14 Individuals, families, communities, community organisations, private organisations, professional bodies, enterprises and other social institutions, which support or provide basic education, shall be entitled to the following benefits as appropriate:

- (1) State support for knowledge and competencies in bringing up those under their care;
- (2) State support for the provision of basic education as provided by the law;
- (3) Tax rebates or exemptions for educational expenditures as provided by the law.

Figure 2.9 *NEA 1999* Sections 15 and 18: Education system

Section 15 There shall be three types of education: formal, non-formal and informal.

- (1) Formal education shall specify aims, methods, curricula, duration, assessment, and evaluation conditional to its completion.
- (2) Non-formal education shall have flexibility in determining the aims, modalities, management procedures, duration, assessment and evaluation conditional to its completion. The contents and curricular for non-formal education shall be appropriate, respond to the requirements, and meet the needs of individual groups of learners.
- (3) Informal education shall enable learners to learn by themselves according to their interests, potentialities, readiness and opportunities available from persons, society, environment, media, or other sources of knowledge.

Figure 2.9 *NEA 1999* Sections 15 and 18: Education system (Continued)

Section 18 Early childhood and basic education shall be provided in the following institutions:

(3) Learning centers, namely: those organised by non-formal education agencies, individuals, families, communities, community organisations, local administration organisations, private organisations, professional bodies, religious institutions, enterprises, hospitals, medical institutions, welfare institutes, and other social institutions.

Figure 2.10 *NEA 1999* Section 22, 23, 24, 25 and 29: National education guidelines

Section 22 Education shall be based on the principle that all learners are capable of learning and self-development, and are regarded as being most important. The teaching-learning process shall aim at enabling the learner to develop themselves at their own pace and to the best of their potentiality.

Section 23 Education through formal, non-formal, and informal approaches shall give emphases to knowledge, morality, learning process, and integration of the following, depending on the appropriateness of each level of education:

- (1) Knowledge about oneself and the relationship between oneself and society, namely: family, community, nation, and world community; as well as knowledge about the historical development of the Thai society and matters relating to politics and democratic system of government under a constitutional monarchy;
- (2) Scientific and technological knowledge and skills, as well as knowledge, understanding and experience in management, conservation, and utilization of natural resources and the environment in a balanced and sustainable manner;
- (3) Knowledge about religion, art, culture, sports, Thai wisdom, and the application of wisdom;
- (4) Knowledge and skills in mathematics and languages, with emphasis on proper use of the Thai language;
- (5) Knowledge and skills in pursuing one's career and capability of leading a happy life.

Figure 2.10 *NEA 1999* Section 22, 23, 24, 25 and 29: National Education Guidelines
(Continued)

Section 24 In organizing the learning process, educational institutions and agencies concerned shall:

- (1) provide substance and arrange activities in line with the learners' interests and aptitudes, bearing in mind individual differences;
- (2) provide training in thinking process, management, how to face various situations and application of knowledge for obviating and solving problems;
- (3) organize activities for learners to draw from authentic experience; drill in practical work for complete mastery; enable learners to think critically and acquire reading habit and continuous thirst for knowledge;
- (4) achieve, in all subjects, a balanced integration of subject matter, integrity, values, and desirable attributes;

Section 25 The State shall promote the running and establishment, in sufficient number and with efficient functioning, of all types of lifelong learning sources, namely : public libraries, museums, art galleries, zoological gardens, public parks, botanical gardens, science and technology parks, sport and recreation centers, data bases, and other sources of learning.

Section 29 Educational institutions in co-operation with individuals, families, communities, community organisations, local administration organisations, private persons, private organisations, professional bodies, religious institutions, enterprises and other social institutions shall contribute to strengthening the communities by encouraging learning in the communities themselves. Thus the communities will be capable of providing education and training; searching for knowledge, data and information; and able to benefit from local wisdom and other sources of learning for community development in keeping with their requirements and needs; and identification of ways of promoting exchanges of development experience among communities.

Figure 2.11 *NEA 1999* Section 63: Technology for education

Section 63 The State shall distribute frequencies, signal transmission devices, and other infrastructure necessary for radio broadcasting, television, telecommunication radio and other media of communication for use in provision of formal, non-formal and informal education and enhancement of religious, artistic, and cultural affairs as necessary.

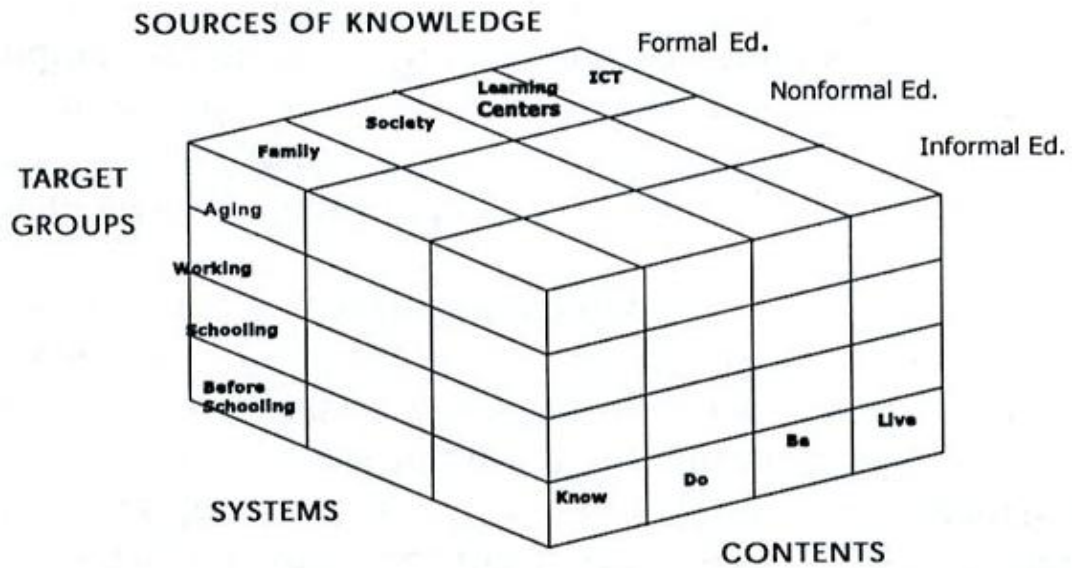
These statements showed that the Thai education system intended to provide educational opportunities for all and deem education as a lifelong learning process. It was apparent that with the *NEA 1999*, all Thais have opportunities to access lifelong learning and especially information technology communication to cope with the changing world. Therefore, in the Thai context of lifelong learning, there are two dimensions. One is the vertical life span of a person, ie education does not end when people leave school, they can keep learning throughout their life. The second dimension is concerned with the daily life of people and improved quality of life.

Lifelong learning as a major approach

The *NEA 1999* added a new dimension to lifelong learning as a principle in education management which integrates formal, non-formal and informal education. This new learning process focuses on learners and views education as continuous and lifelong based on real practice, life conduct, and nature. Learning resources can be found in activities centered on life style, community way of life or institutions e.g. family, temple, community, as well as wisdom accumulated over generations. It acknowledges that “knowledge does not exist in schools but in other learning resources” (“Learning sources for lifelong education”, 2003, p. 5). Thus, the education system within the three strands of education integrates the lifelong learning approach as defined in Section 4 of the *NEA 1999* (see Figure 2.1)

Somtrakool (2002, p. 33) suggested that the lifelong learning approach should consider four dimensions (see Figure 2.12) which includes sources of knowledge, systems, target groups and contents

Figure 2.12 Four dimensions of lifelong learning approach



Note: From “Lifelong learning for a modern learning society” by K. Somtrakool. In *Integrating lifelong learning perspectives* (p. 33) edited by C. Medel-Anonuevo, 2002, Hamburg, Germany: UNESCO Institute for Education.

The framework in Figure 2.12 supports the following conclusions:

1. There are many learning sources available and it is essential for everyone to develop themselves continuously as the key theme of lifelong learning is ‘anywhere and any time’ learning. Learning whatever they like or are interested in can take place in many places, even at home, as long as a suitable place and appropriate learning atmosphere is available. In particular, ICT gives people convenient access to information. Other sources are the home, community, and learning centers.
2. Passing preliminary education is regarded as finishing study and completing learning, and the need for seeking further information or knowledge is ended and what is sometimes left is the individual interest. The education system, including formal, non-formal, and informal education, needs to be flexible for learners. Specifically, credits should be transferable within the same or between different types of education and educational institutions. The three education strands should provide opportunities for all people considering lifelong learning.
3. Lifelong learning provides for various ages as reflected in these slogans “from cradle to grave” or “from womb to tomb”. Compulsory school is an introductory part of the learning life; it also provides foundations to further resources. The life

after school is the longest span of our lives. Therefore the target group includes all ages such as children, youths, workers, and aging.

4. The four pillars of international education proposed by the International Commission on Education for the Twenty-First Century (UNESCO, 1996) are learning to know, learning to do, learning to be, and learning to live together.

The key purposes of the educational process are to equip individuals with knowledge and skills to learn throughout their life, to be productive and active citizens, to enable continued personal growth, to enhance economic and social development, and to foster social cohesion (UNESCO, 1996).

Cases from USA, Canada, UK, Australia and South Korea indicated that legislation and clear public policy contributed significantly towards establishing lifelong learning (Sungsri, 2000). Somtrakool (2002, p. 35) asserted that lifelong learning in Thailand should identify policies and guidelines or promulgate a law on lifelong learning. An organisation should be established with responsibility for promoting lifelong learning at national and local level and promotion of self-learning through various sources of knowledge such as institutional learning centers, cultural learning centers, mass media and social activities.

Information and communication technologies (ICT)

Radical changes are occurring worldwide not only in science, technology and economics but also in social dynamics and politics. The ICT revolution has made it possible for people to become aware of, and informed about, events and developments in other parts of the world. As a result of globalisation, ICT is increasingly being developed and commercialised in locations with critical masses and capacity to generate new scientific knowledge, and where human resources with the requisite skill profiles exist. Both ICT and globalisation have fundamentally changed not only the methods and structures of production, but also the relative importance of factors of production. (Guruz & Pak, 2002, pp.1-5).

Definition of ICT

ICT is a general term widely used in many fields. Computers and the Internet are the most common modern ICT. This term is credited to Dennis Stevenson (*What do we mean by ICT?*, n.d.), who first used it in his report, *Information and Communication Technology in UK Schools* (1996) to the UK government. ICT has almost taken the place of IT (Information Technology). These words have a similar meaning. In the late 1970, 'IT' was used to indicate new technologies which referred to computer applications (Etta & Parvyn-Wamahiu, 2003, p. 29). By comparison, ICT is an:

umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICT is often spoken of in a particular context, such as ICT in education, health care, or libraries (*ICT*, 2004)

The Information Technologies Group Centre for International Development at Harvard University defined ICT as “the building blocks of the Networked World. ICT include telecommunications technologies, such as telephony, cable, satellite and radio, as well as digital technologies, such as computers, information networks and software” (*Readiness for the networked world*, n.d.). Heeks (1999) defined ICT as an “electronic means of capturing, processing, storing and communicating information” (p.3). Laudon and Laudon (1998) used a combination of hardware, software, data, storage technology and networks to define this term. Some argue that it is limited to computers and the Internet, while others wish to include more traditional and common technologies. In the widest definition, ICT embraces radio, television, telephone, newspapers, walkie-talkies and handheld devices (Harris, 2004, pp. 12-14).

A distinction is often made between “old” and “new” ICT. Typical old ICTs are radio, newspapers, television and telephone, while computers and the Internet are the major new technologies. The Association for Progressive Communication (APC) (*ICT policy and internet right*, n.d.) grouped ICT in three categories: 1) information technologies that use computers, which have become indispensable in modern societies to process data and to save time and effort; 2) telecommunications technologies that include telephones (with facsimile) and radio and television broadcasting, often through

satellites; 3) networking technologies, of which the best known is the Internet, extending to mobile phone technology, satellite communications, and other forms of communication that are still in their infancy.

Therefore we conclude that ICTs are tools used in creating, processing, transferring and sharing of information. There are traditional and modern ICTs including telephones, facsimiles, video, television, radio, print material (e.g. newspapers and books), and computer-based or computer-mediated modes (e.g. email, chat and newsgroups, listserves, electronic conferencing, CD-ROMs, etc. (Etta and Parvyn-Wamahiu, 2003, pp. 28-29). ICT has changed almost every aspect of our lives, resulting in social, economic and political transformations and a force behind the rise of socio-economic globalisation. In the field of development, the relatively new approach of incorporating ICT has attracted an increasing amount of attention. As an efficient approach to facilitate the sharing of information and knowledge, which is crucial for the information society of the new millennium, ICT has significant potential to empower people in developing countries. In many developing countries, ICT has given the poor an alternative route to emerge from poverty and change their lives accordingly. However, one problem is the digital divide, which is defined as the gap between those with access to ICT and those without. The fear of the digital divide is that only the rich who have access to ICT will benefit from the information age; for the poor, it may only result in greater isolation and increased poverty.

The development of ICT has become an important factor in international discussion. The 2003 *World Summit on the Information Society* (WSIS) in Geneva, Switzerland, discussed how ICT can benefit all nations. ICT was also seen as an important tool to implement the Millennium Development Goals defined by the United Nations. UN Secretary General Kofi Annan (2002) stated that:

The new information and communications technologies are among the driving forces of globalisation. They are bringing people together, and bringing decision makers unprecedented new tools for development. At the same time, however, the gap between information 'haves' and 'have-nots' is widening, and there is a real danger that the world's poor will be excluded from the emerging knowledge-based global economy.

Globalisation

Syed (2006, p. 1) suggested that globalisation is essentially an economic process combined with a transformation in political economy and global transformation in communication and culture. Globalisation has many different meanings to different people. The *Collins* (1998) dictionary defines globalisation as “the process enabling financial and investment markets to operate internationally, largely a result of deregulation and improved communications”. Peta (2002) defined globalisation as “a rapid increase in international trade and investment in the last 20 years which is breaking down national borders and creating a single global economy – often called the ‘global village’” (p.7). Held and McGrew (2003) defined it as “the widening, deepening and speeding up of world wide interconnectedness” (p. 67). These different meanings reflect the diversity of perspectives. This is due to the effects and diverse outcomes of globalisation on different groups of people. The process of rapid change has seen a huge shift from labour and capital based productions to information and knowledge-based productions. The new economy features include “a high level of productivity, high level of volatility, new innovations in the structure of organisation and business, close rapid interaction among civil society, including the public sector, private sector and private organisations, and information knowledge playing a key role in wealth and employment creation” (National Information Technology Committee Secretariat, 2003, pp. 7-8). The implication is that everybody needs to be equipped with skills and knowledge, as well as the attitudes and perspectives as citizens of the world to be able to meet the challenges of a complex and interdependent world.

My study focuses on the central role education plays in shaping and responding to globalisation. Of particular interests are the terms “knowledge”, “knowledge society” and “knowledge economy” which emerged in the late twentieth century, with an emphasis on the formal education sector to provide such knowledge.

Knowledge is like light. Weightless and intangible, it can travel the world, enlightening the lives of people everywhere. Yet billions of people still live in the darkness of poverty –unnecessarily. (*World Development Report*, 1999, p.1)

Knowledge and people with knowledge are the key factors of development, the main drivers of growth and major determinants of competitiveness in the global economy.

As Francis Bacon said, knowledge is power. “The power of knowledge is a very important resource for preserving valuable heritage, learning new things, solving problems, creating core competences, and initiating new situations for both individual and organisations now and in the future” (Liao, 2003, p. 155).

Knowledge-based society (KBS) and Knowledge-based economy (KBE)

Increasing information and globalisation have led to a dependency on information technological tools to facilitate easy accessibility of vast amounts of human knowledge. Knowledge is used to empower and enrich people culturally and materially, and to build a sustainable society. Humanity has always progressed towards a more intensive use of information and the development of new knowledge. It is the pace, dynamics and complexity of this change which has led to a new quality, commonly called the transition towards the information or knowledge-based society.

The conceptual KBE stresses the important role of links among individuals, groups and corporations in the new economy (Lallana, 2003, p. 16). The World Bank Institute (*Lifelong learning in the global knowledge economy*, 2003, p.1) defined a KBE as an economy in which knowledge is created, acquired, transmitted, and used more effectively by individuals, enterprises, organisations, and communities to promote economic and social development. The OECD (Asia and Pacific Economic Cooperation, 2000; Tangchuang, 2002) suggested that among the more advanced economies of the world, economic growth is most sustainable for those with strength in these four dimensions where:

- 1) Innovation and technological change are pervasive, and are supported by an effective national innovation system.
- 2) Human resource development is pervasive, and education and training are of a high standard, widespread and continued throughout a persons’ working life.
- 3) An efficient infrastructure operates, particularly in information and communication technology, which allows citizens and business to readily and affordably access pertinent information from around the world.
- 4) The business environment is supportive of enterprise and innovation.

These four dimensions are a crucial challenge for human resource development to meet new needs in the KBE era. The key to economic and social development is people with

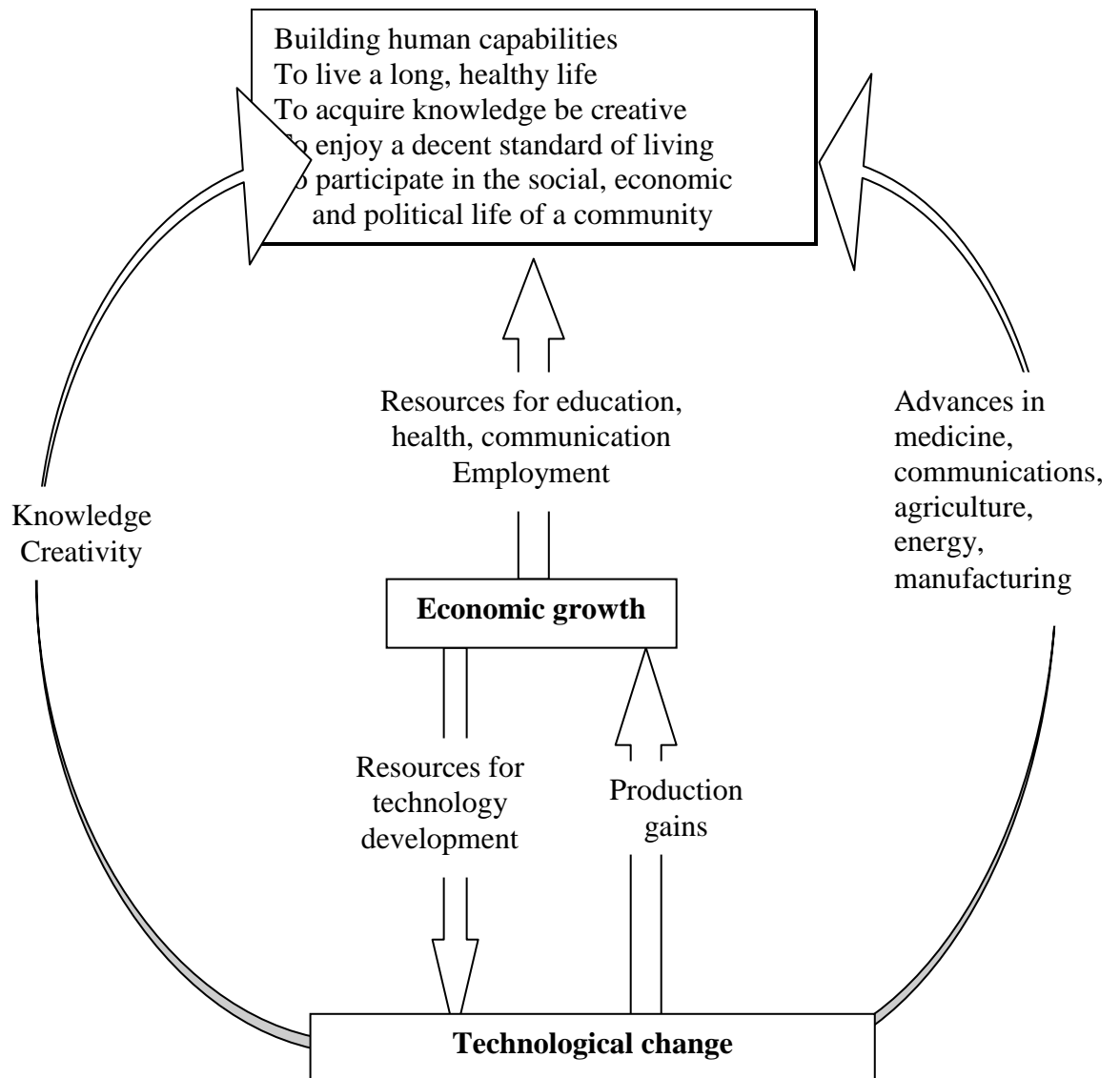
skills and capabilities, and investment in education and training. Skills and training increase productivity and income. One of the most effective strategies to develop skills and training is continuing or lifelong education and an inclusive strategy of higher education for all. The economic importance of education is fundamental in understanding the new global knowledge society and economy. The OECD and the World Bank stressed the significance of education and training as key factors in participating in the new global knowledge society and economy. Education is needed to develop human resources, to upgrade skills, to increase workers' competencies, and for the production of knowledge.

ICT and Human development

ICT has provided unprecedented convenience and opportunities in the flow of trade, finance and information in and among nations. In turn, developing countries are keen to participate in, and reap the benefits of, the global information society. Many national organisations stated that ICT is important to sustainable economic development or as tools to generate a new knowledge. For example, the World Bank stated that "this new technology greatly facilitates the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formation and execution, and widen the range of opportunities for business and the poor" (World Bank, 1999, p. 9). The UNDP's 2001 *Human development report: Making new technology work for human development*, addressed the immense potential of ICT for sustainable economic and social development. As Gintis (1971) and Low (1998, p. 29) noted, education and technology enhance people's lives and labour productivity. This brought about a new emphasis on the need for continuous education and also promoted lifelong learning (Blaug, 1987, p. 105; Low, 1998, p. 29). To compete in the globalisation era, the importance of utilizing ICT for the purpose of development is promoted by many people and development institutions.

The UNDP (*Human development report 2001*, 2001) believed that ICT is significant for human progress and also as tools for human development enabling "people to increase their incomes, live longer, be healthier, enjoy a better standard of living, participate more in their communities and lead more creative lives" (p. 27).

Figure 2.13 Building human capabilities and technological change.



Note. From *Human development report 2001* (p.28), 2001, New York: Oxford University Press.

Using this illustration, it is clear that technologies such as ICT is linked to human development and promote social and economic development. This is evident in many fields such as health science, education, trade, employment, agriculture and culture (Harris, 2004). ICT in human development has the potential for inclusion by overcoming barriers of social, economic and geographical isolation, providing increasing access to information and education, providing opportunities to meet vital

development goals such as poverty reduction, basic healthcare and education, expanded economic growth and improved welfare, and also sustaining stronger forms of democratic government (*Human development report 2001*, 2001, pp.27-29).

The need for ICT in development

It is widely accepted that ICT is the main catalyst of change in society from agricultural to industrial to an information society, and then the transition from an information society to a knowledge society, affecting our education and training systems in different ways. At the same time, life expectancy has increased, thus increasing the need for lifelong learning.

Additionally, the background and goals of the United Nations provided justification for fostering social and economic development by using ICT in developing countries. The Asia-Pacific Programme of Education for ALL (APPEAL) (UNESCO, 2005, p. 1) advocated ICT as having great potential to change developing countries and providing opportunities, especially for poor people, to adjust to local needs, priorities and circumstances. They described ICT as playing an influential role in humanity's progress, however,

Much more work needs to be done to reach the target beneficiaries: socio-economically 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. Therefore, it is important to ensure that disadvantaged groups learn to benefit from the use of ICT in an increasingly knowledge-based society. (UNESCO, 2005, p. 2)

Impact of ICT on education in Thailand

In the narrowest sense, education increases the productive skills of labourers and these skills increase the productivity of the economy and increase the earning power of the individuals. In a broader sense, education impacts on a person's sense of well-being, job satisfaction, and capacity to absorb new ideas and technologies, as well as

increased community participation, improved health, reduced crime, etc. It is because of the economic and social benefits of education that the United Nations launched its Education for All initiative in 1997 and subsequently connected this effort to the MDGs and the Literacy Decade initiative (United Nations, 1999, 2000, 2003). These efforts commit developed and less developed countries to work together to provide universal primary education, increase adult literacy, eliminate gender disparities in education, provide youth with life skills, and improve the quality of education.

The development of education is of strategic importance for the economic and social development of a country. Three key trends are apparent in this new millennium:

- 1) Globalisation, where the world is becoming increasingly interconnected and hence more intensely competitive.
- 2) Advancement in telecommunication technology has become a major catalyst to the globalisation movement.
- 3) A knowledge-based economy in which intellectual capital is expected to become the main basis for competitive advantage.

ICT is a potentially powerful tool for extending educational opportunities in both formal and non-formal systems. ICT also facilitates access to resources all over the world. This helps to prepare citizens for lifelong learning. Global forums identify how ICT can provide wide access to education in developing countries. Thailand turned to ICT to explore ways in which ICT might help attain educational goals, making it possible to distribute learning and to provide basic education for all Thais. Kaewsaiha and Suwannapitak (1999) as well as Thuvasethakul and Koanantakool (2000) asserted that ICT and education were possible tools to empower Thai citizens. They also emphasised that lifelong learning would enhance the quality of life in Thailand. In particular, Koper et al. (2005, p. 72) suggested that lifelong learning should establish learning processes or networks and also use ICT for access to learning facilities at work, home and globally.

ICT applications

ICTs as effective tools for disseminating and transferring information and knowledge are recognised as indispensable to the process of development. As Kofi Annan, Secretary-General of the United Nations, confirmed in his speech to the World Summit on Information Society in Geneva, December 2003:

We live today in an era in which information is omnipresent, through newspapers, radio, television and the internet; in which information is transforming the ways we live, learn, work and relate; and in which information is indispensable—for health, agriculture, education and trade, and for cultivating the engaged and learned citizenry that is essential for democracy to work. (p. 1)

It is a challenge to create a communication and information infrastructure that serves people's primary needs, especially those of marginalised populations. These technologies need to be widely integrated into all aspects of life such as government, agriculture, trade, finance, education, health care, human resources and environmental management. People use technologies to gain access to information, improve productivity, and ensure transparency in government and society organisation (*Report of the task force on ICT and development*, 2003). The influence of ICT on our daily lives is ever more apparent.

Quibria, Tschang and Reyes-Macasaquit (2002, p. 288) described how ICT reduced poverty. They proposed applications of ICT that enhance human well being in two ways: directly and indirectly. ICT facilitated access to education facilities and health, created new economic opportunities, improved the availability of market information and promoted efficient governance systems. For example, in Chennai, India, an information center was established in the village. This project was set up and supported by the Canadian International Development Research Center (IDRC). The aim was to provide local farmers agricultural information such as the cost of farming products, health, insurance and various kind of information through the Internet. Another project was an electronic marketplace using the Internet to market local products from poor communities. This project was established in Tamil Nadu and administrated by a NGO (non-government organisation) called PEOPLink from their website. Other ICT projects in Andra Pradesh, India, developed software to improve literacy and computer skills. In China and India, distance education institutions made the transition to web-based

delivery for students and teachers. In Brazil, urban slums used ICT in education for improving the skills of the poor and youth employment. In remote areas of Mumbai, India, without adequate health care centers, the MedMD's Internet system was created to link health care workers and institutions around the world to access and share medical information about illnesses and treatment.

In the government sector, India applied ICT to improve governance and reduce processes and corruption. A successful Indian government project was the computerized railway ticketing system which improved efficiency and reduced corruption (Heeks, 2000; Kelles-Viitanen, n.d. Quibria, Tschang & Reyes-Macasaquit, 2002, pp. 288-302).

The indirect gains of ICT applications and services are improved income growth, increased production and expanded national economies in retail, finance and manufacturing. India's IT software export performance reached US\$4 billion in 1999 at a growth rate of 40% between 1994 and 1999. ICT in India enabled the country to remain competitive in international markets. (Parkinson & Ramírez, 2006; Quibria, Tschang & Reyes-Macasaquit, 2002, p. 299; Torero & von Braund, 2005; Tretheway & Kincaid, 2005).

Applications of ICT in Thailand

Thailand's *National Information Technology Policy Framework 2000–2010* (National Information Technology Committee Secretariat, 2003) focused on ICT applications and national sustainable development.

Four main groups of ICT users in Thailand are:

1. Government organisations are the main users of ICT as e-government seeks to provide better information services to businesses and citizens. The Ministry of Information Communication and Technology reported that the government's IT budget has risen continually and the total ICT budget is approximately 3% of the annual national expenditure.
2. The corporate sector uses ICT in IT industries and e-industry.
3. The private sector applies ICT in e-business, e-industry and e-commerce to increase efficiency of an organisation's management.

4. The public sector uses ICT applications through e-Education and e-Society in order to benefit of the knowledge and educational improvement, and social development (Kunnavatana, 2004).

The aim of this policy is to support a knowledge-based society and economy and also to assist the poor, vulnerable and marginalised groups. A few researchers used applied livelihoods to assess ICT because livelihood is a primary development measure. The livelihoods approach examines key benefits for the poor that are derived from ICT and establishes effective structures and processes that favour the vulnerable group.

The livelihoods approach provides a framework to value multi-influences and multi-strategies to reduce poverty and provide a model of change. It recognises that poor people have their own life of assets (Duncombe, 2007).

The Thai government set up ICT projects to improve the quality of life in social and government administration and services, including in remote areas. It aimed to create a caring society which may be categorized into four main aspects:

- 1) ICT for education.
- 2) Community Teletnet and community radio.
- 3) ICT for the underprivileged.
- 4) Low-cost PCs (personal computers) and low cost Internet. (Koanantakool, 2003, p. 3)

1. ICT for education created learning activities. Below are some examples of applied ICT projects for education.

1.1. The SchoolNet project was launched in 1995 by the National Electronics and Computer Technology Centre (NECTEC) with the goal to provide Internet access for schools throughout the country. Initially, 50 public schools in Bangkok and an area of the capital city were selected to participate. In particular, it provided opportunities for teachers and students to find quality educational information from worldwide sources, thus bridging the gap between schools in urban and rural areas. It also fulfilled the education reforms of the *NEA 1999*, Section 63, Technology for Education (see Figure 2.11). The project provided free Internet access and computers to schools. In 2003, SchoolNet was handed over to MOE to extend the

project to the whole country. In 2003, UNESCO used this model to set up the Asian SchoolNet Program (Chutimaskul, n.d.; Koanantakool, 2003, pp. 3-5).

1.2. Mobile IT training project in Suddhivatavararam Temple, Tachalom Sub-district, Mung District, Samut Sakon Province, Central Thailand. Venerable Sakommunni Bhikkhu organised this project for the monks at Suddhivataveraram Temple to provide computer courses to schools lacking computers. The aim was to provide basic computer knowledge and skills for the youths to prevent them from becoming drug addicts. The project raised funds from local philanthropists and business sectors to support computer purchases and two buses.

2. Community Teletnet and community radio. The concept of Telenet is to use ICT to serve social development and promote information and knowledge development through lifelong learning, community learning, and health promotion and also to generate income from indigenous knowledge.

2.1. Telenet is a place where local people can use public ICT such as telephone, facsimile and Internet. This is a collaborative project between many organisations such as NECTEC, World Bank, Ministry of Finance, Local Government Department of Non-Formal Education (DNFE) at district and province level, and NGOs. The pilot project was set up in northern Thailand in Ban Sam Kha Village, Hua Sau Sub-district, Mae Tha District and Lampang Province to show that Telenet enables people in local area to benefit from ICT. The aim was to empower people based on learning experiences and to involve students working with their parents. NECTEC and DNFE helped establish the center and ICT training courses in the village school. Evening courses trained villagers to record income and expenses. Parents and their children learnt in the same class with the children assisting their parents. The students used the website to learn English and Japanese. However, there were problems in generating interest amongst the adults, and also the children did not know how to teach. Some courses were deemed unattractive and enrolment decreased. Many agencies rejected help after the project ended (*Digital realization movement*, 2003).

2.2. Another community Telenet was set up in a house belonging to the local village in Ban Lim Tong of Nangrong District, Buriram Province, Northeast Thailand. This center aimed to develop an Internet learning center to show villagers how to use technology and adapt in their daily life. The project was supported by the Suksapattana Foundation, DNFE, and Thaicom Foundations. The conceptual project

emphasised household money planning, as a lack of knowledge and understanding of financial management contributes to poverty. The center provided basic ICT and financial planning courses using a spreadsheet program to identify the causes of families' poverty. The project was successful in developing the skills of the villagers. One woman who had only completed Grade 4 at the local elementary school was so successful that she now teaches computer skills to the youth and children in her village. She was initially interested in the training to identify the cause of her family's poverty. She started to cumulatively record the details of daily income and expenditure for her family. At the end of each month, she calculated and compared all types of expenditure and presented the result for family discussion. The financial process helped her gain more literacy and numeracy skills. She realised that recordkeeping on paper at the end of each month was time-consuming and difficult to calculate. She wanted to learn to use the computer to make the whole process easier. By practicing on Microsoft Excel, she analysed household accounts faster than before and fine-tuned her presentations. She is still helping neighbours with their financial records (*IT for poverty reduction*, 2003, pp. 25-26).

2.3. NECTEC designed a combination of community radio and audio tower in a school in Ban Sam Kha Village, Hua Sau Sub-district, Mae Tha District, Lampang. This gave the students opportunities to manage a radio station including public speaking, preparing scripts etc. This system was useful for the villagers as they could receive information from the school and the students in turn gained better understanding of their community as they transferred information relevant to their community.

3. ICT has been seen as a tool for the underprivileged and for the creation of a caring society as a mechanism to promote e-government and to foster a public service mandate. It aimed to reduce the digital divide for the poor and disadvantaged groups. In addition, the community can use the Internet to generate income.

3.1. In 2001, the Internet Tambon project or Internet unit in Tambon Administration Organisation (TAO) or Sub-district Administration Organisation (SAO) was one of the mechanisms to promote e-government in the daily life of people at the local level. More importantly, Thai government policy planned to decentralize and distribute prosperity to local communities, which included economic development and improved infrastructure throughout the country. The Ministry of Interior (MOI) took responsibility for this project and provided the network infrastructure to

connect TAO throughout a whole country. The administration in Thailand is divided into 7 regions, 76 provinces, 7,255 Tambon or sub-district and 69,866 villages (National Statistical Office, 2007). Under the organisational line of MOI, TAO is the governmental unit that works closely with the local community. TAO council members comprise of village representatives elected by village people. MOI hoped to use ICT to spin out benefits to local people, community and local administrative organisation, including:

3.1. 1. Offering global communication: TAO villages would approach the IT community and local communities could upload their information, and indigenous knowledge to the Internet.

3.1.2. Creating network: Knowledge from each TAO could be shared with others and initiate the cooperative learning process. People could exchange mutual experiences.

3.1.3. Direct purchasing and retailing: Occupational groups in TAOs could use Internet Tambon as a center to present and advertise their communities' products under the One Tambon One Product umbrella. Vendors could also deal directly with their customers eliminating the middleman. Eventually it hoped to evolve into e-commerce.

3.1.4. Encouraging local administration transparency: People could participate or investigate the TAOs' operations by assessing the information in "Internet Tambon" which provides SAOs plan, project, procurement and budgets.

This project has two e-commerce websites:

a) 'One Tambon One Product (OTOP)' is administrated by the Ministry of Commerce with the aim to encourage the grassroots in every sub-district to create production and represent their culture to earn extra income. However this project could only benefit those groups with their own businesses who were able to find information about their markets. There was also a lack of skills to produce quality goods and a lack of marketing (Chutimaskul, n.d).

b) The Thaitambon website was created by Thai Rak Thai Party in collaboration with Department of Community Development, MOI, Department of Export Promotion and Ministry of Commerce. This website provided Tambon data to promote local products on the Internet and also increased business opportunities in rural areas. This website acts as a commercial hub for the trading products.

The Thai government was certain that the Internet Tambon project was successful and that the local people, social organisations and other community groups would enjoy the enormous benefits of ICT and this would then eradicate the digital divide. The project could provide Internet services at any of the 6,746 TAO sites. The project was completed in January 2005 (Srisamai, 2003, pp. 136-168)

However Srisamai's research, which interviewed 64 leaders in Kung-An Sub-district, found a low participation rate in ICT activities and that the ICT activities were not related to people's needs. The Kung-An people had not heard about Internet Tambon. The TAO staff pointed out that they did not have time to use the Internet, they only used the computer for their routine work (Srisamai, 2003, pp. 136-167).

4. Low-cost PCs and low cost Internet project: NECTEC, Ministry of Information Communication Technology (MITC) and local PC manufactures collaborated on this project to bring down the price of computers. The basic price of desktop computers was US\$260 (10,900 Baht) not including the 7% VAT, with a one year warranty and packaged with Linux-TLE and Office-TLE software (Koanantakool, 2003, p.6).

Unfortunately, some projects had to cease or stall due to the 1997-1999 economic crisis, especially rural projects due to infrastructure difficulties. However the projects in the *IT 2000* plan were effective in the capital and larger cities surrounding Bangkok. The National Statistical Office reported that more people in the capital were connected to the Internet than other parts in Thailand (Table 2.1)

Table 2.1 Internet use by location (2001, 2003-2006)

Region	Number of users (Million persons)					User per 100 Inhabitants				
	2001	2003	2004	2005	2006	2001	2003	2004	2005	2006
Overall	3.53	6.03	6.97	7.08	8.47	5.6	10.4	11.9	12.0	14.2
Bangkok	1.23	2.01	2.00	1.63	1.77	16.00	26.9	26.6	25.9	28.0
Central	0.52	1.34	1.52	1.71	2.03	4.6	10.1	11.2	11.9	13.9
North	0.83	1.00	1.21	1.29	1.58	5.9	9.7	11.4	11.9	14.7
Northeast	0.56	1.07	1.49	1.66	2.10	2.6	5.6	7.7	8.4	10.6
South	0.39	0.62	0.76	0.80	0.98	4.7	8.2	9.9	10.2	12.3

Note: From *The 2006 ICT survey*, by National Statistical Office, 2007.

Table 2.1 showed that the people in the capital and central region had a significantly higher level of diffusion and use of ICT than the other regions due to the infrastructure. The government could not allocate adequate funds for ICT connection for other regions, especially the northeast. As Thajchayapong, Reinermann, Goodman, & Pipe commented, the “governments in less developed countries usually invest very little into welfare and technology-based infrastructure for the country outside of the capital or a port city” (1997, p. 281).

In addition to implementing the initial project using ICT at the community level, the organisers, facilitators and agencies learned some lessons for developing new plans using ICT:

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. Varied expertise and collaboration with other partners are needed to develop their community.
3. If all learning, including ICT, emphasized the process of community development, a learning rich environment will be created for each group of learners.
4. ICT is just one tool used to create a good learning environment in the community. 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 rich learning environment. It takes time to develop good training.
6. There are two types of facilitators. The internal facilitator is directly responsible for organising and supervising learning activities for villagers. The external facilitator with special expertise from outside the village, usually from partner organisations, works with the internal facilitator to optimizing the 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 methods.
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 culture 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 (Koanantakool, 2001; OECD, 2003, pp. 5-6).

In the next section, a theory of public and cultural policy, including lifelong learning and ICT policies in Thailand, will be presented.

Public policy

“Public policies – what governments do and say – are, in fact, potential solutions for public problems” (Dubnick & Bardes, 1983, preface). Public policies are plans or strategies which governments are committed to carry out or enforce. Although public policy has been defined in several ways, in essence, public policy is a process to solve public problems.

Policy is usually more than just a ‘technical’ exercise of solving problems. Typically, any policy or policy arena is politicised and institutionally embedded – featuring conflicting interests, differing versions of reality, power struggles, the constraints imposed by institutional arrangements and past practices etc.

Policies affect our lives in every way. Policies are rules outlining what is to be done and how and who it is for. Many organisations such as governments and businesses set up policies to direct their work. Eaton (1953) defined policy as a systematic practice and not a singular or an isolated event. A decision without time for continuity fails to become a policy, for it lacks the essential element needed for further evaluation (Eaton, 1953, pp.130-131). Policies may be formal, agreed upon and written down or they may be informal. There should be good reasons for establishing policies (Sutherns & Fish, n.d.; B. L. Smith, 2003, p. 1).

What is public policy?

Policies driven by government are called public policy. Public policies should provide a value to the public and be managed in the way to meet public goals. Therefore, public policies are rules or strategies that the government selects to do or not to do with the aim to solve public problems. The processes or policy cycle is comprised of:

- 1) Agenda setting: The issues which the government has to attend to and act upon.
- 2) Problem definition: To identified the causes of, and solutions to, problems.
- 3) Formulating options: Policy options depend on the shared definition of the problem and values of society and government.
- 4) Adoption of a policy option: Evaluation and selection options are affected to prioritising values and technical criteria.
- 5) Policy implementation: The process through which the policy objectives are reached or problems reasonably resolved.
- 6) Evaluation: Identifying and measuring the policy results so as to make any necessary adjustments, continuation, and termination of the policy. (Aguilar, Galindez, & Velasco, 2004, pp. 4-5)

“Good public policy should reflect the values and experiences of the people it affects. Public policies are developed with the cooperation of many people. Government policies are drafted, revised and approved by government employees and then modified or approved by politicians, based on their understanding of the information (research) they have” (Sutherns, & Fish, n.d., p. 1).

Public policy in Thailand

Thailand development policies are traditionally based on five year plans. The 1960s policy emphasised agriculture and then shifted to exporting industrial goods and infrastructure investments. In 1980s, policy focus moved from agriculture to export oriented industry growth and the 1992-1996 plan continued to focus on growth. From 1997-2001, the plan shifted from growth to quality of life, income distribution, the environment and good governance. It also decentralised and increased popular participation in the development process. In particular, Thailand gradually introduced its aim to reduce the power of the military and bureaucracy and to strengthen democracy, a factor reflected in the development towards a more modern and representative democracy. Other factors included independent elections, human rights, a constitution court and a bill of rights. These changes in development policy were closely connected with the new constitution of 1997 to manage the economic crisis and to be internationally competitive. There were short term plans to stabilise the economy and long term plans to reform education (see *NEA 1999* Section 4, 8, 9, 10, 18 and 25 in Figure 2.6, 2.7, 2.8, 2.9 and 2.10 which focused on lifelong learning) so that Thailand could compete in the global market (Ministry for Foreign Affairs, 2000).

Public policies related to lifelong learning in Thailand

Thailand's vision is to be a knowledge-based society and economy. It needed to develop its human resources potential, competency and skills including analytical skills, innovation, problem solving, decision-making, team working, ethics and discipline to work with the new technology as well as to increase productivity.

Skill development has never been as important as it is in a globalising world, where technology dictates rapid changes to the way in which skills are acquired, new skills developed and existing skills upgraded. Stiglitz (2001) and Kozma (2005, p. 121) suggested that among the human development policies that contributed to the rapid and robust growth were those that promoted education, facilitated the production and dissemination of knowledge and technologies, encouraged a high rate of savings, supported cooperation between government and business, and advanced industrial development.

Skill development can eradicate poverty by creating employment. Equally important is the well-being of human to survive in a globalised economy. The Thai government considers human resources as the nation's main asset which should be continuously developed on par with the development of socio-economic well-being and technology. Therefore there was a need to reconsider the policy in terms of lifelong learning and training. Not only must it adapt to changes in the nature of work, but it must also constitute a continuous process of forming whole human beings – their knowledge and aptitudes, as well as their critical faculties and ability to act. It should enable people to develop awareness of themselves, their environment and encourage them to play their social role at work and in the community (Kunnavatana, 2004).

Accordingly, based on the *1997 Constitution*, the Thai Government reformed guidelines and principles for the provision and development of the Thai education system for all Thais and laid down the legal basis of lifelong learning. The *NEA 1999* defined education as a “learning process for personal and social development through imparting of knowledge, practice, training, transmission of culture; enhancement of academic progress; building a body of knowledge by creating a learning environment and society with factors available and conducive to continuous lifelong learning” (Section 4) (see Figure 2.6). The *NEA 1999* Section 15 (3) (see Figure 2.9) stated that “credits accumulated by learners would be transferable within the same type or between types or from different educational institutions, including learning from NFE or informal education, vocational training or from work experience”.

Research conducted by Sungsri, *Lifelong Learning for Thai Society in the 21st Century*, proposed key strategies as follows (2000):

1. The policy guidelines should be promulgated as a law on lifelong learning.
2. A unit should be set up to take responsibility and to promote lifelong learning.
3. It should be clearly understood by the target groups and providers as well as the public sector.
4. It should improve all forms of education.
5. Infrastructure should be set up to link all forms of education to encourage participation in lifelong learning.
6. It should develop learning resources in remote areas for creating learning communities.
7. It should support media and ICT to facilitate lifelong learning.

8. It should support the capacities of people so that they can participate in lifelong learning.
9. It should mobilise and contribute funds to promote lifelong learning.
10. It should promote cooperation among stakeholders and establishing networks to share knowledge among public and private as well as communities.

Some features of an appropriate lifelong learning model for a knowledge-based society and economy are:

- a) Education should cover all age groups of learners (before school, schooling, working and aging groups).
- b) The content has to meet the needs of the learners and allow them to apply their knowledge in their vocations (learning to know, to do, to be and learning to live together).
- c) There should be a variety of qualified learning resources (family, society, resource centers and ICT).
- d) Knowledge should be transferable in the three (formal, non-formal and informal) systems of education (Suwantipak, 2001; Somtrakool, 2002).

Public policies related to ICT in Thailand

In the information society era, information has become the most important factor of production and wealth creation. How well an individual, an organisation and an entire society can harness, access, share and make use of available information will ultimately decide their ability to generate economic growth and enhance the quality of life. Rachapaetayakom stated that ICT has a key role in “supporting government policies aimed at: ensuring better distribution of wealth and more opportunities to rural inhabitants; equal opportunity for personal and corporate development; easy access to healthcare and other public services; and solving the chronic traffic flow problems and environmental issues” (*Human resources development for information technology*, 2001, p. 167). An information policy has a bearing on industrial and commercial competitiveness, employment and the creation of job opportunities, lifelong learning, social inclusion, healthy living, the efficiency and effectiveness of public services, participation in the democratic process, regional development, cultural identity and diversity, and intellectual rights (Ornager, n.d., p. 1). Governments have to play a significance role in proposing guidelines and serve as a conduit for using diverse ICT tools in public and private sectors to develop information sources or media which are appropriate to different groups of people (Ulrich, Chacko & Sayo, 2004, pp. 5-6; *Human resources development for information technology*. 2001, pp. 167 & 182). Thajchayapong, et al (1997) claimed that:

strategies for IT development must be geared with an aim firmly in mind to reduce the substantial gap between the information “haves” and “have nots”, not to further widen it. It is all too easy for the more affluent and the better educated segments of society to gain most from the use of IT. The city poor and the rural residents alike are more likely to be left even further behind. (p. 266)

ICT is recognized as a potential enabler for national economic and social development and for strengthening competitiveness for Thailand. The Thai government started the initiative in 1992 by setting up the National Information Technology Committee (NITC) which was a high-level policy body chaired by the Prime Minister. Its members comprised of executives from relevant public and private sector. The NITC

mandate was to develop policies and plans to promote ICT development and application policies in the country such as software industry park, education Internet and

government official's network training etc. The National Electronics and Computer Technology Centre (NECTEC), a semi-autonomous government agency under the Ministry of Science and Technology, has been assigned to host the secretariat office and to conduct supporting work for the committee.

In 1996, Thailand formulated its first IT policy, called *IT 2000*, covering the period 1997-2000. The aim of this plan was focused on three main development tasks:

- (1) Invest in national accessible IT infrastructure, including a five year plan to develop and expand telecommunication networks in rural areas.
- (2) Invest in on-going IT education and training programs.
- (3) Reengineer the public sector or develop a government IT system to improve and enhance government services and to build a strong base for the IT industry. This would encourage and facilitate government use of ICT and become a role model in using ICT to improve governance and services for the people (Chutimaskul, n.d.)

Thailand's *IT 2010 Plan* version 2

A new policy framework, *IT 2010* (National Information Technology Committee Secretariat, 2003), was established for 2001-2010 with emphasis on a development strategy to turn Thailand into a KBE and KBS and to meet the Technology Achievement Index as defined by UNDP. The Thai government identified ICT development as contributing to poverty reduction, government and business efficiency, and education. The policy emphasized the importance of distance education, both non-formal and formal, for developing human capacities. Although the Thai government had implemented communication centers with computers and Internet access in every province in the country, ICT was underutilized throughout Thailand. This underutilization is noted as being due to previous emphasis on the technical and economic aspects of ICT development. The *IT 2010* policy stressed the need to focus more on knowledge and human capacity building. The government recognised the need to give attention to those 'underprivileged and marginalized (Thuvasethakul & Koanantakool, 2002). The five main components of *IT 2010* are:

1. e-Society, covering issues such as digital divide, quality-of-life, culture, health, and public participation.
2. e-Government, including public services via electronic service delivery, employment and legal infrastructure.

3. e-Commerce, with special focus on 'e-services' including not only finance, tourism and IT services, but also other industries.
4. e-Industry, focusing on e-manufacturing and IT-related industries, as well as issues such as standardization.
5. e-Education, includes issues of life-long learning, computer literacy, human resource development, virtual education, etc.

Policy implementation of each component has to comply with three principles: enhance human capital, create innovation, and strengthen the information infrastructure.

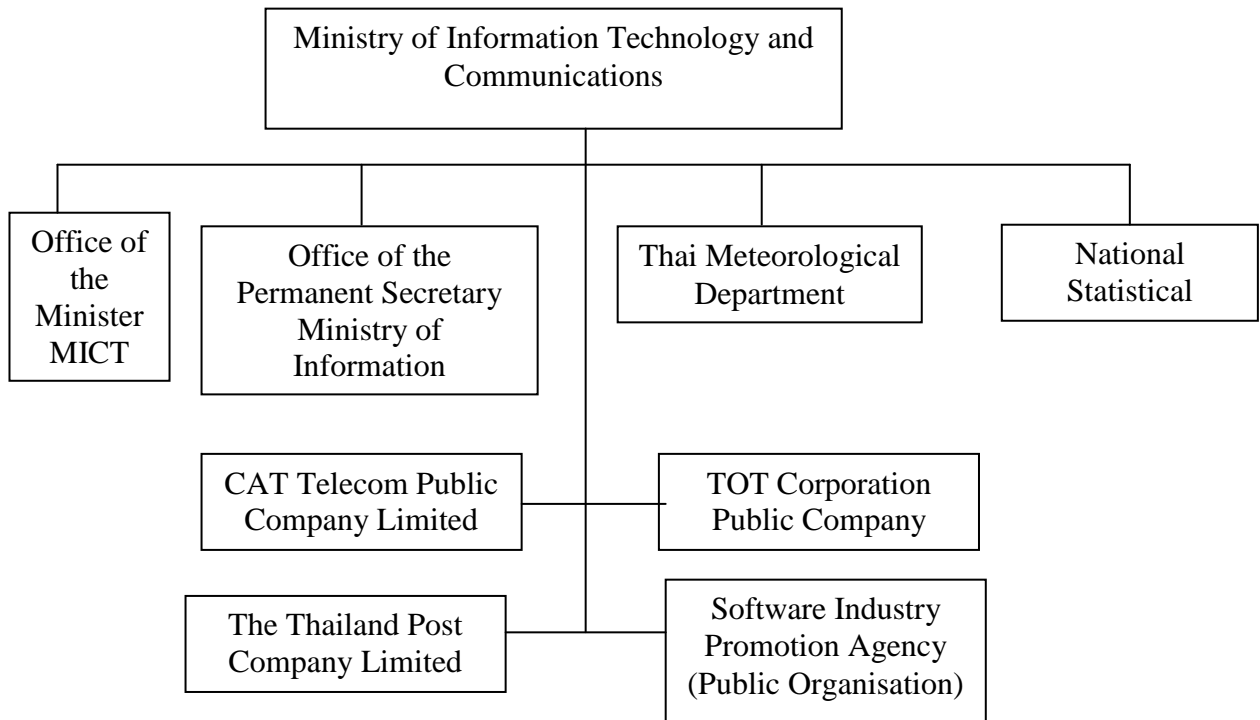
NECTEC and MICT

In 1986, NECTEC was established under the Ministry of Science, Technology. NECTEC was transformed into a specialized national center under the National Science and Technology Development Agency (NSTDA), a new agency following the enactment of the Science and Technology Development Act of 1991. NECTEC's main responsibilities are to support and promote the development of electronics and computer technologies through research and development activities. NECTEC set up ICT development in Thailand in its embryonic stage. NECTEC was assigned to host the secretariat office and to conduct supporting work for the committee of the National Information Committee (NITC) which was set up to develop policies and plans for promoting ICT development and their utilization for economic and social development in 1982. In this capacity, NECTEC has been the driving force in formulating and implementing ICT policies, contributing to the improved quality of life for Thai people as mentioned above (Sirirachatapong & Pooparadai, 2007, p. 3).

In October 2002, the Ministry of Information and Communications Technology (MICT) (see Figure 2.14) was established as part of the bureaucracy reform. The establishment of MICT as the front agency in charge of the national ICT development inevitably led to a declining role of NITC. Although NITC has not been dissolved officially, it no longer has the responsibility it once held previously. Consequently, NECTEC has refocused itself on contributing to socio-economic development via its research and development programme and it has taken up where NITC left off (Sirirachatapong & Pooparadai, 2007, p. 3). The Cabinet approved the development strategies of MICT which had three aims:

1. Improve the living quality and help Thailand's transition into a knowledge-based society.
2. Strengthen Thailand's competitive advantage through the application of technology and communication.
3. Encourage ICT applications in the government sector (Thailand, at the present is rank 4th behind Singapore, Malaysia and Brunei).

Figure 2.14 Ministry of Information and Communications Technology (MICT)



Note From Organisation chart, by Ministry of Information and Communications Technology, 2008.

Summary

Due to the impact of ICT on people's life, economy, society and education, the government had to reconsider human development in terms of preparing people towards a knowledge-based economic and society. Based on the key themes raised in the literature on KBS by UNESCO, OECD and World Bank, it is necessary to educate Thais and provide a public policy to develop a lifelong learning strategy for Thailand. The Thai government's commitment in the *National Education Act* 1999 laid down the legal basis of lifelong learning and ICT development for all Thai citizens. It is mainly responsible for ICT development and application policies in Thailand. The next chapter outlines the resources for lifelong learning and ICT applications as tools for encouraging of ICT in rural communities.

CHAPTER 3

COMMUNITY LEARNING CENTERS (CLCs)

This chapter describes the background, concept and status of Community Learning Centers (CLCs) to provide a deeper understanding of the different perspectives of CLCs in Thailand. The first part provides a review of the responses of some countries in the Asia-Pacific region to a major UNESCO project from 1995-2000. The synopsis of countries illustrates the breadth and focus of these responses as reported by nation states to the UNESCO project. While the veracity of these reports cannot be ascertained, regional experience demonstrates that while some reports will be reasonably accurate, others will be a statement of policy as opposed to a reflection of reality. The second part of this chapter focuses on the policies for, and development of, CLCs in the Thai context, including a brief legal and institutional structure at national level, and the policies at regional and community level.

CLCs background

As society evolves and becomes more complex, the educational system has to be flexible to meet changing needs and problems. Hence many countries promote a non-formal education system to provide basic literacy programs for adults as well as primary, secondary, vocational educational and community development programs for the communities. “The idea of providing an infrastructure and an institutional base for holistic life-long education gradually emerged and became operational through the establishment of local community based Learning Centers organized and managed by the people themselves” (National Resource Center for Non-Formal Education, n.d).

UNESCO APPEAL (Asia-Pacific Program for Education for All) supported implementing CLCs in Asia-Pacific countries to provide quality education, to empower people to develop new skills to enhance living standards and to promote the human, social and economic development of the country. CLCs differ in each country based on the needs and demands of its people (UNESCO, 1995, pp. 1-5).

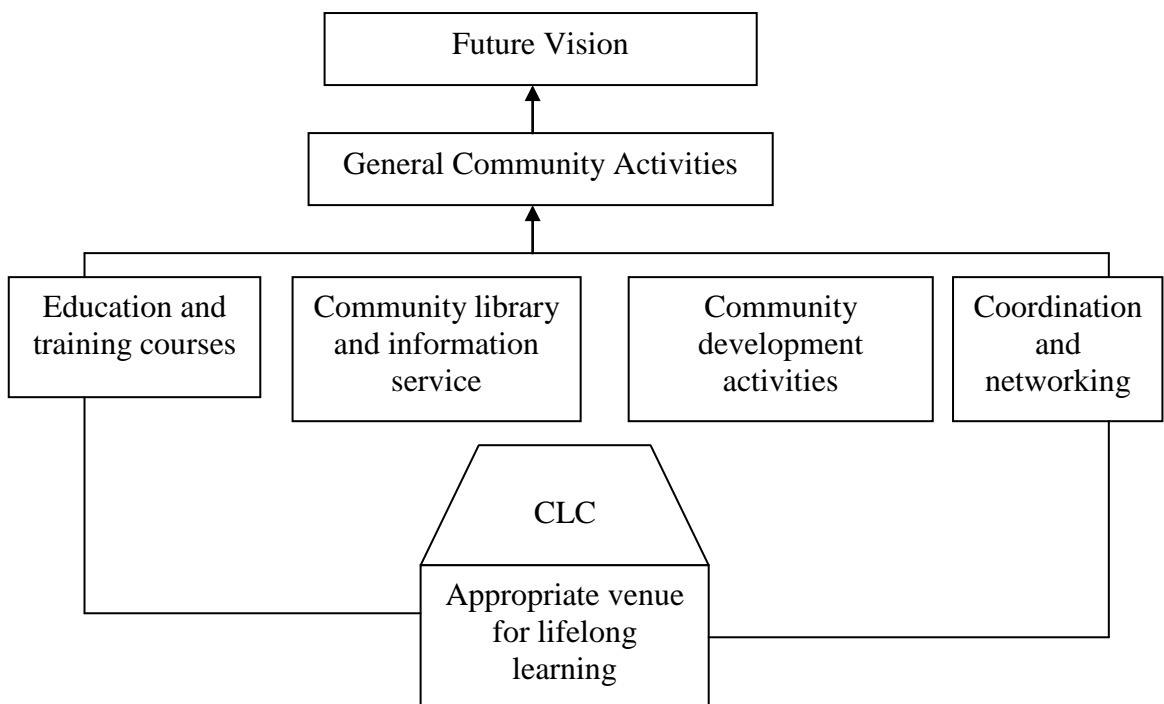
Aim of CLCs

The aim of CLCs, as defined by APPEAL, is empowering people with few educational opportunities and promoting community development and social transformation through lifelong learning for all people including adults, youth and children in the community (UNESCO, 2001a, p. 3).

Roles of CLCs

The CLC's role is to provide education and a range of activities suitable for local people which aims at "empowerment, social transformation and quality of life through lifelong learning, resource mobilisation and social action" (UNESCO, 2001a, p. 4). The figure below shows that the integrated roles and activities of CLCs are linked to a common purpose of promoting lifelong learning.

Figure 3.1 A common purpose of CLC linked to promote lifelong learning



Note: From *CLC regional activity report 1999-2000* (p. 4), by UNESCO, 2001a, Bangkok, Thailand: Asia-Pacific Programme of Education for All.

The diverse operations and functions of CLCs are inter-related to the socio-economic and cultural circumstances of the community. The promotion and management of the centers need to meet the needs of the community. Important CLC functions include:

1) Education and training: CLCs are defined as places providing education for people with inadequate schooling and encouraging people to learn to live in a rapidly changing society. CLCs have to offer a supportive atmosphere to build self-esteem and confidence using non-formal and informal methods. The lifelong learning process must be appropriate and meet the needs of the participants.

2) Community information and dissemination of resources: For example, CLCs can disseminate information on local government services and provide information services that are appropriate and related to the communities' needs.

3) Community development programme and activities:

3.1 General community activities should promote local traditions and social life as well as contribute to the economic well-being of the local people.

3.2 Community development projects should be aware of local developmental needs and provide services which support the community. The purpose of CLCs is to promote human development so their activities should contribute to direct and indirect development.

3.3 Programmes and activities need to be flexible in anticipating the needs of the community and providing a vision of the future.

4) Coordination, co-operation and networking with local government, other government institutions and NGOs to promote lifelong learning activities (UNESCO, 1995, p. 19).

Conceptual framework of CLCs

Although CLCs are established in varied social contexts, the main objective is on learning that enhances the community's quality of life. CLCs should be "multipurpose organisations where education becomes organically linked to all aspects of life - social, cultural, economic and so on" (UNESCO, 2001a, p. 50). CLCs function "as facilitators of a life long learning process, and not consisting of just literacy or post literacy activities. They accordingly are designed to be integrally linked to adult life style and livelihood issues. Thus, CLCs activities attempt to lead the deprived and marginalized towards social and economic empowerment" (UNESCO, 2001a, p. 50). Examples of CLC programmes and activities matched to different social contexts are listed in Table 3.1

Table 3.1 Programmes and activities matched to different social contexts

Development Situation	Example of Social Context.	Possible Activities of CLC
1. Social groups at the level of survival	An isolated hill tribe at a minimum level. High level of illiteracy rate:	Introduction of new cash crops and agricultural training, gradually involving literacy and post-literacy programmes.
2. Underprivileged social groups	Poor rural community with high gender disparity in literacy rate and primary school enrolment.	Increasing access to non-formal education for women and girls and fostering their greater participation in society.
3. Rural development situation	Rural village community dependent on one cash crop.	Focus on continuing education linked to development, such as income generation and quality of life improvement.
4. Society in transition from agricultural to industrial economy.	Generally literate rural community becoming rapidly urbanized.	Continuing education, computer literacy training, equivalency education, and future-oriented programmes.
5. Affluent urban community in industrialized country	Highly literate urban community with more leisure time for most adults.	Advisory service for unemployed youth, and individual interest promotion programmes for retired people.

Note: From *CLC regional activity report 1999-2000* (p. 6), by UNESCO, 2001a, Bangkok, Thailand: UNESCO PROAP.

CLCs function as multi-purpose centers for literacy classes, with vocational skills training based on the needs and demand of the learners including weaving, mushroom cultivation, home science, early childhood care and book keeping (Wangdi, 1999).

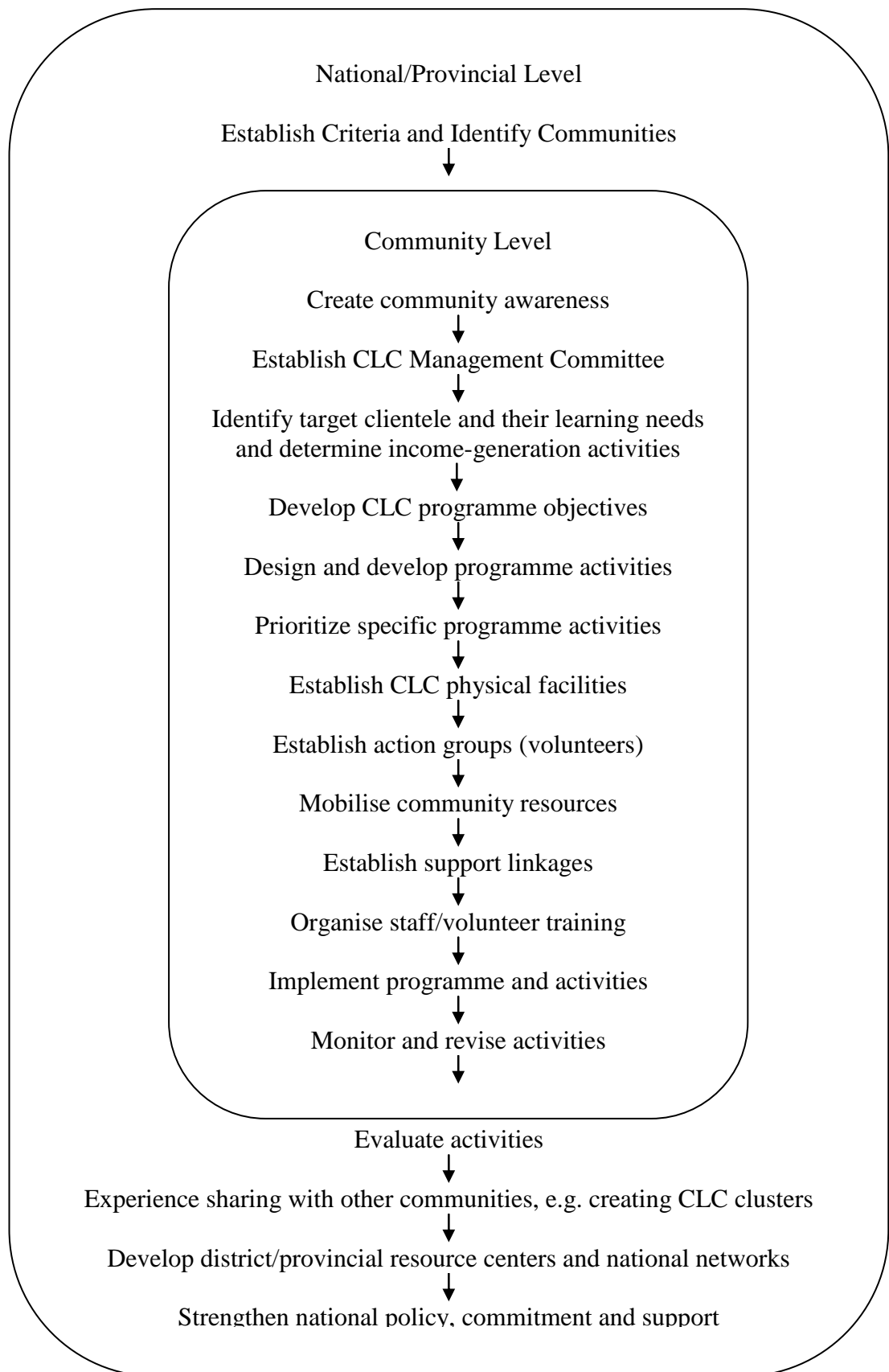
APPEAL defined a CLC as “a local place of learning outside the formal education system. Located in both villages and other areas, it is usually set up and managed by local people in order to provide various learning opportunities for community development and improvement of the quality of life” (UNESCO, 2007, p. 1). CLCs do not require a new infrastructure; they can operate in a temple, mosque, local school, health center or suitable institutional venue. CLCs have been recognised as “delivery

mechanisms of literacy and continuing education programmes through community-based approaches” (UNESCO, 2007, p. 1)

Setting up CLCs

APPEAL’s steps in setting up CLCs, as illustrated in Figure 3.2 below, involve the local community and use existing resources so as to understand the community’s needs and problems.

Figure 3.2 APPEAL's steps in setting up CLCs



Note: From *CLC regional activity report 1999-2000* (p. 5), by UNESCO, 2001a, Bangkok, Thailand: Asia-Pacific Programme of Education for All.

Strategies for developing CLCs

The development of CLCs should focus on community participations. The guidelines for implementing CLCs are summarised below:

1. CLCs should provide education to local people.
2. CLCs should use existing resources in the community such as traditional, natural resources, local wisdoms and valuable resources within the community.
3. CLCs need to build networks and cooperative partnerships with NGOs and governments to provide continuous and diverse activities to meet the needs of local people.
4. CLCs should encourage all local people to participate by sharing ideas, solving problems and participating in evaluation.
5. Activities should integrate lifelong learning processes and benefit their way of life.
6. CLC facilitators should take responsibility for maintaining and managing the CLCs for the centers to continue and be sustainable.
7. CLC committees have to promote, support, monitor, supervise and co-evaluate the CLCs results (UNESCO, 1995; UNESCO, 2001a; ONFEC, 2004).

Establishment of CLCs

In 1995, APPEAL began the CLC project across 18 Asia-Pacific countries with the aim of delivering basic literacy and continuing education. Each country widely differed in “geographical, demographic, ethnic, linguistic and religious characteristics ... Accordingly the Project ... allowed for a variety of activities to be carried out by community learning centres” (UNESCO, 2001a, p. 49). Most countries implemented community-based programme in different areas of development using UNESCO principles and guidelines to set up the structural and management framework. Some programmes were set up directly by government education institutions, others by NGOs and professional institutions.

A common feature in managing CLCs involved local community members organizing and administrating activities based on local demand and conditions (UNESCO, 2001a, pp. 50-53). Implementing CLCs required human, material, and financial resources. Apart from focusing on community participation and ownership, CLCs also promoted the use of existing local materials including knowledge of local technologies, and

integrating indigenous knowledge with modern technologies to maintain the harmony between traditional and modern knowledge. In particular, non-formal education benefitted from the various opportunities to make information technology an integrated part of education, from basic computer literacy to e-commerce using Local Area Networks (LANs) and the Internet (UNESCO, 2001a, p. 68). “Hence, an important challenge was to promote the expansion of technology to rural remote areas and train the local people in the applications of ICT for the purpose of community development” (UNESCO, 2001a, p. 69).

While funding for the pilot projects came from UNESCO, some countries had access to their national budgets and other sources. However, funding projection and availability beyond the initial stage was essential for “continued and expanded implementation of the project” (UNESCO, 2001, pp. 59-60). Though there are not many reports detailing setting up costs, the report, *Myanmar the Community Learning Centre Experience*, estimated the costs of a CLC building and teaching materials at US\$2,400 and US\$2,200 staffing costs (Middelborg, 2002, pp. 26-29).

The CLCs in Asia-Pacific countries

The following CLC projects highlighted APPEAL’s promotion of “contextual design and adaptation to diversity” (UNESCO, 2001, p. 9) to allow for variation and diverse activities across the Asia-Pacific countries. In these examples, I focused on the how to set up and operate the CLCs in Asia-Pacific countries.

Bhutan

In 1992, CLCs pilot projects implemented basic literacy programs in 10 non-formal centers targeting youths and adults with the aim “to provide learning opportunities, a suitable learning environment and infrastructure at a level to promote lifelong learning for human development and self-reliance” (UNESCO, 2001a, p. 13). The CLCs were located in community schools and community halls. The government designed and provided building materials while the community provided the workforce. Their main function was to deliver basic and post-literacy activities for adults as well as skills training, for example, carpentry and agriculture. However attempts to extend activities to health and vocational training were limited and under-utilised due to delays in assistance from supporting agencies (UNESCO, 2001a, p. 13).

Cambodia

The government's policy of decentralization and grassroots empowerment allowed the community to take responsibilities for setting up and managing the CLCs. Due to the high illiteracy rate, their main aim was to promote human development through basic literacy skills training. The CLCs were located in the temples as more than 85% of the population were Buddhists. Monks were often on the CLC committees and this encouraged the villagers to be involved in the CLC. The CLCs also functioned as information dissemination centers for science and cultural education. This model was so successful at providing basic literacy and skills, including profitable tailoring ventures, that this approach was incorporated into its National Policy on Non-Formal Education. Future plans included providing additional skills-based courses to meet the needs of the community and relevant to market demands (UNESCO, 2001a, p. 15).

China

In accordance with the government's poverty alleviation policy, Gansu and Guangxi with their high illiteracy rate and poor rural communities were selected as pilot CLCs areas. The CLC activities focused on literacy and income generation, specifically improving the quality of farming and agriculture. CLCs in Gansu were located in primary schools and the heads of schools and villagers launched the activities together. In Guangxi, due to limited funding from the government and UNESCO, they relied on funding from private organizations and individual donations. The target groups were farmers and minority women. Model households that succeeded in improving their products and productivity became CLC trainers so that the community could learn from them. This model has been used in many parts of China (UNESCO, 2001a, p. 17).

India

A national continuing education unit established and aimed at the grassroots level, the Continuing Education Centre (CEC), was established in 1995 to oversee a group of CECs. As the concepts and aims of CECs and CLCs were similar, the government supported the CLC project. Two villages, with the support of the Indian Institute of Education, established and managed activities related to their agricultural and nutritional needs. The villagers prepared resource mapping and started networking with government and non-government organizations. They then felt more confident in contacting and asking outside organizations for assistance (UNESCO, 2001a, p. 19).

Indonesia

In 1999, APPEAL supported two CLCs initiated by NGOs with the aim of providing alternative non-formal education, increasing educational opportunities, strengthening local communities and institutions. The Western Sumatra CLC targeted rural ethnic minorities, its development-based focus incorporated local wisdom and technology. The CLC in Jakarta Bay, an urban coastal community plagued by environmental problems, focused on environmental education. The government had since used this CLC model to establish over 800 CLCs with the support of local organisations, NGOs and religious institutions (UNESCO, 2001a, p. 21).

Lao PDR

During the early stages of setting up CLCs, a variety of models were tested to identify the most effective model. From the pilot UNESCO CLCs established in 1990 in Lung Nam Thaa Province, the number grew to over 170 CLCs supported by international NGOs and UN agencies to promote literacy, continuing education and vocational training to empower ethnic minorities, women and disadvantaged communities. Future plans include organizing capacity-building for CLCs to strengthen planning, managing, teaching and curriculum development (UNESCO, 2001a, p. 25).

Malaysia

The *Rural Vision Movement 2020* placed a high priority on education and training. Hence, many CLCs or Cyber Putras were set up in urban and rural Malaysia to promote job creation for people living below the poverty line and to provide computer training for income generation. The Cyber Putras adapted APPEAL's Training Materials for Continuing Education Professionals and also developed information technology literacy materials (UNESCO, 2001a, p. 27).

Mongolia

To promote CLCs, as CLCs was a new concept for many people in Mongolia. Booklets on CLCs were made available, and orientation and training programs were conducted in four pilot centers, one in urban Ulaanbaatar and three in rural communities. The pilot project focused on literacy, income generation, community development and health education programs. Future plans included a mobile horseback resources and training unit pilot, and inter-agency collaboration with UNESCO's 'Lifelong Learning Project', UNDP and UNICEF (UNESCO, 2001a, p. 29).

Myanmar

Rural communities had limited access to technical training and education. Many villagers lacked basic literacy and numeracy skills. In 1995, CLC activities linked with primary school activities and kindergartens were set up in poor townships under the Human Development Initiative and supported by UNDP and UNESCO. These CLCs provided libraries, functional literacy and skills training and promoted traditional cultural activities. Capacity building and personnel training were also part of the focus. One innovation was the development of clusters where one CLC served a group of villages (UNESCO, 2001a, p. 31; Middelborg, 2002).

Nepal

There were many on-going literacy, post literacy and continuing education programs for rural communities organised by the government and NGOs. Urban and rural CLCs presented a range of learning opportunities such as agricultural and vocational training, as well as promoting preservation of cultural sites preservation and poverty alleviation programs (UNESCO, 2001a, p. 33).

Pakistan

BERTIs (Basic Education Resource Training Initiatives) serving 40 to 50 CLCs were set up as resource and training centers to provide non-formal primary education to children and activities for adults, especially women, focused on skills training combining literacy and saving and credit schemes. BERTIs provided information technology, i.e the Internet, to co-ordinate their own centers with other organisations. The CLCs' main focus was income generation, developing local human resources and staff training (UNESCO, 2001a, p. 35).

Papua New Guinea

The CLC project was set up in the subsistence-farming village of Ularina, Wewak Township, East Sepik Province, which had more than 50% adult illiteracy and serious health problems. The CLC provided adult literacy courses, elementary education, childcare, sporting activities, fund raising and public awareness campaigns. However, in 2000, the CLC was still not fully functional and construction was still incomplete, as some community members believed that continuing education should be provided by formal organisations, not CLCs (UNESCO, 2001a, p. 37).

Uzbekistan

As Uzbekistan has a high literacy rate of 99%, CLCs focused on encouraging people to access information via the Internet and on parent/teaching training in pre-school education in agricultural and suburban areas. The CLCs offered a range of courses including basic computer courses, English and Latin script, educational support for gifted children and health care activities for children in conjunction with local health organisations. Future plans included preparing a CLC manual in Uzbek and Russian, establishing new technology and information centers, providing family education and population education courses (UNESCO, 2001a, p. 43).

Vietnam

After surveying and assessing the needs of selected communities, four pilot centers were set up in northern Vietnam to provide activities which combined education and skills development to generate income for various groups including literacy classes for women, senior secondary school equivalency programs for youths, indigenous cultural activities and sports activities for younger community members. As a result of community participation in needs assessment, project implantation and monitoring and evaluation, the community became more confident and proactive. Based on successful concepts and methods of the pilot programs, planning was underway to expand CLCs nationally (UNESCO, 2001a, p. 45).

To sum up, the APPEAL summaries of CLCs above were pilot projects to improve basic education, provide vocational training to educationally marginalised groups and use top-down implementation approach. Most of these projects emphasised literacy, post literacy and continuing education. These CLCs managed the education process with a diversity of CLC formats and cooperated with NGOs, Local Governments and religious organisations.

CLCs in Thailand

In this section, I will address and summaries the CLCs in Thailand, including the structure of the organisation, their functions, and the implementation of CLC policy, in order to draw a macro-picture of CLCs in Thailand.

Developing CLCs

In 1972, the Department of Non-Formal Education (DNFE) established CLCs as “village reading centers” and “learning centers” in rural communities. These centers provided current news and information for villagers to promote literacy, especially amongst school dropouts in remote areas. The village reading centers were originally called village newspaper reading centers. They were located at the center of a village for easy access and equipped with newspapers stands, tables, chairs and bookshelves. However some centers deteriorated and others were deserted and poorly managed (Cheunwattana, 1998; Kroo Chao, 1995; Musikapam, 1996).

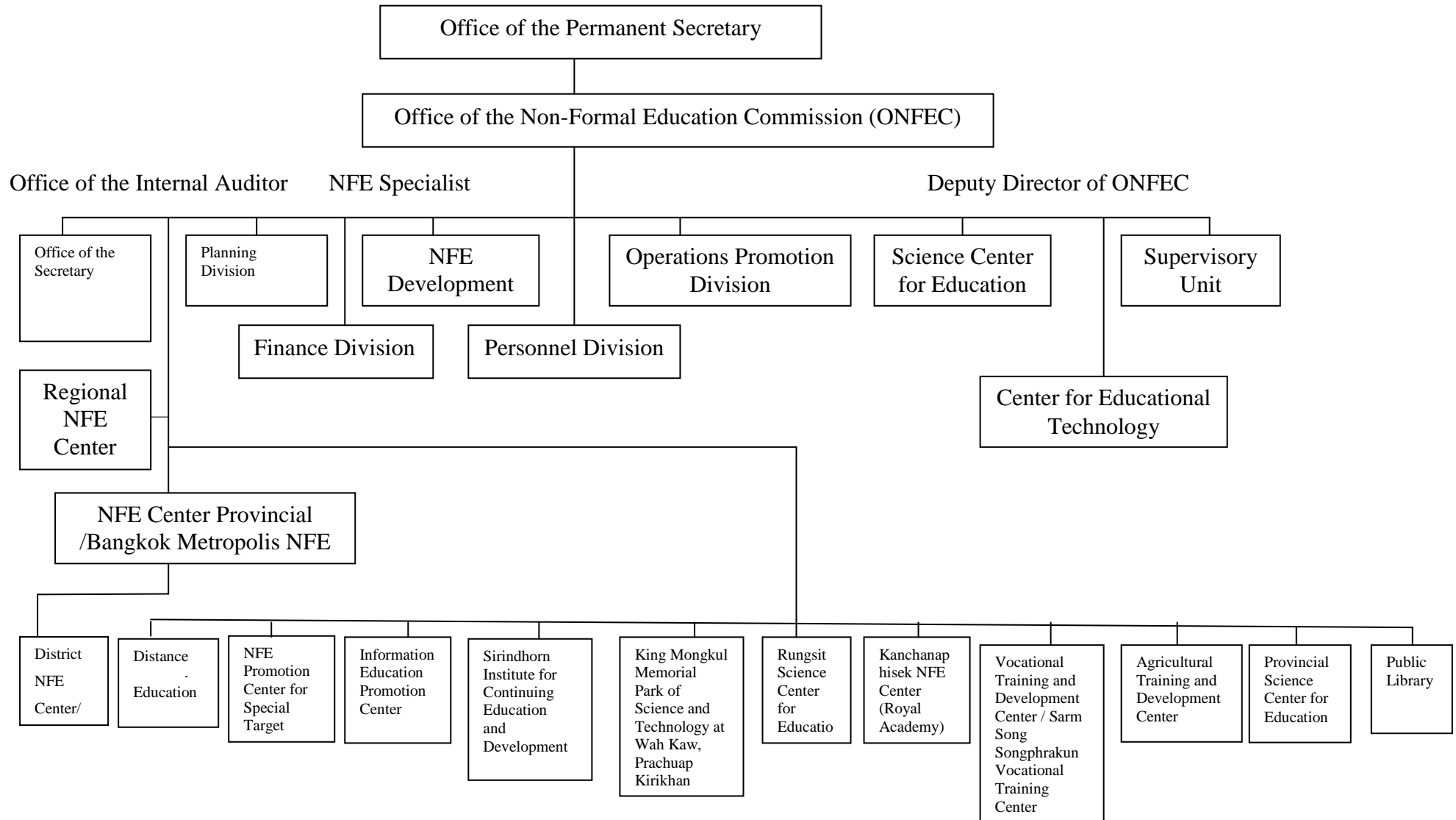
Between 1982 to 1986, the Thai Government promoted the “Nation Literacy Campaign” to encourage people who were out of school to access educational opportunities so as to improve their quality of life continuously throughout their life via a variety of learning materials, media and knowledge resources. The learning centers became non-formal education centers serving rural communities at sub-districts level. The Department of Non-Formal Education (DNFE) was responsible for these projects. As the main aim for establishing learning centers was to decentralize educational management to assist target groups in remote areas, the projects were managed by the District Non-Formal Education Center (DNFEC) (Kaewsaiha & Suwannapitak, 1992; Wattanawong, 1996). The learning centers mobilized resources from existing organisations such as schools, governmental agencies, NGOs, private business and religious institutions within the community (Cheunwattana, 1998).

From 1998, DNFE in collaboration with local communities established CLCs in all 76 sub-districts. APPEAL supported the DNFE and Rajabhat Institute in creating a tertiary non-formal curricula and textbooks on micro-planning and community development, modified for the TAO, the village committees and for the community people (UNESCO, 2001a, p. 41). APPEAL assisted Thailand’s efforts at establishing learning

communities and community-based programmes that combined non-formal education and skills training to generate income, alleviate poverty and empower disadvantaged groups (Pyakuryal, 2000).

As the main function of the CLCs is provision of non-formal education, the ONFEC had a key role in organising activities through the provincial and district NFE centers and CLCs (see Figure 3.3 Organisational Structure of ONFEC)

Figure 3.3 Organisational structure of the Office of the Non-Formal Education Commission



Note: From *Longitudinal development of non-formal education in Thailand*, ONFEC, 2006 p. 62

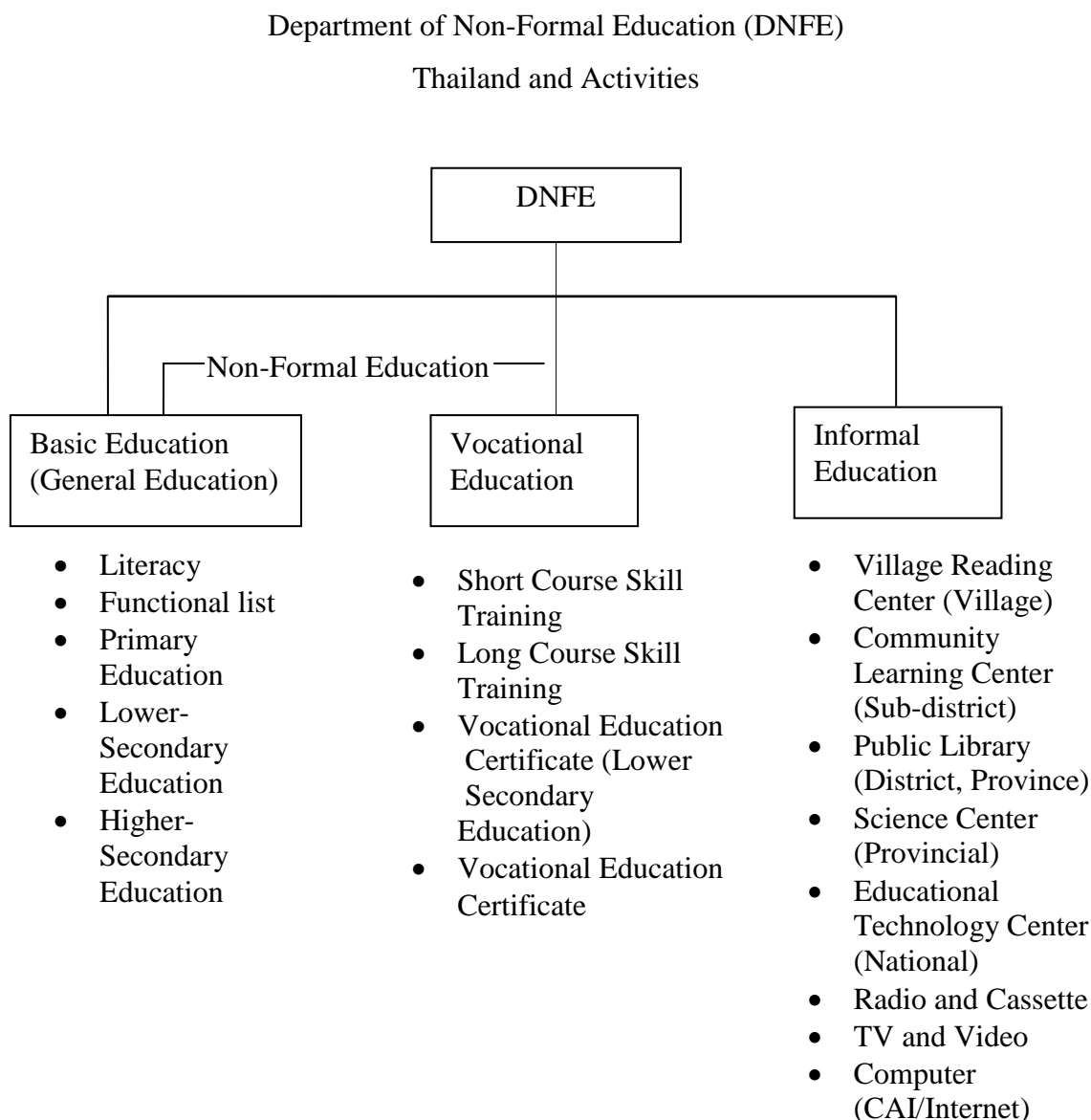
The organisational structure of ONFEC consists of the central office in Bangkok and regional, provincial, and district level departments, including:

- 1) Office of the Non-Formal Education Commission comprising eight divisional main offices at the national level, which include the Center for Educational Technology.
- 2) Non-Formal Education centers at regional, provincial, district levels consisting of:
 - 5 Regional Non-Formal Education Centers; North, South, East, Northeast and Central centers serving as research and development centers for their region.
 - 12 Provincial Non-Formal Education Science Centers providing science education and knowledge for general population.
 - 7 Vocational Training Centers offering skills training and part of many Royal projects enjoying royal patronage and donations. These royal projects and their development plans are graciously initiated by the Royal members themselves, and remain under royal supervision.
 - 175 Non-Formal Education Provincial Centers, this also includes the Bangkok NEF centers.
 - 895 Non-Formal Education District Centers providing NFE programs and activities for adult and youths, this includes 845 public libraries at provincial and district level (Siltragool, 2007, pp. 4-5).

In addition, the *1997 Constitution* in Chapter V Fundamental State Policies was promulgated to “***improve education to be in harmony with economic and social change***” (Section 81) (see Figure 2.5). This section provided guidelines for education in Thailand especially non-formal education activities and the expansion of the non-formal education services. The *National Education Act 1999*, which is the education master plan for the country, states that education is a “learning process for personal and social development through conveying of knowledge, practice, training, transmission of culture, enhancement of academic progress, building a body of knowledge by creating a learning environment and society with factors available to conduct continuous lifelong learning” (Owusu-Boamong, 2007, p. 165). Hence the government is committed to educational reforms to keep up with economic and social changes (Tichuen, 2003) and to empower the Thai people to adjust as Thailand transforms into a knowledge-based society and economy. The *National Education Act 1999*, section 18(3) (see Figure 2.9 Education System) highlights the need to establish learning centers throughout the

country to encourage lifelong learning. Furthermore, this section emphasises collaboration with public and private sectors, families and the use of local wisdom. In line with this policy, 8,691 community learning centers were established with the support of various organisations, public and private sectors (Owusu-Boamong, 2007). These centers, under the Department of Non-Formal Education (DNFE) which is responsible for promoting and developing adult learning and the policies for non-formal and informal education, provide programmes such as basic education, education to improve quality of life, education for community and social development, information education services, and education for occupational development and income generation (see Figure 3.4).

Figure 3.4 DNFE tasks



Note: From Promotion of literacy and continuing education through community learning centres (CLCs): Thai experience, Somtrakool, 1999b.

Figure 3.4 shows that the DNFE has three main tasks of promoting and developing adult learning and ensuring that the out-of-school population has opportunities to learn by themselves. The activities were divided into three categories:

1. Basic education involves literacy promotion, basic education equivalency program for continuing education. The activities aim to develop skills in reading, writing calculating and problem solving process.
2. Vocational education provides skill training, focusing on developing skills for occupational development and income generation to improve quality of life.

These activities were provided by DNFE in collaboration with other organizations such as Ministry of Labor and Social Welfare, Ministry of Industry and Ministry of Public Health (see the details in page 83 regarding the supportive role of other government and other agencies).

3. Information services provide knowledge and educational opportunities through mass media or resources for people to access information for lifelong learning.

CLCs in Thailand

CLCs in Thailand are educational organisations that provide and promote lifelong learning activities and learning for local people in rural and urban areas. These local education centers are set up and managed by local committees to develop the community and to improve the quality of life. They aim to support villagers who lacked schooling opportunities by providing a variety of services and learning activities to meet the needs of local communities. They also promote self-study programmes to encourage self-reliance in the community. The CLCs also encourage exchanging experiences and ideas between learners and the community, including local experts. Furthermore, some CLCs provide educational technology media for self-study and to enable remote communities to learn at their own pace (ONFEC, 2004; Somtrakool, 1999a; Pyakuryal, 2000;).

CLCs' objectives

CLCs in Thailand aim to be centers for non-formal and informal education that promote learning opportunities, conduct activities that meet the needs of local people, encourage learning processes based on the local way of life and support decentralization and management of CLCs in their communities (Masaeang, Imsuwan and Kongsanae, 2000).

CLCs' principles

In 2004, ONFEC's document, *Guideline framework for development of community learning centre towards lifelong learning centre*, suggested the principles to develop CLCs:

1. With the support of local, district and provincial administration organisations, CLCs should belong to, be managed by, and benefit the local people.
2. CLCs are educational centers that promote lifelong learning, create learning opportunities to encourage self-development, self-reliance and self-study, and provide educational technologies and materials from existing sources in the community.
3. CLCs should be a flexible open system so that users may access educational technologies and materials at any time at their convenience.
4. CLCs provide vocational and educational services for local communities.
5. CLCs need to cooperate and connect community learning resources with natural resources to develop educational networks.
6. CLCs' strength lies in the potential of NFE teachers, volunteers and community participation in promoting, supporting and meeting the learners' needs (ONFEC, 2004) as well as a management system capable of providing a variety of learning situations and learning media.

Apart from emphasizing community participation, ONFEC also suggested other strategies for developing CLCs:

1. Local community serves as a base for conducting and implementing education.
2. Utilize local community resources such as technical knowledge, natural resources, cultures, traditions, local wisdom and other valuable resources in the community.
3. Collaborate with other organizations to create a network of educational resources to meet the needs of the community.
4. Encourage community members to participate in CLCs and share ideas and knowledge to solve community problems.
5. Incorporate lifelong learning processes to fit the community way of life.
6. CLC and NFE staff should be committed to promoting, supporting and conducting learning activities continuously.
7. CLC board of committee takes responsibility to promote, support, monitor, supervise and co-evaluate the implementation CLC.

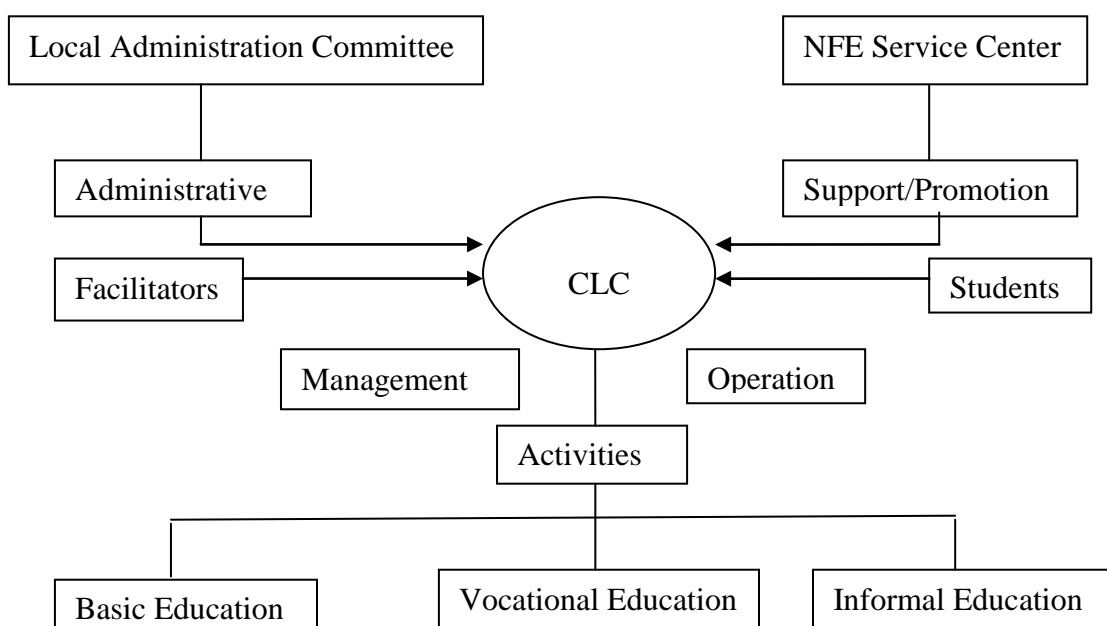
Furthermore, ONFEC advocated that the facilitators regularly approach the community to develop new activities for the CLC. Other factors contributing to the effective implementation of CLCs include:

1. Location should be convenient and provide easy access to services.
2. CLC committee members should be elected from the community and dedicated to the development of their community and be supportive of the acquisition of equipment, personnel, budget and basic information resources needed to support learning activities.
3. NFE facilitators should take full responsibility to promote, support, and organize learning activities.
4. Target groups which include the general public and students of formal and non-formal education should be able to access knowledge exchange services and also co-host learning activities in their communities and nearby communities.
5. Materials such as textbooks, magazines, newspapers, pamphlets, flyers and maps, electronic media including computers, televisions, radios, CDs, VCDs, and DVD players, as well as essential facilities, for instance, working tables, chairs, reading tables, book shelves, newspaper racks and book storages should be available. These materials were provided by DNFE to CLC.
6. General community information and local knowledge resources as well as information on education and vocational advice should be provided.
7. Organizations responsible for managing CLCs, including local administration organizations and all NFE centers at district and provincial levels, should continually promote, support and monitor the implementation and development of CLCs.
8. Learning activities include:
 - 8.1 Literacy promotion.
 - 8.2 Basic education provided after literacy program.
 - 8.3 Basic education equivalency program.
 - 8.4 Vocational development to generate income.
 - 8.5 Education for life quality and life skills improvement, e.g. exercise, narcotics prevention, physical health and hygiene, use of free time, personal ethics and morals etc.
 - 8.6 Education for social and community development to strengthen the community, including vocational development groups, community enterprise groups etc.
 - 8.7 Informal education based on the community's needs and interests.

8.8 Education for the future should cater for future trends such as use of the Internet and computers or other short term training courses on visions, modern work and foreign languages (ONFEC, 2004, 2006).

These components are illustrated in Figure 3.5 which shows the CLC roles and activities in conjunction with the committees and NFE facilitators. CLCs provide the grassroots with learning and management opportunities. All activities should be conducted with the needs of the target community in mind and the target group should participate in selecting the learning process and educational activities. The government should provide support so that the community can manage and sustain their learning plans and activities.

Figure 3.5 Framework of CLCs' roles and activities

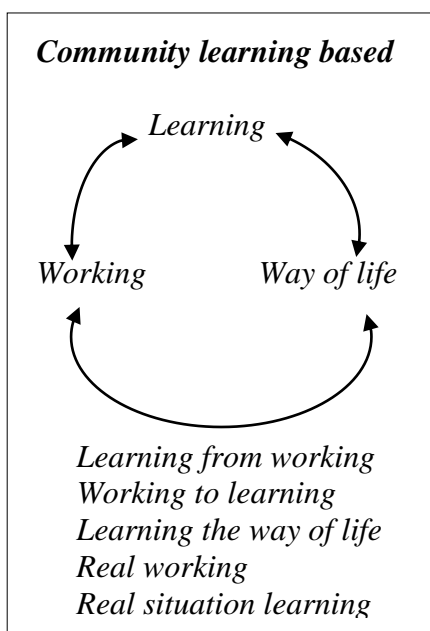


Literacy
 Primary Education
 Lower Secondary
 Education
 Upper Secondary
 Education

Short course skill
 training
 Lower Secondary
 Vocational
 Education
 Upper Secondary
 Vocational

Printed materials
 Nonprinted materials
 Activities

Focus on the real context situation
 Democracy
 Economic communities
 Education
 Public health & hygiene
 AIDs
 Drugs
 Environment



Target Groups
 Children & youth
 Older people
 Disable people
 Women
 Immigration

Note From: *Promotion of literacy and continuing education through community learning centres (CLCs): Thai experience*, Somtrakool, 1999b.

situation of the community.

However CLCs play a major role in education training, disseminating information and resources in communities, community development and establishing networks to ordinate and link between government and NGOs.

Types of CLC in Thailand

The Thai government planned to establish CLCs in every sub-district. There are two types of CLC in Thailand (Somtrakool, 1999a):

1. Institution-based CLCs are part of existing office buildings such as schools, factories, temples, churches, community halls etc.
2. Community-based CLCs are established by the community and belong to the community. The community contributes to the budget, forming the committee to manage the CLC while the government supports the budget and educational resources for conducting activities.

In 1999 existing CLCs in Thailand were organized in various forms depending on their locations (Somtrakool, 1999a):

1. District CLCs were established by the Department of Non-Formal Education (DNFE). These CLCs provided various kinds of learning activities, e.g. literacy learning activities, equivalent and continuing education, income generation activities etc. The centers functioned as a training place for non-formal education activities and as local curriculum production centers of DNFE.
2. Local CLCs were established by local authorities with educational media support, both hardware and software, from DNFE. DNFE and TAO committees contributed funds to support learning activities.
3. CLCs in factories and offices were established in buildings within factories or government organizations such as CLCs in prisons, CLCs in military bases. These provided non-formal education activities to support personnel. DNFE would provide educational media, personnel resources and some funding while the office and factory owners contributed and managed the budget.
4. Special CLCs were established by DNFE for specific functions for the general public, eg, science centers, educational museums, computer centers, aquariums, agricultural training and development centers, hills area education centers, community centers for women etc.

CLCs' budgets

According to the *ONFEC Annual Report 2006* (ONFEC, 2007), there were 8,691 centers throughout Thailand, many established at district and sub-district levels. However, the report, *Community Management*, (Department of Non-Formal Education, 1998, p. 2) stated that CLCs were operating at a low level and this contributed to the high failure rate. In addition, Neru's paper (1996) *Trend of Community Learning Center*, found that CLCs should survey the communities' readiness in its planning stages. Research on management of CLCs in northeast Thailand found that limited budgets, educational technologies materials, work plans and public relations affected the effectiveness of CLCs (Ooncharen, 1999; Phetchantak, 1998; Vipax, 1999). Furthermore, the government had allocated the lowest percentage of funds to NFE compared to all other educational functions (see Table 3.2), an indication of the significance of NFE in the government's planning.

Table 3.2 Percentage distribution of educational budget by function

Fiscal Year	Pre-primary/ primary Education	Secondary Education	Higher Education	Non-Formal Education	Other Education	Support Education
1999	43.9 %	24 %	17.1 %	1.4 %	2.7 %	10.9 %
2000	43.6 %	23.5 %	15.6 %	1.3 %	2.9%	13.1 %
2001	44 %	24 %	15 %	1%	3 %	13 %
2002	44 %	24 %	14.4 %	1.5 %	3 %	13 %
2003	41.8 %	27.6 %	14.2 %	1.4 %	2.9 %	12.1 %
2004	44.5 %	27 %	13.3 %	1.4 %	2.1 %	11.7 %

Note: From *Longitudinal development of non-formal education in Thailand*, ONFEC, 2006, p. 56

Supportive role of government and other agencies

ONFEC received cooperation and funding from many government ministries and NGOs to provide educational activities promoting the quality of life for communities. NGOs actively assisted ONFEC in providing vocational training programs for disadvantaged groups and out-of-school adults and several government organisations and ministries provided non-formal education services that are relevant to MOE (Owusu-Boamong, 2007). Examples of collaboration in both educational and social development programs among ministries and ONFEC included the Prime Minister Office, Ministry of Defence, Ministry of Interior, Ministry of Public Health, Ministry of Agriculture and Cooperatives, Ministry of Industry, Ministry of Labour and Social Welfare, Ministry of Transport and Communication, Ministry of Science, Technology and Environment, Ministry of Commerce, Ministry of Justice, Ministry of Foreign Affairs, Ministry of Finance, and Ministry of University Affairs. These collaborations resulted in increased income and business promotion as well as learning opportunities for workers (ONFEC, 2006, pp. 8-10).

CLCs and ICTs

UNESCO APPEAL's survey on NFE use of ICT found that ICTs were potential tools for effective community development (UNESCO, 2005, p. 2). The Thailand ICT Master Plan (2002-2006) emphasised human resources development by applying ICT in education and training, and strengthening rural communities to achieve sustainable national development. ONFEC's ICT plan focused on facilitating lifelong learning of Thai people by improving the quality of ICTs services and providing ICTs infrastructures for local learning centers. ONFEC also aimed to develop various electronic learning materials to improve the quality of distance education, promote e-learning, develop e-books and establish e-libraries. Hence, ONFEC played a vital and cooperative role with government organisations, NGOs and local communities to improve the ICT infrastructure in local centers through resource sharing (Khankhow, n.d). A pilot project between Massachusetts Institute of Technology Media Lab and DNFE in the northern region of Ban Samkha Hua Sau, Mae Tha District, Lampang Province, involved the use of ICT and setting up a computer laboratory for computer training for villagers, especially youths and children (UNESCO, 2005). Another project was established in Ban Lim Tong, Nong Rong District, Buriram Province in northeast

Thailand. This collaborative project between Suksupantana Foundation, DNFE and volunteer teachers developed learning activities for poor families who had only finished Grade 4 elementary school by encouraging the families to keep daily income and expenditure records so that they could analyse the causes of family poverty using Microsoft Excel (ONFEC, n.d., pp. 26-30).

CLCs promote increased learning within a community, offer informal and non-formal learning support for individuals of all ages, widen distance learning opportunities and introduce computer technologies as a first step toward participation in the globalisation age. A key factor in transforming Thai society into a knowledge-based society and economy relies on the effective adoption of ICTs in education, lifelong learning, health, employment, environment and other aspects that enhance the quality of life for the community. Centers that adopted a top-down approach and were not highly regarded by their community failed. However as a result of their close relationship to the community, their small size, their intensity and commitment, many NGO projects have succeeded, especially in adopted ICTs. (Dorsey, 2003).

Summary

The concept of the CLCs in Thailand is still based on literacy and combines non-formal education and skills training for income generation, poverty alleviation and empowerment for local communities. Initially, CLCs were established as educational organisations by government organisations and NGOs to provide lifelong learning and training for people who are out of school, as well as for community development activities that focus on community participation. Depending on the feasibility study and location, CLCs activities are designed to meet the needs of the target groups.

The next chapter will present the research methodology that describes the multi-methods carried out in the fieldwork.

CHAPTER 4

RESEARCH METHODOLOGY

This section will scope the qualitative and quantitative research methodologies in the context of my thesis parameters, including the reasons for choosing these methodologies. It will outline my past research experiences in this field which involved two case studies in rural communities in northeast Thailand. The focus group method was used to collect data and an analysis of the data follows. A discussion of ethical considerations in the research process and a road map of research are also included.

Past research experiences

I had dealt with some local administrative government officials and processes in the Kalasin, Roi Et, and Maha Sarakham Provinces as I was a member of the research project, Community Information System Management 2002, which created the databases for the Tambon Administrative Organisation (TAO) This project used quantitative methods for data collection and analysis. This was also true of most of my past research experiences which used statistical tables for analysis rather than presenting findings in narrative forms. From my past research experiences, numbers can compute accurately and when used appropriately, measure opinions or concepts. Qualitative research, on the other hand, is a complicated and difficult process especially with regard to interpretation. Therefore I had disregarded the qualitative approach previously.

Qualitative and quantitative research

The two approaches that are generally used to collect information for research purposes are the qualitative and the quantitative research methodologies (McCracken, 1988). The most obvious difference between the two methods is the usage of numbers and statistics in the quantitative method, whereas the qualitative method classifies data found through observations. Patton (2002, pp. 59-60) suggested that researchers should understand the complexity, dynamics, and multi-dimensional “wholes” as features of qualitative and quantitative research. In Table 4.1 below, Easterby-Smith (1991, p. 27) and Amaratunga, Baldry, Sarshar, and Newton, (2002, p. 19) summarized the main differences between the key features of quantitative and qualitative research.

Table 4.1 Differences between the features of quantitative and qualitative research.

Theme	Quantitative	Qualitative
Basic beliefs	The world is external & objective	The world is socially constructed & subjective
	Observer is independent	Observer is part of what is observed
	Science is value-free	Science is driven by human interests
Research should	Focus on facts	Focus on meaning
	Look for causality & fundament laws	Try to understand what is happening
	Reduce phenomena to simplest elements	Look at the totality of each situation
	Formulate hypotheses & test them	Develop ideas through induction from data
Preferred method in the research	Operationalise concepts so that they can be measured	Using multiple methods to establish different view of the phenomena
	Taking large samples	Small samples investigated in depth or over time

Note. Adapted from Easterby-Smith, 1991, p. 27 and Amaratunga, Baldry, Sarshar, & Newton, 2002, p. 19.

Qualitative research

Concept

Qualitative research has its origins in the social sciences and is grounded in the belief that all human experience is filtered through perception and, consequently, human social reality is subjective. For example, no human reality exists outside of perception.

Qualitative research includes inquiry with vastly different disciplinary, philosophical, theoretical, social, political, and ethical commitments, and researchers often have very

different views of how to implement similar kinds of qualitative research. There are postpositivists and constructivists, feminists and Marxists, and nurses, educators, and anthropologists conducting grounded theory, phenomenological, ethnographic, and narrative studies.

Qualitative research seeks to understand phenomena in a specific context and setting, accepts the complex and dynamic quality of the social world and qualitative purposes underlying meaning and patterns of relationship (Babbie, 2007, pp. 132-133).

Meaning

Qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Denzin & Lincoln, 1994, p. 2).

Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss & Corbin, 1990, p. 17). Jacob (1988), an educational researcher, suggested that qualitative research is a generic term for investigative methodologies described as ethnographic, naturalistic, anthropological, or participant observer research. The central concerns of interpretative qualitative research paradigms are to understand human experiences at a holistic, interconnected and process level. Sandelowski (2000) and Malterud (2001) believed that qualitative research is a systematic and reflective process for the development of knowledge and adapted a grounded theory, phenomenology, and ethnography inquiry.

Value

Yet qualitative research is valuable for measuring "what people want or say they want and for answering why they behave in the certain way" (Tenopir, 2003, p.16) Furthermore, Bogdan & Biklen (2006, pp. 40-43) recognized that qualitative research can set up strategies and procedures to enable researchers to consider experiences from the informants' perspectives. Therefore qualitative methodology contends that

subjective human reality is best understood through inductive reasoning and data collection in unstructured natural settings through observation or participation.

There are many perspectives on why researchers employ qualitative research. Sofaer (1999, p. 1104) indicated that qualitative research is useful in constructing and developing theories and conceptual frameworks. Denzin, and Lincoln, (2003, p. 13) emphasized the “socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry”. The human experience cannot be measured by numbers or sufficiently described by manipulating, measuring, or controlling variables (Denzin & Lincoln, 1994). Maxwell (1996, p. 75) pointed out that qualitative research is appropriate to answer questions regarding the meaning of a situation, the context of an event, exploring new areas of interest, understanding the process that brought about a situation, and exploring causal relationships.

My study needed to investigate underlying feelings, attitudes and motivations. Qualitative research is suited to understanding the needs of the participants and leads to an understanding of why they are happening. Qualitative research uses a small segment of population or group of people who have similar characteristics. Below are the reasons why I selected qualitative research:

To identify and explore concepts.

To identify behavior patterns, beliefs, attitudes, opinions and motives.

To identify problems in depth and develop models for further research.

To establish priorities amongst categories of behavior, beliefs, opinion and attitudes. (Hague, 1988, p. 76)

Research methods

In this section I will explore the qualitative approaches suitable for my study.

Instruments for exploration

Due to the nature of qualitative research, investigations related to this methodology are often connected with methods such as in-depth interviewing, participant observation and

the collection of relevant documents, which in turn generate qualitative data such as transcripts or text. Maykut and Morehouse (1994) stated that:

The data of qualitative inquiry is most often people's words and actions, and thus requires methods that allow the researcher to capture language and behaviour. The most useful ways of gathering these forms of data are participant observation, in-depth interviews, group interviews, and the collection of relevant documents. (p. 46)

Qualitative researchers are found in many disciplines and fields, using a variety of approaches, methods and techniques to research to capture life as it is lived. They believe that a good way to understand a phenomena is to study it in its context and become immersed in it (Miles & Huberman, 1994). Long & Godfrey (2004, p. 183) also agreed that qualitative research could embrace studies using multi-methods such as interviewing, focus groups, ethnography, participant observation, documentary analysis and life histories to understand and explain social phenomena.

To gain the information necessary to answer my research questions, I applied a variety of techniques using secondary documents, surveys, focus groups, interviews, observations, telling stories, workshops, and study trips in my case study. The differences in methods are associated with differences in the kind of data collected and the analysis permitted.

These methods together and their strengths and weaknesses are described briefly below.

Secondary document analysis

The key documents analysed in my study were government documents. These secondary documents included meeting notes, annual reports, newspapers, articles, official documents, and memos with emphasis on education and Information Communication Technology (ICT) policies and fundamental data on each village. These documents proved valuable, not only because of what could be learned directly from them, but also as a stimulus for a path of inquiry (Patton, 2002, p. 294). These documents helped with social descriptions, capturing historical perspectives, and commenting on what does and does not happen. However I was aware that Patton (2002, pp. 498-499) warned that it would be difficult to gain access to some important

documents, to understand how and why some documents were produced, and to determine the accuracy of document.

My decision to use government documents assisted me in understanding government projects aimed at the enhancement of rural people, especially in term of human resource development. I was interested in how those projects had been undertaken and to then compare these claims with outcomes I could observe.

Survey

A survey is a method that is applicable for gathering basic data in a community. Initially I used this method mainly to investigate general community data, especially establishing the views of local people on specific issues (Gothberg 1990, p. 553). The questionnaire employed a primary tool that identified reliable population data, geographical location, economic profile, education and public health, infrastructure, places of interest, organizations and community problems. This information gave me more contexts about the communities that I was researching. In addition, the survey method gave the research team an indirect benefit of establishing rapport between the researchers and the participants.

Strengths

The main strength of surveys is that they typically use statistical sampling to make inferences about a general population, average incomes etc. It also enables comparison of the findings of a particular survey with those from another, and with other data sources (Burns, 1998, p. 496).

Weaknesses

Survey-based approaches are typically closed form, meaning that they will not gather information that was not explicitly inquired about. They are probably more suited to collecting data that is relatively simple or easy to quantify, and less suited to gathering information that is highly nuanced or covers “intangibles” (Borg & Gall, 1976).

Focus groups

Focus group methods draw upon the respondents’ attitudes, beliefs, experiences and reactions to complement observation, one to one interviewing, or questionnaires surveys (Krueger, 1994, pp. 16-21). According to Patton (1987) the purpose of using a focus

group interview as a data collection technique is to gather “high-quality data in a social context where people can consider their own views in the context of the views of others” (p. 135). It is also appropriate for obtaining information, generating research hypotheses, stimulating new ideas or concepts, diagnosing problems with or gathering information about services or programs, providing terminology appropriate for the research, and interpreting experimental results (Stewart, Shamdasani & Rook, 2007, pp. 41-43).

A focus group discussion is a moderated discussion about a defined set of topics among participants who share key characteristics like age, gender, or job. Focus groups typically last for one to two hours, and the conversation is usually recorded so that details can be reviewed later. In a focus group discussion, participants talk under the guidance of a moderator who keeps the discussion focused, ensures that everyone participates, and tries to encourage the participants to discuss topics in-depth. The number of groups conducted depends on the target population. If the target population is homogeneous, fewer groups are needed. If the population were diverse, generally two to four groups would be needed for each important subgroup (Krueger, 1994; Stewart, Shamdasani & Rook, 2007)

Strengths

Focus groups are useful for finding out how participants behave and why they behave as they do. They are reasonable to conduct and quick to arrange. Generally the whole process of planning, recruiting participants, holding discussions, and analyzing data can take place in as little as two to three weeks. The focus group technique offers several advantages over other techniques for obtaining several perspectives about the same topic, gaining insight into people’s shared understandings of everyday life and the ways in which individuals are influenced by others in a group situation as well as the ways in which individuals attempt to voice their differing views from the group view (Krueger, 1994, pp. 34-36; Morgan, 1996, pp. 134-135).

Weaknesses

There are weaknesses inherent in the focus group format because participants are not chosen randomly. Furthermore since only a few groups are held, opinions and attitudes may not represent the larger population. The success of focus groups depends on the skill of the moderator in encouraging meaningful discussion among participants. In

addition, the analysis of focus group data can be very subjective and highly influenced by the biases of the analyst. In fact, some discussions may bias or overstate feelings of certain participants, or they may be dominated by a few strong-willed individuals (Krueger, 1994, pp. 36-37).

Interviews

Interviews are an important data collection tool, conducted either face to face or over the telephone. This technique allows the researcher to probe the respondents on a one-to-one basis and to elicit more details (Kvale, 1996; Cradall, 1998).

Strengths

Interviews are particularly useful with less educated or illiterate respondents. This data collection method helps establish trust between the interviewer and respondent. Interviews have an ability to solicit in-depth information that leads to deeper understanding, garners support for the programs, provide an inside view, and expand on viewpoints or clarify information received from other sources. Interviews can generate unexpected insights, new ideas and information because the topics covered depend on the opinions and feelings of the respondent ((Kvale, 1996; Cradall, 1998, p. 156).

Weaknesses

The weakness of in-depth interviews is that they are more time-consuming compared to using structured questionnaires. The analysis of large amounts of open-ended data can be difficult, and key informants may say what is socially acceptable or what they believe the interviewer wants to hear. To use this method effectively, interviewers must be well trained to avoid bias and be well informed about the material discussed (Kvale, 1996; Cradall, 1998, p. 156).

Observations

The observation methodology is used to record the behavioural patterns of people, objects and occurrences without questioning or communicating with them (Patton, 2002, pp. 259-332).

Strengths

A great deal of useful information may be obtained by simply observing people and phenomena rather than by conducting interviews. This method is a feasible way to gain

insights about behavior that are impossible for an outsider to obtain. The observation technique can provide greater insights than an actual survey technique (Boyd & DeVault, 1966).

Weaknesses

The observation technique does not provide researchers with any insights into what the person may be thinking or what may motivate a given behavior (Boyd & DeVault, 1966).

Workshops

A workshop is an activity that is useful for the exploration of data. “Workshops are a series of learning experiences and work sessions. Small groups of people meet together over a short period of time to concentrate on a defined area of concern (Knowles, 1980, p. 136). This activity provides opportunities to experience and grow in an area of research interest with a group of people. During these workshops, data is gathered through observation, notes, verbal evaluation, and photos. The workshops function as laboratories focusing on learning new methods. They are often used when there are different points of view about a particular issue (Wood, 1997).

Strengths

Workshops encourage communication and acceptance of other viewpoints. These are useful when the solutions to problems are not clear. They are suitable for small groups where there are common interests or concerns.

Weaknesses

Workshops can be dominated by forceful individuals.

Telling stories

The life story method allows the participants to re-tell important events that occurred in their village and in the past. This method helps the researcher to understand their situations in different time periods. The participants told me of important events which had occurred in their village in the past. In this way we were told the life story of the village including critical or difficult events (Patton, 2002, pp. 115-118).

Study trip

The study trip provides an opportunity to broaden one's knowledge base. It has immense value in providing comprehensive knowledge and understanding of the history, geography, economy, lifestyle and culture. The study trip is characterized by enthusiastic and almost pioneering activities (Rudmann, 1994).

Research design

This step will describe the research team formation, the selection of areas, approaching the participants, motivating them and showing them how to obtain ICTs, and computer literacy. This is the research preparation gathering process before collecting data to study.

Research team

The fieldwork employed qualitative research methodologies including focus groups, interviews, and survey techniques designed for data collection. These approaches required assistant researchers such as moderators, recorders, and transcribers. Most of the assistant researchers were postgraduate students in the Information Science Department, Faculty of Informatics, Maha Sarakham University. Six students took responsibility for recording tapes and videos, note taking, taking photos and arranging meetings. Two of them had been assistant researchers in the university and the private sector. Another was on the staff of the Community Base Research organization (CBR)³. He had been my undergraduate student. He wanted to approach these groups to build a relationship and research network with the grassroots. The research team consisted of the postgraduate students, the assistance researcher at CBR and I.

The data collection occurred in two areas to gain overall knowledge and to develop the Community Learning Centers (CLC) to suit rural communities northeast Thailand.

Selecting areas to study

My study focused on lifelong learning for rural people. I needed to select specific areas and target groups for my case study. Longworth and Davies' (1996) contention that human beings learn throughout life, "from the cradle to the grave" (p. 23), is

³ Community Base Research (CBR) is a division of the Thailand Research Fund (TRF). The CBR promotes community learning by working through research projects and helping communities to solve problems.

indisputable. It means that people learn to walk and talk, to communicate with other people and to behave according to commonly approved rules. They learn to support themselves and solve problems, to create and destroy things. Tuijnman and Bostrom stated that lifelong learning is “a panacea for solving all kinds of social ills and economic problems” (2002, p. 105). They suggested that lifelong learning might propose suitable resolutions to many problems. Hamilton and Cunningham (1989, p. 439) suggested that education gives people potential to solve their own problems from their own resources. Therefore, for the learning process to take place, the student needs some stimulation. Lifelong learning is a way to develop people in all aspects: physical and mental health, intellect, knowledge, morality, integrity and an ability to live in harmony with other people. Knowles’ (1990, pp. 194-195) and Knowles, Holton and Swanson’s, (2005) theories of adult learning provide the basis for the framework for this study. Knowles’ theory emphasizes the significance of active involvement in the learning process by problem solving.

Criterion for selecting areas

In 2002, I was a participant in the research project “Community Information System Management 2002” creating databases for the Tambon Administrative Organisation (TAO) and training them in the use of ICTs. The aims were to promote and encourage local government personnel to use ICT to support their work and to prepare them for e-Government⁴.

The Ministry of University Affairs funded this research⁵. This project started in October 2001 and ended in November 2002. I was responsible for analysing the information needs for management of the TAO in Kalasin, Roi Et and Maha Sarakham Provinces. The data collection employed interviews, observation of the TAO staff, and secondary documentary analysis. I met with the respondents for 4 hours a day, 3 days a week, over 2 months.

While I interviewed, observed and sought secondary documents at the TAO, I saw villagers come in to the TAO to inform the TAO of their problems, to pay taxes, to ask how to contact Government offices at district or provincial level, to ask for information

⁴ E-Government is electronic government. Its aim is mainly to improve the effectiveness and efficiency of government administration, to encourage transparency in administrative and public services, and to allow people to access these services anywhere and anytime in the country.

⁵ This fund provided support for university staff that worked to promote ICT in local government sectors.

about the law, and to ask for prices of local products. I met an old man who came to the TAO asking for a newspaper to check the government lottery numbers. But the staff at the TAO could not find these. They advised him to return later and they would obtain the information for him from elsewhere. However he could not come back because his home was far away and it was difficult to get a bus from the village. There was one bus to take villagers to the city in the early morning and take them back to the village in the evening. So he was disappointed. They negotiated for an hour and could not solve his problem. I asked one of the TAO staff to search for the information on the Internet. This TAO had access to the Internet for promoting e-government and for the One Product One Tambon (OTOP)⁶ programme. She told me that she had never used the Internet. So I went online and found the lottery result. The old man was happy because he got his information. He told me that previously he had been a teacher in a primary school in a remote area. He retired 9 years ago and had heard about this “computer” from his nephew who was a teacher at a secondary school district level, but he had not realised what a computer was. He said, “I just know this is a computer and it helps me to seek information. My nephew told me that it looked like typewriting. It was unbelievable. I will talk to my family and neighbours about it. It is wonderful for my life. If I was younger, I might use it and it would be more convenient than typewriting. I have never heard about an Internet project for local people.”

My project offered many computer courses including basic, intermediate, and advanced courses levels for training TAO staff. The project gave all TAO staff an opportunity to develop their skills in order to train and assist local people.

That project also gave me some experience in selecting potential target groups for case studies in the CLCs and identifying how people might make use of ICTs. I set out the criteria for the communities that might participate in my thesis case studies. I wanted:

1. Communities which continued to have dynamic activities in their village. They could mobilise activities by themselves or ask for outside cooperation in cases where the activities needed assistance. These communities have adapted activities to suit their individual situations.

2. Communities that have struggled with all kinds of adversity. This, I hoped, will reflect the learning processes that occur when people face problems, that is, an

⁶ The government initiated the One Tambon One Product (OTOP) as a project to encourage self-sustenance among communities. The project aims at promoting community products and improving the economy. The Ministry of the Interior, Department of Community Services is assigned to carry this on.

adult learning approach based on problem-solving (Knowles, Holton & Swanson, 2005, pp. 196-197). Adults need to connect knowledge to their experience base. In adult education, it is important for the students that the content of the activities are related to real life situations, and are directly related to their own interests and life situations (Knowles et al., 2005, pp. 65, 67, 294). Thus, adult learners are interested in learning how to solve the problems that they experience in their daily lives.

3. Communities with good village leaders and occupational group leaders who wanted to solve problems in their area. These should give every community member the opportunity to think, to express their opinions and to make decisions to select the most appropriate actions for each community.

4. Communities should have plans to develop their occupational skills. Wilson's (2000) theory of human information behaviour indicated that people need information and sought information because they considered that information would support and develop their skills.

5. Communities with activities on education and development. The activities should include functional literacy skills which become tools that people could use to further improve their lives and satisfy their needs. In particular, learning would be most effective when people have opportunities to learn things that related to their lives and their needs.

Approaching participants

From March to May 2005, I selected the areas for my study. I surveyed data on communities around Maha Sarakham Province through telephone and face-to-face interviews. I made inquiries with the TAO Department Non-Formal Education (DNFE) and Community Development Department (CDD) offices in Borabu, Chiang Yuen, Muang Maha Sarakham, Kaedom, Kantharawichai, Kosum Phisai, Na Chuak, Na Doon, Phyakkaphum Phisai, Wapi Pathum, and Yang Si Surat Districts to have a look at fundamental data and lists of villages.

From this analysis of secondary data, there were four villages in Chiang Yuen, three villages in Kosum Phisai, three villages in Na Chuak, and four villages in Phyakkaphum Phisai that were potential research sites. I visited all these villages and informally interviewed the village chiefs and spent time talking with the community. These interviews gave me some background on the diversity of activities in these villages. In

most of these communities, members did not go to meetings, participate in groups or share their ideas. I abandoned this approach for selecting my case study site.

Personal network approach

I decided to use my personal networks to find sites suitable for case studies. I knew the head of weaving at Krainun Village, Ma Kha Sub-district, Kantharawichai District. In the past, Krainun Village had received assistance with many projects. My colleagues in the Faculty of Humanities and Social Sciences, Maha Sarakham University had supported this weaving group's micro-credit schemes to raise money to invest in their production. My colleagues invited me to participate in their workshop. At the beginning, I had no interest in this area as there were already several external partners involved in other projects there. The community might be overcommitted and do not want to take part in my research. I sought further information using this networking approach. I interviewed the head of the village, the head of the occupation groups, and a representative of the TAO at Ma Kha Sub-district to see if Krainun met my original criteria. I found that all of their current projects provided facilities and contributed equipment to Krainun, but that these projects needed continuous support. I knew that a key factor for creating a learning process is learning at the right time so that learners can continue to improve their own capabilities and spirit of self-reliance.

Krainun Village is located in the Ma Kha Sub-district, Kantharawichai District. The village is located alongside the Chi River on flat land that is flooded when the river overflows. The village is flooded for a month each year, causing damage to paddy fields and impedes transportation. The villagers are confined to their homes during the flooding period. The villagers attempted to solve the flood problem by themselves. The women villagers set up an occupation group to generate income for surviving their daily lives. The weaving group was set up in 2001. Initially, there were five members. Membership increased every year. By 2005, there were 30 women members. They had invested 20,000 Baht (US\$476)⁷ which had increased to 200,000 Baht (US\$4,760) in 2005. All 30 members of this group had completed their primary school.

⁷Baht is Thai currency (43 baht = US\$ 1 in 2001; 40.76 Baht = US\$ 1 on June 2005)

One member of the weaving group told her story:

When I was young I obtained knowledge from my family and the ancestors. It is not really learning, I absorbed it automatically. It is because I saw them performing their job daily. For example nobody taught me to weave the cottons and silks but I could do it. Or do farming, I have been to the farm with my family every day. These were absorbed in my blood. I am very proud of my ancestors who gave me indigenous knowledge; it becomes the main career for our village. Although our products are old fashioned, we have to adjust and update our products to meet market needs. This is a reason why I wanted to develop skills. I realised that the world has changed and this impacts on our live. I have to gain more knowledge but I do not want to take a long time to study. If it is possible, I want to take a short course and learn by doing. This process helps me to remember easily. I am getting old and my memory is limited. Also, I want to be a good model for the young generation.

Her colleagues said:

Most of us are farmers and have study limitations. We want to learn at a high level but we must do our farming which is our main job and allows us for survival. Sometimes, it looks like we have more conditions or demands to deal with in our lives but this is a truth. We have families and take care of all members in our family. In the past, only the head of family have to earn money to take care of a whole family but the changing world makes us take much more responsibility for our family and a caring society. We live in the same village and want to develop happiness in life for our village. So we need outsiders to help us develop our skills to enhance the quality of our lives.

The weaving group created activities such as teaching silk weaving to students in the community school. Loans were available to members initially, but later extended to all villagers who could take out loans with a low interest rate. However their products did not sell well outside the community. They had not modernised their designs. They had to meet the high costs of production in hiring people outside the community to print labels and container packaging because their members lacked skills. So they needed help from outside the village to develop their products. They also had connections with

other villages for exchanging their goods. Although they had some help from outside, they still wanted to develop their skills.

Another colleague at Maha Sarakham University suggested that I might contact the chairman of the Khok Yai Community Forest Committee (KYCFC) at Nong Ngong Village, Wai Sub-district, Wapi Pathum District. The Khok Yai Forest engulfs the Wapi Pathum District of Maha Sarakham Province. At 1,686.63 acres (4,266 rais) the Khok Yai Forest is the largest forest in this province. The community forest encompasses 20 villages and 5 sub-districts. The main problems are forest devastation leading to aridity and lessening annual rainfall that continuously reduces the richness of the area. This affects the lives of the people living near the forest. The community had no regulations to prevent deforestation.

As a result, the villagers became aware of the critical character of natural resources. Those demanding change have included community leaders and residents of the villages around the Khok Yai Community Forest. A consensus had developed to form a network committee to conserve, to determine rules, and to rehabilitate the Khok Yai Community Forest. They adopted innovative concepts in forestry management, by providing opportunities for the locals to share in the management. Government regulations would not work, as no officials would police them. Local people would manage the forest on a daily basis if the opportunity and authority were available. Many academics and non-government organizations (NGOs) were involved in research projects studying the levels of involvement, as well as to record the problems, barriers, recommendations, and approaches to address the community forest project.

The Thailand Research Fund (TRF) has a policy to assist local people with research potential in rural areas. In 2002, the KYCFC received funds from the TRF. This village published and disseminated their TRF research. I read these reports and became interested in this area. Moreover, as a result of their research, the KYCFC had a proposal to establish a CLC in the forest.

Motivating participants: Khok Yai Community Forest villages

I made appointments with the key members of the Khok Yai Community Forest including local school teachers, village heads, the KYCFC and the Local Government to

describe my proposal. I addressed the aims of my proposal and presented a possible process for the project. On these visits, I had opportunities to participate in the social activities in the Khok Yai Community Forest villages. I spoke with the villagers about my project. Sometimes, the leaders of the villages introduced me to the villagers. I talk to them about my roles and approach. The process would involve my working with them to assist them to find solutions, rather than to provide them with some knowledge, and then leave them. Furthermore, I also observed their ways of life at different times of the weeks and days.

When I visited the Khok Yai Community Forest villages, I took a computer notebook, digital camera, CD-Rom, and cell phone. I took photos with the digital camera and immediately showed these to them. Sometimes, I made a presentation to them on how they could use computers. I hoped this might stimulate them to want to study and to learn more about ICT.

I observed that they had mobile phones. I asked them when they used their cell phone and why they had one. Most of them used it for communicating with their relatives and contacting or texting other people outside their neighbourhood, asking for the price of local goods and negotiating to exchange or barter products from the other villages. This was more convenient than the public telephone. Although the Thai Government had provided public phones to remote areas, in some areas, they did not work or were some distance from homes.

In addition, I showed them the Google Earth website for searching the geography around their village. They viewed their home and the areas close their village. They were amazed at the computer notebook. They were attentive and asked many questions. Moreover, I helped them to type letters and documents to local government or NGO officials asking for funding to support their work. They wanted to know how to use the computer. They said that it would be more convenient if they could do these tasks by themselves. Most of them appeared interested.

One member of the KYCFC wanted to learn how to use ICT to type his report. He had used a typewriter but he did not know how to use a computer. I gave him some introductory textbooks and CD-ROM on using Microsoft Office written in the Thai language. I also allowed him to borrow my computer. He spent one month in self-

directed learning. During this time, he learned to use Microsoft Word by himself. When he had problems, he rang me and asked questions via the cell phone. He improved, gained knowledge and developed his skills, typing reports, notices for advertisements and letters to distribute in the communities around Khok Yai Forest. With this role model, many members of the KYCFC wanted to learn to use a computer, and so did the villages leaders. I realized that if someone rose to meet the challenge, then other people wanted to imitate or learn from him. This motivated the target groups to want to learn even though it cast me as the outside expert. They were enthusiastic.

Motivation: Krainun Village

I was attentive to, and focused on, the activities in Krainun Village, specifically working with the weaving group. The members of this group comprised of 30 women aged between 25-55 years old. They had completed primary school, but some of them, including the group leader, had applied to continue adult learning courses at sub-district level. I met with them to explain the benefits of ICT. The weaving group leader had a mobile phone and contacts with outsiders, meeting with government offices, NGO staff and her network every month. She also initiated projects that required funding to support her group. She realised that ICT would be very convenient for her group. She had to hire outsiders to produce advertising labels for products and to type proposals.

She said, “If the members of our weaving group can use a computer, it will reduce production costs. Furthermore, the youth, students and villagers will have opportunities to use ICT. I hope that our products might be advertised on the Internet. Government officials showed me the Internet at a meeting. I am proud of my products even though they are unfashionable. All of us take pride in our heritage. We adapt local ancestral weaving patterns that have been passed down from our ancestors.” They were very enthusiastic.

One of my colleagues was responsible for the Information Dissemination course in the Information Department, Faculty of Informatics, Maha Sarakham University. This course was intended to educate students on information dissemination based on the livelihoods of local people, and how greater knowledge of a community could affect and improve society as a whole. He assigned his students to create media such as CD-ROMs and Websites. The content had to relate to matters about economy, health, education etc. I selected the history of Isan weaving and demonstrated this to the

weaving group. This topic might help them to gain more knowledge. This media also used their local dialect, the Isan language in the narration. I used the CD-ROM because Krainun could not access the Internet as they had no telephone signal. They were excited and concentrated on the computer screen. They especially loved the language that helped them gain further insights about the development of Isan weaving. They told me that they liked to watch this on the computer because it was a new technology. A member of the weaving group said, “Although I cannot use it, I should be modern. We should know how to use these changes in the world.”

When I visited the weaving group, I found that they had problems with their proposal and project report. They argued about the structure of writing the proposal and report. This was because they did not know how to write. They had to ask the Krainun Village School teachers to assist them. In exchange, the weaving group helped the school by teaching weaving to the pupils. The community and the school worked together for their mutual benefit. The weaving group asked me to help them. I advised and trained them in writing proposals. Then I typed it on the computer for them to read. If they wanted changes, I immediately edited the text.

One member of the weaving group could typewrite. She had completed compulsory schooling and was younger than other members in this group. She told me that when she wanted to revise a document she had to type a new one. So she wanted to use the computer but she was scared she might damage it. I allowed her to use my notebook computer and explained how to use Microsoft Word. I asked the Krainun Village School teachers to allow her to use their computer. There was one computer at Krainun Village School. Its capacity was low and it could not download images. The teachers used it for typing their documents. I gave her the Thai instructions for Microsoft Word. Sometimes I took her to the computer lab at the Information Science Department, Faculty of Informatics, Maha Sarakham University to learn to use a computer. The computer lab assistants also advised her. She learnt basic Microsoft Word and Power Point in 3 months. She could type the proposals, reports and create labels for her group. She became a role model, and the Krainun villagers wanted to learn to use the computer as she did, particularly the youth and pupils. They needed the new technology to benefit from their school education. Outside groups, which networked with the weaving group, asked for study trips to Krainun Village. They realised they will gain knowledge and this will enable them to structure their proposals and advertise their products.

Confirming areas for study

I found that the head of the weaving group and the chairman of the KYCFC initiated and conducted the activities in their community. I informed them that I had selected their areas for my case studies. Both of them wanted me to have meetings with the target groups who had never participated before in this kind of proposal. The weaving group head and the KYCFC chairman gave me the names of villagers in both areas and offered to invite them to a meeting in their community.

The meeting in Krainun was conducted in the evening on 26 April 2005. 25 women and 5 men attended. These participants were members of the weaving occupational group. Some of them brought their families to join this meeting. The head of the weaving group introduced me to the participants. I described my role, the aims of the study and demonstrated how to use the computer in daily life. In particular I showed them websites related to their village that promoted their products. They were excited when they saw their products advertised on the Internet.

Some participants asked about the price of computers and said they knew about computers from their children. They concentrated on my presentation. One male complained that, "It is hard to learn to use a computer, and it is not related to my work. So why would I want to learn?"

The head of weaving group replied, "The community belongs to each of us. We want to develop our community. All of us have the opportunity to learn, to think, to make decisions, to work and to accept the results or outcomes together."

The meeting at Khok Yai Community Forest was held on 28 April 2005 in the evening. There were 32 attendees, 3 women, and 29 men. They all lived near the Khok Yai Community Forest. I did not even have a moment to introduce myself before all of them were asking about my research and wanted to know when I was starting computer training courses. Some of them told me that they had expected that by attending this meeting, they could attend computer courses. They wanted to learn to use the computer to support their work because most of them were members of the Khok Yai Community Forest and the Local Administrative Board, TAO. They had the expectation that the computer might be easier than typewriting. One of the Khok Yai Community Forest

members noted that, “The computer is of great use to connect to the outside, to gain access to knowledge. This is a good opportunity to know and develop our skills even though we probably would not use it everyday. We can see the world is rapidly changing and we should adapt ourselves to these new situations”.

These meetings demonstrated to me the nature of leadership. I found that the villagers wanted to follow their leaders. The villagers thought that the leaders as their representatives were doing their best for their village.

Reasons for selecting these two areas

I found that the villagers in these two areas were interested in my project, especially after their role models had revealed the potential of using ICT.

Another reason is that the Krainun Village weaving group recognised how ICT could be useful in their occupation. They intended to learn and also needed outside assistance to improve their skills and gain knowledge to market their products.

The KYCFC had certainly planned to establish a CLC. This would be a natural resource center where people could learn conservation and environment practices which could be implemented by the local people and their knowledge could be adapted to protect the forest.

Computer donation programme

I set up the computer donation program. The aims were to reuse computers in the areas of my case study. This program was carried out for six months from April to September 2005. There was an on-going campaign with limited groups in Khon Kaen and Maha Sarakham University. The capacity of computers needed to be sufficient to use Microsoft Word 2000. Many lecturers in both universities wanted to make a donation but their computers were of low specification and could not run Microsoft Word. I received five computers from this program.

Participants

A purposeful sampling is the principal strategy in a qualitative inquiry. Purposeful sampling seeks information rich cases that can be studied in depth and depending on the

purpose of the inquiry, what information will be most useful, and what information will have the most credibility. So there are no strict criteria for sample size (Patton, 2002, pp. 242-245).

This was a rural based initiative. All participants were drawn from the villages and local government offices that dealt with local people. I divided the two areas.

1. Krainun Village comprised of:

The villagers and the occupation groups (30 people).

The teachers at Krainun Rajbumroon School (3 people).

The head of Krainun Village (2 people).

The Local Government Tambon Ma Kha, Kanthrawichai District (7 people).

2. Khok Yai Community Forest comprised of:

The representative villages, nearby Khok Yai Community Forest, and the KYCFC (35 people).

The teachers at the village schools including the School of Ban Dong Yai, Ban Don Han, Ban Khok Pae, Ban Kra Yom, Ban Ma Saew, Ban Whai, Ban Kwow Khor Khok Klang, Ban Waeng Chai, Ban Tam Yae, and Dong Yai Wittakhom (12 people).

The Local Government officials including 5 Tambons surrounding Khok Yai Community Forest, Nong Saeng, Whai, Khok Si Thonh Lung, Dong Yai, and Can in Wapi Pathum (21 people).

Data collection

I divided this section into two phases:

Phase One: Surveying the basic data of the community to understand their informational needs and to motivate the participants to use ICT.

Phase Two: Conducting the focus groups to perceive their needs.

Phase One: Survey process

In the initial phase, I wanted to seek fundamental information on each village. This information would help me to further develop my perspective for a training process and enable me to cope with the logistics of the next step.

The first research process started with questionnaires (See Appendix B), in-depth interview, observation and discussion in Krainun Village, Ma Kha Sub-district, Kantharawichai District and the 20 villages and 5 sub-districts surrounding the forest. These were Can Tai, Can Nuer, Khok Klang, Khok Sa-ad, Kwow Khor, Nong Jode, Tam Yae, and Waeng Chai Villages in the Can Sub-district, Dern Kham, Kra Yom, Nong Dern, Pla Boo, and Soke Yang Nong Villages in the Saeng Sub-district, Don Jaroen, Don Han, and Dong Yai, Villages in the Dong Yai Sub-district, Burapha Pattana, and Khok Pae Villages in the Khok Si Thong Lang, and Nong Ngong, and Ma Saew Villages in the Ban Whai Sub-district, Wapi Puthum District.

During May 2005, my research team collected basic data to develop my processes to work with the target groups. This first fieldwork research process provided an important background for the focus group preparations.

Phase Two: Focus groups process

This section discussed the use of focus group methodology in the context of my research, highlighting group composition and running the groups.

Focus groups process

The focus group is a technique for asking participants' opinion and has multiple applications, particularly useful for learning how participants' conceptualise a particular phenomena and the language they use to describe them (Stewart & Shamdasani, 1990, p. 15). The focus group discussion further investigated the needs of the target groups. Knowles, Holton, and Swanson (2005, p. 174-176) indicated that the first process of self-directed learning should diagnosis the needs of learners. So I had to identify the needs of the people in the community and develop a process that gave people freedom to pursue lifelong learning at their own pace. Although I had gathered basic information in the two areas, it was necessary to distinguish and analyse their own needs for ICT in a CLC.

Planning is essential prior to focus group research. As my case study focused on lifelong adult learning, I adopted Knowles' theory of adult learning which proposes that people use knowledge gained from their experience base for solving problems. It is important to realize the needs of the people, particular in their daily life. The stages of the focus group process were:

1) The research team had to understand the whole process of the group discussion, including the aims and scope of this fieldwork. Members needed to be clear about their duties and responsibilities.

2) The moderator or facilitator of the focus group needed to be able to deal tactfully with outspoken members of the group, recognizing the purposes of this study.

See Table 4.2 for a timetable of this stage of the research.

Researcher team

Focus group best practice suggests that the team consists of an organizer who as team leader takes responsibility for planning and developing questions, a moderator who leads the group discussion and an assistant moderator who captures or summarizes the data (Krueger & Casey, 2000). In this research I was responsible for coordinating, planning, implementing the study, analysing and evaluating the data. I had six assistant researchers for my fieldwork. Three persons acted as the main moderators, and the other three were assistant moderators who also helped to arrange meetings, transcribing, note taking, taking photographs, tapes and videos recordings. Each person had a number of responsibilities.

Participant selection

The focus group participants are not subject to random sampling. The selection of participants depends on the purposes of the study. There are many suggestions regarding participant selection. Stewart and Shamdasani (1990, p. 53) suggested that when convenience sampling was employed, it must consist of representatives of the larger population. Morgan (1997, pp. 35 & 42) advised over recruiting participants by 20%, as some people may not wish to participate or they do not turn up on the day.

After both Krainun Village and the Khok Yai Forest Community confirmed their participation in my research, I gathered demographic data areas from secondary documents for both areas from TAO. I conducted formal and informal interviews with TAO staff, primary school teachers in the two areas, the heads of each village, the head of the occupation group, members of the occupation group and the local people, to describe the aims of my case study. They were interested in coming to the discussion groups.

To achieve a varied participant group, I divided them into two areas. Each area included:

1. Two groups from the Krainun village, namely,
 - 1.1 TAO staffs, teachers in the village school, and head of the village.

1.2 The occupation group and villagers who were volunteers in community activities.

2. Two groups from the Khok Yai Forest Community, namely,

2.1 The teachers at the village schools including the School of Ban Dong Yai, Ban Don Han, Ban Khok Pae, Ban Kra Yom, Ban Ma Saew, Ban Whai, Ban Kwow Khor Khok Klang, Ban Waeng Chai, Ban Tam Yae, and Dong Yai Wittakhom and the local government officials including 5 Tambons surrounding Khok Yai Community Forest, Nong Saeng, Whai, Khok Si Thonh Lung, Dong Yai, and Can in Wapi Pathum.

2.2 The representatives of villages from nearby Khok Yai Community Forest, and the KYCFC.

Both areas, the Khok Yai Community Forest and Krainun Village, in my case study were not recruited. They agreed to join the group discussion because they wanted to gain knowledge especially in a computer training course. They had seen that someone in their village could use a computer; hence they wanted to imitate this.

Characteristics of participants

I decided to select people who had been involved or participated in activities in their village and who wanted to develop their knowledge and solve their problems

After the participants were selected, I was concerned about variations such as different levels of education, occupations, experiences and ages. These factors would impact on their opinions and attitudes. It is important to consider homogeneity and heterogeneity. The literature review suggested that participants should be homogenous, from similar socio-economic and cultural backgrounds. They should share common traits related to the discussion topic (Morgan, 1997; Krueger & Casey, 2000, pp. 10-11, 71-74, 205).

Size of the group

The recommended number of people per group is usually 6 to 10 (Krueger, 1994, p.17), but some researchers have used up to 15 people (Goss & Leinbach, 1996) or as few as 6 or up to 60 (Kitzinger, 1995, p. 302). The number of sessions varies too,

some studies using only one meeting with each of several focus groups (Burgess, 1996), others meeting the same group several times.

In my case study, there were two groups in each area. Each group consisted of 12 to 35 respondents. From my perspective, the number of participants need not be small.

Homogenous and heterogeneous

It is not always easy to identify the most appropriate participants for a focus group. If a group is heterogeneous, in terms of sex, age, occupation, social status, educational level and income, the differences between participants can have a considerable impact on their contributions (Stewart, Shamdasani & Rook, 2007, p. 22). Alternatively, if a group is homogeneous with regard to specific characteristics, diverse opinions and experiences may not be revealed. Participants need to feel comfortable with each other. More importantly, target group homogeneity is believed to facilitate rapport among participants (Morgan, 1997; Stewart et al., 2007). Krueger (1994, pp. 13-14, 77-78) advocated that homogeneity could lead to a rich generation of data. Morgan also suggested that the participants meet with others whom they consider to possess similar characteristics or levels of understanding about a given topic (Morgan, 1997, pp. 35-37). In particular, there have been numerous examples where rural participants thought that they had a lower education and lacked the confidence to share ideas with those with higher formal education. Morgan (1997, p. 36) felt that differences in class or social roles might be uncomfortable for discussants.

As the target groups had diverse occupations, educational levels, and experiences, I adapted Morgan's "rules of thumb", a) using homogeneous participants, b) depending on an interview structure, c) there should be 6 to 10 participants per group, and d) there should be 3 to 5 participant groups per project (1997, p. 34). In this study, one key rule of thumb was applied, there should be 6 to 10 participants in each group.

Sessions

Focus group sessions usually last from one to two hours. Neutral locations can be helpful for avoiding either negative or positive associations with a particular site or building (Powell & Single, 1996, p. 500).

My perspective was that the initial focus group discussion should take at least two hours and a maximum of three hours. At the beginning of the session, I estimated it would take 45 minutes to establish good group relationships through stimulating activities to establish connections between the participants. If participants knew each other's background, they would feel more comfortable and be able to then share their opinions and experiences.

Selecting facilitators

Of the six research assistants, some of them had experience in conducting focus groups and moderating discussions and, most of them could speak the Isan dialect. Two people taped and video recorded the focus group and another two people took notes. Two of them had experience using ICT equipment. In addition, the pilot study helped them gain more confidence in arranging group discussions. In selecting these people, I took into account their background and experiences that were similar to those of the participants. Speaking and understanding local terminology was of utmost importance in my case study.

Moderators and field assistance staffs

The moderator's role is to track the focus group to ensure that it flows smoothly and produces the desired information. They need to create an atmosphere conducive to self-disclosure by building rapport within a group, conveying interpersonal sensitivity and diplomacy, and speaking in a language that is comfortable to participants (Krueger, 1994, pp. 100-103; Morgan, 1997, pp 48-49). Therefore, the moderator has to follow trails, be interested in the participants, interact informally with the participants before and after, to look at the participants when they are talking, to be able to listen and think at the same time, to have adequate knowledge on the topic, to show empathy and positive regard for participants, to restrain from expressing personal views and to manage challenging group dynamics (Greenbaum, 1998, pp. 76-79; Krueger, 1994, pp. 100-106; Litosseliti, 2003, pp. 40-45; Stewart, Shamdasani & Rook, 2007, pp. 69-73). Hence I selected moderators who were friendly, warm, flexible, good listeners and familiar with the study topic. The moderator is crucial in ensuring the success of the focus groups for both participants and quality data collection but "there is little specific information in the literature on moderators, such

as personal characteristics, education, training and experience required (Saint-Germain, Bassford & Montano, 1993, p. 345). My case study found that education is not more important than experience and training. Some researchers indicated that a good moderator should be as neutral as possible to decrease the likelihood of co-opting participants' responses (Litosseliti, 2003, p. 42). I disagree because no one is ever completely neutral. The more important factor should be that moderators are appropriately matched to the participants; for example, the three moderators in my case study speak the local dialect (Isan language). More specifically, most of them had experience with conducting focus groups and their backgrounds were similar to the participants.

Field assistance staff

Co-moderators or recorders take comprehensive notes, operate the tape recorder, handle the environmental conditions and logistics (refreshments, lighting, seating), and respond to unexpected interruptions. The recorder notes the participants' body language throughout the discussion and records any information that should be considered for interpreting the results of the session (Krueger, 1994, pp. 103-104).

In my case study, three assistant moderators took care of the needs of the focus group participants and collected information, leaving the moderator to focus on maintaining a productive discussion. During the discussion, they took extensive notes on the interesting parts of the discussion such as key quotations, issues voiced by the participants, their own observations and managed the observers' discussion. Two assistant moderators took notes and took care of tape recording, and the last one took photos and a video recording.

Choose the location

In general focus groups should be held at a convenient location for the participants. The researcher should consider transportation factors. The best locations for group discussions are usually in their community. The 'leader' can suggest where the community holds their regular meetings. The closer the meeting sites to the participants' residence or work areas, the more likely they are to participate. Stewart, Shamdasani, & Rook go further to note that location also "has psychological implications" and "serves to set the tone of the focus group" (2007, p. 57).

I asked the head of the Krainun Village and Chairman of the KYCFC to suggest appropriate meeting places where the participants would feel comfortable. The head of the Krainun Village suggested we meet at the Weaving Group in Krainun Village; it was a well know place and would be convenient because the participants were used to this place. The chairman of KYCFC recommended we meet at the hut in the Khok Yai Forest so the participants could observe the natural forest. The local government staff, teachers and head of villages offered their office location which was in the local administrative offices of Ma Kha Sub-district, Kantharawichai District, Dong Yai School, Dong Yai Sub-district, Wapi Pathum District. I investigated the suggested sites and found them appropriate.

Preparatory questioning route or interview guide

Focus group researchers should develop a guide agenda for the group discussion. Researchers may adopt a clear guide for questions to be followed by the facilitator. The questioning route is a sequence of structured written questions; it has both strengths and weakness. Initially it takes longer to prepare but it does ensure that particular questions covering the research project are on the agenda (Krueger & Casey, 2000, pp. 19, 39-43). This is useful in a project using different moderators for several groups to limit the potential for inter-group variation. The subtle differences in the language used to ask questions could produce great variation in responses. The question route gives a greater control over this variation thereby allowing for a more efficient analysis.

Morgan (1997) and Krueger and Casey (2000) suggested adopting an easy beginning, a sequence, and moving from general to specific questions. I was concerned about detailing the specific questions to be asked and the order of these questions (Krueger & Casey, 2000, pp. 64-65). Due to my lack of experience in conducting group discussions, I believed that I needed some help by talking to experienced professionals in the fields of community development, education, and social work as a way of bridging the gap between theory and practice, as well as assisting my research team and I to gain confidence with conducting the focus groups. I interviewed three local professionals with experience dealing with rural people in the community for more than 10 years; the head of the Local Education Department, Khon Kaen province, a lecturer in the Department of Sociology and Anthropology, Maha

Sarakham University, and a private, NGO researcher. They advised me on how to ask questions, on topics to emphasize, to include detailed rather than shorter questions and clearly describe the important points. I was told that questions should be easy for participants to understand; particularly if the participants had a low literacy level. The NGO researcher advised that the questions should focus on the participants' lives and the benefits the research might have for them. Krueger (1994, p. 20) suggested that the questions should appear to be spontaneous but are actually carefully developed after considerable reflection. Furthermore, the questions need to be arranged in a natural logical sequence.

My questioning route was developed based on the participants' daily lives, basic community data, and situations such as problems in the participants' community. I read the literature on researchers' attitudes toward the needs of participants (see Appendix D). Hence I described the roles and responsibilities of the moderators to guide and facilitate discussions and assistant researchers to take notes and organize the recording media in advance so that no confusion could result (Litosseliti, 2003, p. 28).

Academic researchers suggested that if the researcher and moderator have limited experience in the field of focus groups, they should conduct pilot tests. (Krueger, 1994, p. 68-69; Litosseliti, 2003, pp. 28-31). Thus I conducted two pilot focus groups before the actual community fieldwork began.

Interview guides list topics to follow in the focus group. The list includes words or phrases to remind the moderators of the significant issues. This is useful, as the assistant researchers are busy with cameras and sound equipments. Stewart and Shamdasani (1990, p. 61) suggested two principles: that questions be ordered from the more general to the more specific; questions of greater importance should be placed early, near the top of the guide, while those of a lesser significance should be placed near the end.

As these two principles appear to be conflicting, the researcher can start with general questions, move to specific questions and then back to a set of more general questions. The funnel approach (from general to specific) is one way of engaging the

participants quickly. Very specific questions about the topic towards the beginning may set the discussion on a track that is too focused and narrow.

Generating the questions

The first question was an introduction or warm up question that would be comfortable for the participants. The second theme was serious and emphasised the heart of my research. The sequence of questions was significant as was the need to keep moving from the general to the specific. I piloted the questions with the Khamriang villagers, Kantharawichai District, Masha Sarakham Province to see if their responses gave me the information I needed. Most of them recognised the questions; but they did not understand some of the technical terms. I revised some items. Some participants were unable to comprehend the formal Thai language used because they were used to the Isan dialect.

I also recognized that I lacked the experience to moderate focus groups, so I had to consult experts who had experience in this. They suggested that I create questions concerned with the daily life of the target group and the aims of study.

Types of questions

A focus group is a type of semi-structured interview carried out in a group setting. The questions should be unstructured and open-ended because this allows respondents to answer from a variety of dimensions, and to tell their story in their own words. The questions should allow the participants to share ideas. Questions must be carefully selected and phrased in advance to elicit maximum responses by all participants. "Questions that include words such as how, why, under what conditions, and similar probes suggest to respondents that the researcher is interested in complexity and facilitating discussion" (Stewart & Shamdasani, 1990, p. 65). However, Krueger argues that 'why' questions should be rarely used in a focus group as they force participants to provide quick answers that seem rational or appropriate to the situation and it is messy to analyze if participants are not clear about the questions (1994, pp. 54, 58-59).

In my case study, the questioning route included 5 types of questions for focus group.

1. Opening questions which create a warm and friendly environment and put the participants at ease, to present an overview of the topic and to advise the ground rules (see Appendix D), for example “Tell us your name, please”,
2. Introductory questions that introduce the topic for discussion and to get people thinking about their old connections with the topic. These questions are open-ended and allow people to explain how they see or understand the issues, for instance, “What is the first thing that comes to your mind when talking about your village?”
3. Engagement questions which introduce the participants to and make them comfortable with, the topic of discussion, such as “what is your favorite place or activities in your village?”
4. Exploration questions which get to the heart of the study. For example, “Does anyone know anything in addition to what happens in our community?” “How did your life change in the last year or last five years?”
5. Exit questions that check to see if anything was missing in the discussion, such as “Is there anything we have not talked about?” or to enable participants to reflect on previous comments.

Number of questions

Krueger (1994, p. 54) suggested that a focused interview should include about 12 questions, because focus group moderators always develop 20-30 items. Stewart and Shamdasani (1990, p. 12) proposed that most interview guides consist of fewer than a dozen questions.

From my perspective, the number of questions was as important as the complexity of the topic, the relation of the topics, the attention span of the participants, and the level of participant involvement in the subject. The actual number of questions depends on how time consuming each topic is and the moderators’ facilitating skills. I chose between fourteen as the maximum and six as the minimum numbers of questions for the 2-3 hours session for both focus groups because some questions needed time for discussion or participants might want to share more of their experiences and perceptions.

Develop a script

As I had never conducted a focus group before, I created a script to help my research assistants, facilitators and I, to follow step-by-step. The script gave explicit

instructions about conducting the focus group, including the time for the moderator to welcome the participants, to introduce the aims and context of the focus group, to explain what the focus group was, and how it would flow. The closing section would include thanking the participants, and advising them how the data would be used, and what feedback they would receive. Experts in the focus group method suggested that a script was a good 'director' for the moderator (Krueger, 1994, p. 56; Litosseliti, 2003, pp. 55-58). The script was useful for the research assistants. My research team used it when they had any problems taking notes or with transcriptions.

The pilot focus groups

The two pilot focus groups provided precise and clear insights that were valuable before conducting the actual focus group. The first pilot study was conducted with 36 undergraduate students from the Department of Information Science, Faculty of Informatics, Maha Sarakham University who had lived in rural areas participated. The aim of this pilot was to try out the interview tool, the questions and to pilot myself as moderator. The session went smoothly. The pilot participants responded well to the answers and were able to talk amongst themselves. Some of them avoided answering questions that referred to people such as the head of the village or questions on money. They discussed how issues would impact on themselves. After the first pilot study, I revised the questioning route as I realised that the participants were avoiding questions that refer to people who have authority in their community. I decided to ask a key person if the participants felt threatened by these questions.

In the second pilot study I used the revised questioning route adding ground rules regarding details about the participants' roles. Participants were rural people from Khamring Village, Khamring Sub-district, Kantharawichai District, Maha Sarakham Province. This community group was similar to the thesis study and 22 females and 12 males came to this pilot study. This community is located near my university. I have known the head of this village for a long time; his daughter was my supervisee at Maha Sarakham University and he often invited me to evaluate his daughter's study. Sometimes I visited my supervisee at their home and also joined in some ceremonial cultural activities and rituals. The women brought their children along and both men and women sat on mats on the ground. At this point, the research team took the chairs away and the moderator sat on the ground too. The discussion was held in the

community hall in the center of their village. The session lasted 135 minutes. There were interruptions in the first hour when one uninvited man talked often and loudly. The head of Khamring Village took him out of the meeting so that it might continue.

Participants in this group did not seem to find any questions difficult, and the answers provided were well developed. The interaction among the participants was characterized by well-balanced contributions, although some had wanted to dominate the discussion. I found that when the moderator asked questions that used technical terms or formal language, participants had to ask the moderator to repeat the questions or explain them further. In particular, external observers heard the participants discussing that they did not recognise the formal language, including basic technical terms such as hard drive, diskettes or mouse etc.

Another incident involved crying children during the focus group discussion. This not only disturbed this meeting but the tape transcriptions were not clear and my research team could not concentrate on note taking. To resolve this problem when the actual focus group began, I asked my colleagues in the Faculty of Education to look for undergraduate students majoring in childcare. It would be helpful to provide childcare when their family brought them along to the focus group discussion.

The experience of both pilot studies suggested that the moderator would need to know and speak the local dialect language, and to intervene more than had formerly been planned. I revised the questioning route and avoided using technical terms. I have a good understanding of the Isan language but Isan speakers often do not understand me, because I have both a city and Thai language background, and they do not understand my accent.

Conducting the focus group

I collected the materials we would need for the focus groups including lists of participants, name tags, cards, charts, markers, masking tape, notepads, pens or pencils, refreshments, a clock as well as recorders and a video recorder.

A day or two before the focus groups were undertaken, my research team and I examined the group discussion sites. My research team prepared the materials that would be used in the focus groups and checked in particular, the electrical supply. The research team brought battery reserves for the electronic equipment.

Close to the date of each focus group discussion, my research team and I visited the participants at their homes to invite them to the session, even though an invitation had been sent to them. This indicated that the research team considered the participants important enough to make a personal visit to encourage them to attend. Furthermore, when the researchers visited the participants at home, researchers could also observe or discuss issues of basic demographic data, culture and lifestyle. The pilot study made me consider the daily activities of participants and the need to be sensitive to their time needs. In particular, women preferred, and were available in, evenings and late mornings while the men were available during daytime.

The focus groups were conducted in two areas between May to December 2005, taking into consideration the participants' time preferences and convenience (see Table 4.3).

Table 4.3 Timetable for conducting focus groups in two areas

Date/Time	Focus Group Sessions	Number of Participants	Objectives
May 10 2005 (10.00 am-12.30am)	The local government Tambon Ma Kha, Kanthrawichai District and the teachers at Krainun Rajbumroon School and the head of Krainun Village	12	To investigate the needs of these groups
May 14 2005 (10.00 am-12.30am)	The teachers at the village schools including the School of Ban Dong Yai, Ban Don Han, Ban Khok Pae, Ban Kra Yom, Ban Ma Saew, Ban Whai, Ban Kwow Khor Khok Klang, Ban Waeng Chai, Ban Tam Yae, and Dong Yai Wittakhom and the local government officials including 5 Tambons surrounding Khok Yai Community Forest, Nong Saeng, Whai, Khok Si Thonh Lung, Dong Yai, and Can in Wapi Pathum	33	To investigate the needs of these groups
May 18 2005 (9.30-12.30 am)	The representative villages, nearby Khok Yai Community Forest, and the KYCFC	35	To investigate the needs of these groups
May 22 2005 (9.30 am-12.30 pm)	The villagers of Krainun and the occupation groups	30	To investigate the needs of these groups
June 2 2005 (10.00 am-12.30 pm)	The teachers at the village schools including the School of Ban Dong Yai, Ban Don Han, Ban Khok Pae, Ban Kra Yom, Ban Ma Saew, Ban Whai, Ban Kwow Khor Khok Klang, Ban Waeng Chai, Ban Tam Yae, and Dong Yai Wittakhom and the local government officials including 5 Tambons surrounding Khok Yai Community Forest, Nong Saeng, Whai, Khok Si Thonh Lung, Dong Yai, and Can in Wapi Pathum	30	Preparing contents to establish local curriculum & CLC
June 10 2005 (9.30 am-12.30 pm)	The representative villages, nearby Khok Yai Community Forest, and the KYCFC	35	To set up CLC
June 16 2005 (10.00 am-12.30 pm)	The local government Tambon Ma Kha, Kanthrawichai District and the teachers at Krainun Rajbumroon School and the head of Krainun Village	12	Preparing contents to created website & CLC
July 6 2005 (10.00 am-1.30 pm)	The villagers of Krainun and the occupation groups	30	To set up CLC
July 26 2005 (9.00 am-3.00 pm)	The representative villages, nearby Khok Yai Community Forest, and the KYCFC	35	To set up CLC
August 10 2005 (9.30 am-12.30 pm)	The villagers of Krainun and the occupation groups	30	To set up CLC
August 26 2005 (9.30 am-12.30 pm)	The representative villages, nearby Khok Yai Community Forest, and the KYCFC	32	To set up CLC
December 15 2005 (9.30 am-12.30 pm)	The villagers of Krainun and the occupation groups	30	Conclusion to establish CLC
December 26 2005 (9.30 am -12.30 pm)	The representative villages, nearby Khok Yai Community Forest, and the KYCFC	35	Conclusion to establish CLC

I prepared the questions for participants relating to their work and daily lives. It was easy for them to discuss these topics. The moderator introduced his research team and described the aims for the focus groups. The groups talked about their community, their understanding of community problems, and how to find ways to solve them through community needs analysis.

When the participants came to the group discussion, the moderator and research assistants informally welcomed and gave them their name cards, and signed their name on the list. My research team wanted to create a feeling of hosting a gathering of friends or neighbours and conducted small talk on general topics. This reception time helped generate a friendly and warm atmosphere. At the same time the research team could observe how the participants communicated or interacted with each other. Although the reception time was short, around 15-20 minutes, it was useful for the moderators and research team to form a relationship with the participants.

The moderator followed the questioning route, formally welcoming the participants and introducing the research team. The participants then introduced themselves briefly along with some personal background. The moderator explained the aims of the group discussion and read the ground rules. This stage took time to develop with group activity. Therefore the research team served snacks and water, tea or coffee. This was an icebreaker before moving to the next question.

The moderators linked the conversation from introductory question to the key theme. They were tactful and encouraging of group dynamics. There were three to six questions in this category but the first question required the greatest attention in the analysis and needed as much as ten to fifteen minutes for discussion. Some questions took more time for discussion and brainstorming, especially if the heads of villages and local government officials were involved. Most of participants were men who constantly negotiated standpoints with each other.

The moderators used the “all things considered” approach to the formal question to determine the final position of the participants on critical areas of concern.

Lunch and dinner were provided for daytime or evening focus groups. The assistant researchers and I talked to the participants during mealtimes and they shared their ideas with us. In particular, some participants gave their knowledge based on experience with team work. By mingling with the participants, we gleaned a better understanding of their experiences and opinions.

The focus groups followed the script.

- 1) The moderator or researcher gave them a question “Does anyone know anything about our community?”
- 2) Everyone joined in discussing community problems and needs.
- 3) They were given time to gather their thoughts and after that, the participants wrote down ten important and serious problems.
- 4) Each person read his own list.
- 5) The lists were grouped under various categories:
 - 5.1 Problems related to income and occupation, such as productivity, occupations, markets and the middlemen.
 - 5.2 Problems related to education such as illiteracy, continuing education, and information opportunities.
 - 5.3 Problems related to the environment, such as transportation, sources of water, rubbish.
 - 5.4 Problems related to health care such as illness, the need for a health center, and lack of knowledge and understanding.
 - 5.5 Problems related to administration such as leadership, security and safety, and participation.
- 6) Problems and needs were analysed. The participants categorized their problems, causes and ways to solve them. The ways to solve the problems were grouped as:
 - 6.1 Problems to be solved by the community itself.
 - 6.2 Problems where they would need to seek the cooperation of others.
 - 6.3 Problems needing support from various organizations.

Collecting data

Focus group sessions are typically recorded in two ways, by a tape recorder and with written notes taken by the assistant moderators (Krueger, 1994, p. 111). The trend of focus group research has changed in the 20th century. Traditionally, focus groups were

conducted in face-to-face situations. Communication technologies allow researchers to utilize new approaches or devices to facilitate research. Equipment such as electronic cameras, video, and teleconferencing give researchers an opportunity to select the medium most suitable for their process. In my case study, I used a tape recorder, video, personal digital assistants and digital camera for collecting data.

Tape recorder and video

Tape recorders are invaluable for focus group discussions. However, they are prone to pick up background noises. The microphones and recorder should be set up prior to the interview and should be visible to participants (Krueger, 1994, p. 112). I used two tape recorders as the group was large. We used a pressure zone microphone so that the distance between the microphone and the sound source has no effect on the quality of sound reproduction, ensuring that the human voice can be recorded accurately. Before each session, the assistant researchers thoroughly checked the 60, 90, and 120 minutes recording tapes and tape recorder. I also used video recording to record the participants' body language and emotions. Nonverbal behavior is of interest in focus group situations. The video camera is more intrusive than an audio recorder and cameras are a constant reminder to the participants that they are being recorded. The digital camera has the advantage that it can be transferred immediately on a computer, manipulated with a graphics program and then printed cheaper and faster than traditional film processing. The aim of my study is to motivate participants to understand and use ICT so it was invaluable when they could see how these ICT tools work. From my perspective, using appropriately selected technical equipment that participants find inspiring can certainly assist data gathering goals in field research.

Note taking

Morgan (1997) and Krueger and Casey (2000, p. 105) suggested that regardless of the method of data collection, the moderator should make field notes after each session to facilitate data analysis. The facilitator or an assistant facilitator can try to capture exact phrases and statements made by participants. The consideration here is that the note taking should not interfere with the discussion. Notes should be complete and useable in the event that the tape recorder stops working.

Note taking is a simple method for use in observer and focus group sessions, getting as much detail as possible. However, it is difficult to provide a word for word account of

the discussion. Therefore, my research team decided to make a summary of sentences or jot down key words and to write down verbatim any striking and important comments.

In particular, the note takers had to record the date, time of observation, formal and informal behavior, and to observe details during discussions to capture non-verbal nuances and body language. The note taker follows the questioning route. In some cases, the assistant researchers draw diagrams, pictures or use other individual techniques that are helpful for analysis. After the discussion, the note takers go over the notes and add more details to reach a full and clear account of the session. Both these practices were followed in my research.

Interview process

The interviews were conducted to supplement data collected from the focus groups between May to December 2005. I selected the key informants from two areas. The head of the weaving group from Krainun Village, one teacher from Krainun Rajbumroon School and two local government officials in Ma Kha Sub-district, Kantharawichai District. From the second area, the chairman of KYCFC or two villagers from Khok Yai Forest Community, two teachers surrounding Khok Yai Forest and two local government officials from Can Sub- district, Wapi Pathum District.

I contacted them by mobile phone to provide them with preliminary information and subsequently made appointments to visit them. Each interview lasted two to three hours and was tape-recorded. The interviews were conducted in Isan and my research assistants elaborated when the participants did not understand my accent.

Observations process

The observations were conducted for the purposes of gaining additional data and triangulating the data gathered from the interviews. I kept detailed records of what occurred, including things usually taken for granted. As Silverman (1993, p. 42) noted “unfortunately, we have all become a little reluctant to use our eyes as well as our ears during observational work”.

I observed the Krainun Village weaving group, who were mostly women, between May and August 2005 for three to five hours at different times of the day, such as at their home, their group office and on a special occasion i.e. ritual activities. I focused on their

work and how they dealt with their problems. This helped me gain more knowledge about their daily lives and their needs and I noted that they were not comfortable communicating in the formal Thai language.

Study trip process

During the discussion group, the KYCFC had negotiated the terms of the CLC committee. They were not certain about the number of committees to manage the CLCs and this dominated much of the discussion. Although the moderators explained and gave them an example, it was difficult for them to understand. The suggestion from the discussion group was that they wanted a study trip that would provide them with some experience. The chairman asked me for advice. I suggested that it would be a good opportunity if they conducted field trips for outsiders and I provided guidance on how to proceed. The villagers around Khok Yai Forest and the committee of Khok Yai Forest gave information about, and provided travel arrangements in, the forest. I took the postgraduate students from the Faculty of Environment and Resource studies, Maha Sarakham University, to visit Khok Yai Forest on July 24 2005. This activity was an essential part of my study. It is important that all participants in KYCFC were able to access and learn from this activity. Rudmann (1994) claimed that the field trip can serve as a tool for improving thinking skills, interest and success in learning. The students conducted a baseline environmental audit to assist the villagers in their workshop and decision-making.

Workshop process

Workshops are a series of studies that focus on the transition of theories to practice. In my study, I used this activity for stimulating the participants. One adult learning model emphasised experiential techniques that tapped into the experiences of the learners, such as simulation exercises and problem solving activities (Knowles, 1980, pp. 135-136). I ran many workshops for the participants including writing proposals for assistance from local government and NGOs, using computers and dyeing cottons and silks. After the workshops, I provided materials and manuals to further equip them. The weaving group wanted to collect these materials and set up another activity for their group but they did not know how to organise them. These activities guided participants and stimulated their ideas to set up the CLCs.

After the workshop, a member the weaving group who could not write properly in the Thai language told me that, “I am enjoying participating in these courses. Although I cannot write well, I shared ideas with my colleagues and helped them to do some work. I have to support my group because we have similar aims to set up the weaving group. I have limited potential; I had a low education and I am getting older. This makes me study very slowly. However I have supported the younger ones in my village to study at a higher level.”

Data verification and analysis

Triangulation approach

I used the triangulation approach to analyse the data from the surveys, interviews, observation and discussion. According to Guion (2002, pp. 1-3), there are basically five types of triangulation:

1. Data triangulation, by using different data source methods.
2. Investigator triangulation, by employing multiple observers for the same phenomenon.
3. Theory triangulation, by approaching empirical materials from various perspectives, theoretical framework and interpretations.
4. Methodological triangulation. This involves using multiple qualitative and or quantitative methods to study the project.
5. Environmental triangulation. This involves different locations using methods or the key factors related to the environment in which the study takes place, such as the day of the week, time of day, or season of the year.

I classified the community data collected from the survey of each village into specific themes:

1. The geographical data (location, neighbourhood, region, etc.) including the historical background, transportation, and sources of water.
2. The public utilities (electricity, water supply) including community natural resources, population characteristics, and the education level of the people, schools, religious institutions, health and sanitation.
3. The social data comprising leadership, economic, political and kin groupings, government, culture, custom, and daily life.

4. The economic data comprising occupations, income, investment, consumption, production, and distribution.

Thus this stage, I also applied triangulation among difference data sources and issues based analysis. As Merriam (1991) suggested, "in terms of using multiple methods of data collection and analysis, triangulation strengthens reliability as well as internal validity" (p. 172).

For this reason, triangular techniques attempt to map out and explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and/or using a variety of methods. It contributes to the verification and validation of qualitative analysis by checking out the consistency of findings generated by different data-collection methods and checking the consistency of different data sources within the same method. By collecting and analysing these viewpoints, the evaluator ensures that the final evaluation report reflects the multiple realities of specific social relationships.

I gathered and categorized all fieldwork. Then the fieldwork data was compared with other databases, which were:

- 1) The recorded documents from local governments at TOA.
- 2) The databases of the Rural Development Information Centre (RDIC)⁸.
- 3) Interviews with the head of the village.
- 4) The villagers' participation.

The exploratory data focused on two areas:

- i) Khok Yai Community Forest, Can Sub-district Wapi Pathum District.
- ii) Krainun Village Ma Kha Sub-district, Kantharawichai District.

The leaders, teachers, KYCFC and villagers totaling 40 men and women from Khok Yai Community Forest and 20 men and women from Krainun Village were each invited to a meeting to examine or develop the fundamental data of each village by using charts, maps, and sheets of recording data, mind mapping and telling stories. This information helped me gain insights into the environment of the community, especially in terms of their livelihood. Some heads of village were excited when they saw the number of cell

⁸ The Rural Development Information Center is a database center that stores basic village data Thailand and is managed by the Community Development Department, Ministry of Interior.

phones in their village. Some villages did not know how to record the relevant information in their village. So they asked me to store some information on my files on their behalf. For instance, cell phone numbers, numbers of household, history and knowledge of their village.

Analyzing focus group data

Analysing the results is the most difficult part of the focus group. Krueger (1994, p. 231) suggested that content analysis begins with a comparison of the words used in the answer. The researcher must also consider the emphasis or intensity of the respondents' comments.

Interpret and report results

After the group discussions, the recorded materials of each session were listened to, and watched several times, to gain further impressions of the discussion. Recordings were typed out in Thai and observation notes were added to the corresponding parts of the discussion to add depth. I allowed a few days between each session so that time was available to reflect upon the previous transcription.

After the recorded materials were transcribed, the research team and I first read through the transcripts carefully to get a general impression. We marked sections in the transcripts according to the research questions they were related to, as a way to categorize the data. We sought to identify the most important themes, issues and ideas before narrowing down to the specifics. Differences of thoughts, beliefs, and emotions of the groups' responses, and their diverse characteristics become evident. This enabled me to make comparisons of the different discussions, and to find patterns as well as dissimilarities. Glaser and Strauss (1999, p.102) suggested an analytical procedure of constant comparison which helped me to identify themes and sub-themes. Miles and Huberman (1994) further explained that qualitative modes of data analysis provide ways of discerning, examining, comparing, contrasting and interpreting meaningful patterns or themes. Meaningfulness, according to Miles and Huberman, was determined by the particular goals and objectives of the project at hand. The same data could be analyzed and synthesized from multiple angles, depending on the particular research or evaluation questions being addressed.

When writing the analysis, I interpreted the participants' statements and carefully selected trends and unexpected comments that were relevant to the purposes of study. I put an effort into selecting quotes that I considered was a fair depiction of what was said during the discussions.

When the assistant researchers and I transcribed the tape recording, the sound was not clear in some parts; there were cries from the children that the participants had brought with them to the focus groups. Therefore we used the video to watch and re-check. Sometimes we could see the interaction when the participants showed their body language and their emotions while they shared ideas in the discussion group. The audio and visual materials such as video tape recordings, diagrams, and pictures that came from the focus groups were returned to the communities.

The tape recording transcription was compared with the notes taken during the sessions. The participants helped to check the accuracy of the transcripts before I compared this information with secondary documents unless these documents were not available. Where the data was inconsistent, unclear or incomplete, I contacted the key informants for verification. After reading all the transcripts and identifying the trends and comments, I gathered the background information, the purposes of the study, details from the focus groups and the results of the conversations before writing the report.

Ethical considerations

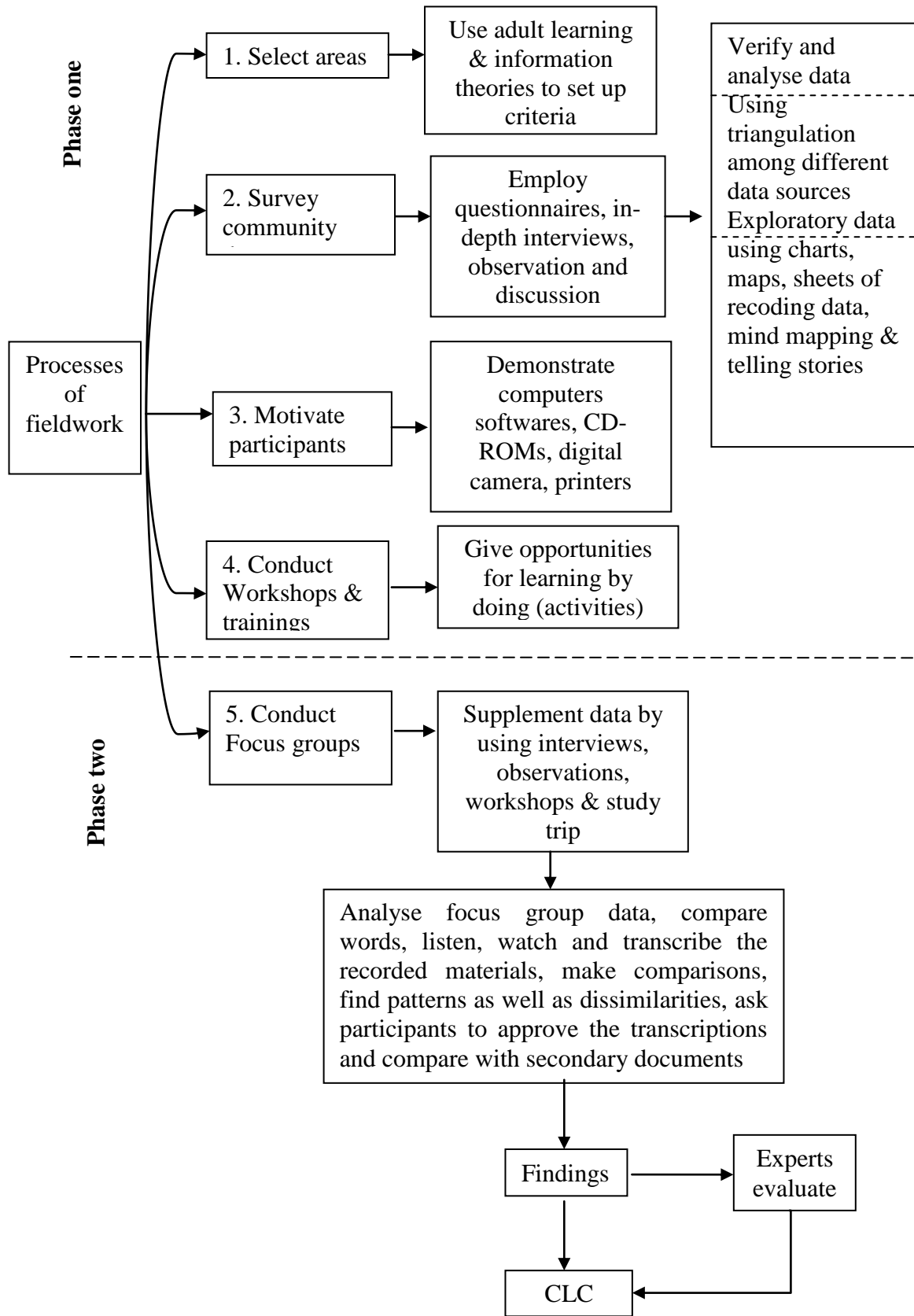
Ethical approval for my research was approved by the Human Ethics Committee, Massey University (see Appendix A). This was used as a guideline throughout my study. After I selected Krainun Village, Ma Kha Sub-district, Kantharawichai District, and Khok Yai Community Forest, Wapi Pathum in Maha Sarakham Province, Northeast of Thailand for fieldwork, I used personal networking to approach the participants in the two areas; in informal and formal ways. The consent to participate was oral and personally explained. Some participants were pre-illiterate, so I read and explained the research to those participants.

I employed focus groups, interviews, observations and life story methods for data collection. A triangulation approach was used throughout process of the study. Personal data was kept confidential, secure and used only for specific approved purposes. The materials for recording data such as cassettes tape, video tapes, diskettes, charts, and diagrams were returned to participants after analysis.

Summary

This chapter demonstrated that qualitative research is a powerful tool used to identify and explore concepts to develop a model for further study. This study employed a focus group methodology to collect data and used a variety of methods to assemble supplementary data. It also applied the adult learning process to set up the criteria for selecting areas to study and provided learning activities that contributed to the acquisition of new knowledge. This chapter concluded with the ethical considerations involved in this research and a road map of the research methodology as presented in Figure 4.1.

Figure 4.1 Road of research methodology



CHAPTER 5

REGIONAL SETTING

This section describes the physical and demographic characteristics of Thailand and its national economic and social development plans, focusing on northeast Thailand, in particular, Krainun and Khok Yai Forest villages, where the research was based.

Background of the study

Overview of Thailand

Thailand is a country in Southeast Asia. It covers an area of 514,000 km². The Laos border lies to its northeast, Myanmar to its northwest, Cambodia to its east and Malaysia to its south.

Figure 5.1 Map of Thailand

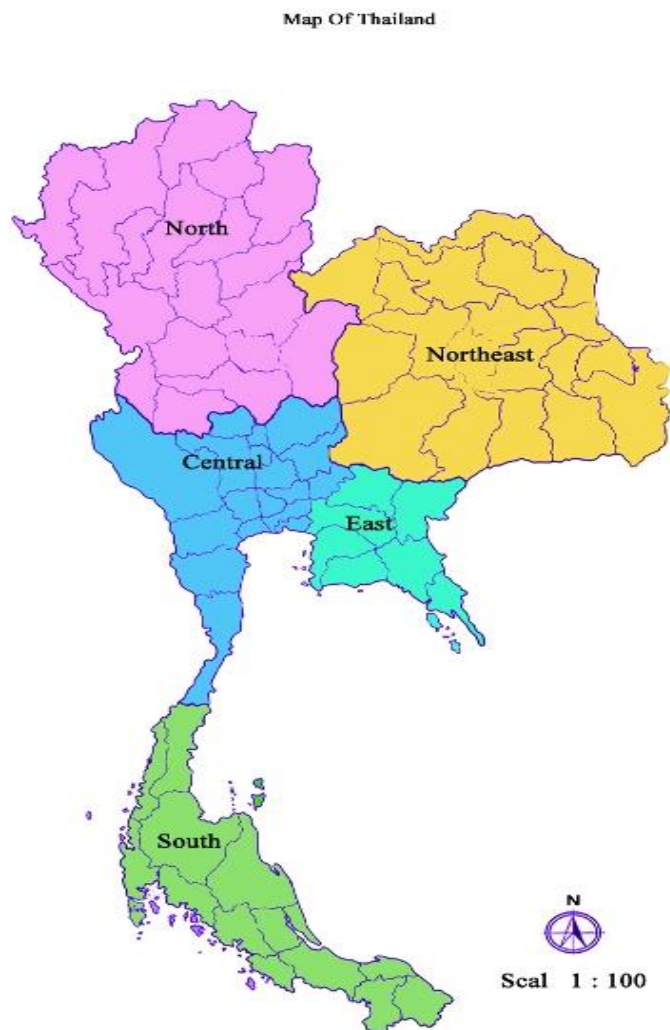


Note: From Map of Thailand, (n.d.).

The country may be divided into five regions:

- 1 Northern Thailand is fertile, mountainous and has vast natural forest.
2. Central Thailand has the richest rice production from the Chao Praya River. The capital of Thailand, Bangkok, is located in this region.
3. Eastern Thailand is mainly a sea coast. The eastern coastal region is rich in archaeological and historical heritage and has become an industrial region.
4. Southern Thailand has rich mineral and ores deposits. It is also the center of rubber production.
5. Northeast Thailand is an arid region with a harsh climate susceptible to drought and flooding.

Figure 5.2 Topography of Thailand



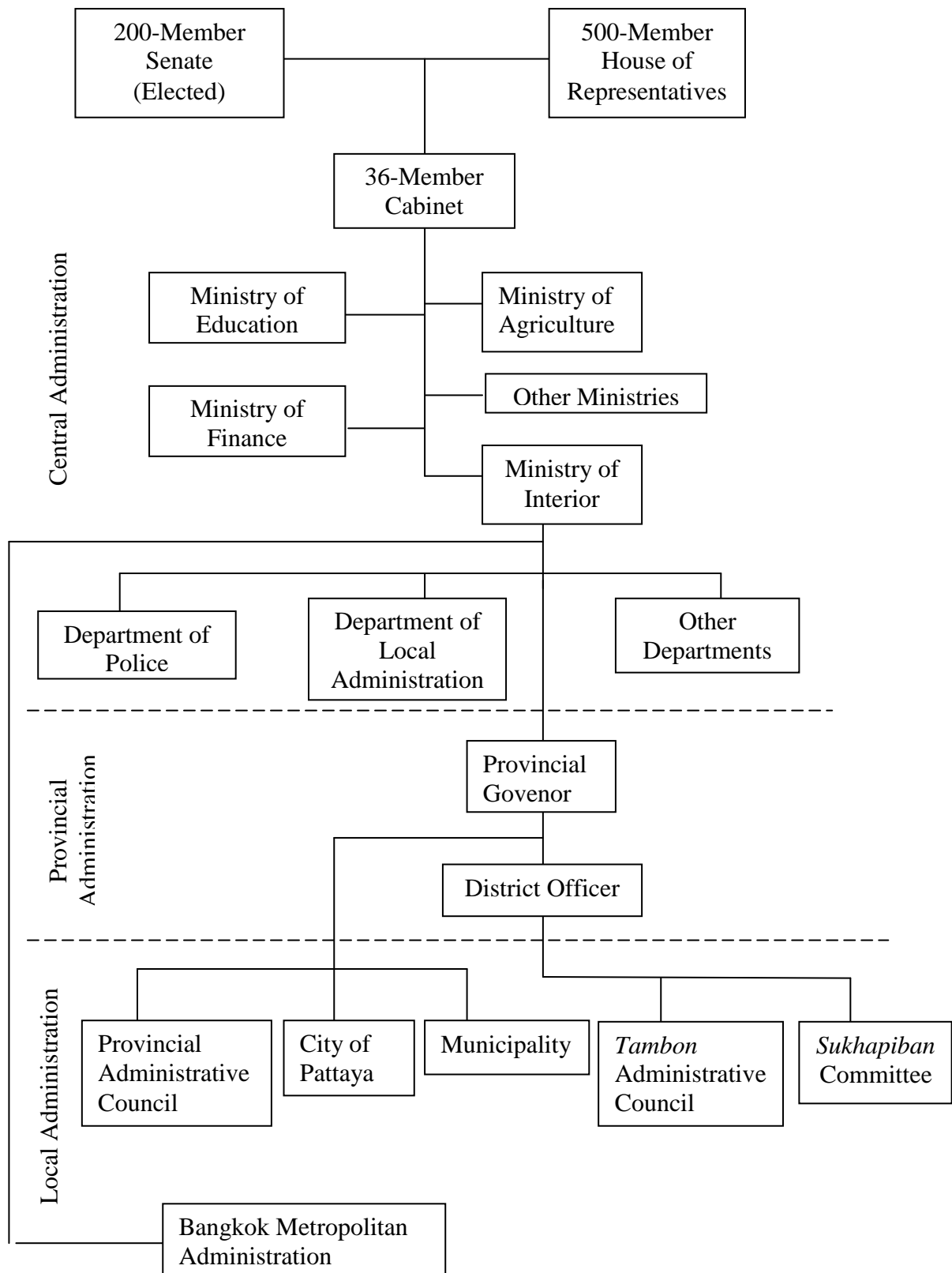
Note: From *Thailand*, (2006). International Labour Organization.

Thailand has a population of approximately 63 million of which 5.8 million people are registered in the capital city of Bangkok (Institute for Population and Social Research, 2008). The majority of Thais are ethnic Thai and their main religion is Buddhism.

Thailand has a substantial number of minority groups, namely Chinese Thais, hill tribes and Malay Thais, who have historically lived together in harmony and they mostly regard themselves as Thai, culturally as well as by nationality. 80% of Thais are connected in some way with agriculture which, in varying degrees, influences and is influenced by the religious ceremonies and festivals that make Thailand such a distinctive country. Although the dialect varies from region to region, most Thai speak and understand central Thai as well (Ministry of Interior, 2006, p. 3).

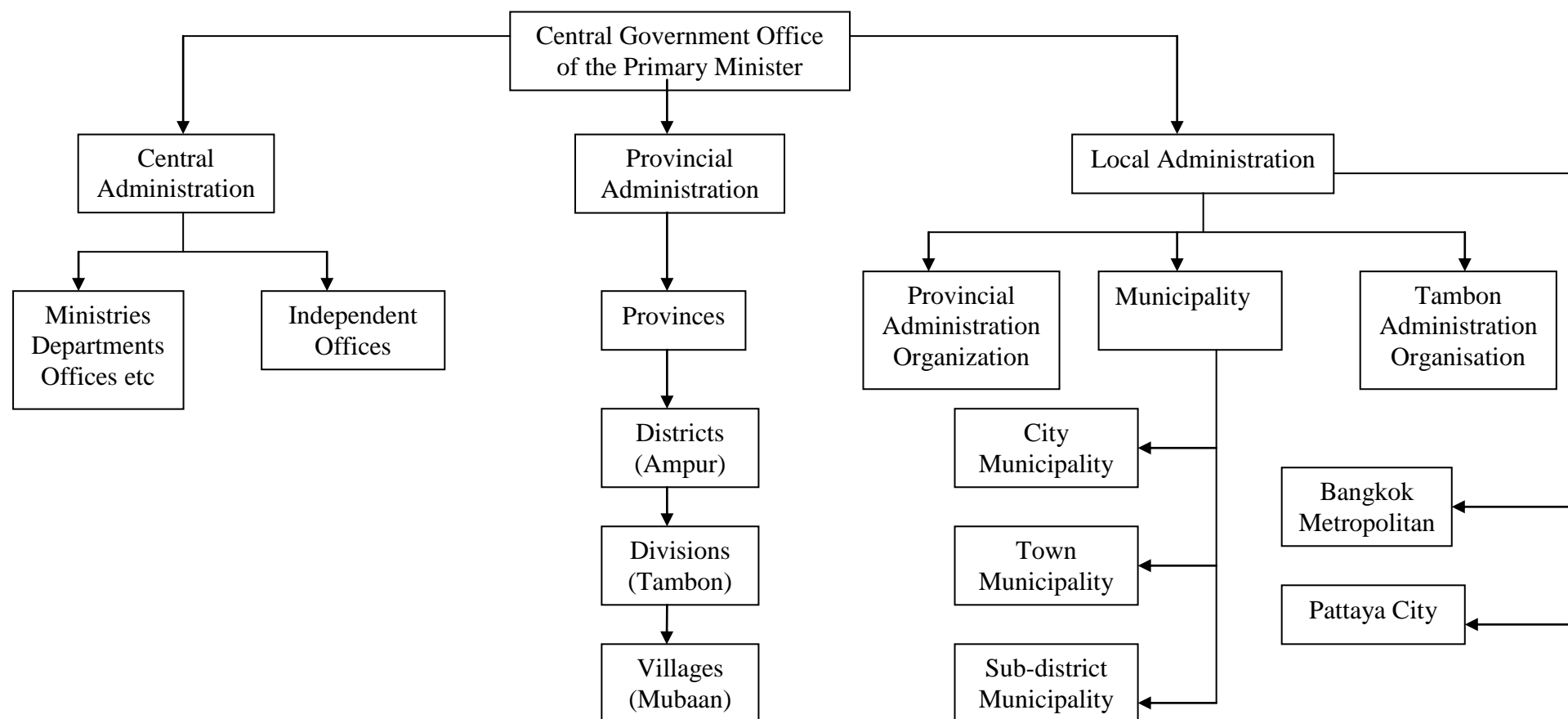
Thailand is governed by a constitutional monarchy. Parliament consists of representatives elected by the people and elected senators. The central administration is divided into ministries. Each ministry has its own regional and provincial agencies as well as some district and village agencies scattered through the countryside. The smallest administrative unit is the village (mubaan) which is a community of approximately 500-5,000 people. A collection of villages is a sub-district (tambon), and a district (amphur) consists of many sub-districts. The next level of division is the province (changwat) which is headed by a governor who coordinates the heads of the provincial ministries. Some government agencies are established at the village level such as secondary schools, community development centers, health centers and agricultural extension centers. There is one agency which is found all over Thailand at the village level, that is, the primary school in which rural people are very involved because of compulsory attendance and local access. All primary schools in the rural areas are operated by the national government.

Figure 5.3 Thai Government structure



Note: From Local government in Asia and the Pacific: A comparative study: Country paper: Thailand, by S. Pas-Ong, (n.d.).

Figure 5.4 Administration structure of Thailand



Note: From *Thailand national profile for persistent organic pollutants (POPs) management*, p. C1-9, (n.d.).

The primary industry is agriculture and the most frequently grown crops are rice, maize, cassava, jute and a wide variety of nuts. The main national export is rice. The geography of the country greatly affects the agricultural fortunes of a region. The central plain region is the wealthiest region; the northeast plateau is the poorest. The average poverty criteria of the whole country increased from 473 baht per person per month in 1998 to 916 baht per person per month in 2001 due to changes in population structure and the price of consumer products. From 1988 to 2001, the percentage of poor people tended to decrease continuously but due to the effects of the 1997 economic crisis, the percentage of poor people in Thailand increased from 11.4% in 1996 to 13% in 2001, an increased from 6.8 million in 1996 to 9.9 million in 1999 and then declined to 8.9 and 8.2 million in 2000 and 2001 respectively (Office of the National Economic and Social Development Board, 2005, 2006, 2007).

Table 5.1 Percentage and the number of poor people

Year		1988	1990	1992	1994	1996	1998	1999	2000	2001
Average income criteria for the poor (Baht /Month)		473	522	600	636	737	878	886	882	916
The number of poor people (Millions)		17.9	15.3	13.5	9.7	6.8	7.9	9.9	8.9	8.2
Percentage of the poor in Thailand (%)		32.6	27.2	23.2	16.3	11.4	13.0	15.9	14.2	13.0
Percentage of poor people by regions	Central	26.6	22.3	13.3	9.2	6.3	7.0	6.8	5.4	4.6
	North	32.0	23.2	22.6	13.2	11.2	9.1	10.6	12.2	10.6
	Northeast	48.4	43.1	39.9	28.6	19.4	23.2	30.8	28.1	24.5
	South	32.5	27.6	19.7	17.3	11.5	14.8	15.7	11.0	13.5
	BKK/Surrounding province	6.1	3.5	3.5	0.9	0.6	0.6	0.2	0.4	0.8

Note: Adapted from *National income of Thailand*, Office of the National Economic and Social Development Board, 2005, 2006 & 2007.

Thailand implemented its National Economic and Social Development Plans in 1961. The first (NESDB, 1961) and second (NESDB, 1967) plans emphasised the economic development that created the roads, dams and electricity infrastructure. The third plan (NESDB, 1972) focused on social development including population control. However, this did not bring about a better life for the people; the government projects

invested in the major urban cities rather than in rural areas. The fourth plan (NESDB, 1977) continued to focus on the economy and also increased distribution of government services such as infrastructure and schools at the local and rural levels. These plans created new tensions in the villages and national problems such as rural migration, increased unemployment, slum settlements, and crime, leaving in their wake unanticipated problem (Xuto, 1981). The fifth plan (NESDB, 1982) emphasized economic structures and poverty alleviation. The sixth plan (NESDB, 1987) stressed economic growth and employment opportunities in the poorer regions. It also attempted to reduce rural poverty and social tensions. Although the first to sixth National Economic and Social Development Plans concentrated on economic development, there was no direct policy on human development. The seventh and eighth plans (NESDB, 1992, 1997) paid attention to human development. An educational development plan was developed along with the national development plan. The ninth plan (NESDB, 2002) focused on the balanced development of human, social, economic, and environmental resources. A priority goal was good governance at all levels of Thai society in order to achieve real sustainable people-centered growth (NESDB, 1992, 1997, 2002). The tenth National Economic and Social Development Plan (NESDB, 2007) sought to develop a green country and a happy society through the King's Philosophy of Sufficiency Economy, including developing skills to work with the new technologies as well as increasing productivity. These plans sought to empower communities and recognise that the main problem was rural poverty. However, northeast Thailand is still struggling with rural poverty. This is because the implementation and driving force behind the localism movement did not emanate entirely from the local people's needs (Yamakushi & Promphakping, 2007; Parnwell, 2005).

Educational system

Thailand's formal educational system consists of basic education and higher education. Basic education takes 12 years to complete: compulsory primary, compulsory lower secondary and non-compulsory upper secondary. Higher education is divided into undergraduate and postgraduate levels. Non-formal education provides for anyone who missed the opportunity to enrol in formal education. There is no age limit to enrol in this program and it can be undertaken at any time. The eight and ninth National Economic and Social Development Plans focused on developing the quality of life, knowledge,

poverty alleviation and that “all individuals should have equal rights and opportunities to receive basic education provided by the state for a duration of at least 12 years” (Office of the Education Council, 2004, p. 16).

Northeast Thailand

Northeast Thailand, also known as Isan, began in the reign of King Chulalongkorn of the Charkri dynasty through the centralized bureaucratic-administrative reform in 1892. The Isan region is bordered by Laos to its north, mountainous ranges to its west and lies to the south of Cambodia, an important gateway to the Indochina countries. Isan comprises of 19 provinces situated on a plateau of dry, sandy soil with relatively hot and dry weather conditions. The northeast is geographically, culturally and economically distinct from the other four regions of Thailand (Prachaiyo, 2000, p. 290). The language of Isan is called Isan and is closely related to Lao. Isan culture has several aspects that are unique in the cultural mosaic of Southeast Asia. A wide variety of gods and spirits are believed to be both beneficial and malicious. Their rites, *Heet Sibsong*, are based on the 12 Buddhist ceremonies throughout the year, from the first to the twelfth lunar month. The heads of the family are responsible for continuing the indigenous customs of their ancestors. Isan is the largest and most populous region of Thailand. Approximately 20.8 million or one third of the population of Thailand lives in Isan (Miller, 2005). Isan people are extremely hospitable. They have to cope with infertile farming land, inadequate soil, and numerous droughts. Hence, the Isan region is the biggest supplier of the migrant population to the Bangkok metropolitan area and seasonal workers for the eastern seaboard industrial zone (*Thailand northeast economic development report*, 2005)

Figure 5.5 Map of Northeast Thailand



Note: From Northeast Thailand, (n.d.).

Agriculture is the largest sector of the economy in northeast Thailand and generates over 35% of the regions' gross regional product (Thongyou, 2003, p. 5). Isan is the center of the Thai silk-manufacturing industry.

In the rural areas, people learn to read and write in their local temple. Boys learn to work in paddy fields, to cultivate field crops as well as fishing and hunting from their fathers. At the age of 20, all the men are ordained as monks for at least three months at the village temple to learn the Dhamma and to have a better understanding of the village community. Thai girls learn how to be a good wife and housekeeping from their mothers. Weaving is also important for many girls. They have to produce fabrics for the family from both silk and cotton, and grow mulberry for silkworms, silk threading and sewing. Thus both Thai boys and girls learn from their families. This form of learning that is passed from older generations to the next is more important to them than any school education. Men are expected to be the household head

responsible for decision-making, and to participate and share in community activities in Isan culture.

Most of them inherit their family property, business and occupation in their community and are also expected to preserve their indigenous knowledge. (Prachaiyo, 2000; Mr. Boonrung Yangkruea, personal communication, May 12, 2005; Mrs Wilai Klanyasan, personal communication, May 25, 2005).

Developing northeast Thailand

The Thai government with military, technical and financial assistance from the American government envisioned the need to bring about economic development in Isan lest the livelihood problem became a cause for rural unrest in the Isan countryside and provided a fertile ground for the growing communist insurgency and perhaps even separatism. Hence, the initial specific development plan for Isan from 1962–1966 was set up (Keyes, 1967; NESDB, 1962).

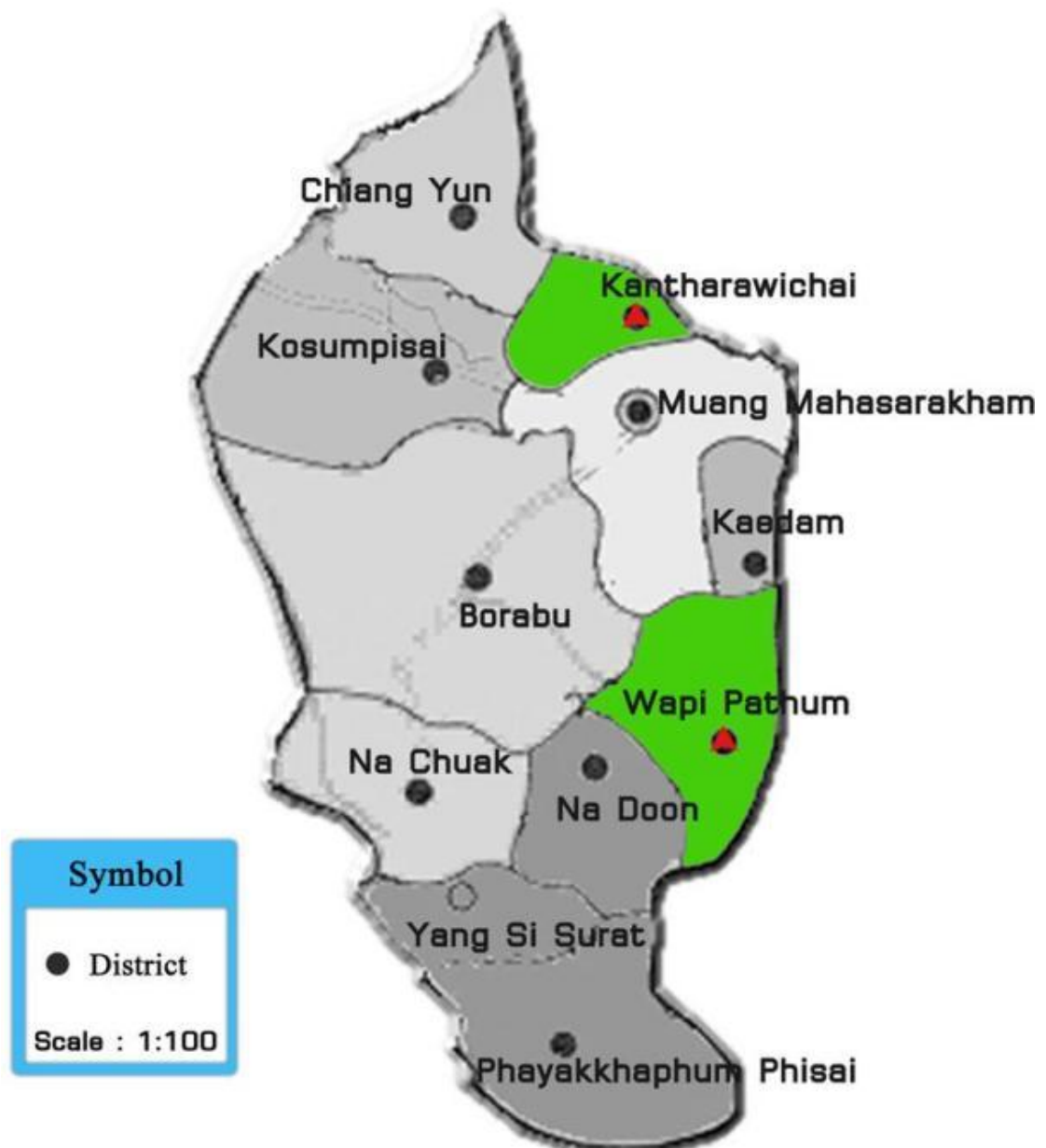
To cope with the economic crisis of 1997, a concept of “sufficiency economy” (NESDB, 2002) based on integration, self-reliance and sustainable development at household and higher levels of community was introduced in the rural sector by the king of Thailand. The basic aim of regional development in the northeast region was to alleviate poverty through self-support and sustainable development (NESDB, 2002). This plan did not show any direction or measures for human resource development, and this lack of emphasis needs to be highlighted.

Maha Sarakham Province

Maha Sarakham is a small city of 5,289 km² located in the middle of the northeast region and 475 km from Bangkok. Maha Sarakham is also the center of education in the northeast, earning the name “Takasila of Isan”. Takasila was a center of education in ancient India (ESCAP, 2008). Maha Sarakham Province borders Khon Kaen to the northwest, Kalasin to the northeast, Roi Et to the east, Surin to the south and Buriram to the southwest. The main river in the Province is the Chi River. The Province is

comprised of 11 districts and these districts are subdivided into 133 communes (Tambon) and 1804 villages (Mubaan) (Maha Sarakham Province Office, 2001, p. 3).

Figure 5.6 Map of Maha Sarakham Province



Note: From Northeast Thailand, (n.d.).

Maha Sarakham lies on a plain of the Chi River and the local economy is based on agriculture and rice cultivation. The vast areas of paddy cultivation depend primarily

on natural rainfall; therefore, cultivation can only be carried out once a year within a three to four month period. Due to the region's high risk of flooding and droughts, most farmers need supplementary incomes (Maha Sarakham Province Office, 2001).

An important home industry is their unique and beautiful silk and cotton production and designs. They grow mulberry trees for use in silk production. Raw silk is sold to hawkers who come into the villages or it is taken into districts such as Borabue and Wapi Pathum where it is sent to silk factories in Khon Kaen Province (Maha Sarakham Province Office, 2001).

Rural people in Maha Sarakham province do not live in isolation. They are involved with the national and international markets through the sphere of farm production. They have undergone rapid change from being subsistence farmers to becoming commercial farmers through the expansion of the market economy, the development of rural-urban communication and infrastructure, and changes in ecological conditions. People no longer produce only for their families, but also for local, national and global markets. The middle class and the poor incur debts with excessive interest rates charged by their neighbours and merchants in the city or districts, because they do not earn sufficient income to cover the cost of increasing production (Maha Sarakham Province Office, 2001).

Therefore poverty alleviation is a major concern. The Maha Sarakham Province Vision Plan aims to develop human resources, particularly education in rural areas, and encourage trade in order to improve rural economy (Maha Sarakham Province Office, 2001). Human resource development, education and labour training are major and crucial elements of any production-restructuring plan. Investment in human capital is also an important factor in the reduction of poverty and the promotion of greater equality.

Ma Kha District

This section presents the geographical, social, economic, educational and cultural context of Ma Kha District and focuses on the Krainun Village Zone 10 community

where one of the case studies was carried out. Ma Kha Sub-district is in Kantarawichai District, Maha Sarakham Province. It is about 8,474 acres (21433 Rais) or 13.38 km². It is connected to Kud Sai Joh Sub-district in the north, joined to Ladpattana Sub-district in the south, the Chi River lies to its East near Kho Saard and Kongchaipattans Sub-districts, and it is adjacent to Taopattana in the west. There are a total of 15 villages.

Figure 5.7 Map of Ma Kha Sub-district



Note: From *Ma Kha Sub-district*, Ma Kha Sub-district Administration Organisation, 2005.

Table 5.2 Names of villages and areas

Moo or Zone	Name of Village	Area for living (acre)	Farming (acre)	Husbandry (acre)	Gardening (acre)	Total (acre)
1	Ban Ma kha	39.53	768.99	624.47	52.58	1504.37
2	Ban Ma kha	39.53	593.05	553.51	39.53	1225.64
3	Ban Ma kha	27.65	513.97	59.30	31.62	395.36
4	Ban Ma kha	31.62	460.60	150.23	9.88	652.35
5	Ban Phi	98.84	612.02	-	-	710.87
6	Ban Kudvient	27.65	138.37	-	39.53	177.91
7	Ban Namtien	35.58	359.38	39.53	19.76	454.27
8	Ban Payanhang	35.58	272.80	7.90	19.76	336.06
9	Ban Nonton	39.53	474.44	-	23.72	537.70
10	Ban Krainun	43.49	430.95	59.30	35.58	806.55
11	Ban Nong Ya Ma	19.76	118.61	-	-	138.37
12	Ban Kongyai	39.53	184.63	-	-	224.17
13	Ban PaienNam	31.62	627.44	2.76	39.53	701.38
14	Ban Nontun	15.81	150.23	11.86	15.81	193.73
15	Ban Krainun2	15.81	292.57	27.67	31.62	415.13
Total		541.65	5998.12	1554.58	358.99	8473.92

Note: From *Ma Kha Sub-district*, Ma Kha Sub-district Administration Organisation, 2005.

Table 5.2 shows the amount of land that each village in Ma Kha Sub-district has settled and utilized for agriculture.

Geography

Ma Kha lies in a plain and many areas, especially in the south, experience floods during the rainy seasons. Most of the land is used for farming, especially in the south where farmers have access to water resources all year round. They are even able to plant rice twice each year. These areas produce bountiful crops such as vegetables, cassava and sugar cane and serve as an important fishery for Kantarawichai District. However,

flooding also destroys the cropland. Hence more homes are built on the higher slopes in the north while the low-lying land is used for farming.

The main river, Chi River, is essential for people living in Ma Kha Sub-district. The Chi River flows pass Ban Payanhan, Ban Nontun, Ban Khong, Ban Kungvient, Ban Nong Ya Ma, Ban Kainon no. 15 and Ban Kainon no.10 (See Figure 5.7, page. 146).

Natural resources

The forest around Ma Kha Sub-district is a grove. The people take wood for firewood and cooking in their home. The villagers believe in a spirit called Don Pu Ta who takes care of the forest. The villagers do not cut the trees in the forest because they believe that this will bring bad luck to their family.

There are two types of soil in Ma Kha. The land in the south is fertile loam while the sandy earth in the north is not suited for agriculture. The natural water resources are from the Chi River and the surrounding marshes. The villagers use the marshes in their village for their cattle and buffalos. Their daily lives depend to a great extent on the surrounding natural resources, the most important being water.

Society

The villagers tend to have large families with five to eight people in each family unit. They have good relationships within their families. The father is the head of the family and the mother's main task is to take after the family members.

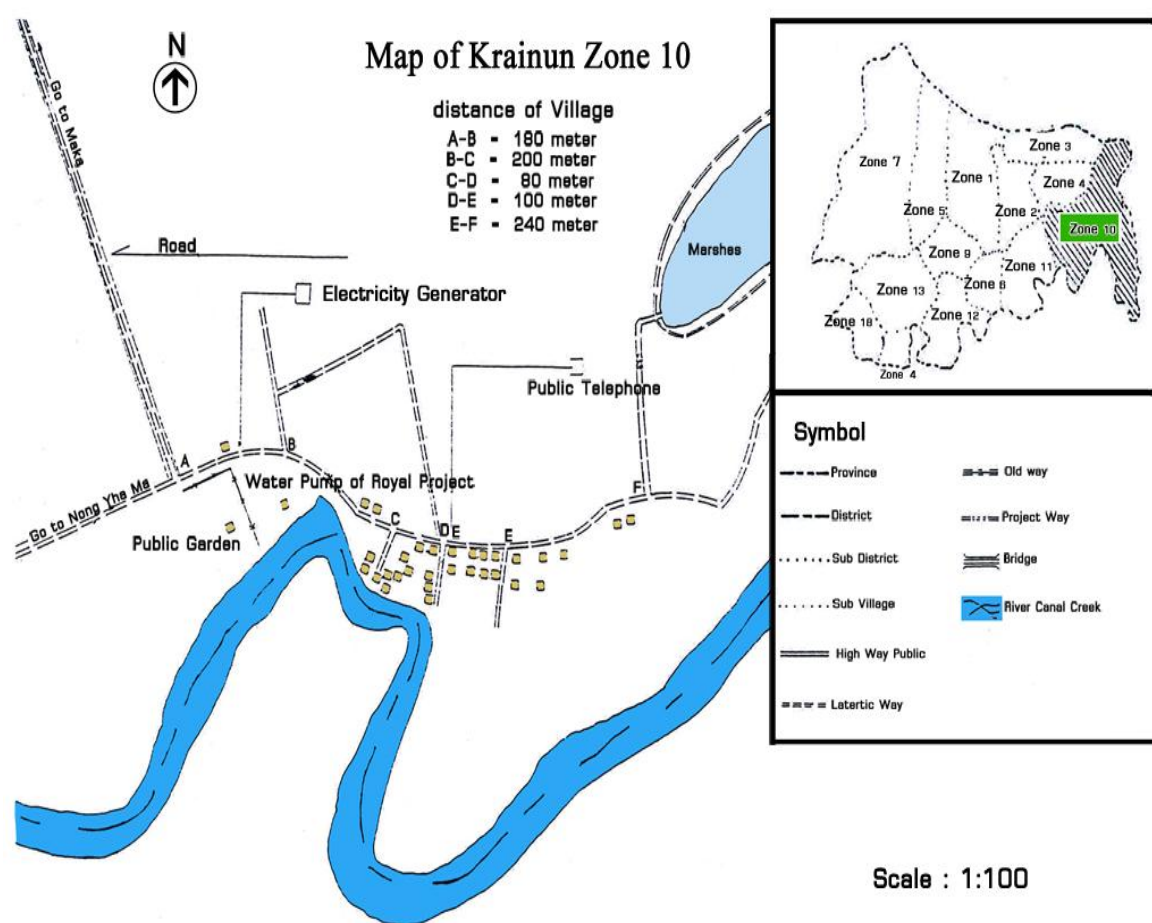
Krainun Village

Krainun Village is located in Zone 10 Tambon Ma Kha, Khantharawichai District, Maha Sarakham Province and was established in 1950 (BE 2493). Most people moved from Kalasin, Roi-Et, Sakhonakorn, Nakorn Panom Provinces and also from the villages nearby. There are 247 villagers, consisting of 124 males and 123 females (as of 20 September 2005 (BE 2548)).

Geographical location

Krainun Village is located to the east of Khantharawichai District, about 6 km from Tambol Ma Kha and about 9 km from Khantarawichai District (See figure 5.8). It is about 25 km from Maha Sarakham and close to the Chi River Basin. Krainun Village has an area of 806.55 acres, including 430.95 acres for rice planting, 43.49 acres for housing, 59.30 acres for husbandry, and 35.58 acres for gardening. Its geographical location is flat and the Chi River lies to its south. It usually floods in the rainy season but in summer, there is drought. There is a small water reservoir to supply water for agriculture.

Figure 5.8 Map of Krainun Village Zone 10



Note: From Ma Kha Sub-district, Ma Kha Sub-district Administration Organisation, 2005.

Weather features

Krainun Village is affected by the north-east and west-south monsoons. There are three seasons:

Summer lasts from March to May, bringing hot weather and drought.

Rainy season lasts from May to September.

Winter lasts from October to February with cold weather conditions.

Economy

The economy is agriculture-based; vegetables and chili gardening supplement rice planting. Cattle are raised for food and sale. The Government through its project, OTOP, promotes trade in handicrafts like cotton and silk weaving, mat weaving and producing local Thai sweets to enable the villagers to earn extra incomes in their local communities. Many female villagers are interested in setting up these business projects. Most of them had worked in Bangkok before the 1997 economic crisis. In 2002 an average family had an annual income of 10,000-10,500 baht. Almost every family borrows from the Bank of Agriculture and Corporation, their village fund or their relatives, to finance their business projects.

Education

The small primary school in Krainun Village, Krainun Ratbumrung, services two villages, Zone 10 and 15. In 2005, there are 5 government teachers. However there were no libraries or child care centers. Most Krainun villagers had only completed compulsory primary education because they had to work to help their families.

There was no support for further learning after graduation in the village. This was an important factor affecting their job opportunities. According to my survey, Krainun Village did not have any reading centers or learning centers to promote literacy.

Religion

The people of Krainun are devout Buddhists and their communal and rural activities are closely related to Buddhism, their religious institute, religious traditions and culture. The Wat Sena Wanaree was founded in 1999 (BE 2542).

Public health

There are lavatories in almost every household. The villagers use the medical facilities at Ma Kha Community Public Health Station that is about 10 km from the village.

Infrastructure

Transportation

Krainun villagers usually travel and conduct business by bicycle, the Thai three-wheeled 'car', motorcycle and car except during the rainy season, when they use the waterway more often, as the road leading from the TAO is subject to flooding.

Telecommunications

There is only one public telephone in the village because there is no telephone installation service in the village. The public telephone system is unworkable. Instead the villagers use cell phones. There were a total of 50 households with cell phones and some households owned more than one cell phone. There were only 10 households which did not have cell phones. In 2005, the cell phone agency set up a telephone signal post near the village to improve cell phone reception.

Electricity

Every household now has electricity for their televisions, radios, electric fans, refrigerators, and stereos. Almost every household has a television or at least, a radio or a stereo set. The community now perceives that there is value in receiving news from the radio and television.

Water resources

Since Krainun Village is located near the Chi River, the Chi River serves as their main water resource, especially for their agricultural needs. Apart from this, they use a small irrigation system for rice planting in poorly graded paddy land.

Social community

There were 64 households and 247 villagers in Krainun Village (as at 28 September 2005 (BE 2548)). The village in general is similar to other rural villages, that is, these indigenous villagers have known each other for a long time and they help each other especially with religious activities. They have close relations with each other and respect for the elderly.

From the interview and observational data gained from participating in village activities, including community work and religious functions, their way of living is now changing. Usually villagers bring what they have or what they think may be useful to a village activity, such as, rice, fruits and vegetables for sharing. However, increasingly they prefer to bring cash. Furthermore, with modern home devices, the family does not have to go outside their house nor join in the village festivals for entertainment. This increases their privacy. They also hope that by supporting their children's higher education, their children will have a successful future. This has resulted in their children migrating for work or seeking a better life elsewhere. Their children desert the village and lead a lifestyle different from their ancestors. Although their children have migrated outside, they still return to their village to celebrate cultural and traditional ceremonies and contribute to their family farming.

Traditional cultures

The culture and traditions of Krainun villagers are similar to Thai-Isan in general. Their cultural heritage is passed from generation to generation. There is based on Buddhism beliefs and revolves around the "Twelve months traditions" as follows:

Table 5.3 Twelve months traditions of Krainun Village

Lunar	Ritual	Month	Purposes
1	Bun Khao Kam	December	Listening to Dhamam given by monk
2	Bun Kum Khao yai	January	Harvesting ceremony
3	Bun Khao Chi	February	Presenting the monk with the first rice yield
4	Bun Prawet	March	Merit-making and listening to Dhamma in 13 chapters
5	Bun Songkran	April	Traditional Thai new year and family reunion
6	Bun Bangfai	May	Initial stage of cultivation by asking the rain from Dhaen
7	Bun Ban	June	Preparing cattle for new cultivation
8	Bun Khaophansa	July	Start 3 months stay in temple for all monks
9	Bun Khao Pradap Din	August	Donating food to former ancestors and god of cultivation
10	Bun Khao Sat	September	Special presentation of typical belongings to monks
11	Bun Tai Namman	October	Present lights to the god to show the gratitude of people
12	Bun Katin	November	Big merit-making of the year to pay respect to monks in temple

The Buddhism moral foundation of their cultural beliefs controls their behaviors and helps build harmonious relationships.

Although the natural and environmental resources are able to sustain the villagers, their standard of living remains low, as is the norm of agriculturists in this region. Moreover, the flat topography of their village near the Chi River often results in flooding for months. Their produce is dependent on the weather that is unpredictable. The scarcity of vehicles and the gravel road to the village makes commuting difficult and time-consuming; this hinders the transportation of goods for selling. It also makes it difficult to get to the district or provincial hospitals.

After the 1997 economic crisis in Asia, in its attempts to revitalize the economy, the Thai government sought to prepare the country to be a learning society or knowledge-based economy. One of the projects, considered an urgent policy, was the One Village One Million Baht Programme. It was established to encourage people to use the village fund to generate extra earnings. Krainun Village established many groups

setting up clothes weaving, sweet making and gardening in response to the objectives of the projects. The group that is most successful in consistently generating income is the clothes-weaving group. They have about 20-30 members with ages ranging from 25 to 55 years old. Their main livelihood is rice planting and they are also responsible for taking care of the family. After their daily work routine and household chores, or after the harvesting seasons, they work for their group for an average of five to six hours a day. They take turns to work, depending on when they are available. They each have different responsibilities in the project as appointed by their group. There are about four to five members working each day and they always pack their lunch from home to eat together. This willingness to help each other is part of the indigenous identity of Isan people.

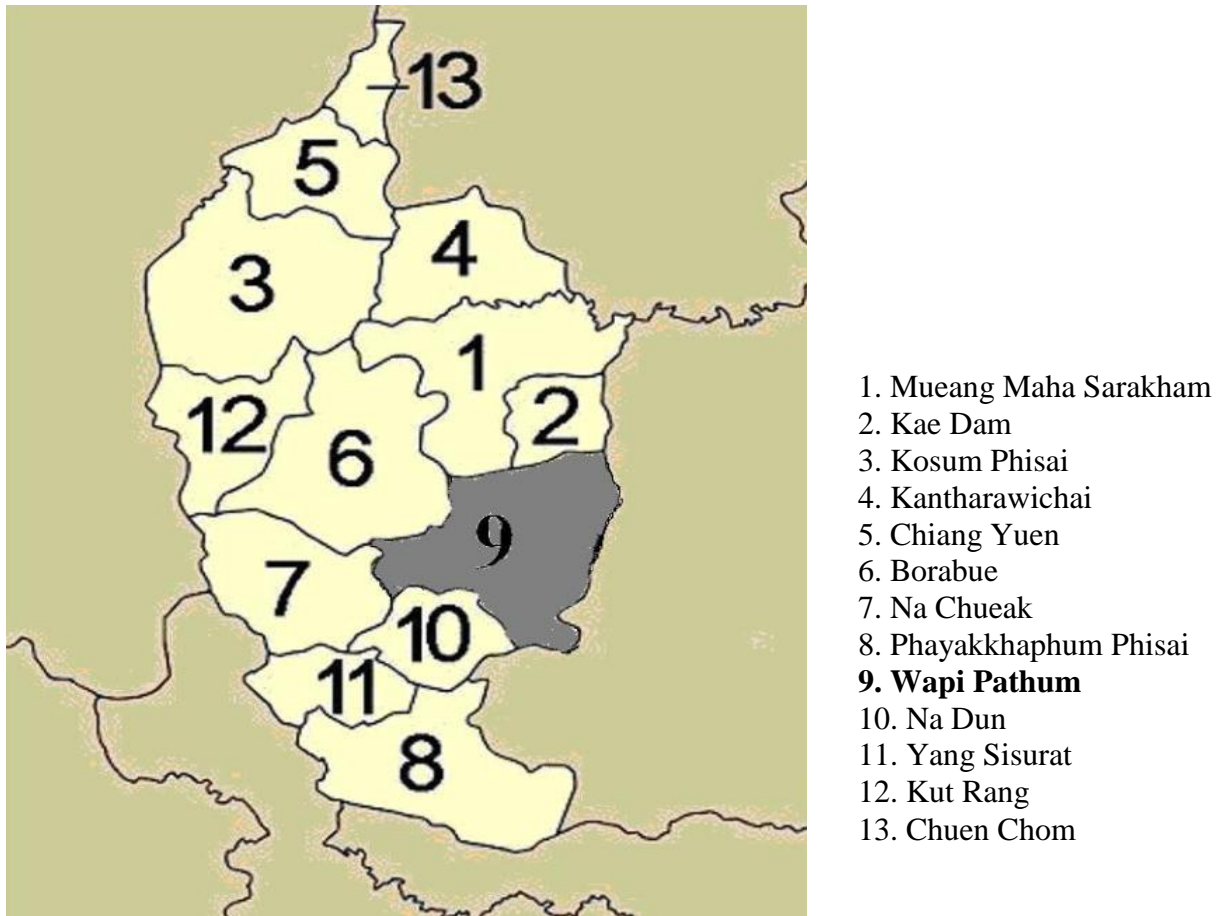
Khok Yai Community Forest

This section describes the Khok Yai Forest community, the other case study in this research. It addresses the barriers and solutions for the community in their economic and social lives.

General background

Waip Pathum District has an area of approximately 605.77 km². It is located 40 km from Mueng District Maha Sarakham and 510 km north of Bangkok.

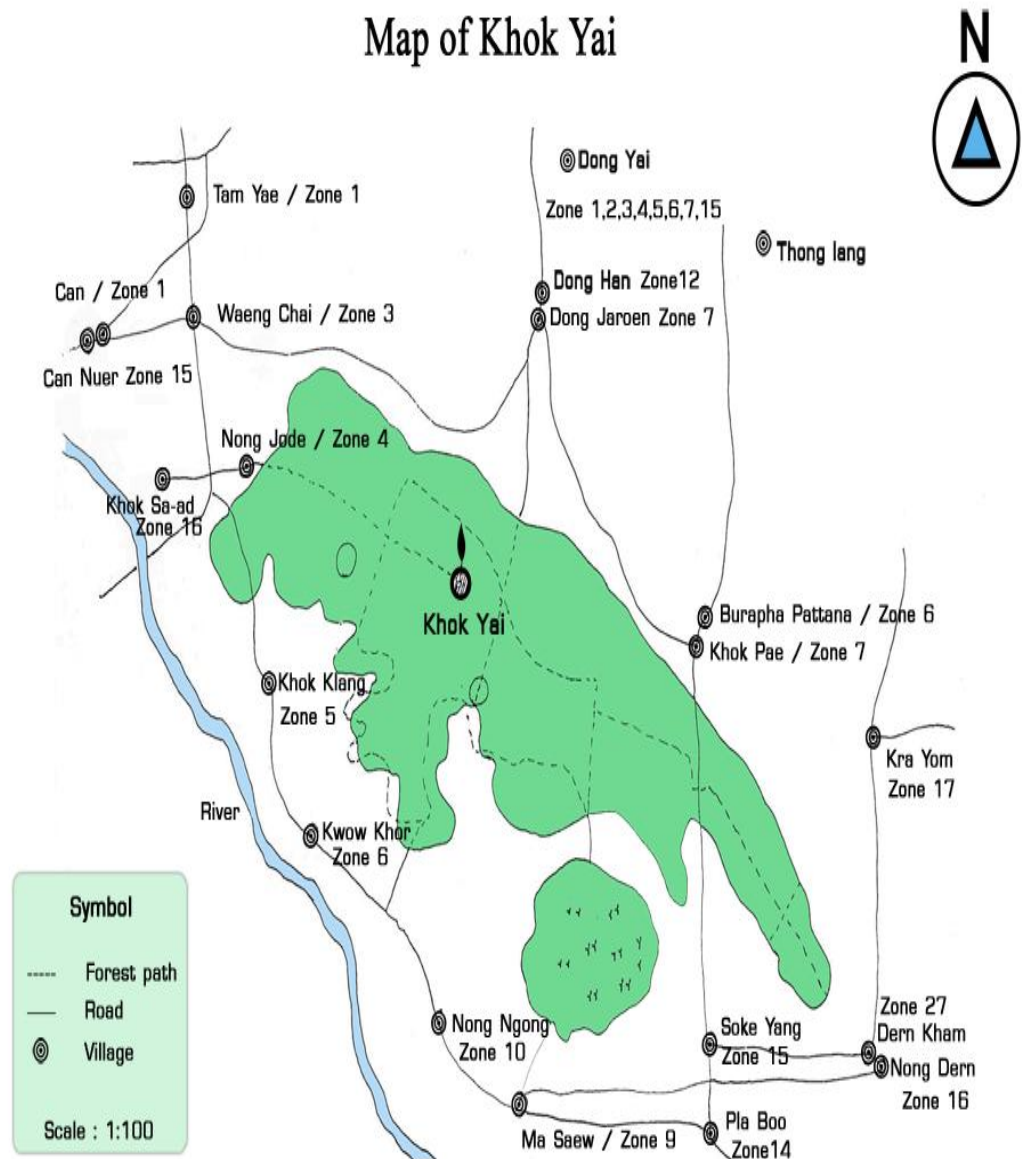
Figure 5.9 Map of Wapi Pathum District



Note. From *Amphoe Wapi Pathum*, (n.d.).

The Khok Yai Forest (Figure 5.10) engulfs Wapi-Pathum District of Maha Sarakham Province. It is the largest forest in the Province where the government has authorized people to share in the management of forest.

Figure 5.10 Map of Khok Yai Forest zoning



Note: From Map of Khok Yai Forest, KYCFC (Cartographer), 2005.

There are 4266 rai⁹ of public forest made up of the previous community forest encompassing 20 villages and 5 sub-districts i.e. Sub-districts of Nong Saeng, Ban Wai, Kaen, Dong Yai, and Khok Si Thonglang.

⁹ 1 rai = 0.4 acre

Table 5.4 Households surrounding Khok Yai Forest

Sub-District	Zone No	Village Name	Total Household
Can	1	Can Tai	130
	2	Tam Yae	177
	3	Waeng Chai	114
	4	Nong Jode	44
	5	Khok Klang	62
	6	Kwow Khor	94
	15	Can Nuer	118
	16	Khok Sa-ad	46
Nong Saeng	14	Pla Boo	68
	15	Soke Yang	124
	16	Nong Dern	91
	17	Kra Yom	133
	27	Dern Kham	72
Dong Yai	3	Dong Yai	47
	7	Dong Jaroen	75
	12	Don Han	95
Khok Si Thong Lang	6	Burapha Pattana	86
	7	Khok Pae	66
Ban Whai	9	Ma Saew	107
	10	Nong Ngong	47
Total	20	-	1,796

Note. From *Village demographic reports 2001 (BE 2542)* by Office of Statistics, Maha Sarakham Province, 2000.

The Khok Yai Forest is the last rich forest of Maha Sarakham Province. It is a gigantic supermarket producing natural food such as mushrooms, bamboo shoots, vegetables, fruits, animals, insects and herbs for medicine, woods for housing and fuel.

In 1961 (BE 2504) the Thai government announced that the Khok Yai Forest would be an 'open forest' for villagers to cultivate jute, tapioca etc as a result of its policy of commercial plantation promotion. In 1965 (BE 2508) an area of 3,588 rais was reserved as living settlements for 243 families. Space to cultivate sugar cane and eucalyptus trees was also negotiated and forest was cut down to use as fuel to mine the underground salt deposits in the districts of Borabu, Wapi Pathum, and Nadoon from 1982 (BE 2525). This increased devastation of the forest led to aridity,

unseasonal rain and a continuous deterioration in the richness of the area, affecting the livelihoods of people surrounding the forest.

With these problems, the villagers became critically aware of their need to conserve their natural resources i.e. soil, water, forest, and environment. In 1993, community leaders formed the network committee for the 14 villages to conserve and rehabilitate the Khok Yai community forest. As a result of their outstanding community forest conservation, Her Majesty the Queen has conferred the royal colours of “Forest Guard to Secure Life”¹⁰ on 21st November 1996 (BE 2539). In 1999 (BE 2542), the Khok Yai network committee expanded to cover all 20 villages within the 5 sub-districts surrounding the forest, and to develop a master plan for the entire community forest management of the northeastern region. The network committee established a coordination center, a center of natural studies and a center for local culture. They had a clear organisational structure and action plans supporting the conservation and rehabilitation of the forest as well as developing the economic and social aspects for a sustainable community. The committee drew on widespread collaboration among leaders, villagers and organisations to manage community forest.

Barriers and solutions for the Community Forest

During 1993, village leaders supported by the government sector launched public relations campaigns to highlight changes that affected the conditions around the forest so that the villagers could participate at both the community and multi-groups levels. In 1984 (BE 2527), the office of Wapi Pathum District, Maha Sarakham Province together with the villagers and community leaders who owned lands attached to the forest measured the existing rich area. These projects to preserve and rehabilitate Khok Yai community forest resulted in village organisations formulating rules and regulations were announced on October 15, 1994 (BE 2537):

1. Permits were required for cutting down trees.
2. Permits for motor saws and all kind of saws were mandatory.
3. Hunting wildlife and forest burning were prohibited.
4. Permits were needed for cars entering the forest.

¹⁰ This project supports local and indigenous communities in sustainable forest management at Her Majesty the Queen’s initiative.

5. Plant and herbal species as well as animals were not allowed to be removed.
6. Offenders faced fines between US\$12 to US\$122 (500-5,000 baht).

Even though the Khok Yai community had these regulations and rules, it could not solve some problems. Illegal woodcutting, collection of herbal plants and hunting wildlife by outsiders continued. Plans to patrol and use the villagers living around the forest to guard the forest were unsuccessful due to the size of the forest and numerous access points across many districts. It was easy to drive cars into the area to remove timber, herbal plants and wildlife illegally. Moreover budgetary problems related to fire management resulted in further critical deforestation each year.

Village history

The original villagers were of Tai Lao ethnicity, and they identified with the same culture and tradition as Thai people. They migrated from Suwannaphum Sub-district, Roi Et Province around 200 years ago. They first established the village at Ban Dong Yai and then expanded their community and split the village to live near a forest. The reasons for establishing a new village were related to the environment and natural resources such as adjacent forests, rivers and reservoirs. The early settlers adopted customs, traditions and beliefs passed down through the generations.

The villagers around Khok Yai Forest rely on the forest for their livelihoods. The forests and woodlands that surround the villages provide important resources for sustaining the village households and their economy. Therefore preservation of the forest and its ecosystem is essential. The forest provides crops, herbs and other daily necessities, as well as pasture for cattle grazing.

Social network

The social networks of the communities around Khok Yai Forest consist primarily of relatives and are characterised by mutual help such as exchanges of food, trust and friendliness. It is easy to ask for help regardless of wealth or status, and this supportive system is still effective.

Family

In the past, there were two family types:

- 1) The single family with unmarried children. These children would move out to build a new home after marriage. They stayed in the neighbouring areas or within the same village.
- 2) The expanded family accommodated children even after they were married and it was common for the youngest child to look after the parents. The husband was the leader of the family and was responsible for decision-making in the family.

Recent changes have seen the young, both males and females, working outside the community and making their own decisions regarding marriage.

Inheritance includes land, cows, buffalos, properties and farm accessories. The arrangement of inheritance is still performed in the traditional manner. Children are provided for equally but whoever takes care of the parent will get more or an agreement is reached. Gender discrimination does not affect the sharing of the inheritance. The arrangement can be reached either when the parent is alive or dead, depending on each household.

Kinship and family

The villages surrounding Khok Yai Forest have strong social and cultural ties. In particular, kinship is very strong in terms of the respect given to the senior members in the family. The elders in the family are the heart of the family. They communicate using the Isan language in their daily life.

In addition to the kinship system, the villagers form relationships outside the family with the matchmaker ('Por Seu'¹¹ in Isan) and lifelong pal ('Siew'¹² in Isan). The matchmaker is involved in the wedding proposal and also approves and arranges the wedding. The lifelong pal is a lifelong friendship between two people not usually from the same family but after the lifelong friendship is formed, the two families become like one. This results in a strong relationship.

¹¹ Por Seu is a senior villager and knows the families of the bride and the bridegroom well.

¹² Siew is a close friend.

The strong kinship system has not changed much. Activities in the family continue to be shared tasks. In addition, when they have a problem, they have to ask for help from their cousins even if their cousins live far from their village as an indication of their good relationship.

Economy

The major occupations are based on agriculture such as growing annual paddy crops that is dependent on the rains. The annual income is 15,000-20,000 baht (US\$368-490) a family. Furthermore, some families plant tapioca and cassava over 5-10 rais raising the family income by 3,000-5,000 baht (US\$74-123) a year. Cattle not only work in the fields but their dung is also used to fertilize plants and the soil. In critical cases, they are sold for a living. Besides cattle, the villagers raise poultry for food as well as for selling to their neighbours for festivities such as marriages. Pigs are raised only in homes owning a rice mill since rice thrash is used for raising pigs. Other families prefer not to raise pigs because of the high costs of feed and low returns.

Another critical source of income for villagers living near the forest is collecting forest products, particularly mushrooms, which can help raise the family income up to 10,000 baht (US\$245) a year.

It was further found that among 20 villages there was a migration of labour force into the city and other provinces. The young would migrate to seek jobs in industrial factories, companies, and shops in Bangkok. The elderly when not cultivating paddy would also seek construction jobs and general employment in Bangkok.

Religion and beliefs

The villages surrounding Khok Yai Forest observe Buddhist ceremonies and practice. There is a temple in each village that is central to the lives of the villagers. They observe important Buddhist holidays, hold fund raising and donation ceremonies at the temple.

Another spirit belief is Pi Reun¹³ where the ancestors' spirits are invited to the house shrine to protect the young family members. Beside the ancestral spirits, the villagers have collective spirits called Pi Pu Ta¹⁴ at the shrine on the common sacred land. The villagers have rules to protect the sacred land and natural resources. No one cut trees at Don Pu Ta¹⁵ where the shrine of Pi Pu Ta is located. The villagers perform a ritual ceremony in the sixth and twelfth lunar months to pay respect to Pi Pu Ta.

Cultural traditions

In the past, the villagers around Khok Yai Forest were mainly attached to the temples. The majority of the festivals and socio-cultural activities are related to religious beliefs. The Khok Yai Forest villagers seriously observed the northeast tradition of Heet Sib Song¹⁶ or the twelve months traditional religions cycle (See table 5.5).

¹³ Pi Reun is a home guardian spirit.

¹⁴ Pi Pu Pa is a spirit to protect land and natural resources.

¹⁵ Don Pu Ta is a place where Pi Pu Ta is located.

¹⁶ Heet Sib Song is a tradition for rural people in the Northeast to observe in a year.

Table 5.5 Twelve months traditions in villages surrounding Khok Yai Forest

Month	Lunar month	Tradition	Detail
December	First	Bun Khaw Kam	Monks take the vow of penance for any unconscious or conscious sins or violation of monk's precepts.
January	Second	Bun Khaw Jee	Follows the rice harvest. New rice is steamed, melded with salt and egg and grilled, then offered to monks
February	Third	Bun Prajampee	Observed when there is enough free time and adapted to meet situational needs.
March	Fourth	Bun Pha Wet or Bun Mahachaat	The ceremony of the penultimate life of the Buddha as Pha Wetsandon (Vessantara Prince or the Festival of the Great Birth)
April	Fifth	Bun Songkran	Songkran or water festival is the Thai New Year according to the Thai and Indian Solar Calendar. It is a big holiday and a time for family reunion. Young people pay homage to the elderly by pouring scented water over their palms and asking for their blessing
May	Sixth	Bun Bang Fai or Bun Duan Ho	To celebrate the Buddha's birth, enlightenment and death
June	Seventh	Bun Baan-	Preparing cattle for new cultivation
July	Eighth	Bun Khao Phansa	Villagers offer candles to the temples
August	Ninth	Bun Khaw Pradadin	Villagers cook fish grilled, sticky rice and raped banana leaves and offer them to spirits of their relatives by laying them on grass in the fields.
September	Tenth	Bun Khaw Sak	To make merit to people and animals that might be in trouble in order to relieve those who are suffering
October	Eleventh	Bun Ok Phansa	Monks remind each other of their good or unacceptable behaviour before some of them leave the monkhood
November	Twelfth	Bun Kathin	Offering and fund raising time for temples

Source: *Heet Si Song*, Sirindhorn Isan Information Center, 1995

Schools

Before 1922 (BE 2465), the villagers surrounding Khok Yai Forest used the temples as a school but from 1922 to 1956 (BE 2468-2499), village schools were established. These were primary schools from kindergarten to Pratom 6 (Level 6) for students aged 5-12 years old. Since 1978, the schools have been extended to Secondary Level 3 (Mattayom 3) for student aged 13-15 years old and in 1993 these were extended to Level 12 (Mattayom 6) for students aged 16-18 years old. These schools served every villager. However some villagers did not attend school because they lacked money, the school was too far from their village or they had to help their family with farming. Many children did not continue their study when they finished their compulsory education. Some of them left for the city to earn money to support their families. There are 10 schools around the Khok Yai forest.

Table 5.6 Schools surrounding Khok Yai Forest

Name of School	Sub-district	Primary School Level 1-6(Pratom)	Secondary School Level 7-9 (Mattayom)	High School Level 10-12
Ban Dong Yaiwittayakhom Rajchamunkarapisak School	Dong Yai Group 1		✓	✓
Dong Yai School	Dong Yai Group 2	✓		
Dong Hun School	Dong Yai Group 7	✓		
Ban Karyom School	Nong Seang Group 17	✓		
Ban Wai School	Wai Group 4	✓	✓	✓
Ban Ma Seaw Nong Ngong School	Wai Group 9	✓		
Ban Tam Yae Rajprachanukorn	Can Group 2	✓	✓	
Ban Wang Chai Nong Jode School	Can Group 3	✓		
Ban Kwow Khor Khok Khok Klang School	Can Group 6	✓		
Khok Pae School	Khok Si Thong Lung Group 6	✓		

Note: From Educational Office Maha Sakham region 2 Nong Sang Sub-district Wapi-Pathum District Maha Sarakham, n.d.

These schools and the communities retained good relationships and also the villagers supported school activities. The communities and schools worked together for mutual benefit. The communities realised that the schools are the best organisations for gaining knowledge for the Khok Yai Forest community. The schools and Khok Yai Forest community villages worked together towards forest conservation and rehabilitation. Teachers disseminated forest information and organised notice board exhibitions. More importantly, the teachers were interested in ICTs. They wanted to learn to use ICTs to create instruction materials. They became participants in my study.

Infrastructure and technologies

Infrastructure such as roads, electricity and modern forms of transportation and communication play an important role in the market economy in rural areas, often forcing local people to change their values (Nartsupha & Lertwicha, 1998). Three aspects which impacted on Khok Yai community villages were: 1) electricity, 2) the public telephone and 3) mobile phones and computers.

Electricity

In typical rural Thai villages, each household has lighting such as lamps, pressure lamps, acetylene lamps or candles and radios. Electricity is a basic infrastructure service that has significant impacts on the rural areas.

In 1989 (BE2532), the villages surrounding Khok Yai Forest were connected to electricity. This had a direct impact on Khok Yai villagers' overall well-being. Every household used electricity. Although their income was low, they demanded electricity for services such as lighting, television and refrigeration, changing their way of life.

From the observations, villagers and community cohesion were eroded by mass media. Many appliances and behaviours were introduced to the village, for example, televisions, mobile phones, modern motorcycles for teenagers, and other fashion items were promoted by the mass media. Advertising and soap operas influenced the human qualities and characteristics of the communities, especially the impressionable younger generation, who seem unable to distinguish between what is, and is not, useful and worthwhile in human and social terms. The penetration of the 'outside world' affected their values and way of life. People became less generous and more selfish than in the past, looking out for their own interests and even taking advantage of those weaker than themselves. Some people preferred to purchase food and meals from stores or the mobile shop that visits the village rather than growing their own

food. Even though some families have changed their way of live, there is still a strong relationship in their family as they continue to communicate with their kinship by mobile phone or visit each other. In particular, their children respect older people and value their family.

Telephone

Information technology provides access to the world's wealth of knowledge and opportunities. The ability to distribute information for free and link distant users to information resources creates radically new opportunities to enhance rural livelihoods and empower rural people to voice their concerns and defend their interests. Many individuals and groups have explored how electronic mail and other computer mediated communications can help empower those concerned with social justice, environmental preservation and other causes (Annis, 1992).

Most media such as radio, television and newspapers were developed for one-way broadcasts of information. In contrast to the hierarchical patterns of broadcast technologies and exclusive private networks, decentralized networks of communication through the public telephone network can strengthen civil society. Telephones provide interactive two-way communications, they help empower people to talk back, to ask questions, make deals and maintain networks of social relationships. Thus they are tools people employ in coping with the opportunities and threats brought by globalization.

By the end of 2001, the Thai government provided public telephone, coin-box telephones at the village entrance or in the middle of villages for the communities surrounding Khok Yai Forset. The villagers used these mainly to keep in touch with families working in Bangkok and other cities. Twice a month, the phone is used to obtain the state run lottery results. During the rice harvest, it is used to contact three nearby markets for prices. Telephones were not just used by wealthier villagers. Many villagers used telephones, and when they did, it was important to them.

Mobile phones and computers

Mobile phone base stations are being aggressively installed in district towns and along major highways to meet the needs of business travellers. Towards the end of 2002, villagers who had migrated to Bangkok and other big cities for work brought mobile phones to their hometown when they returned or visited their family. The number of landline and mobile phones per household are shown below.

Table 5.7 Household ownership of landline and mobile phones

Sub-District	Group No	Village Name	Total Household	Landline Phone	Mobile Phone
Can	1	Can Tai	129	2	10
	2	Tam Yae	160	2	100
	3	Waeng Chai	110	-	35
	4	Nong Jode	44	2	14
	5	Khok Klang	52	2	16
	6	Kwow Khor	83	3	5
	15	Can Nuer	110	2	48
	16	Khok Sa-ad	45	14	13
Nong Saeng	14	Pla Boo	68	3	18
	15	Soke Yang	109	1	60
	16	Nong Dern	89	2	13
	17	Kra Yom	114	8	40
	27	Dern Kham	69	-	30
Dong Yai	3	Dong Yai	46	10	12
	7	Dong Jaroen	72	-	6
	12	Don Han	81	1	26
Khok Si Thong Lang	6	Burapha Pattana	79	-	36
	7	Khok Pae	69	-	14
Ban Whai	9	Ma Saew	108	6	16
	10	Nong Ngong	44	2	14
Total		20	1,681	60	526

Note: Educational Office Maha Sakham region 2 Nong Sang Sub-district Wapi-Pathum District Maha Sarakham, n.d.

The pre-paid mobile phone option was most popular. The villagers highly valued the immediate two-way communication compared to normal mail and telegrams. Furthermore, I had observed during my field work that many coin box telephones were routinely out of order. In contrast, mobile phones were convenient to call those working or studying outside the villages.

The villagers initially heard about computers from their children who learned to use them at schools.

Summary

This section provides a background to the villages surrounding Khok Yai Forest, including geographical, social, economical, cultural, educational, infrastructural and technological factors that affected their daily lives and communities. The villagers embraced innovative technology as a bridge to connect them to new knowledge. However, family relationships, including social norms of reciprocal relationships of caring and supporting their family, and religious beliefs remain an important part of the villagers' lives as seen in the table summarising the Khok Yai Forest seasonal calendar.

Table 5.8 Summary of the seasonal calendar for Khok Yai Forest villagers 2005

Activities	December	January	February	March	April	May	June	July	August	September	October	November
Climate	Cold		Cold and sunny	Sunny	Very sunny	Sun and rain	Rainy	Heavy rains			Rain	Cold
Tradition / Culture		New Year	Sticky rice festival	Buddhist festival Wedding	Songkran	Village festival		Buddhist lent	Rice ceremony		End of Buddhist lent	Roykrathon Wedding ceremony
Rice farming	Rice threshing		Stock hays		Sow seed	Seedling; fertilizer			Application of fertilizer		Harvesting	
Animal raising	Graze in the rice fields or in forest					Cut grass for livestock in the house					Graze in the rice fields	
Forest food				Collect mushroom, bamboo shoot								
Wage labour					Plough fields			Rice cultivation				
Migration	Young people go to Bangkok or big cities											
Health					Common cold and flu							

CHAPTER 6

FINDINGS

This chapter provides an insight into the development of the Community Learning Center (CLC) model for northeast Thailand. The first section deals with the research findings from Krainun Village based on an investigation of their needs and problems that lead to subsequent resolutions. The second section presents the findings from Khok Yai Community Forest. The third section presents the findings on local government and the heads of the two villages that harnessed ICT initiatives. The last section covers the common characteristics and monitoring of the CLC model.

Findings

Krainun Village

The September 2005 survey collected information on all features of Krainun Village to attain a better understanding of this community. It is 9 km from Khantarawichai district and 25 km from the province capital. It covers an area of 32,640 acres; 24,000 acres is used for agriculture and 1,760 acres for housing. Total population was 247 villagers, 124 males, and 123 females. There were 63 households. 7 villagers had completed undergraduate studies and 240 villagers had graduated from compulsory school. Within this predominantly farming community, some worked both within and outside the area. There was a small elementary school and a Transformation Technology Agriculture Center but no public health care station or CLCs. The community was accessible by road and the villagers used bicycles, the Thai three-wheeled car, Thai truck or motorcycle to conduct their business and for travel purposes. There was adequate electricity and they had one public telephone but it was out of order. Water was available but was inadequate in the dry season. Mobile phones were popular in Krainun with 50 households owning these.

Low literacy, lack of higher education opportunities, low agricultural productivity, shortage of supplementary jobs and flooding during the rainy season were some of the problems identified by the survey teams. The villagers solved some of these problems by themselves but they needed help from outside especially to develop their skills to upgrade their products.

Investigation of Krainun Village's problems and needs

Two specific problems emerged from early consultations. Villagers wanted to learn to write proposals to apply for funding from outside to support and upgrade their skills. They suggested that a suitable time for training would be around mid-morning or after lunch. They wanted the learning process to emphasis practical aspects and to provide hands-on experience.

Motivating villagers to use ICT

The villagers were motivated to use ICTs as they realised ICTs would make life more convenient and reduce costs. They knew that their product could be advertised online and be supported by OTOP policy which promotes local products. Many did not know that the TAO provided Internet services for the villagers. Furthermore, the TAO office was located a long distance from their village. The head of the weaving group recognised that the ICTs would provide great benefits. The villagers were enthusiastic to start computer training courses especially after seeing a member of the weaving group learned to use the computer. They even wanted to bring their children to the computer course.

Proposal writing course

During the training course on writing proposals, if the participants had a problem, they used mobile phones to contact someone who was part of their network or a relative to ask for information to support their proposal. They did not know how to estimate a budget or the costs of project items. As part of their proposal writing course, they had to do a presentation. Two members of the weaving group gained confidence from doing the presentation and were able to go outside their village to help their group sell their products.

Computer training workshop

15 females participated in the workshop; 8 had compulsory primary education, 5 completed secondary school and 2 had post-secondary qualifications. They brought their children along to the computer training workshop. Most of them knew about computers but had not had an opportunity to use one. During the workshop, the research

team and I found that the children could learn faster than their parents. The children taught their parents when the parents could not follow the lecturer or the explanation given by the teacher assistant. Many participants practised on the computer through their lunch break; no one wanted to take a break. They suggested that the workshop should last for one week. The participants could not understand all the lessons. The teacher spoke too quickly and did not allow enough time for them to adjust to the new technology. Some families came to this workshop because their children wanted to learn to use the computer.

One computer was donated to the weaving group. The weaving group encouraged the children and the adults in their village to use the computer. After three months, the weaving group bought a printer for their product labels, proposals, reports and notices to promote activities in the community. The pupils used the computer to do their homework or learned to type. The Thai Health Promotion Foundation, Maha Sarakham Province, approved their proposal. They received funds to conduct workshops on making container packaging products.

Motivation for setting up the CLCs

Activities were provided to further equip them as they wanted to continue with the activities. Furthermore, the activities gave them ideas for setting up the CLCs.

Discussion group for setting up the CLCs

The villagers and many members of the weaving group were amongst 30 participants at the Krainun focus group discussions that lasted for over 3 hours. Their reasons for continuing with the activities were to develop their career skills, to acquire new knowledge, to improve their quality of life and to maintain sustainable living in the community. They recognised what CLCs are. The materials that were provided to further equip them were collected and classified by them. They selected their office for storing the materials. The discussion group agreed that the organisation and structure of the CLCs should be similar to the weaving group committees which consisted of consulting committees and management committees. Each committee will include a president, vice-president, secretary and committee members. They wanted to ensure that

the activities would continue and to meet the needs of the villagers. They also realised that they should cooperate with other organisations particularly in term of ICTs.

Model of CLC based on Krainun Village discussion group

This model is a blueprint for managing community learning centers and consists of concepts, purposes, implementation, places, budgets, people, monitoring and evaluation.

This CLC model consists of:

Principle of CLCs:

The community takes responsibility for setting up the CLC, integrating their learning and tasks into their way of life, participating and being self-reliant, and working cooperatively with nature, society, local communities and individual differences.

Guidelines for managing CLCs

Local community members should establish and maintain the CLC by themselves. The community, families and individuals should have opportunities to participate in the management of the CLC and its educational programs. Emphasis should be on using human resources, materials and supplies from the community.

Operating CLCs

The community should initiate a model and mode of operation with cooperation from the state and private sector. Organizations and communities should use public relations techniques to promote understanding and usefulness of CLCs.

Rational for establishing CLCs

CLCs are established to promote and encourage lifelong learning at a pace that meets the needs of the community, to provide educational opportunities for local people, to provide media, information technology and communication for local communities, to enhance and improve the quality of life for local

communities, to establish linkages, coordination and networking, and to integrate a holistic approach to community development.

Concepts regarding the structure of CLCs

CLC should have the community as its owner. The administrators of the community should organize and arrange CLC activities. CLC should have a chairperson, an administrative committee and secretaries of disciplines such as academic, administrators, public relations etc.

Operational model of CLCs

CLC should be an independent organization. It may have the support of local government, educational institutions and NGOs. Villagers take responsibilities for the CLCs including carrying out maintenance and repairs. TAO should provide and select local people to take charge of this job.

Media in CLCs

The media used in CLCs may consist of printed materials, audiovisuals and ICTs. It will focus on ICTs because ICTs have enormous potential for reaching rural populations to provide them with education, training, job opportunities, access to markets, information important for their economic activities and participation in the development process.

Evaluation of CLCs

An evaluation of CLC should focus on the satisfaction of beneficiaries and should be carried out by the CLC committee or use of external evaluation.

The next section provides an account of the findings of Khok Yai Community Forest.

The Khok Yai Community Forest

The May 2005 survey and interview collected basic data on all features of villages surrounding Khok Yai Forest. The total population was 9,034 villagers, 4,384 males and 4,650 females, and 1,681 households with the majority working in the agricultural sector. The annual income was 15,000 to 20,000 Baht per family. Extra annual income of 10,000 Baht is generated from collecting forest products, especially mushrooms. 109 villagers were illiterate, 441 attended vocational courses, 1,591 villagers attended education courses, 930 trained in health education courses and 155 had undergraduate qualifications. 85% of households owned televisions and refrigerators, 100% had radios and 95% owned motorcycles. Mobile phones were popular as 31% of households owned mobile phones compared to 3.5% with landline access. The villagers participated in a variety of groups while the men participated in forest activities.

The survey teams examined the information obtained and identified the critical problem as increasing devastation and deterioration of the forest leading to the aridity and reduced richness of the forest as adversely affecting the lives of the villagers. Analysing the secondary documents and interviewing the Kkok Yai Community Forest Committees (KYCFC) revealed the strengths and weakness of the community.

Strengths

There were cooperative organisations between academics, businessmen and villagers set up to rehabilitate the community forest and individual cultivation, as well as to promote agricultural integration and agroforestry. They applied local culture and religious concepts to conserve the forest, for example, tree ordination ritual. This preserved harmony between their way of life and the forest. They set up rules to protect their forest. The KYCFC planned to establish a natural community center for promoting forest protection and rehabilitation for the younger generations to study ecology and understand the interaction between humans and the forest in rural Thai traditional lifestyle.

Weakness

There was conflict between some villages and outsiders, especially outsiders who invaded the forest. Furthermore, the Government's top-down forest and resource

management approach was not linked to the needs and motivation of the people and it was not concerned with the rights of people. It caused many problems for the rural people as it lacked local community participation. Although government policy emphasised community participation in forest management, there was no community participation in terms of implementation. This was because the local government was biased against the local people; they assumed that as the local people were poor, they would destroy the forest rather than protect it. They did not recognise that the local way of life was related to managing the forest.

Investigation of Khok Yai Community Forest Villages' needs

The KYCFC had planned to set up the CLC as a result of their research. They aimed to establish a CLC to develop community knowledge and understanding of forest environments and management, forest products and their processing, and human interaction with forest environments, as well as to improve biodiversity quality of the forest and enhance awareness of ecological and economic potentials of sustainable forest management.

Motivating villagers to use ICT

The Khok Yai Forest villagers and KYCFCs wanted to learn to use computers after they realised ICT could be useful in their work. They heard about computers and the Internet from their children and had seen the computers in the government office. They were keen to store community information on CD-ROMs to promote their forest conservation activities. A suitable time for their computer workshops was the weekend before or after the harvest and they wanted to bring their children to join the workshop. From September 3 to 4, 2005, 35 males and their children participated in a workshop in the Faculty of Informatics computer laboratory, Maha Sarakham University. Of the 35 men, 3 had undergraduate qualifications, 4 graduated with diplomas, 3 completed high school and were enrolled in tertiary distant learning, 15 completed secondary school and the rest had primary education. Although they knew how to type, they typed very slowly. They were interested in Microsoft Word, Powerpoint and the Internet, particularly email and search engines. When they could not understand the lecturer, they asked their children for assistance. They appreciated the slow pace of the lecture and the time to practise. They wanted to continue practising and developing their skills and also take

advanced courses. They felt that this fundamental course should last at least one week. Three computers and one printer were donated to the KYCFC and villagers were encouraged to learn and practice on them. The KYCFC used the computers for typing their reports, letters, leaflets and notices. The villagers and their children were keen to use them and students used the computers for their assignments.

Discussion groups for setting up the CLC

The Khok Yai Forest focus groups discussed setting up the CLC and selecting teams to implement the CLC, including budgeting, organising activities, providing materials and evaluation. The team should comprise of a chairman, an administrative committee and secretaries of disciplines.

Model of the CLC based on Khok Yai Community Forest

The CLC at Khok Yai Community Forest served as a highly regarded source of forest resource knowledge by disseminating new and existing information to the society. The Khok Yai Community Forest put forward their CLC model in terms of its concepts, objectives, management implementation and evaluation.

Concept

Local people should take responsibility for establishing, managing and promoting the CLCs and encouraging the community to participate in solving problems as well as developing their own community. Its integrated programs would assist in achieving sustainable forests and help improve the quality of life for the Khok Yai Forest villagers.

Objectives

- To promote and conserve the Khok Yai Community Forest.
- To build awareness to protect the Khok Yai Community Forest.
- To enhance and improve local people's quality of life.
- To establish linkages and networking with the forest community.
- To integrate and apply holistic approach to community development.
- To apply ICT for storage and dissemination of local knowledge.

Management structure

The committees' team should comprise of a chairman, an administrative committee, and secretaries of disciplines. They must be knowledgeable and have the skills to manage the CLC. The working group delegation includes chiefs of village, teachers, health workers, students, heads of occupational groups and members of occupational groups. CLCs should provide community-related information such as number of households and inhabitants, contacts in various fields, important places, community history, occupational groups, local knowledge, local plants, local literature and traditional foods.

Implementations

The CLC should provide tools of learning such as printed and non-printed materials, especially ICT equipment. CLC activities should be selected based on needs and problems identified by local people and should be relevant in terms of education, work skills, quality of life improvement, local culture and religion, health and hygiene, and information services. TAOs should provide financial support while the local community should take care of the CLC and maintain equipment.

Evaluation of CLC

The CLC committee should examine the community's needs, problems and resources. They should discuss and work with the community and contribute to the community development.

Common findings from Krainun Village and Khok Yai Forest community

33 participants from Khok Yai Community Forest and 12 participants from Ma Kha Sub-District comprising of teachers, local government officers and heads of villages, contributed to the focus group discussions. The two groups held separate discussions but their findings were similar.

Investigation of the needs of local governments and heads of villages

Most local government offices had at least one computer, a printer and a landline telephone. These facilities are mainly used for routine tasks such as typing letters and documents. The TAO at Ma Kha Sub-District and Dong Yai School were connected to the Internet but had uneven connection. The TAO surrounding Khok Yai Community

Forest did not have any Internet access. The local governments in both communities wanted to establish centers for rural people but they faced several difficulties including insufficient funding, incomplete infrastructure, not enough telephone lines and Internet facilities, lack of skills for using and maintaining equipments and lack of knowledge on promoting ICT to local people. The local government officials were aware of the potential of new technologies to assist the rural community. The TAO planned to set up the Internet in the villages and to teach the villagers the use of computers to prepare them for e-government. Thirty local government staffs in both communities attended the computer training courses on animations and creating websites. Many of them used the computer daily for typing, searching for information and email, and 20 of them owned computers and had participated in basic computer courses.

The teachers, the local government offices and KYCFC wanted to collect forest information i.e. indigenous forest knowledge, forest products, forest problems and resolutions, and forest activities for children, youth and villagers. They wanted to continue training the villagers to use the computers.

Developing the CLC model

The CLC model for northeast Thailand was developed as follows:

1. Based on the key elements discussed throughout the literature review, characteristics such as processes, management and organizational culture that influenced the construction of the CLC model were identified.
2. The result of data from phase one and two were synthesized to design the CLC model.
3. Adult education theories based on participants' needs and relevance to daily life were applied in developing the CLC model.

After verifying the CLC model with the two villages, the model was evaluated by experts.

The development of the CLC model followed the concept of need firmly embedded in the program development model for adult education and training (Knowles, 1980). Knowles' model involved the following steps:

1. Establishing an organisational climate

2. Establishing a structure
3. Assessing needs and interests
4. Translating needs into CLC objectives
5. Designing a CLC
6. Operating the CLC
7. Evaluating the CLC

After the model was developed, it was submitted to a panel of nine experts in ICT, information science, non-formal education and community work who have 10 to 15 years of work and research experiences with communities for objective evaluation. The panel of experienced professionals comprised of the following:

1. ICT:

1.1 Mr Choon Trintinakit, MA (Library Science), Assistant Director, Computer Center, Maha Sarakham University, He is also an ICT lecturer in the Faculty of Informatics, Maha Sarakham University.

1.2. Associate Professor Virat Phongsiri, MA (Computer Science), lecturer in the Department of Information Communication Technology, Faculty of Informatics, Maha Sarakham University. He has experience in community research with TOA in northeast Thailand.

1.3. Mr Sompong Charendsiri, BA (Computer Science), a system analyst at the Mahasarakham University Library.

2. Information Sciences:

2.1. Assistant Professor Sujin Buddisuwan, BEd, MA (Library Science), PhD (Education Administration), Dean, Faculty of Informatics, Maha Sarakham University. He has experience in community libraries and information services in Thailand

2.2 Dr Surithong Sisa-ard, BEd, MEd (Library Science), PhD (Educational Administration), Senior Librarian and Head of Sirindhorn Isan Information Center, Maha Sarakham University. She is an expert in the preservation of Thai oral heritage and community information.

3. Educators from the Non-Formal Department, Maha Sarakham Province:

3.1 Mrs Pornpimol Utrarine, MA (Information Science and Library Science), a teacher in the Non-Formal Department, Mahasarakham Province

3.2 Miss Boonrat Topithak, MEd, Major Educational Technology Librarian, Chiang Yun District Public Library with responsibility for the CLCs in Chiang Yun District, Maha Sarakham Province.

4. Educators from local NGOs and experts in environmental studies:

4.1 Mr Tavee Aupanya, Head of Education Office, Khon Kaen Municipality, Khon Kaen Province. He has experience with establishing the CLC in Khon Kaen province.

4.2 Assistant Professor Dr Bunchorn Kaewsong, a researcher in NGOs. Previously he was a lecturer in the Faculty of Public Health, Khon Kaen University.

4.3 Dr Usa Klinhom, lecturer in the Faculty of Science, Department of Biology, Mahasarakham University and a course team member in the Faculty of Education, Mahasarakham University.

The experts recommended that CLCs should be independent organisations, working closely in partnership with local governments or NGOs in the initial setting up. Specifically, the TAO should take responsibility and contribute towards the budget to help the local community to set up and manage the CLCs. However, many experts suggested that NGOs are more flexible in assisting CLCs compared with the government. It is important for outside organisations to help the local community and guide them until they can manage the CLCs by themselves. The committees should comprise of local people who are interested in the CLCs. The committees need to promote the CLC so that the villagers can understand the objectives and roles of their CLCs. CLCs should be located in a public area, except in temples and the local schools because of their limitations. The activities should meet the needs of local communities and promote the use of ICT in daily life. CLCs should create their own databases as each CLC and community have their own history and different needs. They should also use ICTs to disseminate community information and create networks to exchange ideas and knowledge, especially sharing resources for use in daily life and lifelong learning. This would improve performance and develop relevant skills. Even though in 2006 some communities could connect to the Internet due to existing infrastructure, CLCs should provide print materials to help local people prepare themselves to use ICTs. Nevertheless, CLCs should select hardware and software that are compatible with the existing infrastructure.

Summary

This chapter presented the results from the field study in two areas, Krainun Village and Khok Yai Community Forest. In both communities, the villagers needed to see the benefits of ICT in their livelihoods and how to integrate ICT into their daily lives. The family is a significant factor that leads local people to want to learn a new technology. The learning process with new technology should emphasize practice rather than theories, as it takes time to learn. The learning activities assisted Krainun Village and Khok Yai Community Forest Communities in developing their CLC. Their experiences were influenced by their newly acquired knowledge and ICT experiences.

CHAPTER 7

DISCUSSION

This chapter reviews and discusses the significant findings from the fieldwork conducted in two villages for this study.

Problem-based approach

The adult learning approach based on problem-solving as presented by Knowles, Holton, and Swanson (2005, pp. 66-67, 196-197) forms the foundation of this research. As reported in the Research Methodology and Findings chapters, 20 villages surrounding Khok Yai Community Forest faced forest devastation which affected the livelihoods of whole communities. They formed a 'learning' group to preserve forest resources for sustainable use, formulate rules on guarding the forest, promote agroforestry and cooperate with other organisations. At Krainun Village, the women set up a weaving group to generate income to support their families during flooding. The Khok Yai Community considered the forest as a source of food for everybody in their community while the Krainun Village applied indigenous knowledge for trading. The case studies illustrate how learning takes place when the villagers seek information to help solve problems in their villages. This process became a key aspect of lifelong learning in these communities.

Adapting ICTs

This study focused on adapting ICTs for rural areas. The literature review on ICT applications for developing countries indicated a need to integrate ICTs into all features of life, especially in the livelihoods sector, as a primary development measure (Duncombe, 2007).

My findings highlighted three important emerging themes on how ICTs could be adapted in rural areas, namely, 1) build on their existing knowledge, 2) perceive that ICT benefits match their needs and 3) identify their motivations.

1. Build on their existing knowledge.

Adults have a lifetime of experiences including work activities, family responsibilities, current life events and previous education (Knowles, Holton, and Swanson, 2005, pp. 65-66). These experiences are a resource for learning, helping them to connect learning to their experience base. For example, 78% of Krainun households and 31% of Khok Yai Community Forest households owned mobile phones compared to 3.5% landline phones. They viewed mobile phones as a new technology which was more convenient than a public phone. Mobile phones are now a feature of community communications, in particular, to contact family members who had migrated, children studying outside the community, for market information and for front line field workers such as teachers and health workers. Moreover, some middle class families used ICTs such as automatic transfer machine (ATM) cards and government officers' families used credit cards. These experiences and existing knowledge helped them to adjust to, and participate in, new computer technologies, for example, typing letters, making labels and other work activities.

2. Perceive that ICT benefits meet their needs.

Instead of people adapting to ICTs, ICTs should be adaptable to suit people's needs. Bozeman (2000) explained that "technology is adapted through personalised application based on some combination of unique needs" (p. 629). In addition, Everett Rogers (2003) pointed out that the easier it is for people to see the results of an innovation, the more likely they are to adopt it. These theories indicate that when people realise the potential value of ICTs, they will find opportunities to learn the new technologies and other modern communication tools. I found that the most efficient and beneficial use of ICTs is closely related to livelihoods, careers and information that directly support people's activities and responsibilities. When they understood and experienced the benefits of ICTs, they were quick to use such technologies. The Khok Yai Community Forest and Krainun Village found that computers were convenient for typing their activity reports to local governments and NGOs who contributed money to support their community and also for recording the price of wild products and agricultural products. This led them to integrate ICTs in their daily lives and work to help improve the way they perform. For example, KYCFC cooperated with local teachers to establish, and record on CD-ROMs, a local curriculum about Khok Yai Community Forest for the primary and secondary schools to learn to preserve the forest and indigenous knowledge. Thrupp (1989) pointed out that indigenous knowledge systems are adaptive

skills of local people, usually derived from many years of experience, which have often been communicated through oral traditions and learned through family members and generations. Research by Bridges.org (2008, p. 6) also confirmed that for ICT to be meaningful in the daily lives and work of people, it must support relevant local content such as educational materials. Krainun Villagers on the other hand saw the benefits of ICT for marketing their indigenous products. Both communities applied indigenous knowledge to their daily lives and transferred inter-generational knowledge. As Warren and Rajasekaran (1993) proposed:

Indigenous knowledge (IK) is local knowledge that is unique to a given culture or society. It is the information base for a society which facilitates communication and decision making. IK is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. (p. 8)

Lifelong learning in the community should support indigenous knowledge and local culture. In terms of ICT policy, if the Thai government supports this policy then it will be easier to implement ICT strategies in rural areas. For example, while the Thai Government and local governments actively supported the OTOP project, local government staff lack the marketing expertise to promote the Internet Tambon to rural communities. The Internet Tambon was not well publicized and some villagers, including Khok Yai and Krainun, did not realize that the Thai government had provided it for them.

3. Identifying their motivations.

Adults are primarily motivated by internal pressures such as increased job satisfaction, self-esteem and quality of life. Motivational learning accounts for various learning differences in adults. Knowles, Holton, and Swanson (2005, p. 199) noted the fundamental difference that motivates adults to learn is internal payoffs, i.e, the personal values they will gain in solving problems or issues in life. This study found that adults value highly learning that has personal value to them. The adult must see the value of ICTs in solving problems or providing internal payoffs. This motivation to learn will influence the learning outcomes. Knowles, Holton, and Swanson (2005, p. 67) confirmed this and claimed that adult learners need to be able to see applications for new learning. For instance, this study showed how ICTs can be applied to the work of

the two rural communities and be of value to them. This inspired two villagers to learn to use the computers to support their work. Despite insufficient learning resources and opportunities, poor infrastructures in remote rural areas and lack of financial support, they learned by themselves. This flexible, self-directed learning is characteristic of the lifelong learning process; a continuous engagement in acquiring and applying knowledge and skills in the context of authentic, self-directed problems. In three months, they became role models in their village. The Webster's New World Dictionary (1959) defines a "role model" as a person considered as a standard of excellence to be imitated. Their colleagues and young people wanted to imitate them in learning to use the computers. The male member of KYCFC was motivated by his son to learn to use the computer after his son asked him why he could not use the computers, unlike their neighbour. Parents are the first teachers and children imitate what they see their parents do. Lockheed, Fuller, and Nyirongo (1989) studied family effects on students' achievement in Thailand and Malawi, and found that family background and prior achievement affected students' educational expectations and perceptions of ability. Family is a primary source of education for children and children motivate families to acquire new knowledge.

Factors for adopting ICTs

Crucial factors for adopting ICTs for rural people, which emerged from this study, are 1) learning opportunities, 2) reaction of learners, 3) learning styles, and 4) understanding to improve

1. Learning opportunities: Learning opportunities are a feature of lifelong learning and adult learning is part of that process (Knowles, 1990, pp. 167-177). Learning is established with the aim of offering equality for all citizens. My study found that the villagers in both communities have the potential to learn new knowledge but they lacked opportunities because of poverty and poor infrastructure such as learning institutions, transportation and ICT equipment. For instance, the two role models in both communities learned to use the computers by themselves and this helped with their work in the community. Members of the Krainun weaving group had opportunities to give presentations during their proposal writing course and this increased their confidence to go outside their village to sell their products. Effective learning opportunities must meet the needs of learners and be connected to their daily life. Specifically adult learning theories must be used to teach the new knowledge. More time is required if the courses are to be truly effective for the villagers to adapt and

process the new information and to then apply this to their working situations. However, although Thai educational policy is committed to ICT development and education for everyone, facilities are still only in the city and have not reached the rural areas.

2. Reaction of learners: Adults learn best when the subject is of immediate use (Knowles, 1990, p. 195; Knowles, Holton, and Swanson, 2005, p. 67). Khok Yai Community Forest villagers' initial reaction to ICTs was that computers were convenient for typing letters and documents. The role model saw the connection between learning to use the computer and how he could use it in his everyday life. This learning became part of his behaviour. The Krainun weaving group was impressed with an Isan history of silk on CD-ROM as its contents and language were similar to their background. Hence consideration should be given to adapt local content and language to promote ICT (Bridges.org, 2008). The weaving group also realised that ICTs could help reduce the costs of their products. Even though many of them felt that they could not learn to use the computers themselves due to illiteracy, age and a lack of time, they accepted the new technologies and took a positive approach by encouraging and supporting the younger generation learning the new technologies. This positive attitude to new technologies in a rapidly changing world is summed up by one woman, "I have to be open to innovations that impact on my life and change with technological advances such as the radios, televisions, telephones, cell phones and computers". Not all the villagers shared this positive attitude; a subsistence farmer who spent all day working in the rice fields stated that, "I cannot eat computers so my life does not need the computers". This reflected the farmer's fear of change and unfamiliarity with ICT, even though he used technologies such as radio and television.

3. Learning styles: People learn in different ways and it is common to be nervous or anxious when encountering learning situations. Learning style in this study refers to the way learners learn. Traditional Thai learning style in rural areas is based on intergenerational transfer. Families are important and central to their learning style. This study found two learning styles:

3.1 Thai rural people in both communities preferred learning by doing and focusing on the practical aspects. It is because most people in the study were adults with family and work commitments so they did not want to take a long time to study or sit in formal education classes. Knowles (1990, pp. 120-139) identified the functions of adult educators as diagnostic function (helping learners diagnose their needs), planning

function (designing a sequence of experiences that will produce the desired results), motivational function (creating conditions that will cause the learners to want to learn), methodological function (selecting the most effective methods and techniques), resource function (providing human and material resources) and evaluative function (measuring the outcomes of the learning experience).

3.2 Another learning style that emerged from this study is the “parental learning style”. Prior to the workshop on using computers, participants in both communities asked to bring their children to participate in the workshop. During the workshop, when the parents encountered problems, they asked their children for assistance. This reflects Thai society’s mutual dependency between children and their parents. The family is important in the learning process for Thai rural people as they feel safe and comfortable expressing themselves. Parents and children could learn together to develop family literacy as well as integrate a new learning method based on ICT. Children are naturally able to learn new technologies faster than adults. Some feature of the lifelong learning is that learning can happen anywhere and parents are an educational resource. Many families stated that when they spent time to learn together, the parents realised the potential of their children.

4. Understanding to improve: This study provided many workshop activities in both communities based on their requests to help them acquire new computer knowledge and skills related to their work. They wanted to continually improve their ICT skills. The Krainun weaving group used their computer for their work and also provided a service to their community by allowing local pupils and youths to use their computer. They understood that to effectively utilise computers, they must practice constantly and learn by doing, even if they made mistakes. This action learning is defined as “a practical group learning and problem-solving process where the emphasis is on self-development and learning by doing” (Pauleen & Yoong, 2001, p. 207). Adult learners have to relate their learning to their life experiences. Although Srisamai (2003) found that low educational level was a barrier for people who did not want to use ICTs, this study found that even though the villagers only attained compulsory education, they were interested in ICTs and realised the benefits of ICTs in their work.

Roles of local government in harnessing ICTs initiatives

TAO, school villages and heads of villages play important roles in harnessing ICT for human development (UNDP, 2003). They have to understand ICTs and cooperate in using ICTs as tools for development (UNDP, 2003), hence their participation in this study. In remote areas, the TAO is an organisation which promotes and builds basic telecommunications infrastructure to rural communities. Most staff had only attended short courses on using computers as it is a regulation that they are able to use computers. Most TAOs and school villages had one computer and one printer and many of them could not connect to the Internet because landline connections were not available. They required advanced computer training and software, such as creating website and presentation software. TAO and village schoolteachers believed in the potential of ICTs to address and solve problems for the communities, assist their work and enhance education as ICT provides convenient data management, storage and retrieval. Pupils would be able learn to use computers and study many subjects available on CD-ROMs. An important finding of this study was the relationship between teachers and villagers in both areas as they worked together for mutual benefit. At Khok Yai Community Forest, villagers and teachers collaborated on the local curriculum. The local community and local institutions established a good relationship to adopt and adapt the new technology and share in its benefits for their quality of life. Network relationships in Thai rural areas are often based on kinship between local government officers and villagers. Suttisa (2005, p. 207) found that cultural capital generated by social networks between people helped established norms of mutual assistance. For example, the Krainun weaving group asked their relative, a teacher in the village school, to help them type documents and reports. Although advanced technologies may change people's lifestyles and result in alienation, depersonalisation and anti-social behaviours, this study found that the participants in the two communities shared technological knowledge and strong relationships were established between the villagers and local government. This is partly due to rural Thai cultural norms.

Barrier to harnessing ICTs

As noted in the Findings chapter, TAOs, village schoolteachers and heads of villages agreed that the villagers should learn to use computers and the Internet to prepare them for decentralization and e-government. Barrier to mobilising ICTs were:

- 1) Lack of resources, facilities, support and budgets from the government as each TAO and village school had one computer that was used mainly for routine work and one telephone line. They could not connect to the Internet and they lacked software to use the Internet.
- 2) Lack of technologically skilled human resources as TAO office staff and village schoolteachers had only basic computers skills for typing office documents.
- 3) Lack of trading capabilities and skills to assist and support rural people as the TAOs could not trade local products profitably.

Furthermore, the government's policies used a top-down approach. Even with the new decentralized policy at the local administrative level, it was not clear who is responsible for schools and community development projects. Although the TAO staff and village school teachers wanted to promote ICTs, they lacked technical skills and did not know how to promote ICTs in its initiative development stage. In some rural areas, the TAOs could not deal with the complicated problems in the community nor understand the needs of the local community. In turn, due to isolation, some villagers could not get the services they required to meet their needs from local institutions and local government. This study found that although the vicious cycle of forest degradation at the Khok Yai Community Forest was caused by outsiders, the government blamed the villagers as the villagers lived near the forest and relied on the forest for their living. Hence the villagers did not want to participate in government projects. Furthermore some local government staff viewed the villagers as invading rather than conserving the forest. This led to even less cooperation between the local people and local government.

At Krainun Village the cause was economically based. The weaving group produced more products than they could sell profitably as the state and local government did not assist the local people to develop business and marketing skills. Furthermore the survey in both villages found that the young people migrated to the big city for employment. Apart from working in the local government institutions such as schools, TAOs and other government offices, there were limited employment opportunities. This vicious cycle of poverty led to limited employment and trading opportunities. Sen (1999) expounded that rural areas in developing countries lacked money for investing in resources, workforces and technology for economic development. TAO staff wanted

support from the central government, especially resources to assist with budget and to develop activities. The head of TAO in Ma Kha Sub-district stated that he realised that ICTs could benefit schools and communities and that there should be cooperation between TAOs, schools and communities. More importantly, cooperation between many agencies is needed to provide access to a diversity of resources to promote development. *Human development report 2001* (2001, p. 27) asserted that technological transformation is a tool for human development, integrating the potentials of the new technologies with multidisciplinary knowledge and resources.

Although government policies pushed the local institutions to promote ICTs for the people and forced the TAO staff to use ICTs, it was difficult to succeed without appropriate equipment and infrastructure. Many schoolteachers claimed that the Telephone Organisation of Thailand had installed telephone lines in each village but they did not work properly; the signal was not smooth and suffered from noise interference. They provided this basic infrastructure but did not care about the quality for rural areas. The villagers' reaction was that this forced them to use cell phones from private providers. Often some TAOs and village schools had to wait a long time for the government to provide basic ICT facilities. This is an indication of the government's lack of readiness and plan to prepare for human development in terms of ICT skills. Fortunately the TAOs, schools and heads of villages had a positive attitude towards ICTs and wanted to work cooperatively. For example, KYCFC collaborated with village schools, TAOs, and Forest Departments at sub-district, district and province levels to conduct forest conservation projects for the villagers and pupils.

Developing ICTs in community-based lifelong learning centers (CLCs)

This section highlights the main themes of developing ICTs in CLCs in two communities, including the concept of establishing CLC which emphasised the needs of the people as well as the design, operation and evaluation of a CLC.

Concept of establishing CLC

CLCs are established in a variety of social contexts with a focus on learning so as to enhance the quality of life for rural communities (UNESCO, 2001a). This study found that the concept of establishing CLCs in both communities differed slightly. Krainnun Village set up their CLC based on the activities that were provided and continued with

these activities while Khok Yai Community Forest established their CLC based on the forest devastation problem. Apart from geographical difference, Krainun Village is alongside the river while Khok Yai Community Forest is surrounded by forest. They also had different community problems. These factors affected their livelihoods and their way of life. Hence the CLC is a multipurpose organisation influenced by economic, environmental and social factors.

UNESCO research provided common features of CLC relating to local members managing and administrating activities based on demand and conditions (UNESCO, 2001a, p. 50-53) and also offered directions for setting up CLCs (see Figure 3.2 page 63). However, this study found that the first step in setting up CLCs is to give the local people an understanding of the whole picture of what a CLC is. For example, during discussions at Krainun Village, one villager asked about the difference between a group and a center. The moderator and I explained the differences and they linked this to their experiences with services such as health center and Agricultural Technology Transfer and Service Center which provided knowledge and some training courses. These perceptions guided their ideas on the purposes, functions, management and implementation of their CLC.

Although some members of the Khok Yai Community Forest had heard about CLCs, they did not know how to establish a CLC. They formed a group to set up the CLC and to select a committee to take responsibility for the CLC. But they could not decide on how many people were needed on the committee. However, after their experience with organising field trips of the forest for outsiders, they realised that they should start by formulating the purposes of a CLC because the purposes would give them direction and vision. In a similar vein, they realised that they were not only concerned about the protection and rehabilitation of the forest but they needed to understand the whole forest in terms of economic, cultural and social factors. This helped them with the next step of setting up their CLC. Hence in terms of adult learning, the villagers were able to learn from concrete situations or resources. This study agreed with UNESCO's (2002) outline of setting up CLCs but the pilot UNESCO projects did not fully indicate how local community awareness could be raised. The pilot CLC in Thailand reported that the initiative to establish the CLC started with a community forum with community leaders (UNESCO, 2002).

Designing CLCs

Implementing CLCs required human, material and financial resources. Principles for implementing CLC suggested creating networks and cooperating with public and non-public sectors to meet a diversity of needs and to provide various activities, as well as to exchange ideas. Both communities were concerned about finding a suitable location, lack of education and funding. A CLC did not need a special building; it could be set up in temples, schools, churches and mosques (UNESCO, 1995; 2001a). However the Krainun Village women did not want to use the temple because it was not convenient for them as traditional rural Thai culture and moral regulation stipulates that women should not meet alone with monks and only men were allowed into some places within temples. The villagers were also worried that their lack of knowledge was a barrier for set up activities. Both communities preferred that the local government take responsibility for providing funding and consultation till the local community could manage by themselves. On the other hand, Topithak's (2002) study on the trends of CLCs for the period of BE 2545-2554 (2002-2011) concluded that CLCs should take responsibility for the educational institution.

Operation and evaluation of CLCs

The literature review suggested that CLCs should be implemented by the local community as these centers belong to the community and that local governments should act as facilitators to assist in short and long term plans and also to provide a wide range of learning to cover formal, non-formal and informal education (UNESCO, 2001a). Both communities supported this framework. All activities have to be approved by CLC committees which represent the community. When local committees have difficulties dealing with some problems, local governments as consultants can be asked to give advice. Local governments as CLC promoters should foster funding, and provide and maintain ICT hardware and software. This study confirmed that partnerships and cooperation between CLCs with public and private sectors is essential because the villagers could not set up CLCs by themselves due to limited knowledge and skills (UNESCO, 1995). The model and operation of CLCs also needs to be evaluated by experts.

Unexpected data

Although the participants in both communities were heterogeneous, there is a clear gender disparity. The Krainun Village participants were females while the Khok Yai Community Forest participants were mostly males. This is because men and women play different productive and community roles in rural development and have different needs and preferences. For example, Thai women possess wisdom and indigenous knowledge that is rooted in culture, traditions, values and experience as in Krainun Village where the women formed the weaving group and applied indigenous skills to supplement their income and played important social roles taking care of their family and their education. This study found that women are powerful players in community development. For example, the head of the weaving group has a vision that ICT would help reduce the cost of their products. She helped her group to acquire more knowledge and experience new technologies. Most of the activities at Khok Yai Community Forest involved men rather than women. Women's participation in forest activities were mostly centred on cooking food and preparing for activities in the village.

Limitations

Many participants had only completed compulsory education and had very limited understanding of certain issues pertaining to the study, especially in the area of ICTs. However, when the participants were unsure of any concept, the researcher provided learning activities as described in the research method chapter. This model has not been tested previously but a panel of experts had evaluated it.

Summary

A discussion of the findings relevant to the emergent themes in each community was presented and in summary, the adult learning model that used a learning problem based approach was reflected in the lifelong learning process in both villages. Motivational influences, in particular, those that emphasized the people's needs and improved their livelihoods, were contributing factors in the rural communities' adaptation and adoption of ICT. Moreover identifying their learning styles and providing appropriate support for their educational needs played a significant role in the successful adoption of ICT for people in remote areas. The learning activities were important processes which assisted

them in acquiring knowledge and also guided the development of their CLC. Interestingly, they linked existing knowledge to their newly acquired knowledge. The local governments recognised ICT as a tool for the development of their community. Central government policy needs to assist local government to support the ICT agenda of rural communities. The next chapter will address the conclusions of these findings and discussions as well as the direction of future research.

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

The first section provides general conclusions on how rural people use ICTs. This is followed by a discussion on the processes of developing ICT communities based on the lifelong learning center model. The final section contains policy recommendations and the model developed from this research. It also contains suggestions for further research in the area.

Summary

Statement of the problem

As technology advanced, it impacted on the structure of Thai society from agriculture to industrial and service sectors and influenced the national economic and social development. These changes resulted in the Thai Government amending the Constitution and reforming education to focus on human development. In addition, the National ICT for Education Master Plan stated that Thai society could be transformed into a knowledge-based learning society and economy if Thais had opportunities to access lifelong learning and keep up with the changing world of new knowledge and information technology. They would learn how to gain knowledge for themselves. ICT would enable learners to access useful information for education, business, health care, agriculture etc. ICT as tools for learning would provide every learner with opportunities to access knowledge at anytime and anywhere.

The major purpose of this study was to develop ICTs in communities based on a lifelong learning center model for northeast Thailand and to propose policies to harness ICT development in rural areas. This would provide a channel for Thai people in rural areas to develop their skills and enhance their quality of life.

Description of selected areas

The criteria for selecting communities for this fieldwork were:

- 1) Communities had continued to have dynamic activities.
- 2) Communities had struggled with diverse problems.

- 3) Communities had good leadership that wanted to develop their community.
- 4) Communities had plans to develop their group or community.
- 5) Communities' activities were relevant to education and development, including literacy skills.

The two areas that participated in this study were Krainun Village, Ma Kha Sub-district, Kantarawichai District and Khok Yai Community Forest, Wapi-Pathum District, Mahasarakham Province.

Review of the methodology

The basic data of the two communities were extracted from the surveys and questionnaires to develop the research agenda with the target groups. Focus group techniques were used as the main data-gathering instrument to further investigate their needs and develop the CLC model. A triangulation approach was used to analyse additional data from surveys, interviews, observations, workshops, study trips and discussions. The recorded materials were transcribed and issues related to the research questions were identified. The next step focused on developing the CLC model that applied Knowles' development model for adult education and training.

Summary findings

Krainun Village

The September 2005 survey collected information on all aspects of Krainun Village to better understand this community. The surveys and analysis of secondary documents found that the village faced problems of flooding, literacy, few opportunities for higher education, few educational institutions, poverty and a lack of supplementary jobs. They formed a group to work together to survive and to take care of their families. They applied indigenous knowledge to weave silks and cotton to sell outside their village. The discussion group set up to investigate their needs found that they wanted to learn to write grant proposals and participate in activities to further develop their skills. They could see the potential of ICT in reducing production costs. A member of the weaving group taught herself to use word-processing and PowerPoint software to help her group create labels, type documents and reports. The weaving group used their handouts for

future practice and activities for their group and villagers. This led them to establish a CLC in their village.

Model of CLC at Krainun village

The concept of CLC at Krainun aims to integrate their learning, tasks, way of life and communal identities. The purpose is to encourage lifelong learning at individual pace to meet individual needs. The community would initiate a model and method of operation with cooperation from state and private sectors. The local government should contribute funds and act as consultants. The committees would include a chairman, administrative committees and secretaries of disciplines. Suitable locations for CLCs, including schools and temples, were discussed. The CLC activities should originate from community meetings and be related to communal problems. The materials would include print and non-print materials with emphasis on ICTs such as computers and printers. The evaluation should focus on the satisfaction of its beneficiaries.

Khok Yai Community Forest

The survey and secondary documents showed that the main problem was forest devastation. The villagers wanted to conserve the forest because the forest is a supermarket that supplies their daily needs such as foods, natural products, herbs and fuel. This group had planned to set up the CLC but they did not know how to set it up. They had positive attitudes towards ICT and could see its benefits because they were already using mobile phones, ATMs and credit cards. This motivation helped them to appreciate ICT application in their work as the KYCFC had to type reports and documents to contact local government and NGOs. They had experience with research as well as using outside assistance. A member of KYCF with some typewriting experience was keen to learn to use the computer by himself. He became a role model in his village. His neighbours wanted to emulate him. The village children wanted their families to use the computers. The KYCFC coordinated with its primary and secondary village schools to set up and record the local curriculum on CD-ROMs.

Model of CLC at Khok Yai Community Forest

The focus groups discussed the concept, purposes and team selection involved in setting up the CLC.

The concept of Khok Yai Community Forest CLC focused on conserving and rehabilitating the forest as a knowledge resource. The CLC needed local management and their team included the village head, teachers, villagers, health workers, head of career groups and students. The committees needed five to six people who represented the villages surrounding the Khok Yai Community Forest. Local government would act as consultants providing support, funding and equipment. The activities would be based on community problems and needs, especially relating to the forest. The CLC materials needed to set up the CLC would include electronic resources such as CD-ROMs, DVDs, VCDs and at least one computer and printer. The committee should evaluate the CLC activities. The local government, village schools, heads of villages helped facilitated and maintained the project as a development initiative. However, they faced barriers such as inadequate infrastructure and a lack of budget, lack of ICT skills. For instance, some TAOs had Internet access but they lacked skills and strategies to promote ICTs to local communities.

To sum up, motivation is an important factor in promoting ICT to rural communities. Rural communities need to integrate information technology opportunities, computer literacy and support mechanisms into their way of life. The next section will deal with the process of developing CLCs.

Developing CLC

This summary presents a model of ICT in community-based lifelong learning centers as an educational model for Thai rural communities. This model is based on the results from the field studies and literature reviews. The three stages of developing the CLC are 1) investigations and analysis, 2) practical aspects and 3) development facts.

Stage 1: Investigations and analysis:

This phase investigates the needs of the people. The literature review suggested that CLCs' functions are multi-purpose and based on the needs of the people (Wangdi, 1999). Therefore, it is important to understand and analyse the needs and problems of the communities, especially their needs for ICTs in CLCs before setting up CLCs. This study used the problem-based approach to link to the needs of participants.

Stage 2: Practical aspects:

This phase is related to 1) motivations, 2) opportunities and 3) learning styles.

2.1. Wlodkowski (1990) defined 'motivation' as the processes that stimulate behaviour and lead the behaviour in a certain direction. He also maintained that "there is a dynamic interaction between what is going on within us, such as needs, feelings, and memories, with what is going on outside us, such as the many environmental attractions and influences in our daily lives" (p. 98). Knowles (1990, p. 23) supported this premise that human behaviour is directed by some purpose or goal. Wlodkowski (1999) advocated that adult motivation is related to value and purpose, ie adult learners need to see the connection between what they are learning and their value, they need to take control of their learning process and feel enthusiastic about new material and learning activities. In both communities studied, I demonstrated the value of ICT to their work and this made them enthusiastic about the potential and benefits of ICT.

2.2. Opportunities: Learning opportunities should be available over the whole lifespan so that people are able to learn new ICT skills to engage or re-engage with learning and to build their confidence and self-esteem. For example, the two role models in the study had opportunities to learn to use the computers by themselves within their flexible time schedules. They gained confidence in their own ability to learn and developed within the context by varying their performance as required.

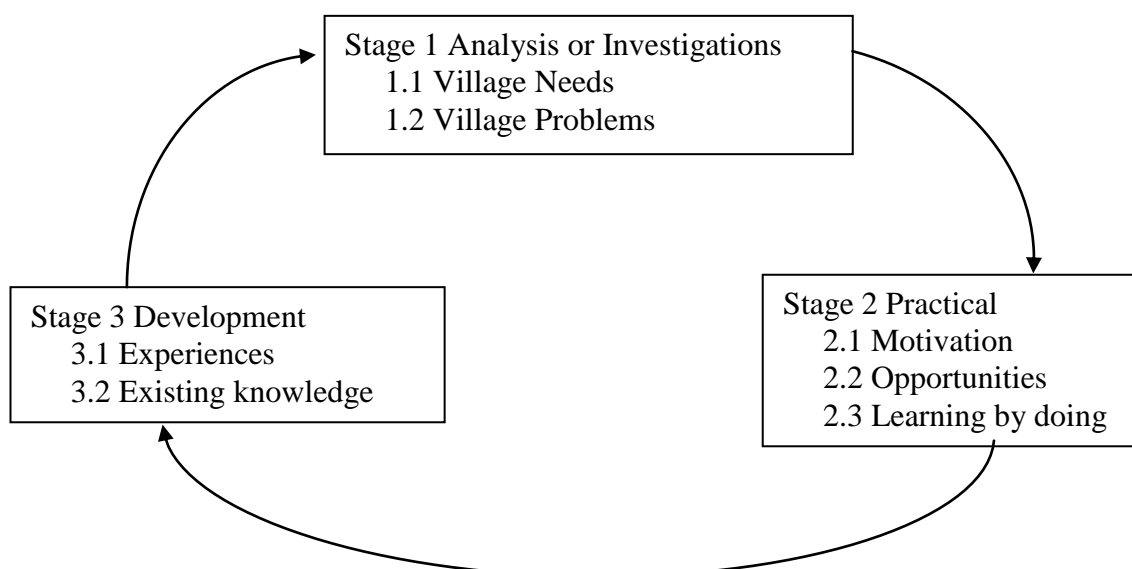
2.3. Learning style: Adults focus on lessons that are useful to them in their work. Learning by doing and practising enables them to see their learning outcome.

Stage 3: Development factors:

Adult learners bring their life and educational experiences into their learning process. Also, they have specific goals and objectives that they want to achieve. When they understand and are able to practice, they use their experiences and existing knowledge to link to new knowledge and develop new materials or activities as in the two communities that had opportunities to practice and then used their existing experiences to develop their CLCs.

In conclusion, the three phases, analysis and investigations, practical aspects and development factors are inextricably interrelated in the process to develop a CLC model for rural people as shown Figure 8.1

Figure 8.1 Recursive process to develop CLCs using a bottom-up approach

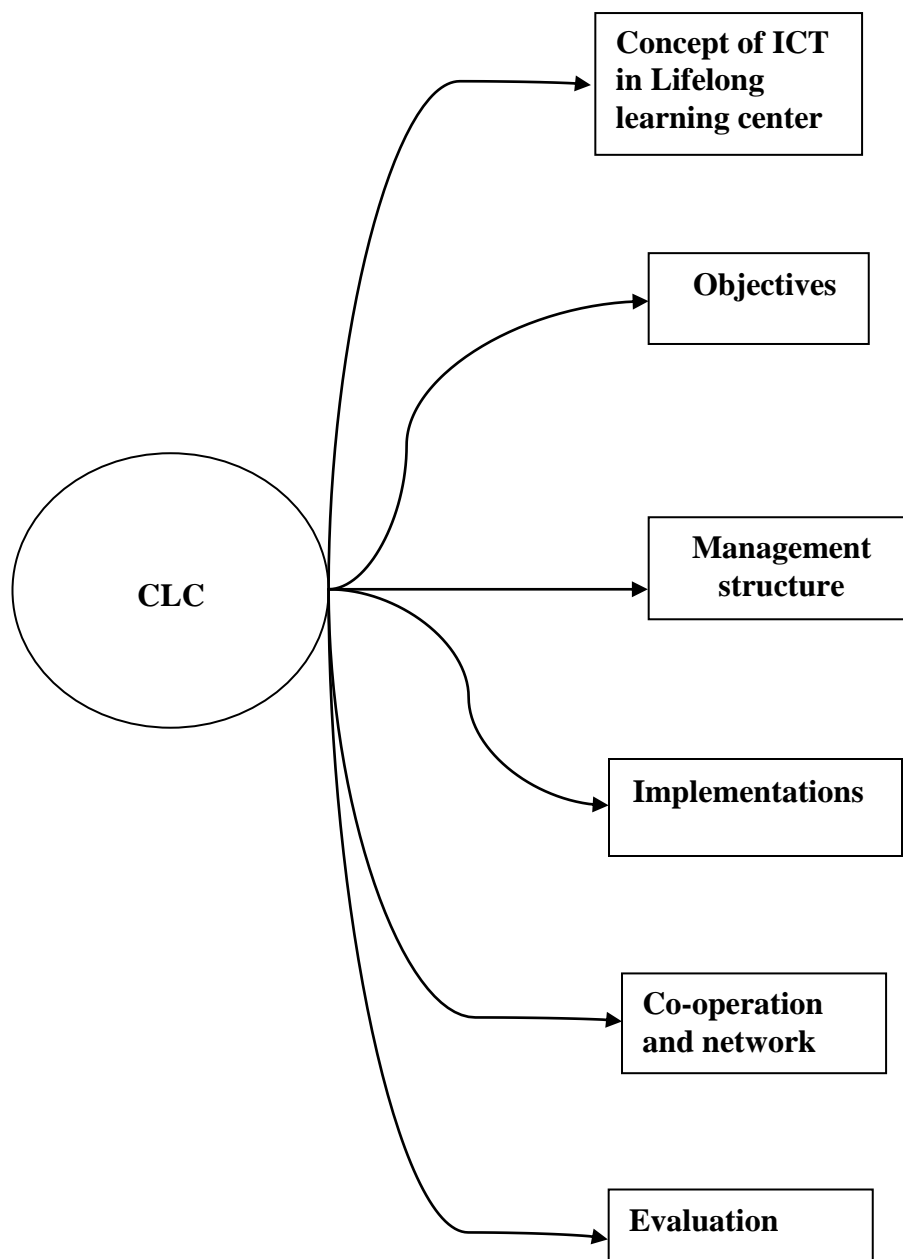


This process is inter-related. Stage 1, investigations and analysis, is conducted to understand their needs and problems. Stage 2, practical aspects involve motivating and setting up activities that focus on learning by doing. The last stage is developing new knowledge, which feeds again into stage 1 in an ongoing loop.

CLC Model

The CLC model is based on the results of the field studies which examined the needs of the villagers and their livelihoods. The components of the CLC model, including the concepts of establishing, objectives, management, implementation and evaluation are all represented in the Figure 8.2

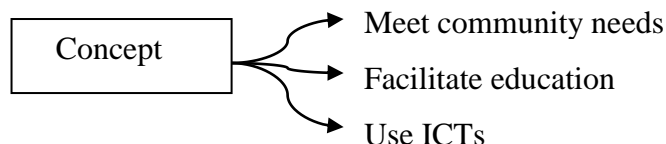
Figure 8.2 Components of the CLC model



Components of the model for establishing CLCs

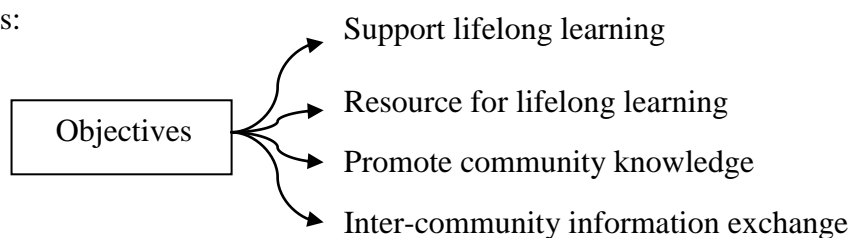
The six main components of the model provide a framework for establishing CLCs. However, the needs of the community may be diverse and hence the details will vary accordingly. This model proposes that Thai government in setting up CLCs must investigate and plan accordingly to the context and livelihoods of the communities.

1. Concept of ICT in lifelong learning center:



It is essential to be clear about the concept of the CLC as this guides the direction of its management and implementation. The concept of the CLC will vary depending on the needs of the community.

2. Objectives:



The objectives should be relevant to the needs of the community, develop human resources and be self-sustainable.

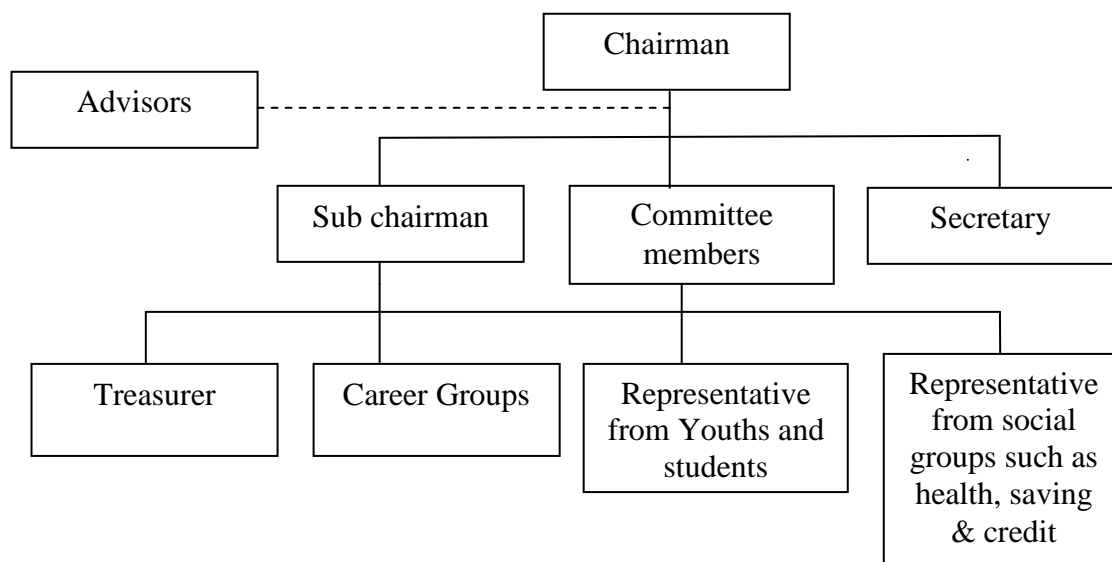
3. Management structure:



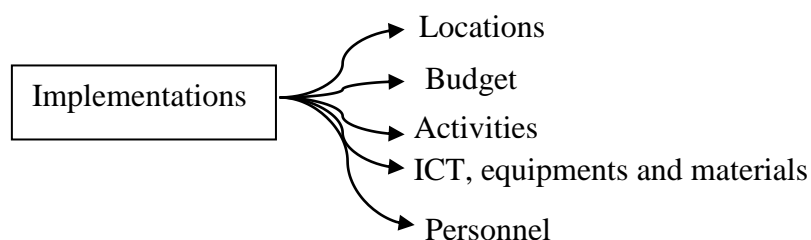
The CLC structure should not be complicated; it should be flexible and applicable to the community. The CLC committee include a chairman, sub-chairman, secretary, treasurer, career groups, committee members and consultants (see Figure 8.3). The committees have to be accountable, accumulate human, physical and financial resources, plan and manage diverse activities, information and dissemination, develop technical resources, mobilize and network with different organisations as well as evaluate and supervise

programmes. There should be 10-15 members of the committees. Temporary committees can be set up for special projects.

Figure 8.3 CLC committee structure



4. Implementation: Provide facilities to support CLC



4.1 The location should be convenient for the local community and in a public area that does not limit access to the CLCs.

4.2 The budget should include contributions from TAO, NFEC, other governments departments, NGOs or donations from the local community.

4.3 Activities should meet the needs of the community, relate to their community way of life, support professional skill development for the community, develop and integrate ICT skills as well as make use of existing local knowledge and resources.

4.4 ICT, equipment and materials should consist of printed materials and non-printed materials, with an emphasis on ICT equipments such as computers, printers, scanner, digital camera, CD-ROMs, DVDs, VCDs and photocopiers. The community should have a plan to access the Internet and support ICT networking and Internet equipment including communications software.

4.5 TAO personnel officers with local community knowledge and experience can recruit and assign maintenance and repairs duties to the local people. This will encourage social development for local people and provide long term benefits to the local economy.

5. Cooperation and networking: It is beneficial to partner with local governments, NGOs and other nearby villages to assist or set up CLC, offer co-activities, exchange materials and share ideas.

6. Evaluation: Evaluation by the CLC's committee and external organisations such as TAOs, NFEC, should focus on the satisfaction of the beneficiaries.

Recommendations

This model of ICTs in community lifelong learning centers used a bottom-up approach to investigate how to adapt and integrate ICT with rural communities' needs and local governments' commitments to ICT initiatives as stated in the *1997 Constitution*, Section 81 (See figure 2.5) and *NEA 1999* Section 18 (3) (See figure 2.9). As a result of my fieldwork and research, this study will propose policies for harnessing ICT development in rural areas. To understand the potential of ICT, it is not enough to focus only on commercial factors such as profits and costs or computer hardware and software. It is essential to integrate multi-disciplinary knowledge and encourage cooperation and partnerships in communities to work together to solve problems and achieve developmental goals in social, economic and environmental arenas leading to a knowledge-based society and economy.

Four recommendations for the Thai government and local governments on promoting and harnessing ICT are that the government should 1) extend the lifelong learning policy, 2) streamline duplicated structures 3) invest heavily in technological infrastructures and, 4) promote collaboration and cooperation.

1. Extend the lifelong learning policy. The literature review on CLCs in Thailand showed that government ministries are responsible for the education of Thai people including, promoting lifelong learning to upgrade skills, obtaining qualifications while at home or in the workplace and undertaking informal

learning based on local knowledge. Each ministry has its own mission and role in Thailand's social and economic development, including increasing the potential and competency of the workforce in different target groups. For instance, MOE's main policy focus is the education system while MOL's strategy is to provide and develop the quality of the workforce. Both ministries have organisations at provincial, district and sub-district levels but their training courses have not extended to the large number of people in northeast Thailand. Both ministries should consider policies to delivery education in remote areas. For instance, programs such as the National Village Fund¹⁷ could provide a policy platform to build, study and disseminate learning for the community and extend the program to directly address lifelong learning. This will stimulate the integration of ICT and lifelong learning into CLCs. Also, both ministries should state clearly the lifelong learning policy for the local government so that they can apply it appropriately for each area.

2. Streamline duplicated structures. NECTEC, an independent agency under MOST, provides ICT operational support while MICT, a government agency, is in charge of national ICT development and ICT policy. The operational support office and policy office must work closely to coordinate ICT implementation, sharing resources and budgets so that both organisations can streamline costs and human resources.
3. Invest heavily in technological infrastructures. ICT cannot effectively empower rural communities unless the imperative issue of connectivity is addressed. ICT policy at the national level has to state clearly and strongly support the investment and implementation of a technological infrastructure. Section 78 of the *1997 Constitution* states that the state is responsible for providing effective, non-discriminatory, equal access to basic ICT infrastructure. As discussed previously, both communities in this study faced problems of insufficient resources and facilities from the government, lack of reliable and affordable telecommunication infrastructure, lack of training and practice. This indicates that the Thai government has not reached its aim to provide an equitable infrastructure. It is not enough to just provide computers for use in narrow specific purposes. As technology rapidly changes and to meet the diverse needs in different fields such as educational institutions, health offices, trading,

¹⁷ National Village Fund, a government project, provides funding of one million baht for each village for households and local business loans and investments.

communities and the workplace, the government needs strong leadership and commitment to allocate large amounts of public funds to expand nationwide ICT access. National policy has to provide basic ICT literacy, education for all Thai citizens and promote lifelong learning through ICT. The ICT infrastructure must be flexible and appropriate within the Thai context and allow local governments to provide ICT network connections between local institutions, schools, TAOs to central government and also provide this service to the community. Moreover, the government must have the political will to drive change and the public must support government strategies to promote ICT. Government regulation is required to ensure a balance between the provision of such projects in major urban areas and outreach to rural areas.

4. Promote collaboration and cooperation. Collaboration and cooperation to develop networking is important for local communities to create knowledge, to increase their economic and social development capacity and as a basis for governance of society. Networking provides opportunities for local people and local institutions to interact and manage resources. The Thai government needs clear policy that promotes collaboration between government agencies in remote areas regarding implementation, budgets, and resources. Local government institutions, including TAOs and village schools, with close contacts with rural communities often take on additional roles as governmental presenters, supervisors and facilitators to manage public works as a service to the people and to develop the community. My suggestion for collaboration involves networking between TAOs, village schools, communities, and the private sector.

Different circumstances in different countries require different strategies for implementing ICT; each has to determine its own approach. However to integrate ICT in local Thai communities, the government needs strong political commitment, clearly defined implementation programmes, collaboration with private corporations and well-defined ICT regulations and standards as its long term strategy.

Future study

Recommendations for further studies include:

1. To test this model in other rural regions of Thailand and compare the implementation and development processes.

2. This model was conducted in northeast Thailand. This is a meaningful and interesting region for researchers to conduct further research into rural community improvement, through the adoption of ICT strategies.
3. An audit of Thai government agencies supplying lifelong learning to identify duplication, best practice and effectiveness in achieving desired policy outcomes.

Summary

The research findings and literature review led to the conclusions presented and subsequent recommendations for developing CLCs. The chapter concluded with recommendations for further research.

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APPENDICES

Appendix A: Human Ethics Approval Application



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22 March 2005

Chanthana Wech-o-sotsakda
C/- Professor M Waring
College of Humanities and Social Sciences
Massey University
Albany

Dear Chanthana

HUMAN ETHICS APPROVAL APPLICATION – MUAHEC 05/002
"ICT in Community-Based Lifelong Learning Centre: a Model for the Northeast of Thailand."

Thank you for your application. It has been fully considered and approved by the Massey University, Albany Campus, Human Ethics Committee.

If you make any significant departure from the Application as approved then you should return this project to the Human Ethics Committee, Albany Campus, for further consideration and approval.

Approval is for three years. If this project has not been completed within three years from the date of this letter, a new application must be submitted at that time.

Yours sincerely

Professor Kerry Chamberlain
Chairperson,
Human Ethics Committee
Albany Campus

cc Professor M Waring
College of Humanities and Social Sciences



Appendix B: Questionnaire

QUESTIONNAIRE

Instructions:

Please answer the questions to the best of your knowledge. There are no right or wrong answers. I am interested in your opinion on these issues.

In this first part of the questionnaire, I would like you to provide some details about yourself and your entire household. Where boxes are provided, please tick only one, unless otherwise stated.

SECTION A: GENERAL INFORMATION ABOUT THE COMMUNITY

1. Village _____ Zone _____
2. Address _____
3. Family status
4. Members of family
 - Male _____
 - Female _____

SECTION B EDUCATION

5. Please indicate your level of education (*please tick*).
 - None
 - Primary school
 - Secondary school
 - Tertiary
 - Others *(please specify)*

6. Can you read and write? (Yes/No/a little)

7. How many your of family member can read and write?

Level of Education	Can read and write		
	Yes (Number)	No (Number)	A little(Number)
None			
Primary School			
Secondary School			
Tertiary			

Others (*please specify*) _____

SECTION C EMPLOYMENT

8. Employment status

- Employed
 Unemployed
 Others (*please specify*)

9. If employed, which sector? (*Please tick*)

- Community
 Government
 Non-governmental organization
 Cooperative
 Private company
 Self-employed
 Retired
 Others (*please specify*)

10. Please state your profession (if any)

11. Are other members of your family employed?

Yes

No

Employment Sector	Place of work	
	city (Number)	village (Number)
Community		
Government		
Non Government		
Cooperation		
Private Company		
Self employed		

SECTION D INCOME

12. Monthly income level (*Please tick*)

None

Less than minimum wage

Baht2500 – Baht3000

Baht3500 – Baht4000

Baht4500 – Baht5000

Greater than Baht5000

SECTION E ELECTRONIC EQUIPMENT CONSUMER

13. Electronic Equipment

Landline telephone

Mobile phone

Television

Radio

Refrigerator

DVD, CVD Player

Tape player

CD-ROM Player

Others

please

specify)

SECTION F SOCIAL ACTIVITIES PARTICIPATION

Participate in Village Activities

Yes

No

If yes please specify

Appendix C: Focus Group Introduction and Ground Rules

Introduction Focus Group

Good morning or good evening and welcome to our session. Thanks for taking the time to join our discussion of

My name is, and I will serve as the moderator for today's focus group discussion. Assisting me is

The purpose of today's discussion is to get information from you about the

We have invited people with similar experiences to share their perceptions and ideas on this topic. You are representing others in your villages. There are no right or wrong answers but rather differing points of view. We expect that you will have differing viewpoints. Please feel free to share your point of view even if it differs from what others have said. If you want to follow up on something that someone has said, you may want to agree, disagree, or give an example, feel free to do that. Don't feel that you have to respond to me all the time. Feel free to have a conversation with one another about these questions. I am here to ask questions, listen and make sure everyone has a chance to share. We're interested in hearing from each of you. So if you're talking for a long time, I may ask you to give others a chance. And if you aren't saying much, I may ask for your opinion. We just want to make sure we hear from all of you. Feel free to get up and get more refreshments if you like.

My team and I will be taking notes to help us remember what is said. We are also taping, video recording and photographing the session to help us recall and analyse what you say, so it is important you speak clearly as we do not want to miss any of your comments. We guarantee the confidentiality of your responses; no transcribed comments will be attributed to any individual.

If any question is confusing or ambiguous, please let us know. Everyone's view and opinion are important, that is why we ask that everyone participate in the discussion. Please keep in mind that we are very interested in both positive as well as negative comments.

The session will last about 180 minutes, and we will take a formal break after one and a half hour. Do you have any questions before we begin? Let's begin with each person in the room telling us their name and some information about themselves.

Ground Rules

Each participant is expected to participate in the conversation. Each participant's input is valuable, and should be respected by all. Please speak up, only one person should talk at a time. There are no right or wrong answers, only different points of view. There is no need to reach consensus. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we are only here to lead the discussion, feel free to discuss amongst you. Keep in mind that we are interested in negative as well as positive comments

Appendix D: Questioning Route

Outline of Focus Group Questioning Route and Protocol

Opening comments

Welcome and statements regarding the purpose of the study, focus group procedures and ethical issues.

Opening question

Please tell us a little bit about yourself.

Introductory question

What is special about your village?

Transition question

Does anyone know something unique about your community?

Key questions

How did your life change in the last year or last five years?

Ending questions

Is there anything we have not talked about?

Appendix E: Focus Group Questions

Focus Group Questions

Questions for investigating problems in their community

1. What is the first thing that comes to your mind when talking about your village?
2. What is special about your village?
3. Does anyone know something unique about your community?
4. How did your life change in the last year or last five years?
5. Is there anything we have not talked about?

Questions for focus group in Krainun Village and Khok Yai Community Forest

1. What are the reasons to continue with activities to develop the community?
2. What is the objective of setting up a CLC?
3. How shall we do this?
4. Who operates the CLC?
5. What support structure is required to run the CLC smoothly?
6. How do we implement the center?
7. What are the needs of fellow villagers?
8. How can the community participate?
9. What does the community use the CLC for?
10. What role do the TAO and school play?
11. How can the TAO staff and schoolteachers help?
12. Why do we need to invest in computers?
13. What problems can one anticipate?
14. Is this model applicable to your village?
15. Is there anything we have not talked about?

Questions for Khok Yai Community Forest in creating local curriculum

1. Why do you want to create local curriculum?
2. How can we create this?
3. What is the focus of the contents?
4. Who would use this?
5. What type of support is needed to create this?
6. Who should be involved in creating this?
7. Is there anything we have not talked about?

Questions for Krainun village in preparing website

1. Why do you want to create a website?
2. How can we create this?
3. What is the focus of the contents?
4. Who would use this?
5. What type of support is needed to create this?
6. Who should be involved in creating this?
7. Is there anything we have not talked about?

Appendix F: Interview Questions

Interview Questions

Instructions:

Please answer the questions to the best of your knowledge. There are no right or wrong answers. I am interested in your opinion on the issues.

1. How do you think ICT can benefit rural communities?

2. What can be done to make the use of ICT more effective for rural communities?

3. What technologies/ICT do you think are needed at the community level?

4. Which alternative ICT solutions\models do you know exist on this topic?

5. Do you have any other comment you wish to add?

Appendix G: Pictures



Focus Groups



Workshops in Krainun Village



Study Trips



Workshop Training Computer