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Self-Empowering Communities:

Securing the Future of the Information Technology Centers in the Mae Moh District of Northern Thailand

This *Interactive Qualifying Project*, submitted on 28 February 2003 to the faculty of the Worcester Polytechnic Institute in partial fulfillment of the requirements of the Degree of Bachelor of Science, was completed by the team members listed below:

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Abstract

This project focused on four Information Technology Centers in the Mae Moh district of northern Thailand. These Centers were recently established for purposes of community development, to improve villagers' access to knowledge and communication. The current status of each Center was evaluated in the areas of *Administration*, *Interest Level*, and *Economics*, using information gathered from IT Center administrations, IT Center users, and selected villagers. Recommendations were made for the sustainability of each Center.

Executive Summary

The ability of individuals and communities to improve their personal and communal welfare is greatly influenced by a combination of knowledge and sound communication with others. People living in underdeveloped regions across the world often lack the capacity to increase their access to knowledge, expedite communication, and consequently take more control of their lives and their future. Information Technology (IT) Centers have been established in various locations worldwide over the past decade as a means to address such community development needs. These IT Centers typically provide technical equipment such as computers, Internet, fax machines, photocopiers, and televisions.

Recently, the Mae Moh district of northern Thailand was identified as an area that could benefit from such IT Centers due to past political, health, and environmental problems. With help from the College of Public Health (CPH) at Chulalongkorn University, the Electricity Generating Authority of Thailand (EGAT), and other financial sponsors, four IT Centers were established in the Mae Moh villages of Hang Hung, Hua Fai, Na Kam, and Huay King in September of 2001. Through the leadership of Dr. Nuntavarn Vichit-Vadakan of the CPH, these IT Centers aimed to improve the quality of life of the Mae Moh villagers by providing them with a resource for self-empowerment.

In late 2002, project funding from various sponsors and administrative direction from the CPH came to an end, thereby transferring total managerial and financial responsibility of the Centers to the villagers themselves. Our project team was called upon to perform an assessment of the IT Centers and provide recommendations for their sustainability. Our project objectives were to:

- Collect data concerning each IT Center with regards to a common framework of sustainability criteria;
- Analyze the data collected to determine the current status of each IT Center and ; and
- Provide recommendations for sustainability to each IT Center based on the results of the current status assessments.

Research Methods

Prior to fieldwork in the Mae Moh district, background research was performed to formulate a framework of sustainability criteria that we used to help meet our project objectives. Once in Mae Moh, the framework guided our evaluations of the current status and potential for sustainability of the IT Centers. The key areas of this framework, listed in bold, and associated research questions are as follows:

- **Administration:** Who is responsible for the advisory functions of the IT Center and what are their tasks and goals? Who is responsible for the daily managerial operations of the IT Center and what are their tasks? How well are these tasks carried out?
- **Interest Level:** How is the IT Center perceived by the users? What are the differences between the users and non-users that may affect their usage? What efforts are being made to improve the public image of the IT Center and increase its usage?
- **Economics:** How successful are each of the IT Centers financially and what are their sources of income and their expenses? To what extent is financial planning organized and carried through?

To answer these questions we sought information from IT Center Committees, IT Center operators, IT Center users, and a selection of villagers. Data collection instruments

were designed and included the usage of interviews, focus groups, and questionnaires. The interviews and focus groups were used to gather information and opinions from the IT Center administrative bodies; the questionnaires were used to obtain the views of the IT Center users and the sampling of villagers.

Findings

The following are our research findings acquired through answering the previous research questions and are organized according to the three categories of our framework.

Administration

- Administrative bodies, referred to as IT Center committees, exist for each IT Center with members who are active in the community and enthusiastic about the IT Centers' purpose and goals. Three of the four Centers committees share administrative duties with their local government. However, these committees could benefit from greater initiatives in public relations efforts and program offerings.
- Each IT Center is staffed with one employee, the IT Center Operator, who is responsible for daily managerial operations including checking that computers are in working conditions, janitorial work, accounting, maintaining the user logbook, and assisting users as needed.

Interest Level

- The IT Centers are typically used by the younger generation.
 - Highest percentage of users ranged in age from 10 to 15 years.
 - No users surveyed were over the age of 26 years in three of the villages.
 - In the remaining village, Hang Hung, only 29% of users surveyed were over 26 years of age; of those none were over 46.
- User perception of the IT Centers is favorable regarding the benefits of the Centers and their atmospheres. It was also indicated, with 82 % of 152 people surveyed in the four villages agreeing, that the village heads' opinion of the Centers contributed to the users' perceptions.
- All four IT Centers currently advertise, and each IT Center Committee has plans for future advertising ventures.
- There are no training programs offered through the IT Center, however each IT Center committee displayed interest in starting such programs in their respective Centers.

Economics

- All four of the IT Centers' individual monthly expenses consistently exceed their individual incomes. Of additional interest was that each Center generated income in a similar manner through comparable user fees and faced similar types of everyday expenditure.
- The level of current financial accounting and future financial preparation varied from Center to Center; a common theme displayed among all was that the planning of their finances involved a dependency on others, most notably the Sub-District Administration Organization (SAO).

Limitations

Our findings are influenced by the limitations that we encountered in data collection and analysis related to language barriers, time constraints, cultural differences, and human error. These limiting factors contributed to unforeseen missing data and imperfect sampling techniques during data collection as well as inconsistencies in our data analysis. The Thai language barrier provided the greatest limitation for our team, largely because data aimed to be collected may not have been acquired due to the lack of adequate translation. Data collected may also have been misinterpreted due to cultural differences in word choices. This was problematic in both data collection and data analysis.

Recommendations

Here we present our recommendations for the sustainability of the IT Centers along with a brief explanation. After thorough analysis of our findings and with our new knowledge of the current status of the IT Centers, we developed particular recommendations. Our recommendations were chosen because they addressed important issues presented in our framework of sustainability criteria and appeared feasible. We first address the IT Centers collectively with general recommendations and then provide village-specific recommendations.

General Recommendations

- *We recommend to the IT Center committees that the necessary steps are taken to obtain financial support from their SAO, and also income through user fees continues to be generated.* The SAOs have suggested that the IT Center committees apply for subsidies, and even suggested the possibility for full reimbursement. Self-empowerment and community development are still possible with financial support from the SAO, because the SAO is still within the community, helping to build its capacity through the IT Center program.
- *We recommend to the IT Center committees that promotional fundraising events be carried out with support from the local government.* The IT Center committees lack the finances to execute their intentions of improving their Center. Every IT Center committee expressed its interest in fundraising and advertising; however, no fundraising events have occurred to date, with the exception of one village. Securing visible support from the local government, such as the SAO and village head, would be ideal given the influence these leaders possess among the villagers.
- *We recommend to the IT Center administrations that the IT Centers be furnished with additional Internet-ready computers and more secure Internet connections.* The users surveyed frequently agree with all of the four IT Center committees that additional computers are needed at the Centers. We were specific in recommending the computers be equipped for Internet access because the Internet is among the most popular uses of the Center.
- *We recommend to the IT Center administrations that they invest in additional technical support and practical user applications training for the IT Center operators.* All four IT Center operators' knowledge of computer applications is limited to MS Word, Excel, and Internet browsing. With further education, the operators may be

better equip to assist users with technical difficulties and able to administer training programs and workshops on these topics and also more advanced topics.

- *We recommend to the IT Center committees that training programs, administered by the IT Center operators, be offered to the community free or inexpensively.* Providing the villagers with training programs, enabling them to increase their knowledge and technical ability, satisfies several of the program's original objectives. Of the 139 non-users surveyed, only 26% felt comfortable operating a computer. To date, there are no training programs offered through the IT Centers, still we found that all four IT Center operators are willing to conduct training programs. Our user questionnaire results show that 95% of 142 users surveyed would attend a training program offered through the IT Center.
- *We recommend to the IT Center committees that the non-users in their villages are informed of the benefits of utilizing the IT Center through various forms of advertising.* By presenting the IT Center's various uses and benefits that may appeal to a diverse group of people, the Center's public image can be improved and its membership can be broadened, thus helping to satisfy the program's original objective of reaching all groups regardless of age or gender. Advertising has proved to be effective in creating awareness of the Centers in all four villages. All four IT Center committees have ideas for advertising that have not yet been implemented.
- *We recommend to the IT Center committees that they diversify their membership, specifically the gender, age, and occupation of the members.* An eclectic mix of people in charge of the IT Center promotes the diversity of ideas, interests, and concerns that may benefit the Center. The members of the committee may serve as a sort of word-of-mouth publicity for the Center; with an eclectic committee, more groups of people may be reached for instance, professionals, laborers, housewives, business-owners, educators, and elder.
- *We recommend to the IT Center operators that the Internet homepages be set and locked to an informative and useful site, such as www.maemoh.com.* The Mae Moh district has a website, www.maemoh.com, which advertises local products and posts local and governmental news. In the Na Kam IT Center, the Internet homepages of two computers were set to sites that some may consider inappropriate.

Village-specific Recommendations

- *We recommend to the Hua Fai IT Center committee that they ask the village head to advertise the IT Center over the village announcement system.* The single current form of advertisement in Hua Fai, as specified by the committee, is informative posters. The village head of Hua Fai is supportive of and involved in the village's IT Center being the chairman of the local IT Center committee and our survey results show the majority of villagers are influenced by their community leaders' opinions.
- *We recommend to the Hua Fai IT Center operator that she maintains better control of the daily managerial operations of the Center.* The janitorial duties appeared to have been neglected in Hua Fai. The Center was found closed during set hours of operation and also open and in use while no operator was present.

- *We recommend to the IT Center committee in Hua Fai that they devise a strategy for enforcing and collecting user fees from patrons.* The Hua Fai operator has been experiencing troubles with collecting user fees. She explained to us that she first collects the fee for the time requested by the user, but when the user occupies the computer beyond the agreed upon time she is unable to acquire the payment or agrees to collect the money at a later time and fails to do so.
- *We recommend to the Huay King IT Center operator that she submit a report to the IT Center committee with her ideas concerning training programs and equipment upgrades.* The operator in Huay King has many good ideas regarding promotional activities and training programs, but has yet to propose her ideas to the committee.
- *We recommend to the Huay King IT Center committee that they appoint a member or members responsible for the Center's public relations.* The Huay King committee consists of a Chairman, a Vice Chairman, the IT Center operator, and 10 board members. There is currently no particular person in charge of public relations for the Center.

Acknowledgements

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We extend our thanks to all of those in Mae Moh who graciously helped us. We thank the families we stayed with: Khun Kaew and Khun Jeep in Hang Hung; Aacaan Supin and Khun Eat in Hua Fai; Khun Meow and Khun Boonthan in Na Kam; and Khun Yuan and Khun Nut in Huay King for their great hospitality. We also would like to thank the translators in the villages: Pii Dtai in Hang Hung; Aacaan Ton and Nong Arm in Hua Fai; Aacaan Yow, Nong Nung, Nong Phon, Nong Jack, Nong Kate, and Nong Pim in Na Kam; and Nong Khing and Nong Khaeg in Huay King who gave us their time and patience to help administer questionnaires and conduct interviews and focus groups in the Thai language. A special thanks is due for Nong Waan who assisted us in many interviews and focus groups, as well as in administering questionnaires.

To our translators from the College of Public Health: Pii Opal, Pii Bow, and Pii Sucondai, who spent many hours transcribing and translating our collected data, we extend our extreme appreciation for all their assistance.

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Authorship

Throughout the process of completing this project, we felt that it was important to include the ideas and opinions of every member of our team. All team members put forth equal efforts towards the completion of this project. When writing for the project, each person wrote a section of a chapter alone, acting as the primary author; the section was then circulated amongst the group for editing. The primary author, when writing and revising their sections, would consult the group for ideas and opinions before completing the piece. This ensured that the thoughts and views of each team member were expressed throughout the entire written Interactive Qualifying Project.

1 Introduction

The ability of individuals and communities to enhance their personal and communal welfare is greatly influenced by knowledge. Combined with sound communication, knowledge enhances informed decision-making and consequently increases human and community self-empowerment. Moreover, access to knowledge can enable people to take control of their own lives, especially in today's rapidly changing technological world. In an effort to increase human knowledge, communication, and empowerment in underdeveloped communities worldwide, many community development activists have made attempts to establish Information Technology Centers that provide the means for improved information access and increased communication methods for communities. Due to similar concerns in the Mae Moh district of northern Thailand, four such Centers have been established in its villages.

The villagers of the Mae Moh district in Lampang province have been neighboring a lignite coal mine and thermal power plant, operated by the Electricity Generating Authority of Thailand (EGAT), for several decades. Unfortunately, when lignite coal oxidizes it releases a toxic substance called sulfur dioxide. The release of this chemical into the air has caused substantial harm to the health, crops, and livestock of the Mae Moh district villagers. These disabling effects caused the College of Public Health at Chulalongkorn University to conduct a health study in this rural district, aimed at helping the villagers improve their lives. Over the course of this study, additional problems were discovered that greatly affected the daily lives of the villagers. Of particular concern was the community's lack of information access resources as well as their inefficient methods of communication. These circumstances limited the villagers' course of action when dealing with the health and environmental problems impacting the community and thus warranted a call for enhanced capabilities within the area and promotion of community self-empowerment. These issues prompted the College of Public Health to embark upon a project to implement Information Technology Centers in the area as vehicles for the community's development.

In September 2001, four Information Technology Centers equipped with computers, telephones, televisions, and other educational and communication

resources were established in the following villages: Hang Hung, Hua Fai, Na Kam, and Huay King. Approximately one month following the opening of these Centers, evaluations of the initial accessibility and the potential for sustainability of the Centers were conducted. In late 2002, project funding from various sponsors and direction from the College of Public Health at Chulalongkorn University came to an end, thereby giving managerial and financial responsibility of the Centers to the villagers themselves. With this transition to local control in 2003, the project sponsors were interested in the use and operations of the Centers and their potential for sustainability.

Our project's goals were to evaluate the current status of the four IT Centers and formulate recommendations that would aid in their sustainability. We developed a framework of sustainability criteria composed of three main categories: *Administration*, *Interest Level*, and *Economics*, that served as the foundation of our sustainability assessments. Upon completion of our assessments we provided recommendations for the improvement of the IT Centers. It is our hope that these plans may be useful to the villagers in sustaining their Information Technology Centers, thus contributing to the overall goal of self-empowering these communities to ensure their future financial, political, and social wellbeing.

2 Background

The underlying purpose of the Information Technology Centers in the Mae Moh district is to serve as a tool for community development. A key concept in community development is that of capacity building, which refers to the combination of knowledge, communication, skills, and resources that enable communities to address their own problems and plan for their future. We begin by introducing the concept of capacity building as a key aspect of community development; we also explain how IT Centers are increasingly being used as a method of building capacity towards community development. Then we present the recent history of the Mae Moh district, specifically the environmental and communication problems, and information access issues experienced. These issues contributed to the call for capacity building in the Mae Moh district and led to the Information Technology Center initiative. The original proposal of the IT Centers is presented and its goals and expectations are outlined. The sustainability of community IT Centers is being addressed in many locations; we conclude by reviewing two examples of sustainability efforts regarding IT Centers from different parts of the world.

2.1 Capacity Building

Here we present the definition of capacity building and some of its uses. We will describe how information technology has often been used as a tool for building capacity by providing access to information that would otherwise be out of reach. To illustrate potential advantages and limitations of this method of capacity building and their causes, examples of both successful and unsuccessful IT Center ventures are presented.

2.1.1 Defining Capacity Building

The process of enhancing the well being of a community through emphasis of environmental, human, social, and physical assets is termed capacity building.¹ This process connects the existing assets of a community with its outside resources, in order to achieve a larger communal goal. Community programs that incorporate these

¹ Peter Schaeffer and Scott Loveridge, ed. Small Town and Rural Economic Development: A Case Studies Approach, (Westport: Praeger Publishers, 2000).

two constituents—existing assets and outside resources—are considered methods of capacity building.

Commonly, capacity building is confused with technical assistance, and contrasting the two is a useful tool to better understand the former. The main difference is that capacity building is focused on the development process of community building, while technical assistance is focused on the specific community building tasks. More specifically, capacity building is used to facilitate tasks relating to community building and help empower people to make decisions in an educated manner, while technical assistance provides a tangible answer to capacity building questions. The field of science will be used as an example. From a technical assistance viewpoint, science provides solutions to problems. In contrast, capacity building identifies science as a tool that may be utilized for various needs within a community such as informed decision making methods, technical skills, education, and established methods of training. Examples of capacity building methods include the following: training farmers with new agricultural equipment, teaching people the benefits of sanitation and natural waterways, and connecting people to the World Wide Web so they may learn ways to enhance their livelihoods. Increasingly, information technology is being introduced to underdeveloped areas for the purpose of capacity building. While many terms are used to describe such efforts, we will refer to them collectively as Information Technology Centers.

2.1.2 Information Technology Centers as Capacity Building Tools

Ineffective levels of communication and information access are often problems in less developed communities. Information Technology Centers aim to build the capacity of these communities through enhancement of communication methods and improvement of access to up-to-date information.

The notion of building a community's capacity by integrating Information Technology Centers into an areas is met with support by some and skepticism by others. those who believe that enabling people in undeveloped areas to access information could increase the well being of those communities while their critics may feel the technology IT Centers have to offer could be disruptive to native cultures especially if not introduced in the correct manner. The problem with this controversy is that there is very little information regarding the cultural impacts of IT Centers on

communities and is thus a difficult issue to persuasively support either way.² However, there are some studies of IT Center pilot programs aimed to increase the capabilities of the communities involved from which certain opinions may be deduced. Here we present two examples of IT Center projects to illustrate the possible benefits and limitations of these types of Centers.

The first example is broad in the sense that its scope ranges across Sub-Saharan Africa. Efforts to establish IT Centers in this region of Africa have been met with limited success. In general, their progress tends to be slow due to what seems to be a lack of interest and a lack of understanding the Centers' usefulness and is correlated to area's extreme poverty and health issues.³ It is therefore important for an IT Center development group to have an understanding of the area's culture and current financial and political situations in which they plan to implement IT Centers in order to gauge how well the technology will be received and used and what IT center functions should be highlighted when presenting the benefits of them. The key is that these centers need to be useful to the people who are using them.⁴

Information technology efforts introduced to Tampines New Town, Singapore, display promising aspects of implementing IT Centers in disadvantaged areas.⁵ With a population of 200,000 people, most of whom live in government-subsidized housing, Tampines New Town has been the focus of many Singapore government sponsored development projects. This particular project aimed to develop a new community in which members were more connected through an electronic network that could be accessed through centers in the region. A review of the project conducted by the International Development Research Centre revealed an increase in the residents' access to information and communication. Several lessons were presented by the researchers including the importance of incorporating people into the project from the local community leadership roles, having non-technical people involved in the IT Center development and steering team, making the centers useful

² Pippa Norris, *Digital Divide: Civic Engagement, Information Poverty, and The Internet Worldwide*, (New York: Cambridge University Press, 2001).

³ "Capacity Building", *Lessons from Sub-Saharan Africa*. n.d., <www.enda.sn/energie/cc/lessons.htm> (7 November 2002)

⁴ "International Development Research Centre," (1999) <<http://www.idrc.ca/acacia/studies/ir-gove.htm#ICTs%20and%20Community%20Building%20-%20the%20example%20of%20Tampines%20WebTown>> (25 Nov. 2002).

⁵ *Ibid*

and understandable to average citizens, and having a clearly established organizational structure within the IT Center administration.

2.2 The Mae Moh District of Northern Thailand

We begin this chapter with an introduction to the Mae Moh district, the Electricity Generating Authority of Thailand, and the disputes between the two. The cause of these disputes drew the attention of the College of Public Health at Chulalongkorn University to the area, where a need for capacity building was discovered. The communication and information access issues in Mae Moh, along side the national theme of government decentralization, led to the establishment of an IT Center in each of four villages in the district. Culminating the chapter is a description of a study performed regarding the sustainability and accessibility of the Centers.

2.2.1 Issues Causing the Need for Capacity Building

The Mae Moh district is located in the Lampang province of northern Thailand. Figure 1 is a map of Thailand showing the country's breakdown by region.

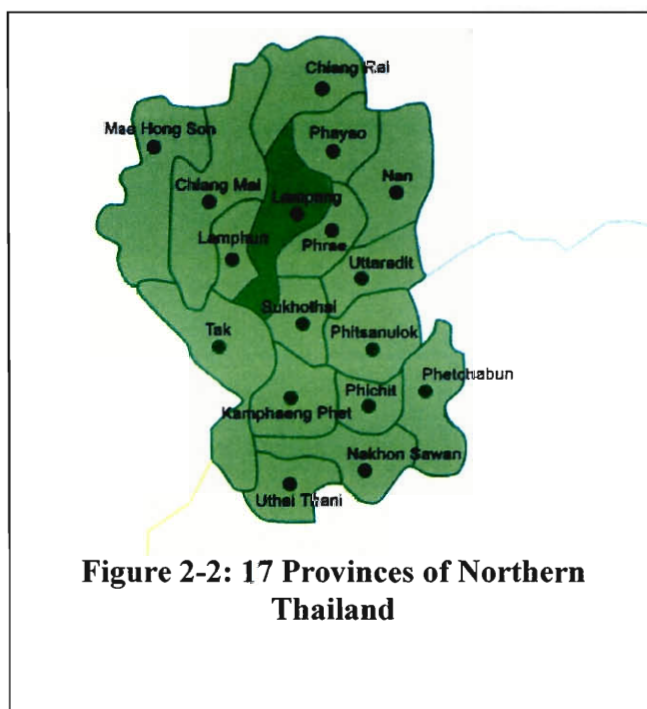
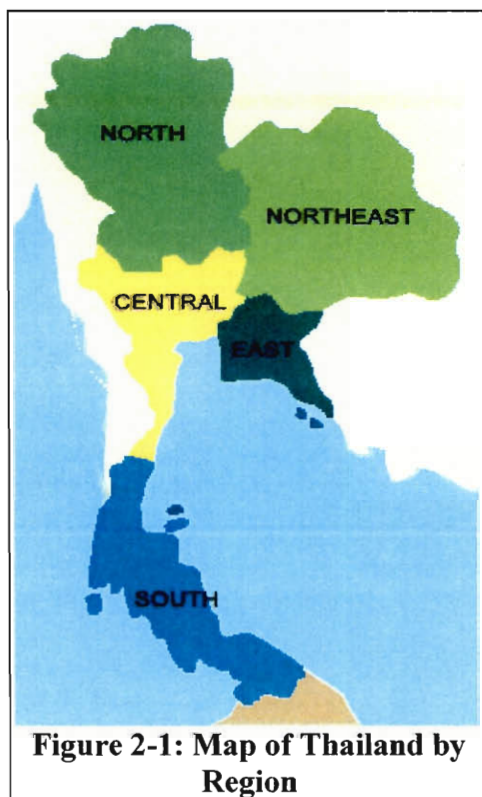


Figure 2 shows the 17 provinces of northern Thailand one of which is Lampang, highlighted in light green. A more detailed map of the Mae Moh District can be found in Appendix A. This rural area is agriculturally dependent and lacks in widespread access to current forms of communication including telephone, television, and Internet. Despite Mae Moh's agriculturally based economy, the region is best known for its large deposits of lignite coal. Capitalizing on this natural resource, the Electricity Generating Authority of Thailand (EGAT) erected a thermal power plant in 1978. With a total capacity of 2,625 kW, it is the largest of its kind in the country⁶. However, the sulfur dioxide produced from the coal has been the cause of environmental pollution within the villages of Mae Moh as well as many villager health problems, including deaths. Many legal issues have also been raised from these community troubles.⁷ These environmental and health problems brought the Mae Moh area under the microscope of the College of Public Health (CPH) at Chulalongkorn University. CPH has worked in the Mae Moh district for nearly seven years, helping to improve the health problems suffered by the villagers.⁸

While CPH worked with the environmental problems in the Mae Moh district, another important issue had been brought to their attention involving communication and information access. The lack of infrastructure in this rural area has contributed to communication difficulties between the villagers, businesses, and local governing bodies. An example of the difficulties they have encountered over the past five years is their process of mail distribution⁹. When EGAT or another party wanted to disseminate information to villagers they would have to first send mail to the district government office. From there it would be mailed to the village head, who would be responsible for posting it on the village bulletin board. This lengthy process could take several days and cause distributed information to become out of date. Other issues such as the lack of phone lines and email services have slowed communication rates as well. Such slow communication can confuse important issues and cause unnecessary problems.

⁶ "EGAT's Thermal Power Plants", n.d., <<http://www.egat.or.th/english/powerplants/thermal2.html>> (27 Nov. 2002).

⁷ Sonsak Suksai, "EGAT to Face Lawsuit over Toxic Discharge," *Bangkok Post*, 17 July 2002.

⁸ Interview with Dr. Nuntavarn Vichit-Vadakan

⁹ Vichit-Vadakan, Nuntavarn. Village Information Center: A Bridge to World Knowledge

The lack of a way to access information quickly and easily is another problem experienced by the villagers of the Mae Moh district.¹⁰ The villagers in the area have been unable to easily retrieve current data regarding subjects that affect their daily lives such as educational opportunities, governmental issues, environmental conditions, and income generating methods. This could be considered a disadvantage for the area because they do not have helpful resources that many others use to improve their lives socially, politically, and financially. Better access to information is envisioned by many as a way to improve the lives of the people in the Mae Moh district; improving their lives is an issue that CPH and other stakeholders are interested in addressing and fixing.

In February of 2001, four Worcester Polytechnic Institute students completed a project in the village of Huay King in the Mae Moh district of northern Thailand. This team carried out numerous interviews within various groups in order to “identify the stakeholder groups, define the environmental problems and solutions, and assess the current capacity and responsibilities of each group.”¹¹ Addressing the mistrust and lack of communication between EGAT and the citizens of Huay King, the team concluded that EGAT needed to develop a better communication system with the community; this was expected to improve the local citizens’ attitudes towards EGAT, subsequently building a more trusting relationship between the two. To educate and inform the villagers of the environmental conditions in their area, the team proposed using more pictorial flyers and pamphlets when posting information on the village bulletin board to cater to the different learning abilities of the citizens. The team asserted that both information and communication tools could aid the villagers in searching for solutions to their environmental problems, thus helping to build their capacity and improve their lives.

Concurrently, the central government of Thailand was realizing that the lack of local government control in rural areas of the country was limiting the development of the nation as a whole. In an effort to increase the local powers nationwide, a decentralization process was put into effect in 1997. These events—the communication and information access issues as well as the national theme of

¹⁰ Ibid

¹¹ Brian A. Betts, Leah M. Henry, Heather C. Maisey, and Nadia S. Syed, “Empowering Local Citizens in Rural Thailand to Seek Options for Environmental Health Management Through Capacity Building,” (WPI: Interactive Qualifying Project, 2001).

decentralization—created an environment in which the villagers might benefit from Information Technology Centers designed as vehicles for community development.

2.2.2 Information Technology Centers in Mae Moh

Addressing the need for capacity building within the Mae Moh district, a pilot program was launched in September of 2001 with the goal of establishing Information Technology Centers in four villages, namely, Hang Hung, Hua Fai, Na Kam, and Huay King. In January of 2002, an assessment of the sustainability and accessibility was performed. Chulalongkorn University's College of Public Health directed the program with the following supporters: American Corporation of Thailand (ACT); the Electricity Generating Authority of Thailand (EGAT), the state owned utility company whose thermal power plant is located in the Mae Moh district; Loxley Information Services Company Limited, a leading Internet Service Provider (ISP) in Thailand; and the World Bank Group, a company that provides financial loans and ideas to eligible member countries with the overall objective to reduce poverty and improve living standards in those developing countries. The objectives of the IT Center program were to:

1. "Provide the community with an opportunity to expand their knowledge and to increase their access to up-to-date information aiming at all groups, regardless of age or gender with no barrier of time and distance.
2. Develop communication and information links between the various stakeholders.
3. Capitalize on the uses of information technology in community development.
4. Develop a community of learners so that they can face the challenges of technology advancement and capitalize on its potentials.
5. Establish a model of community development with participation from the various stakeholders with a business-oriented framework.
6. Reduce conflicts and communication gap between EGAT and local governing bodies and the community."¹²

The Centers, designed chiefly for communication, information access, and training, were each initially equipped with two computers, one printer, one television, one fax machine, one copier, a library of videos and printed material on community

¹² Dr. Nuntavarn Vichit-Vadakan, "Village Information Center: A Bridge to World Knowledge"

income generating activities, and two telephone lines—one for Internet access and one for telephone service. Program supporters envisioned that the following outcomes would be achieved:

1. “The villagers would become more informed on a timely basis
2. The villagers regardless of age, socio-economic status, and gender would move to a better position to face the challenges of technology advancement and capitalize on its full potentials
3. The villagers would improve their understanding of EGAT’s environmental management
4. The conflicts between EGAT and the community would be reduced
5. The knowledge among villagers across the social strata would increase
6. The various stakeholders would improve their collaboration efforts
7. The communication between the stakeholders would be more effective and efficient
8. The education opportunities and life-long access to knowledge would expand
9. The Information Technology Center would become a community center where people can meet formally and socially.”¹³

In January of 2002, four students from WPI traveled to the villages to conduct a preliminary assessment of each of the four newly instated IT Centers. Spending approximately one week in each village, they interviewed stakeholders and important role players involved in the operation and management of the IT Centers and conducted surveys throughout each village. They also tested out the equipment themselves and recorded observations of the IT Centers, of both appearance and equipment quality. They obtained copies of the IT Centers’ logbooks and used that information to get an understanding of the usage of the IT Centers. To supplement findings obtained through their data collection tools, they also kept journals pertaining to all four villages that recorded subjective observations about the layout of the village, its people, their attitude and other such interpretations.

Their analysis included the creation of a weighted point system that represented each village’s “performance” in the categories of accessibility and sustainability. The IT Centers were then compared with each other to determine what qualities made one particular IT Center better than the others. They concluded that

¹³ *Ibid*

every Center had the potential to be sustainable. Their interviews stated that the IT Centers were well received by most of the people in the villages and that there was full support from the village leaders and teachers. They also stated that all of the leaders of the villages showed concern about game use on the computers, an apparent problem by both tying up the computers and not promoting constructive use of computers. In the end, the students reported a need for the continued support of the IT Centers in order for them to be sustainable.

2.3 Sustainability of Information Technology Centers

The sustainability of community IT Centers is being addressed in many locations throughout the world. Here we present two examples, the first of which is from the Philippines where IT Centers were implemented and a study was performed that revealed useful issues to consider when evaluating an IT Center's sustainability. The second example comes from a United States based non-profit organization, Community Technology Centers' Network, which specializes in the implementation and sustainability of Information Technology Centers. Both of these cases provide a more extensive background in the sustainability of IT Centers throughout the world.

2.3.1 Western Mindanao, Philippines

Through the efforts of the Electronic Networking for Rural Asia/Pacific Project (ENRAP), the Western Mindanao region of the Philippines has been the site of an Information Network Center project aimed to digitally connect the surrounding communities and thus increase their capacity for community development.¹⁴ Ultimately their goals were to provide on-line access to helpful, empowering information and assist in enhancing electronic and non-electronic communication. Seven IT Centers were established in the region with information technology equipment such as Internet ready computers and printers.¹⁵

As a way of ensuring the success of the Centers, ENRAP explored the IT Centers' potential for sustainability. A year-end evaluation was carried out to understand how well these Centers were currently being used and what the future improvement needs were. Recommendations were made regarding how to sustain

¹⁴ "Electronic Networking for Rural Asia/Pacific" *Pan Asia Networking*, (2001),

<<http://www.enrap.org/index.cfm>> (23 Nov. 2002)

¹⁵ *Ibid*

these Centers that included issues such as technical support of the established systems, maintenance of their research development website, marketing, upgrading and enhancement of facilities, training, and periodic evaluation of utilization. These issues were useful in determining the possibility for sustainability of these Centers as well as in considering evaluations of similar projects.

2.3.2 Community Technology Centers' Network

The Community Technology Centers' Network (CTCNet) is a national, non-profit membership organization in the U.S. with a mission to "provide opportunities whereby people of all ages who typically lack access to computers and related technologies can learn to use these technologies in an environment that encourages exploration and discovery and, through this experience, develop personal skills and self-confidence." CTCNet offers resources to enhance their members' Community Technology Centers (CTCs) to provide technology access and education to its community and to help and nurture other similar programs in its area. In addition to their association, the organization has created an Internet website providing resources such as start-up manuals and toolkits to encourage initiatives. This section presents CTCNet's experience in ensuring the sustainability of IT Centers¹⁶.

CTCNet sees a successful CTC as one that offers opportunities to improve education, gain job-related skills, and build personal and community capacity. It can offer a place where participants physically gather together and electronically link with the entire community. An important criterion for success is the degree to which the IT Center becomes an integral part of its community, fulfilling its initial purpose. Though each center has unique qualities and needs, CTCNet believes all Community Technology Centers share a commitment to technology access and a belief that the IT Center can be a means for participants to increase their self-sufficiency¹⁷.

CTCNet believes many factors play a role in the success of an IT Center, and that a service such as a Community Technology Center should be treated as a business. The organization identifies the following key elements for the success of their Centers:

¹⁶ Stone, Antonia. Cambridge, MA: CTCNet, Education Development Center. (2000)
<<http://www.CTCNet.com>> (12 November 2002).

¹⁷ *Ibid.*

1. "Formation of a steering committee to serve as the governing body for the center or as an advisory committee to the existing governance structure.
2. Identification of interests and needs of participants and/or prospective participants along with assets and strengths available through other community enterprises and community members themselves.
3. Formation of partnerships and development of commitments for assistance from members of the community (ie. volunteers, funding, equipment, services, etc.).
4. Research and construction of program offerings (i.e. adult education, elder services, after school programs, job preparation, etc.) in response to identified needs and interests (in #2).
5. Consideration and proposal of operational needs of the center (i.e. personnel, financial requirements, etc.).
6. Development of a business plan mapping the center's operational and financial assumptions."¹⁸

Now we will briefly expand on some of the more important points from the numbered list above.

The CTC Steering Committee

Each CTC has its own steering committee that serves as a governing body for the IT Center or as an advisory committee to an already existing governance structure. CTCNet encourages its constituent steering committees to have a demographically diverse membership, which represents the business, educational, and professional sectors of the community; it is most effective if these representatives vary in age and gender in order to increase the diversity of ideas, interests, and concerns. These community representatives serve as liaisons, ensuring that peoples' voices are heard and also act as public relation activists for the IT Center by stimulating and encouraging interest. Members from the business and professional community can add technical skills, personal expertise, and other business support to the steering committee while educational representatives may teach programs and coursework the schools are instilling in addition to expressing the needs of the students and teaching staff.

¹⁸ *Ibid*

According to CTCNet, the steering committee is responsible for the choices and decisions regarding the available equipment, the types of workshops or classes offered through the IT Center, and all logistical tasks associated with the IT Center including scheduling meetings, promotion, operation hours, staff and volunteer recruitment and duties, and funding. Additional responsibilities of the steering committee are to make sure the Centers are meeting their original purpose and finances are managed appropriately¹⁹.

Considering and Planning for the Operational Needs and Staffing of the CTC

CTCNet has found that successful Community Technology Centers generally have one person who is responsible for the Center's overall management and direction, which includes supervising during operating hours and carrying out daily operational tasks. CTCNet has devised five categories in which tasks of all necessary functions for successful operations fall into; these categories are: Administrative, Community Outreach and Development, Direct Services, Facilities and Equipment, and Clerical Support.

1. "Administrative"
 - Program development, management, and assessment
 - Fiscal accountability
 - Liaison with governing/advising bodies and funders
2. Community Outreach and Development
 - Cultivating and sustaining relationships with the community
 - Promoting collaborations within the community and beyond
 - Overseeing public relations and development planning
 - Researching, writing, and follow-up for grant proposals and other funding
3. Direct Services
 - Educational activities
 - Teaching/supervising classes and public access
 - Orienting individuals, volunteers, and groups
 - Creating and facilitating special projects
 - Counseling re jobs, health, personal issues
 - Preparing for, and documenting, all of the above
 - Reception

¹⁹ *Ibid*

- Welcoming visitors and participants
 - Answering and routing phone calls
 - Monitoring sign-in/sign-out procedures
 - Providing information about CTC activities & classes
 - Scheduling orientation sessions
4. Facilities and Equipment Maintenance
- Site management
 - Security
 - Housekeeping
 - Refuse removal
 - Technical support
 - Trouble-shooting hardware problems
 - Arranging repair and maintenance
 - Storage of back up supplies
 - Registration, warranties, and insurance
 - Recommendations for future purchase
5. Clerical and support services
- Generating publications and announcements
 - Assembling and organizing mailings
 - Sorting and routing incoming mail
 - Updating bulletin boards and CTC information packets
 - Maintaining inventories
 - Record keeping and filing related to finance, attendance, scheduling, resources, etc.”²⁰

CTCNet asserts that more tasks may be added to this list based on the needs assessment performed.

From CTCNet, we have learned the many factors that contribute to the success and sustainability of an IT Center including the importance of self-assessment. This section provided an overview of these contributing factors as declared by CTCNet and the recommendations provided from a sustainability evaluation of seven Information Technology Centers in the Philippines. With this information, we are better prepared to determine the Mae Moh IT Center’s potential for sustainability and provide recommendations for improvement.

²⁰ *Ibid*

3 Methodology

With the assistance of the College of Public Health at Chulalongkorn University, our project assisted the citizens of Hang Hung, Hua Fai, Na Kam, and Huay King in planning the sustainability of their Information Technology (IT) Centers, such that the IT Centers would be self-sustainable and successfully function under local management. To accomplish this goal, we:

1. Collected information concerning each IT Center with regards to a common framework of sustainability criteria;
2. Analyzed the collected data to determine the current status of each IT Center; and
3. Provided recommendations for sustainability to the IT Centers based on the results of the current status assessments.

In this chapter, we describe our methodology in accomplishing these three objectives. A common framework of sustainability criteria was used to create seven general research questions, which defined what information we would seek. We collected this information from the IT Center administration, the IT Center users, and selected villagers, using instruments designed for those purposes. This chapter first details the formulation of the framework of sustainability criteria, and then explains the four data collection tools and our methods of analysis.

3.1 Formulation of a Sustainability Framework

The framework of sustainability criteria, henceforth referred to as “the framework,” outlined key factors that were to be considered when evaluating the sustainability of the IT Centers. The sustainability criteria were a product of research and experience of professionals and experts on the subject of IT Centers and nonprofit organizations. Many sources contributed to the approach and content of the framework; background material is presented in Chapter 2. Information from the Community Technology Center Network (CTCNet), a nonprofit organization that provides assistance in setting up Community Technology Centers (CTCs) in the United States, was particularly useful, since it offers recommendations on nearly all aspects of a CTC’s operation and success. While the past experiences and opinions of CTCNet may not be directly applicable to centers in northern Thailand, their general

approach to the issue is one that provided us with many ideas when formulating the framework. We constructed our framework of sustainability criteria by taking into account all of our background research information and integrating it with our educated ideas on sustainability issues.

The framework consists of three major topics: *Administration*, *Interest Level*, and *Economics*. The first category, *Administration*, addresses the governance of the IT Centers. The second category, *Interest Level*, relates to the interest of all stakeholder groups and the promotion of the IT Center. The third section of the framework, *Economics*, addresses the financial status, planning, and budgeting of the IT Centers. Upon completion of the framework, we devised major research questions based on the three categories of the framework, which are described in the following sections.

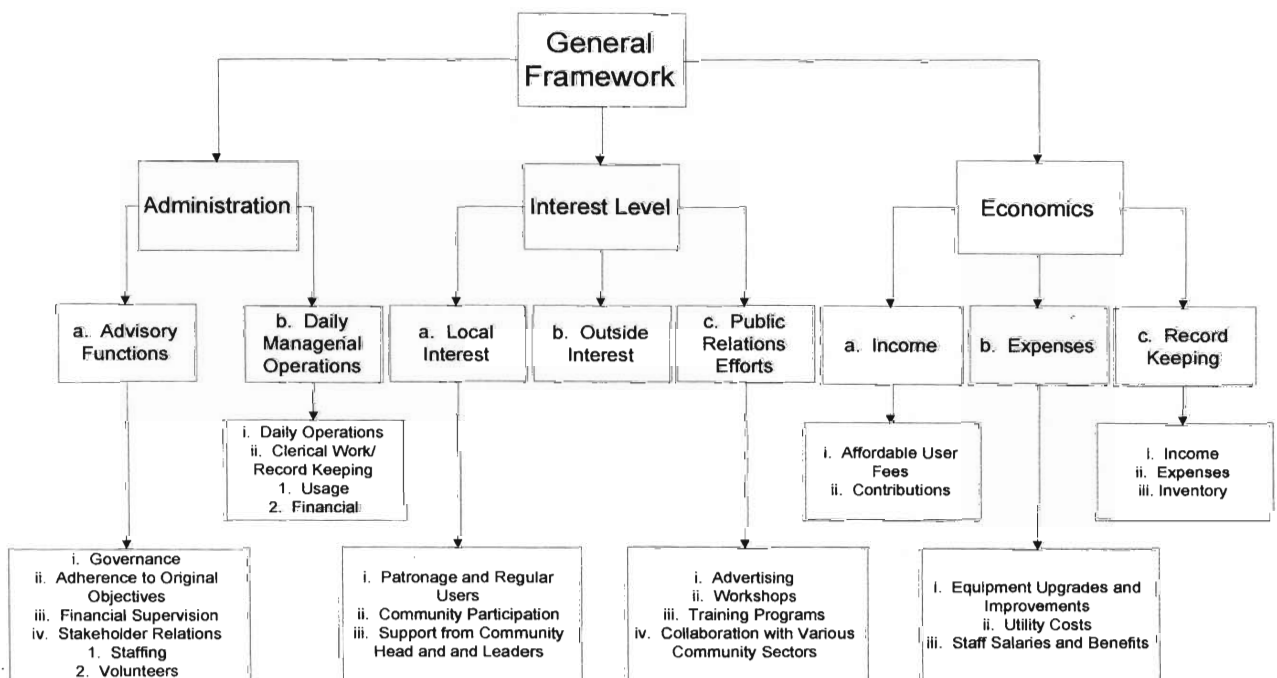


Figure 3-1: Framework of Sustainability criteria

3.1.1 Administration Information Requirements

The *Administration* category of the framework was divided into two sub-divisions: *Advisory Functions* and *Daily Managerial Operations*. The advisory functions include *Governance*, *Adherence to Original Objectives*, *Financial Supervision*, and *Stakeholder Relations*. The literature on community IT Centers typically emphasizes the importance of a governing body or group of individuals

dedicated to its success.²¹ Consideration of daily managerial operations includes *Daily Operations* and *Clerical Work/Record Keeping*. Before arriving in Mae Moh, our project team was uncertain whether or not the same person(s) performed both the advisory functions and daily managerial operations, or if they were even done at all. From this section of the framework, we created the following two major research questions:

- Who is responsible for the advisory functions of the IT Center and what are their tasks and goals?
- Who is responsible for the daily managerial operations of the IT Center and what are their tasks? How effective are they at their job?

3.1.2 Interest Level Information Requirements

When considering sustainability, the level of interest in the IT Centers by different groups within the community, and perhaps even outside of it, is a fundamental component for success. The *Interest Level* category of the framework was divided into three issues: *Local Interest*, *Outside Interest*, and *Public Relations Efforts*.

In order for the IT Centers to meet the original objectives of the program, they should be beneficial to and utilized by the community. Not only will patronage help the IT Centers achieve their original objectives, but would also provide their primary source of income. From our background research, we also hypothesized that the village head's support of the IT Centers might be important to their success. Interest from outside of the community may help improve the IT Centers' public image, while in turn increasing the local interest and contributing to the IT Centers' income.

Public relation efforts are intended to attract and maintain interest in the IT Centers. CTCNet's experience indicates that these efforts are valuable to the sustainability of an IT Center. Examples of public relation efforts include workshops, training programs, and advertising. For this aspect of the framework, three major research questions were devised:

- What are the differences between the IT Center users and non-users that may affect their usage?

²¹ Stone, Antonia. Cambridge, MA: CTCNet, Education Development Center. (2000) <<http://www.CTCNet.com>> (12 November 2002).

- How is the IT Center perceived by the users?
- What efforts are being made to improve the public image of the IT Center and increase its usage?

3.1.3 Economic Information Requirements

To be successful and sustainable, the IT Centers should be financially stable. The *Economics* category of the framework is divided into three issues: *Income*, *Expenses*, and *Financial Planning*. The IT Centers' income may include the profits of fundraising, donations, grants, and user fees. We expected that expenses could be categorized into three groups: equipment upgrades and improvements, staff salaries and benefits, and utility costs. To be financially viable, it is essential that the Centers' expenses do not exceed their income. Financial planning uses budgeting and detailed record keeping as a means to organize current and predict future financial needs and distribution. The following major research questions took form in the *Economics* section of our framework:

- How successful are the IT Centers financially and what are their sources of income and their expenses?
- To what extent is financial planning organized and effectively carried out?

3.2 Evaluation of the Information Technology Centers

With a general sustainability framework and research questions in place, we sought information from the local villagers, the IT Center users, the IT Center committees, and the IT Center operators to begin the evaluation process. Evaluating the IT Centers was done by finding detailed answers to the research questions posed in this chapter. We then designed data collection instruments with these stakeholder groups in mind. Each group was targeted for specific information to answer the research questions relevant to their role in the sustainability of the IT Center. Questionnaires were used to obtain information from both IT Center users and chosen villagers, interviews were held with each IT Center operator, and focus groups were conducted with each IT Center committee. We recognized various limitations in the data collection process and explained them in detail in Section 4.5 of this report. Details of each data collection technique are addressed in the following sections.

3.2.1 General Perspective of Villagers

We expected that the opinions of the local villagers would provide valuable information regarding the research questions related to interest level. We selected villagers to gain insight into the way they typically obtained information, their technical abilities, and their awareness of and interest in their local IT Center. We aimed to learn how the villagers were informed of their IT Center, if at all, and their expectations for the IT Center. From the collected data, we also intended to identify the non-user demographics and possible behavior tendencies that could prove valuable when planning programming and advertising for the Center.

We chose to survey local villagers through self-administered questionnaires. We visited homes and provided family members with a questionnaire in person rather than by mail, for example. This method typically produces a high response rate. This is most likely due to the difficulty of saying “no” to a researcher asking for help in person and because the importance and credibility of the research is better conveyed in person.²² However, a drawback is that we could not further probe the villagers for more specific answers. The questions asked were designed based on the sub-research questions that applied.

In order to select and survey a sample of the village population in a short time frame, we utilized a method known as random cluster sampling. With this technique, the area being sampled is divided into groupings, which in our case were proximal houses. With random cluster sampling, there is often homogeneity of traits within the clusters, which is cause for a sampling error. However, the random sampling error can be reduced by selecting a greater number of clusters with fewer houses within the clusters.²³ For this reason, we defined small clusters of three to five houses and surveyed as many clusters as time would permit. In our first two villages, Hang Hung and Hua Fai, the cluster locations were chosen by a blindfolded team member randomly selecting a spot on the map. The chosen point was positioned in the center of a cutout square, which was scaled to each map to include the appropriate number of houses defined by our cluster size. If we pointed to a section on the map where no houses were found, we did not define a cluster at that point and repeated the selection

²² Singleton, Jr., Royce A. and Bruce C. Straits, Approaches to Social Research, Third Edition, New York: Oxford University Press, 1999. pp.255.

²³ *Ibid.*

procedure. Once we recognized the degree of human decision involved, this cluster choice technique was discontinued; an alternative procedure was used in the villages of Na Kam and Huay King.

In Na Kam, we had access to a map that included sequential numbers for each plot of land. We utilized the Microsoft Excel Random Number Generation analysis tool to provide us with an integer between 4 and 859, which were the first and final plot numbers on the map. We defined our clusters as four households, using the randomly generated integer and the three consecutive integers thereafter.

In Huay King, we designated the potential clusters on a map by selecting three to five houses in their natural groupings, labeled these groupings with integers from 1 to 95, and then used the Microsoft Excel Random Number Generation tool to choose which clusters we would survey. The clusters were defined in this fashion, contrary to Na Kam, because of the non-sequentially numbered houses.

We surveyed as many clusters in each village as time permitted; this time was typically two weekday evenings and a weekend morning or afternoon. Our team had the help of translators to introduce us and to explain the purpose of the questionnaire to each household. Most surveys were self-administered; however, if someone could not take the survey independently, our translator administered the survey. For both the Thai and English versions of this questionnaire, refer to Appendix G.

3.2.2 Feedback from Users

The users of the IT Centers were specifically targeted as a stakeholder group to gain information about *Administration* and *Interest Level* related research questions. The users had the ability to provide information regarding daily managerial operations and typical services that attracted them to the Center. We intended to identify characteristics of villagers who used the IT Centers, including their motivation to go, when they go, their level of technical ability, and their particular likes and dislikes of the Center.

We decided to use self-administered questionnaires because we could gather data from the users in the IT Centers without physically being present to ask the questions.²⁴ We provided each IT Center operator fifty questionnaires in Thai, along with a request to have each user fill out only one questionnaire, and asked that the

²⁴ Singleton 241..

questionnaires be distributed for four weeks. This number of questionnaires was suggested by CPH based on their knowledge of the number of users of the IT Centers. When we collected the completed questionnaires, we asked each operator to provide us an estimated response rate. For both Thai and English versions of this questionnaire, refer to Appendix H.

3.2.3 Feedback from IT Center Operators

The IT Center operators were chosen as interviewees because of their firsthand experience of the daily operations of the IT Center. The IT Center operators were unique in that they could provide information regarding all three categories of the framework: *Administration*, *Interest Level*, and *Economics*. We expected that each operator would be able to explain their daily work routine, report the nature of the Center's usage, and provide us with records of usage and finances among other useful information.

Face-to-face interviewing was chosen as the method of data collection for this stakeholder group because it gave us the flexibility to ask open-ended questions while still receiving detailed responses.²⁵

Interviews were conducted in areas with limited distractions and with a translator who would first introduced our project team and the purpose of the interview. The questions, which were previously translated and written out in Thai, were then read to the operator by the translator. The translator would translate as often as possible to keep our project team informed so we would know whether or not to ask more probing questions. We took notes on the parts translated to us in English, and the whole interview was audio-recorded for later translation. A copy of our IT Center operator interview questions in both English and Thai can be found in Appendix I.

3.2.4 Perspectives of Advisory Committees

Each IT Center has its own IT Center committee that consists of 7 to 13 members of the village; they make the major decisions for the IT Centers, and thus play an important role in the sustainability of the IT Centers. From the IT Center committees, we were looking to gain an understanding of their internal organization

²⁵ Singleton, Jr., Royce A. and Bruce C. Straits, *Approaches to Social Research, Third Edition*, New York: Oxford University Press, 1999. Page 254.

and operations, goals, and objectives. We hoped to observe the level of group dynamics, enthusiasm, and motivation.

Our data collection method for this stakeholder group was to conduct focus groups. This method was most appropriate because information and opinions could be collected from multiple committee members at one time, thus giving a greater overview of information and people's views. Individual interviews often provide more detail about a topic, whereas focus groups tend to generate a greater amount of information with different views. This sacrifice of detail was made due to the lack of time and resources necessary to individually interview each member. Additionally, focus groups provided our project team with the opportunity to observe the manner in which the committee members interacted with each other in terms of interpersonal behavior. We asked questions stemming from all three major research question themes. Questions that were thematically similar were grouped together with the larger issue question presented first. Following this bigger-picture question, were supporting questions to probe the respondents, in an effort to ensure that responses to the larger issues were as specific as possible.

The focus groups were conducted in locations where many people could meet with limited distractions. The session began with our translator introducing our project group, explaining the goal of the focus group, and reminding the interviewees that everyone should participate so that different views on issues were expressed. Following that, the translator read each question separately and made sure that the question was fully answered before moving on. The translator would give us a brief summary of what was said after each response so we could stay involved in the session. To later assist in transcribing and translation, we had a note-taker record responses in Thai and made an audio recording of the focus groups. The list of focus group questions in both English and Thai can be found in Appendix J.

3.3 Analysis of Current Status

In attempting to determine the current status of the IT Centers from our gathered information, we approached our raw data with systematic processes aimed to uncover answers to our seven major research questions. The procedure for processing each type of data began with an English translation of all materials collected in the Thai language. We then organized the translated data into one of the three framework

themes: *Administration*, *Interest Level*, and *Economics*. This set us up to answer the corresponding themed sub-research questions located in Appendices D, E and F. We looked to find sub-research question answers for each village in order to eventually draw both general and village-specific conclusions, but due to translation issues and the difficulties we experienced in probing data collection questions in focus groups and interviews, we were unable to answer all of our planned sub-research questions. Despite this limitation, we acquired answers to as many sub-research questions as possible, and then used them to generate answers to our major research questions.

When integrating our data into answers to the research questions, we had to approach qualitative and quantitative data types differently. The answers to our focus groups and interviews were qualitative in nature and thus easily divided among the three framework themes, while the questionnaires were quantitative in nature and involved more analysis before they could be categorized. Therefore, when approaching our questionnaire responses, we used Microsoft Excel to generate spreadsheets that contained all the villagers' responses. This organization and the tools within the software allowed us to draw meaningful conclusions from the data that could then be separated into the three framework categories.

4 Findings

This chapter details our findings based on the collected data and analysis techniques described in Chapter 3. These findings provide in-depth answers to our seven main research questions. We begin with a general description of each village and its respective IT Center. The remainder of the chapter is organized according to the three major categories of the framework: *Administration*, *Interest Level*, and *Economics*. In Section 4.5, the limitations of the data collection and data analysis processes are explained, as well as the general limitations encountered in the course of completing this project.

4.1 General Description of the Villages

Hang Hung was the first village that we visited while in the Lampang Province; it has a population of 1200 villagers. We stayed in this village for five days with the village head, Khun Kaew, and her husband, Khun Jeep. As you go through the main entrance there are small shops on either side of the road, where people sell goods from their homes, as well as a larger shop that sells locally made crafts such as silk flowers. Across the main road is the local elementary school. The village wat is located down the road from a bridge over a small stream that separates the village. Next to the wat there is a large grass area with a volleyball net where children play after school. The IT Center is located just outside the center of the village close to the main gate. Inside the Center there are four computers (two of which have Internet access), one printer, one fax machine, and a television and VCR with a library of informational videos.

Hua Fai was the second village from which we collected data; we were in this village of 1100 people for five days and stayed with a teacher from the local elementary school, Aacaan Supin and her husband, Khun Eat. Their home was located across the street from the elementary school. It is important to mention that this village is located in the Ban Dong sub-district, which is different from the other three villages which are located in the Mae Moh sub-district. The IT Center is located near the center of the village very close to the village wat. Sharing a building with another organization, the small room of the IT Center houses the three computers (none of which had internet access the week we were in the village or the four

previous weeks), one printer, one fax machine, one copy machine (which was moved out of the building while we were in the village and it is unclear to us where it went), and a television and VCR with a library of informational videos.

Na Kam was the third and largest village that we visited with a population of approximately 3000 people. Our team collected data in this village for five days; we stayed with Khun Meow, the sister of Khun Boonthan, the village head. There is a small but lively downtown area along the main road and is lined with many food vendors, shops, and markets. The IT Center is also situated on this road; sharing a building with the community center; the IT Center contains six computers (all with access to the Internet), one printer, one fax machine, and a television and VCR with a library of informational videos. There is an elementary school in Na Kam that is located close to the hospital. Mae Moh Wittaya, the high school for the area, is located in Na Kam across the main road from the village. Na Kam is also home to two Internet cafes, with which the IT Center competes for business. One of the Internet cafes is located on the other side of the downtown area from the IT Center and the second Internet café is located on the other side of the village.

Huay King was the last village that we visited in Lampang and there we resided for six days with Khun Yuan and her husband Khun Nut. This village has an approximate population of 800 people, making it the smallest village that we visited. There is a muay Thai boxing ring in the village, where many young boys train everyday after school; located adjacent to the ring is a grassy area where many of the villagers play local games. In Huay King, the IT Center is located in the elementary school, occupying one room which contains three computers, two that are connected to the Internet, one printer, and one fax machine.

Our time in each village was spent acquiring translators, scheduling the focus group with the IT Center committee, setting up the interview with the IT Center operator, attaining a map of the village and choosing the clusters we would sample, observing the operator in the IT Center, and finally administering questionnaires, performing interviews and focus groups. The following is an account of our findings based on the data we collected.

4.2 Administration of the IT Centers

In this section, we provide answers to the two research questions regarding the administration of the IT Centers. We gathered most of the information for this section from the focus groups with the IT Center committees and the IT Center operator interviews and to a lesser extent, the user questionnaires.

Who is responsible for the advisory functions of the IT Center and what are their tasks and goals?

An IT Center committee, composed of 7 to 13 members, exists for the management purposes of each IT Center. However, these committees take on slightly different roles in the two different sub-districts of the area. Each IT Center in the Mae Moh sub-district is under the control and partial management of the Sub-district Administration Organization (SAO), the local governing body. While in the Ban Dong sub-district, the Hua Fai IT Center is only under the control and management of its village IT Center committee. With the exception of Hua Fai, we were able to obtain an understanding of the tasks of the committees in each village. All three Mae Moh sub-district IT Center committees believe, above all, their duty is to manage the Center, through supervision, sustainability, accounting, and public relations efforts. In addition to these corresponding responsibilities, each committee has defined additional tasks unique to its Center.

The four IT Center committees articulate a common goal for their Centers: to provide their community with a means to acquire information and thus increase local knowledge. With this knowledge, people may develop better practices in education, business, and agriculture that would in theory increase jobs and local incomes. To accomplish this goal and be sustainable, each committee has set individual objectives.

The remainder of this section will describe in more detail a transfer of management from the SAO to the IT Center committees, the IT Center committees themselves, and other issues that influence the advisory functions of the Centers.

Transfer of Management from the SAOs to IT Center Committees

The villages of Hang Hung, Na Kam, and Huay King are located in tambon Mae Moh (sub-district), while the village of Hua Fai is located in tambon Ban Dong.

An IT Center advisory board was formed within each SAO; thus, the three Centers in Mae Moh tambon share one advisory board. These boards meet separately once every six weeks to discuss their Center(s). In addition to the advisory board, a village IT Center committee, elected by the villagers, exists for each Center. These two governing bodies work together to plan for and manage the IT Centers.

Until very recently, all four IT Centers were under the control of their respective Sub-district Administration Organization (SAO), the sub-district government body. With the end of program funding in late 2002, the Mae Moh and Ban Dong SAO advisory boards proposed that the individual IT Center committees assume the control and management of their respective IT Center and be the chief responsible party or allow the SAO to continue its present duties. In November of 2002, Hua Fai's Center committee voted to appoint themselves responsible for their Center. At this time, the Ban Dong SAO is no longer in control of the Hua Fai Center, but will continue to meet concerning the Center to ensure a smooth transition of management. The Hang Hung, Na Kam, and Huay King IT Center committees have expressed their interest in taking control of their own IT Centers and will vote on this matter in March 2003. When asked how the transfer of management may affect the daily operations of the Center, all IT Center operators stated that the transfer would have no effect on the operations and viability of their Center.

IT Center Committees

The four IT Center committees are composed of 7 to 13 members each; this number includes the IT Center operator. It was found that every committee schedules regular meetings; the Hua Fai and Na Kam committees meet once a month, whereas the Huay King and Hang Hung committees meet once every two months. The committees differ in their membership and internal organization.

The Hang Hung committee is composed of ten female members whose ages fall between 18 and 62; this female dominance may explain findings regarding the community interest in the Center, which is described in the following section. The committee has five offices: Chairman, Vice Chairman, Secretary, Treasurer and Public Relations. Among the committee's key tasks are supervising the Center operator, fundraising, and cooperating with other IT Centers. This was the only village that emphasized the Public Relations officer's task of making and distributing

advertisements, such as brochures, that inform and update the community of the IT Center.

The Hua Fai committee is the smallest committee with seven members: six middle-aged men and one woman who was the IT Center operator. In the focus group, the committee responded that member absence was a problem they have encountered in their meeting's proceedings. We were unable to obtain a detailed list of the offices within the committee and their respective responsibilities.

The Na Kam committee includes 11 members, six women and five men. The committee informed us that they recently decreased their membership from 16 members to ten to enhance their meetings efficiency and alleviate the problems of finding meeting times all members could agree on. The committee has eight offices: Chairman, Vice Chairman, Secretary, Assistant Secretary, Treasurer, Assistant Treasurer, Public Relations, and Assistant Public Relations. The committee emphasized that they strive to administer the IT Center according to the original objectives of the IT Center program. The committee identified problems concerning their finances—the Center's insufficient income is verified in our economics findings presented later in this chapter; and the IT Center operator's salary—they believe the salary is inadequate for an experienced IT Center operator.

The Huay King committee is made up of 12 members: 11 men and one woman who is the IT Center operator. Two offices exist within the committee: Chairman and Consultant. The IT Center operator is in charge of writing the minutes of the meetings. The internal structure of this committee was much different from the other three committees. The committee had not appointed specific people to the task of public relations; this may be the reason that the committees did not report to us any plans for increasing usage and targeting non-user groups. The committee wants to inform the villagers of the benefits of the Center, but did not tell us how they planned on doing this. Communicating between the IT Center and the Mae Moh SAO was among the committee's key tasks.

Goals of the IT Center Committees

As previously stated, the four IT Center committees articulate a common goal for their Centers: to provide their community with a means to acquire information and thus increase their knowledge. It is believed among the committee members that with this knowledge, people may develop better practices in education, business, and

agriculture that could increase jobs and income. To accomplish this goal and be sustainable, each committee has set individual objectives.

The Hang Hung IT Center committee stated additional goals for their Center beyond the goal common to all Centers. They would like to see the Center enable people to improve their computer skills, communicate with relatives via the Internet, promote their products produced by local labor and resources, and expand into domestic and foreign markets. The Hang Hung committee is excited about e-commerce and encourages participation; villagers have already begun introducing their products on the district's web page, www.maemoh.com. The committee in Hang Hung has stated that their target non-user groups are housewives, the elderly and family headmen. To stimulate and encourage use by villagers within these three target groups, the committee would like to request funding from the SAO or the Quality of Life Development Fund to be able to offer free training programs. Other ideas aimed to draw villagers to the Center include: holding a computer exhibition, offering regular computer training, purchasing more computers through fundraising or attaining SAO subsidies, and creating a membership program.

An additional goal stated by the Hua Fai IT Center committee is to provide the younger generation with an educational and safe activity to prevent troublesome actions. The committee also indicated that only children access the Center and thus their target non-user group is the older generations. To succeed in accomplishing their goals and be sustainable, the committee has set objectives. The committee hopes to move the Center's location to an independent building with more space, attain additional computers, gain support from more organizations, and attract more users. Plans to attract more users include posting advertisements for the Center in nearby villages and offering training programs that appeal to the older generations. The committee did not mention women or housewives among their target groups for advertising, which may or may not be influenced by the male dominance in the committee's membership. Note that the Hua Fai committee is the only group that did not include women in their target group. The Hua Fai IT Center committee recognized the regular occurrence of users not paying services in full; to resolve this problem, the committee intends to revise the Center's ground rules to enforce paying for service up front and time limits.

In addition to the goal shared between the four committees, the Na Kam IT Center committee wishes to promote communication and allow villagers to interact globally. The committee's current primary objective is to increase usage and patronage; their primary targets are housewives and youths. To accomplish this objective, the committee would like to invest in more computers, reduce the user fee, and create a village web page. The committee acknowledged the Center's insufficient income as an issue and proposed to ask for donations in order to buy more computers.

The Huay King IT Center committee is similar to Hua Fai's committee in respect to its goal for the IT Center: to provide youngsters with a constructive activity from which they can gain knowledge and discover opportunities to benefit their community and country. In working to accomplish the Center's goals and be sustainable, the committee identified the total patronage to be their primary concern. To increase patronage, the committee plans to target current non-user groups, specifically housewives, family headmen and additional youths. They would like to inform the community residents, especially these target groups, of the uses and benefits of the Center through advertisement and by offering training programs. Though no solution was proposed, the committee stated the Center "has more users than computers."

Who is responsible for the daily managerial operations of the IT Center and what are their tasks? How well are the daily managerial operations carried out?

Each IT Center is staffed with one employee, the IT Center operator, who is responsible for daily managerial operations including checking that computers are in working conditions, janitorial work, accounting, maintaining the user logbook, and assisting users as needed. All four IT Center operators are women in their mid-twenties.

With the Huay King IT Center being located in the school, the operator has the additional duty of typing documents for teachers and villagers. The IT Center users surveyed felt that the staff was capable of doing its job, with 92% of the 155 users replying that the IT Center staff is capable to work in the IT Center. Further supporting their capabilities, 90% of 153 users surveyed indicated that the operator is sufficiently trained to technically assist them if there is a computer problem. These

percentages have a limitation; because the questionnaire was returned to the operator, the participants may not have felt entirely comfortable answering that they believed the operator was not capable. All of the IT Center operators indicated that they felt comfortable instructing intermediate level courses in Microsoft Word, Microsoft Excel and Internet browsing. An interesting response taken from the Hang Hung operator interview was that the operator expressed insecurities when asked if she felt that she could assist users.

Based on our observations of each IT Center over a period of approximately one week, we believe that the Hang Hung and Huay King IT Center operators are sufficiently carrying out the daily managerial tasks. Both operators see that the Center is opened and closed during its posted hours, organized accounts of the Center's finances and usage are maintained, the Center is kept clean and orderly, and users are assisted as needed. The Huay King Center operator had ideas regarding public relations and programs offerings, but has yet to propose these ideas to the IT Center committee.

We identified daily managerial operation issues in the Na Kam and Hua Fai IT Centers. Upon several of our visits to the Na Kam IT Center, we found the IT Center operator absent from the Center, sleeping at the Center, playing computer games, or watching movies that some might consider inappropriate in the company of friends. Another interesting point is that the homepages on two of the computers in the Na Kam IT Center were set to sites that some may consider inappropriate. The Hua Fai IT Center was found closed during posted operating hours, in use without the operator present, or operated by a replacement while the present operator was at another place of employment. In addition, it appeared the janitorial duties were disregarded in the Hua Fai Center. From these findings, we may speculate that these issues are affecting the usage of the Centers; perhaps if the Center offered a cleaner workplace and some user assistance, villagers would be more likely to attend. The Hua Fai IT Center committee informed us of a current problem of users not paying in full and leaving the Center without paying; in order for the user fee to be enforced, it is imperative for the operator to be present at all the times.

4.3 Interest Level of the IT Centers

The answers to the three main research questions regarding the interest level of the framework of sustainability criteria are presented in this section. Both the user questionnaire and villager questionnaires provided a majority of the findings in this section while the interview with the IT Center operator functioned as a means to either back-up or raise questions with the results from the questionnaires. The focus groups from the IT Center committees were used to provide data on the fundraising and training program plans in the villages.

What are the differences between the IT Center users and non-users that may affect their usage?

In general, our data suggests that a majority of the villagers have heard of the IT Center, however, there are a minority of users in each village. We identified two main characteristics that may affect a villager's usage of the Center: age and gender. A majority of the users surveyed are male. The data shows that there is a tendency towards a certain age group for users and a certain age group for non-users. The main group of users is males between 10 and 15 years old. In three villages, the data included no IT Center users over 25 years of age. In addition, the data revealed no users over 45 years of age in any of the villages.

Among the 201 of villagers surveyed throughout the four villages, 80% indicated that they had heard of the IT Center in their village.

Table 4-1 Percentage of Users vs. Non-users in each village

Village Name	# of respondents	% Users	% Non-users
Hang Hung	33	39	61
Hua Fai	47	49	51
Na Kam	64	30	70
Huay King	63	33	67

In all of the villages, our results show that there is a majority of non-users, as seen in

Table 4-1. Hua Fai has the highest percentage of users out of those surveyed at 49%.

Table 4-2 Gender Profiles of Users and Non-users

Users surveyed				Non-users surveyed			
Village	# of	Male	Female	Village	# of	Male	Female

Name	respondents			Name	respondents		
Hang Hung	32	31%	69%	Hang Hung	32	53%	47%
Hua Fai	46	55%	45%	Hua Fai	46	38%	62%
Na Kam	70	47%	53%	Na Kam	70	37%	63%
Huay King	48	62%	38%	Huay King	67	52%	48%

A majority of the users surveyed in each village were male with the exception of Hang Hung where 69% of the users surveyed were female. Table 4-2 shows the gender breakdown of the users and non-users surveyed in each village. An interesting note is that the IT Center committee in Hang Hung is composed entirely of women who we observed to be enthusiastic about the IT Center. Their verbal promotions of the Center and the example that they set in governing the Center may play a part in the greater female use in this village. In other villages, many women may not use the IT Center simply because they are not aware of it, or they could feel that they cannot benefit from its use.

Table 4-3 Age Profile of Users

Village	# of respondents	<10 yrs	10-15 yrs	10-19 yrs	20-29 yrs	30-39 yrs	40-49 yrs	>49 yrs
Hang Hung	48	6%	33%	46%	31%	11%	6%	0%
Hua Fai	48	17%	63%	77%	6%	0%	0%	0%
Na Kam	10	0%	70%	100%	0%	0%	0%	0%
Huay King	51	4%	86%	96%	0%	0%	0%	0%

A majority of the 167 user respondents in each Center (62% overall) are between 10-15 years of age. This agrees with the Center operators' responses that students come to the Center most often. Table 4-3 depicts the age profile for the users surveyed, those between 10-15 years are shown in bold. Within this 10-15 year old age range, the data suggests that there are more male than female users in every village (overall 71% are male and 29% are female within this age range). The operators in Hua Fai, Na Kam, and Huay King specifically stated that, within this age group, the IT Center was more popular among males than females and that the males

typically used their time in the Center to play computer games. While observing the IT Centers, we frequently witnessed young males playing computer games.

Upon examination of our collected data, we found no one over 45 years of age to be using any of the IT Centers. With the exception of Hang Hung, the results showed no villager over 25 years of age using any of the IT Centers. We conclude that there is not a great age range of users in the three villages of Hua Fai, Na Kam, and Huay King. We also conclude from our collected data that villagers who are from older generations, over 45 years old, tend not to use the IT Centers. The IT Center operators in Hang Hung and Na Kam gave us possible reasons for this. In Hang Hung the operator stated that other age groups [not in the 10-15 year age range] must earn a living; she also stated that the elderly have never used the computer and are too old. In Na Kam the operator replied that people who are 40 years and older do not visit the IT Center because they have no knowledge of the Internet or computers.

How is the IT Center perceived by the users?

Overall the IT Centers were perceived favorably among the users we surveyed. Specifically, villagers had positive impressions regarding the benefit of, the comfort in, and the condition of the Centers. Other factors that influenced their impression of the Centers were the village heads' opinion of the Centers as well as the amount of equipment in the Centers. We conclude that the users surveyed typically believe the Center is beneficial to both themselves and their community. Based on the collected data, we conclude the IT Center is comfortable and inviting to the users in each village. The results suggest that the village head in each village supports the Center, which is important because of the strong effect it has on the usage of the Center. The impression of the users surveyed is positive with regards to whether the equipment is acceptable and their feeling towards the amount of equipment is that a slight majority believe there is enough equipment in their respective IT Center.

A strong majority of the 154 users surveyed in all of the villages, 98%, believe that the Center in their village is beneficial to them and 97% of 153 respondents believe the Center is beneficial to their community.

Table 4-4 Percentage of users surveyed that believe the IT Center building is acceptable

Village Name	# of respondents	% building acceptable
Hang Hung	46	98
Hua Fai	47	70
Na Kam	9	100
Huay King	50	60

A vast majority of those surveyed in Hang Hung and Na Kam stated that the IT Center building is acceptable, as seen in Table 4-4. The response was also positive in Hua Fai and Huay King, but not as strong as it was in the other two villages. A possible reason for this response is the fact that the IT Centers in these villages are considerably smaller than the other two; the space is limited if the Centers were to expand and add more computers.

Table 4-5 Users who feel that the community leader's opinion would affect their usage

Village Name	# of respondents	% would affect
Hang Hung	46	72
Hua Fai	47	94
Na Kam	10	100
Huay King	49	78

We learned from the focus groups and observations that each village head supports the Center by playing an active role on the IT Center committee. A strong majority, 82%, of the 152 user respondents stated that the opinion of the community leader (village head) would affect their decision to use the Center, see Table 4-5.

Table 4-6 Users who feel that the IT Center equipment is acceptable

Village Name	# of respondents	% equipment acceptable
Hang Hung	47	85
Hua Fai	50	84
Na Kam	9	67
Huay King	51	57

A fairly strong majority also believed that the equipment was acceptable, with the exception of Na Kam and Huay King as you can see in Table 4-6. This could be due to the fact that the Internet connection in Huay King was not very reliable; we experienced this unreliability when the Internet did not work in the Center for three

out of the five days that we were in the village. Our team also experienced printer failure in the Center and we are unclear as to how often this occurs, if at all.

Table 4-7 Users who stated there was enough equipment in the IT Center

Village Name	# people surveyed	% said enough
Hang Hung	47	81
Hua Fai	49	65
Na Kam	9	78
Huay King	51	24

A majority of the users surveyed believed that there is enough equipment in their IT Center, with Huay King as the exception where only 24% believed this as seen in Table 4-7. This may be due to the fact that when school is not in session in Huay King, many children go to the IT Center and crowd around the three computers. We observed as many as five or six children around one computer at one time. This may have been true only during those times when the students were let out of school; however, this could explain the fact that a majority of the responses were negative when asked if there was enough equipment in the IT Center.

What efforts are being made to improve the public image of the Center and to increase its usage?

Overall, we conclude that there is advertising for each of the Centers. The results show that each IT Center committee has plans for future advertising ventures. There are no computer training programs in the IT Centers to date; however, each Center has shown interest in starting training programs. Due to the large, positive response of users who would attend a training program if offered, we conclude that training programs have the potential to be successful. Also, due to the large majority of non-users who do not feel comfortable using a computer, there are many people who would benefit from training programs offered in things such as computer applications.

Our background research suggests that advertising and training programs are important factors in improving the public image and increasing usage. The data shows that out of 149 villager respondents who have heard of the Center, 35% said that they have heard of the Center through advertising. This is most likely due to advertising techniques used in the villages. Loudspeaker announcements by the

village head are the principal form of advertising in the villages, with the exception of Hua Fai, where informative posters are used. Hang Hung uses both voice announcements and leaflet distribution.

The IT Center committee in each village has plans to increase community awareness and interest, as well as attract non-users. In Hang Hung, the IT Center committee reported to us that they plan to arrange a computer exhibition; also, they realize the need to encourage people about the benefits and advantages of visiting the IT Center. The Hua Fai IT Center committee mentioned that they plan to advertise in nearby villages; we conclude that this is important to increase their potential user base. The results suggest that in Na Kam the IT Center committee plans to continue with publicizing the IT Center via community broadcast voice announcements in an effort to attract non-users. Finally, in Huay King the IT Center committee reported to us that they are planning to make an advertisement to non-users such as the elderly, housewives, and family headmen. With the exception of Na Kam, each village has made new plans to increase community awareness and attract non-users. We conclude that the plans in Hang Hung are the most promising due to their approach towards the non-users by encouraging them of the benefits of the Center in their village.

In the interviews with each IT Center operator, we discovered that there have been no training programs in any of the IT Centers to date. We then learned that the committees, specifically the operators, in each IT Center have expressed interest in starting training programs in their Center. Table 4-8 shows the individual plans for training programs in each IT Center.

Table 4-8 IT Center committees' and operators' plans for future training programs

Village	
Hang Hung	The operator is interested in setting up an intermediate computer training program in such applications as Microsoft Excel, Microsoft Word, and the Internet.
Hua Fai	The operator would be willing to teach an intermediate computer training level program. The IT Center committee wants to offer training programs with someone trained that will focus on the older people who feel that computer use is too difficult for them.
Na Kam	The operator's major was Computer Science in vocational school; therefore she would be able to teach Microsoft Word, and Microsoft Excel.
Huay King	The operator can teach intermediate use of the Internet and Microsoft Word, and Microsoft Excel.

Our interviews revealed that the operator in each village has expressed interest in teaching a computer training program, largely on the intermediate level in Microsoft Word, Microsoft Excel, and the Internet. In Hua Fai the IT Center committee stressed the importance of focusing the on the older generations who may feel that computer use is too difficult for them.

Table 4-9 Users who would attend training programs if they were offered

Village	# of respondents	% would attend
Hang Hung	46	87
Hua Fai	42	100
Na Kam	8	100
Huay King	46	98

Table 4-9 shows that a vast majority of the user respondents would make use of a training program or instructional workshop, if one was put in place. 95% of the 142 users who responded in all of the villages indicated that they would attend a training program if it was offered. It is important to mention here that a simple “yes/no” question like this might not reveal the actual likelihood of people showing up.

Table 4-10 Non-users who feel comfortable using a computer

Village	# of respondents	% comfortable
Hang Hung	20	10
Hua Fai	23	9
Na Kam	51	35
Huay King	45	31

Our results suggest that a large majority of the non-user respondents do not feel comfortable using a computer. This is shown in Table 4-10, where 73% overall of the 139 non-user respondents in the villages do not feel comfortable using a computer. We conclude based on the data, that there is a large portion of the non-users who would benefit from training programs in such things as computer applications.

4.4 Economics in the IT Centers

This section provides the answers to the research questions concerning the economic viability of the IT Centers. A majority of the data is taken from the focus group with the IT Center committee.

How successful are each of the IT Centers financially and what are their sources of income and their expenses?

A clear commonality found among all four IT Centers was that their expenses consistently surpassed their income on a monthly basis. Moreover, their income was generated in a similar manner and the types of expenses they faced were the same. The December 2002 financial figures, shown below in Table 4-11, present each Center's deficit. The IT Center operators claimed these figures to be representative of the past several months.

Table 4-11 Village Incomes and Expenses in December 2002

Village	Income	Expenses	Total
Hang Hung	1500 baht	3000+ baht	-1500 baht
Hua Fai	1813 baht	3826 baht	-2013 baht
Na Kam	1781 baht	4000 baht	-2219 baht
Huay King	3010 baht	3109 baht	-99 baht

IT Center income was generated through hourly computer/Internet usage of 15 baht per hour, except in Hua Fai where the IT Center committee recently dropped the usage rate to 10 baht per hour because of a broken speaker and unstable Internet connection. The Centers do have other smaller forms of income but they were not always clearly defined in our interviews with IT Center operators. We were able to discern that all of the Centers have computer printing options available for 5 baht per page and one of the Centers, Hua Fai, has a photocopier that can be used at 1 baht per page.

The IT Centers had the same types of expenses, which included Center operator salaries of 3000 baht per month as well as electricity, maintenance, and supply costs. The exact utilities and supply costs were unclear as well as how they were paid for. However, the following general observations led us to believe that

supplemental funding outside of the IT Centers' incomes was accounting for some of the IT Centers' expenses:

- None of the IT Centers generated enough monthly income to cover their expenses.
- Both the Mae Moh and Ban Dong IT Center advisory boards gave the Centers the option to receive supply subsidies and possibly full reimbursement from the SAO upon submission of an application and a proposed fiscal budget.
- Financial sponsors that helped start the Centers agreed to continue support until late 2002. These included World Bank, Canadian Information Development Association, EGAT, and the Kenan Institute. However, the exact nature of their financial support was unclear due to translation issues.

Hang Hung

- The Hang Hung IT Center had a budget from World Bank and the Canadian Information Development Association (CIDA), such that the Center's expenses are passed to EGAT and then sent to these organizations to be paid. The amount of money they were willing to pay was unclear.

To what extent is financial planning organized and carried through?

The level of current financial organization and future financial preparation varied from Center to Center but a common theme displayed among all was that the planning of their finances involves a dependency on the SAO.

All of the Centers mentioned the SAO when asked about financial plans and where outside funds could come from. More specifically, when the IT Center committees were asked how the goals for the Center's sustainability were being accomplished, three of the four committees responded with references to the SAO. Na Kam was the only committee to not mention the SAO in that question but they did make references to it in answers to other questions, most notably in answering the question concerning where money would come from for future improvements. The IT Center committee in Na Kam said they would have to submit subsidy proposals to the SAO and EGAT.

All of the Centers had written records documenting usage of certain equipment that could be used to deduce how income was divided. Hang Hung provided us with the most complete and comprehensive records while Hua Fai provided the least information within their records. Na Kam's records had more information than Hua Fai's but were harder to read visually. We were unable to obtain a copy of Huay King's logbook but saw it during an interview and found it to be neatly written, with comparable information to Na Kam's.

We observed additional financial planning activities in Hang Hung, Huay King, and Na Kam but not in Hua Fai. Both Hang Hung and Na Kam had treasurer positions on their IT Center committees that had the responsibilities of budgeting and financial planning. However, Huay King did not have a treasurer and it was unclear if such a position existed in Hua Fai. Also, the Hang Hung and Huay King IT Center committees showed interest in organizing fundraisers. The Hang Hung IT Center committee detailed their fundraiser ideas as a Paa pa or Kan Toh dinner that would support the purchase of new computers, while Huay King did not detail their interest. Lastly, Na Kam was unique in their establishment of a bank account for the maintenance of computers. Although it was unclear where the money for this bank account originated it seemed to be income generated by the Center that was not needed for expenses after sponsor support was paid.

There were several other findings relevant to the economic viability of the Centers. Firstly, we acquired information regarding the IT Center users' feelings about the fees of the Center and how receptive they would be to fundraising events. The following findings in Table 4-12 show that more than a majority of the users at all Centers feel that the user fee is fair and would still visit their respective IT Centers if the fee was raised and the money was used for Center improvements. Community support was also seen in the high percentages of user respondents who said they would participate in a fundraiser for the Centers. Due to miscommunication with the Center operator in Na Kam we were only able to reclaim 10 user questionnaires, a much lower sample size than the other three.

Table 4-12 Results from the User Questionnaire

Village	% felt user fee fair (# of respondents)	% would still go to IT Center if fee was slightly raised for Center improvements (# of respondents)	% interested in participating in a fundraiser (# of respondents)
Hang Hung	98% (47)	85% (46)	93% (46)
Hua Fai	85% (47)	96% (46)	94% (49)
Na Kam	70% (10)	70% (10)	78% (9)
Huay King	71% (49)	74% (50)	100% (50)

There was a financial issue specific to the Hua Fai IT Center. The IT Center operator told us she had a problem with people paying for their usage, because some users would pay before they started using the computers and would not pay extra if they stayed longer than the amount they initially paid for. The IT Center committee suggested revising the posted ground rules for the Centers to encourage people to pay the proper amount. However, the operator estimated that even with the income that could be generated from users who were not paying all they should, the income would still not meet the expenses. Her suggestion for the future was to ask EGAT and the SAO for more money. The SAO told her that they would support the IT Center but only after they showed documentation of an established budget. The IT Center committee expressed concern regarding insufficient funds as well and hoped that the government or the College of Public Health could help support them financially.

4.5 Limitations

Our findings are almost certainly limited by aspects of our data collection and data analysis processes and by issues related to language barriers, cultural differences, and human error. Here we discuss potential sources of error in our results, unintentional biases that may exist in our findings and recommendations as well as possible misunderstandings with the people we were working with during our data collection process.

4.6 Limitations in Data Collection

When looking at the limitations within our data collection process, we found three categories under which they fall: missing data, timing, and sampling technique. Now that our collection and analysis of the data is completed, we are in a position to see the flaws in our data. Looking back, it would have been beneficial to perform a

focus group with the advisory board from each sub-district to obtain their tasks and goals with regards to managing the IT Centers. Also, the opinions of the educational systems in each village with regards to the IT Centers would have helped to come to conclusions about the extent of computer integration into the curriculum and possible collaboration between the school and IT Center in each village. This possible mistake in creating the main research questions may have set the stage for the lack of potentially useful data later on. Creating research questions to encompass a larger portion of the non-user perspective with regards to the interest level would have provided for more interesting correlations between the users and non-users.

With respect to the actual data collection process, it is important to note that the total time spent in each village was between five and six days. This was not enough time to experience the full extent of both successes and challenges facing each IT Center. The limited time available for the focus groups and interviews caused us not to use “real time” translation and we therefore had to sacrifice further probing when looking for more detailed answers. When surveying the villagers in each village (administering the villager questionnaires), our time was set between the time our translators were finished with school or work and when the sun went down (for visibility and safety reasons). This allowed us to only survey the people who were home between these hours, limiting us from obtaining the opinion of the villagers that were not home during this time. Sometimes, villagers were not available and we would try to leave them a copy of the questionnaire to fill out and be picked up at a later time. At other times this was not possible and the villagers we could not reach could not be surveyed. For this reason, the timing of our data collection could have affected our sampling in each village, and hence decreased its potential to be considered representative of the population.

Our sampling technique for the data collection process should also be considered as a source of limitations. Choosing our random sampling technique was the product of our limited resources. No village had a comprehensive list of the villagers and their location, which along with our aforementioned time constraint, we chose random cluster sampling as our technique of choice. In Hang Hung and Hua Fai, our random cluster generating technique included some human decision, which therefore may have decreased its randomness, affecting the results it produces. We eliminated this human decision in the second two villages we visited. Details relating

to the sampling technique for the villager-targeted questionnaires may have limitations and affect our results for the one of the reasons that the sample obtained may have been neither representative nor accurate. Another reason why the sample may not be accurate or may not be considered representative of the entire population is because of the explicitly small nature of our sample compared with the village population. The percentages of the samples out of the total populations range from 2.47% out of 3000 people in Na Kam to 8.38% of 800 people in Huay King. Because of this, we were not able to establish any findings that were statistically significant.

4.7 Limitations in Data Analysis

In our data analysis, we noticed that the questions we posed in our data collection tools may have been better clarified or designed to more accurately reflect what information we sought. In the responses from the questionnaires, we sometimes observed missing data, which may have happened if the question was unclear and the person did not understand what was being asked. This affects our results because it does not provide us with that person's opinion, and limits our sample size in that specific question. To give a sense of how often this occurred, about one or two questions on our 31 question user questionnaire were usually left blank. With regards to the missing data and blanks left in the surveys, all of the percentages taken from the questionnaires have taken into account blank spots where people did not respond to particular questions.

4.8 Other Limitations

Language barriers were a significant issue throughout our research, as our knowledge of the Thai language was very limited. Likewise, the villagers' ability to speak English was also limited, especially when discussing social science and research-related terms (e.g., sustainability, managerial operations, and economic issues). Even though we were all equipped with Thai-English dictionaries, our language training before arriving in Thailand was approximately 28 hours spread over the course of four months which proved inadequate for the language-intensive work we needed to do in the four villages. Because of the language barrier we may have misinterpreted an answer by an interviewee, we may have not understood somebody

when they told us something important, and we may have overlooked some written documentation that could have been helpful in our assessment.

Nonetheless, we did get a lot of translational assistance throughout the process of our research and while we are grateful for it, we must look at it critically to account for possible error. Our data collection instruments were all translated into Thai, and there is the possibility that our translator misunderstood the meaning of the question and changed it unintentionally. While administering the villager questionnaires, we noticed that various villagers did not understand a number of the questions and consequently did not know how to appropriately answer them. Due to the varying skills of our numerous translators, we have to objectively consider that all translated material may contain error, whether it be in specific wording, in perceived meaning, or in intended meaning.

The limitations in the village of Na Kam with respect to the questionnaires are worth mentioning. We received only ten completed user questionnaires from the IT Center in Na Kam which, when compared to the other totals of 48-51, is quite small and makes the conclusions drawn from it to be less substantial. Also, while administering the villager questionnaires to people, our team had difficulty explaining that we were asking questions only about the IT Center in the village, and not one of the two Internet cafés. This may have caused some of our results to be inaccurate if a respondent had the Internet café in mind when completing our survey about the IT Center.

A cultural custom we noticed occurred mostly during our focus groups, where the most senior and respected member was given the floor more than other members, and whose words were seemingly definitive and unchallengeable. This resulted in primarily one set of responses, which compromised the purpose of the focus group, where all members are expected to provide their own opinions and where discussion is initiated.

Another general observation we made regarding differences in custom was, Thais tend to report positive qualities more than negative. These types of responses could have resulted in us receiving a one-sided perspective that focuses only on the positive effects and properties of the IT Centers. Since user surveys were returned to the operator, it is possible that respondents did not give totally forthcoming answers on questions that might reflect on the operator. Even with probing questions, in

interviews and focus groups, and our translators help, we may have gotten a less than objective viewpoint of all the IT Centers and their sustainability. Since we did not fully understand the culture in which we conducted our research, we felt limited in our ability to obtain the full opinions of those surveyed and the complete truths of the information we sought.

Overall, these limitations are more a degree of uncertainty, and whether or not these limitations exist in our research, we do not know. They may also influence aspects of our report, and the reader should keep this in mind when considering the validity of our findings, conclusions, and recommendations.

5 Recommendations for the Sustainability of the IT Centers

This section presents our recommendations for the sustainability of the IT Centers along with supporting conclusions based on our findings, which were presented in the previous chapter. Our recommendations were decided upon because they addressed important issues presented in our framework of sustainability criteria and appeared feasible. We begin by addressing all four IT Centers with general recommendations; these recommendations involve both short-term and long-term goals. Following the general recommendations, we put forth specific recommendations for each IT Center.

5.1 General Recommendations

We recommend to the IT Center committees that the necessary steps are taken to obtain financial support from their SAO, and also that income through user fees continues to be generated.

The four IT Centers should obtain additional income in order to cover their present expenses. The SAOs are an ideal resource because they are members of the community and are willing to offer assistance towards sustaining the Centers. To receive subsidies from the SAO, each IT Center committee must complete an application and submit a proposed fiscal budget. We recommend that the IT Center committees do not apply for full subsidies and continue to generate income through user fees. Relying on the SAO as a full financial supporter would not encourage the IT Center committees to try to make the Centers self-sustainable, which would thus reduce the level of self-empowerment that these Centers could and were intended to attain. Additional information to support this recommendation is presented below.

- All four IT Centers have not been able to generate sufficient income to cover the Centers' expenses.
- The Mae Moh and Ban Dong advisory boards have suggested that the IT Center committees apply for subsidies and have even suggested the possibility for full reimbursement.

- Self-empowerment and community development are still possible with financial support from the SAO because the SAO is still within the community, helping to build its capacity through the IT Center program.
- The Centers are currently in a transition period as a result of the recent conclusion of their financial sponsorship. Through this period, the SAO may act as a safety net until the Centers are able to generate sufficient income with their services.
- Of 152 users surveyed, 82% stated that they are influenced by their community leader's opinions. Public support from the SAO could potentially attract villagers to the IT Center, thus increasing the Centers' number of users.
- The IT Center committees have intentions to improve their Center, for example, purchase more computers, upgrade the Center equipment, offer training programs, and even relocate to a more spacious facility, but they lack the resources to do so. Financial support from the SAO could make these objectives possible.

We recommend to the IT Center committees that promotional fundraising events be carried out with support from the local government.

Promotional fundraising events can accomplish multiple tasks—the community can be informed or reminded of the original purposes of the Centers; the Centers' public image and usage can be promoted and the Centers' income can increase from profits collected. Securing visible support from the local government such as the SAO and village head would be ideal given the influence these leaders possess among the villagers.

Fundraising events that would involve the local villagers and businesses would help to satisfy the program's original goal of improving collaboration among the various stakeholders and self-empowering the communities. An example of how this group effort could be formed is by inviting the community to donate goods for a market sale to which proceeds would benefit the Center. Further support for this recommendation is presented below.

- The IT Center committees lack the finances to execute their intentions of improving their Center, these include: purchasing more computers, offering training programs, and even relocating to a more spacious facility.
- Among the 201 villagers surveyed in all four villages, 80% are aware of the existence of the IT Center in their village. Those villagers who are unaware of the IT Center's existence, let alone its purpose, should be reached and informed.
- All four of the IT Center committees have expressed interest in fundraising and advertising, but no fundraising events regarding the IT Centers have occurred to date, with the exception of Na Kam.
- Of 152 user respondents, 82% stated that they are influenced by the community leader's opinions. A promotional fundraising event supported by the local government is likely to attract more villager support and participation.
- Many IT Center users are willing to participate in a fundraising event for the IT Centers; of 154 users surveyed, 95% were supportive.

We recommend to the IT Center administrations that the IT Centers be furnished with additional Internet-ready computers and more secure Internet connections.

The users surveyed frequently agree with all of the four IT Center committees on fact that there is a need for additional computers at the Centers. Since the Internet is among the most popular uses of the Center, we were specific in recommending the computers be equipped for Internet access. Internet-ready computers may be obtained through fundraising, soliciting for equipment donations, and user fee profits.

We came to learn that the Internet connection at all four Centers is slow and unreliable. We make this recommendation for more secure Internet connections, not knowing if the Centers have the option for a more reliable Internet Service Provider; with this, we suggest other options be researched. The findings from which we based this recommendation are presented below.

- Of 157 users surveyed in all four villages, 75% believed that the IT Center's equipment is acceptable; however, 43% of 156 respondents believed

there was a shortage of equipment. Specifically addressing the Huay King IT Center committee: From the previous statistic, of the 51 user respondents in Huay King, only 24% felt there was enough equipment at the Center.

- IT Center committees articulated their desire for more computers. The IT Center operators have stated that there are too few computers to accommodate the number of users.
- In specific reference to the Hua Fai IT Center's inability to access the Internet for extended periods of time: The lack of Internet causes difficulties in accomplishing the program's original objective to provide the community with an opportunity to expand their knowledge and to increase their access to up-to-date information aiming at all groups, regardless of age or gender with no barrier of time and distance.

We recommend to the IT Center administrations that they invest in additional technical support and practical user applications training for the IT Center operators.

Skills training would not only benefit the IT Center operators, but also the IT Center users, as the operators would be able to provide the users with better assistance in their work and technical difficulties encountered. All four IT Center operators are limited in their knowledge of computer applications and therefore, limited in their ability to provide instruction on more advanced topics.

We learned that the Mae Moh sub-district High School offers free computer training to all who are interested; however, the level of training and time of offering is unknown. It is possible that the IT Center operators could receive sufficient training from the high school's program; however, if sufficient training is not available, technical support and practical user applications training may be obtained elsewhere and paid for with possible future income from fundraising profits and/or SAO subsidies. The following is the support list for this recommendation.

- Additional training can better equip the operators to assist the users in their computer applications and technical difficulties.
- All four operators stated that they would feel comfortable instructing in Microsoft Word, Microsoft Excel, and Internet browsing. With further

education in computer applications, the operators may be able to better administer training programs and workshops on these topics and also more advanced topics.

- Technical training can enable the operators to better maintain the operation and condition of the Center's equipment.

We recommend to the IT Center committees that training programs, administered by the IT Center operators, be offered to the community free or inexpensively.

One of the three main uses of the village IT Centers was identified in the original pilot-program proposal to be training. In order for the villagers to expand their knowledge, access up-to-date information and capitalize on the uses of IT, as stated in the original objectives, training is necessary. To date, there are no training programs offered through the IT Centers. In order for the Centers to adhere to their original purpose and objectives, training should be implemented. The following items support our recommendation.

- All four IT Center operators articulated their willingness to conduct training programs. In particular, the Huay King Center operator expressed enthusiasm and interest in training the Center's users.
- Of the 139 non-users surveyed, only 27% felt comfortable operating a computer. Training could potentially increase usage among older adults and women, which are target groups.
- Our user questionnaire results show that 95% of 142 users surveyed would attend a training program offered through the IT Center.
- Providing the community with training programs can increase the villagers' knowledge and technical ability and thus help to achieve the IT Center program's original objectives.
- Increasing the villagers' technical knowledge and abilities through education can inspire and enable them to capitalize on the use of Information Technology, which is also among the program's original objectives.

We recommend to the IT Center committees that the non-users in their villages are informed of the benefits of utilizing the IT Center through various forms of advertising.

By presenting the IT Center's various uses and benefits that can appeal to a diverse population, the Center's public image can be improved and its membership can be broadened, thus helping to satisfy the program's original objective of reaching all groups, regardless of age or gender. All four IT Center committees have ideas for advertising that have not yet been implemented. We recommend the committees initiate their promotional ideas—Hua Fai plans to advertise in nearby villages to increase usage; Huay King wants to plan advertisements that would inform the villagers of the benefits of the Center; Hang Hung stated no additional plans beyond the creation and distribution of informative leaflets which is already carried out; and Na Kam would like to increase the usage from their target groups. The target groups of all four IT Center committees were presented in Section 4.2.

We advise the Hang Hung and Na Kam IT Center committee that, in carrying out this recommendation, they highlight the local-government sponsorship and intent for community development, and also report of the local villagers who have capitalized through e-commerce. The Na Kam IT Center, in particular, should be distinctive in relation to the two privately owned Internet cafés in Na Kam to keep users.

- Among the total number of villagers surveyed (201 villagers) in all four villages, 80% are aware of the existence of the IT Center in their village. Those villagers who are unaware of the IT Center's existence, let alone its purpose, should be reached and informed.
- Advertising has proved to be effective in creating awareness of the Centers in all four villages; 35% of 149 respondents from all villages heard of their local Center through advertising.
- Specific to Na Kam: The previous and current operators at the Na Kam IT Center disagree on whether the villagers are aware of the original objectives. The previous operator felt the villagers are aware of the objectives, but do not use the Center accordingly. On the contrary, the current operator believes only the IT Center committee members understand the original objectives.

- Specific Hua Fai: The committee states that only children are accessing the Centers; of the users surveyed none were older than 25 years of age.

We recommend to the IT Center committees that they diversify their membership, specifically the gender, age, and occupation of the members.

In Hang Hung, the IT Center committee is composed entirely of women who are very enthusiastic about the Center. The Hua Fai and Huay King's committees are made up entirely of males, with the exception of the IT Center operators. Na Kam has the most diverse committee with six women and five men.

- As our background research suggests, it is important to have a diverse committee of people in charge of the IT Center. This promotes the diversity of ideas, interests, and concerns within committee.
- The people on the committees serve as representatives of the various sectors of the community. These various sectors of the community can relate to their representative on the committee and in order to have a demographically diverse user group, a demographically diverse committee is needed.

We recommend to the IT Center operators that the Internet homepages be set and locked to an informative and useful site, such as www.maemoh.com.

The Internet homepage is the first thing that is viewed when signing on to the Internet; for the reason that the village IT Centers have a unique purpose to serve the community well, the content of the homepage is very important and should convey the Center's purpose. In adhering to the original objectives of the IT Center program, the homepage should be informative and pertain to community and personal development. Supporting observations are presented below.

- The Mae Moh district has a website, www.maemoh.com, which advertises local products and posts local and governmental news.
- In the Na Kam IT Center, the Internet homepages of two computers were set to sites that some may consider inappropriate.

5.2 Village Specific Recommendations

We recommend to the Hua Fai IT Center committee that they ask the village head to advertise the IT Center over the village announcement system.

Advertising has proved to be effective in creating awareness of the Centers in all four villages; 35% of 149 respondents from all villages heard of their local Center through advertising. The single present form of advertisement in Hua Fai, as specified by the committee, is informative posters. The following is material supporting this recommendation.

- The village head of Hua Fai is supportive of and involved in the village's IT Center being the chairman of the local IT Center committee.
- Advertising was the second most successful informant of the Hua Fai IT Center, after word-of-mouth; of those who responded (38 Hua Fai villagers), 37% learned of their local Center through advertising.
- The village heads of Hang Hung, Na Kam, and Huay King all employ the village announcement system to promote the their local IT Centers.
- Of 47 users surveyed in Hua Fai, 94% believe that the opinion of the village head would affect their decision to use the Center. This suggests that the villagers in Hua Fai respect the opinion of their village head and would be more apt to visit the Center provided that the village head promotes its use.

We recommend to the Hua Fai IT Center operator that she maintain better control of the daily managerial operations of the Center.

The Centers' daily managerial operations include: janitorial responsibilities, opening and closing of the Center at the proper hours, supervising the Center and its users, assisting users as needed, and maintaining the logbook. All three IT Center committees we spoke to acknowledged janitorial duties to be among the IT Center operator's chief responsibilities; this indicates the importance of maintaining a clean environment within the IT Center. The presence of and supervision by the operator is necessary in order to provide assistance to users and maintain the logbook. This recommendation is based on our observations while in Hua Fai that are presented here.

- The janitorial duties appeared to have been neglected.
- The Center was found closed during set hours of operation.
- The Center was found open and in use while no operator was present.

We recommend to the IT Center committee in Hua Fai that they devise a strategy for enforcing and collecting user fees from patrons.

The Hua Fai IT Center committee informed us of their troubles collecting user fees from their patrons. A possible strategy to resolve this problem is to keep a timer for each computer user and when the timer ends be strict in collecting the fee or removing the user from the computer. Supporting information for this recommendation is provided below.

- The Hua Fai operator has been experiencing troubles in collecting user fees. She explained to us that she first collects the fee for the time requested by the user, but when the user occupies the computer beyond the agreed upon time she is unable to acquire the payment or agrees to collect the money at a later time and fails to do so.
- The IT Center committee has attempted to diagnose this issue and intends to revise the Center's ground rules in hopes of solving the problem.

We recommend to the Huay King IT Center operator that she submit a report to the IT Center committee with her ideas concerning training programs and equipment upgrades.

The operator in Huay King has many good ideas regarding promotional activities and training programs, but has yet to propose her ideas to the committee. The operator's ideas and support for this recommendation are shown below.

- The operator believes that the village head and teachers should be the key persons to inform and encourage the villagers about the IT Center.
- The operator suggests offering first-time users a free trial use; she believes once they connect to the Internet, they will realize the benefits of the IT Center.
- The operator would like to instruct a training program, but says the number of computers at the Center is insufficient.
- Submitting a report of her ideas would assist the committee in the promotion of the IT Center and in the possible implementation of a training program.

We recommend to the Huay King IT Center committee that they appoint a member or members responsible for the Center's public relations.

A public relations chair would be in charge of maintaining and improving the public image of the center and increasing its usage. The foundations of this recommendation are presented below.

- The Huay King committee consists of a Chairman, a Vice Chairman, the IT Center operator, and 10 board members. There is currently no particular person in charge of public relations for the Center.

6 Discussion

This chapter is intended to focus not on the Information Technology Centers themselves, but on the people they affect. We want to consider the larger context of IT Center initiatives around the world as well those related to the Mae Moh community. We will briefly discuss the possible community implications of IT Centers and pose significant ethical issues surrounding the establishment of IT Centers in developing regions of the world. This chapter is by no means a comprehensive examination of these topics; however, it aims to present the issues we believe are worth considering in discussion of a project such as this.

While completing our project, we considered the question: What is more important, the survival of the IT Centers in Mae Moh or attaining and upholding the original objectives of the IT Centers? Based on our observations over a period of four weeks, we concluded that at the present time, the IT Centers have yet to fulfill their original objectives for capacity building and community empowerment set forth by the College of Public Health and presented in Chapter 2. This is not intended to criticize or discourage the Centers, for this program is still in a developing stage, being only a year old. Our recommendations are given with the purpose to sustain the IT Centers in a businesslike manner, addressing financial, administrative, and customer needs.

But what about adherence to the original objectives and goals of the project? Is it appropriate to make the IT Centers sustainable at the expense of compromising the original objectives? These objectives and intended outcomes, which are detailed in Section 2.2 of our report, clearly state ideas of bridging communication gaps, providing opportunities to all demographics of the community, and developing social and economic interests through easy access to knowledge. However, sometimes intended ideas transform into unplanned situations and it is often uncertain whether these situations are beneficial for all parties involved. For example, the IT Centers' computers in Mae Moh were intended to be available for villagers to easily access information about issues impacting their lives, but we found that most times the computers were being used by adolescent males to play video games. This use of the IT Centers is not part of the envisioned outcomes of the IT Center program but it can be argued that playing video games is still a means of increasing computer skills and

knowledge, which are definite aims of the IT Centers. This brings us back to the question: At what time, if ever, should Center operation be discontinued based on its unintended uses? Perhaps the IT Centers are still tools that build capacity within the community, regardless of stringent abidance to predetermined objectives. Is this an acceptable means of capacity building? We do not claim to have the answers to these questions, but believe they are important to ask and worth reflecting upon.

6.1 Implications Throughout The World

IT Centers have not only been established in rural Thailand, but in rural and urban communities all over the world. The implementation of IT Centers and information access has been a growing trend in developing communities and nations as Section 2.3 explains. Many IT Center programs share the same general ambition: to provide the targeted people with a tool from which to obtain knowledge that could better their lives both personally and communally.

One could compare the installation of Internet-ready IT Centers all over the world to the invention and distribution of the telephone. Invented in 1876, the telephone was a tool that made communication faster and more convenient than any other method available at the time. Wealthy nations provided funding to distribute the necessary equipment to facilitate the use of the phone countrywide. This technological progress took many developing nations time to achieve; still today, there are regions of the world that lack this technology. As with the telephone, the Internet and associated applications such as chat and email bring interpersonal communication to a new level. With instantaneous transmission and relatively inexpensive fees, the Internet is a different and more comprehensive method of linking people together. Whether it be with a family member in a neighboring village or with a friend half-way across the world, the Internet expedites communication and also provides a wealth of information at the user's fingertips. But, like the telephone, the Internet is not available to those without the equipment to support it. It is through IT Centers that individuals, otherwise unable to obtain the equipment, can utilize this powerful tool.

6.2 Ethical Considerations

Aside from the aforementioned benefits, there are ethical concerns that arise when promoting the usefulness of IT Centers. While gathering information from the stakeholder groups and formulating our sustainability recommendations, we kept in mind the program's original objectives. We approached ethical issues of sustainability with the mindset that the IT Centers would be valuable assets to the Mae Moh community and therefore possible negative implications were not focused on. However, these opposing viewpoints may need further exploration to fully understand the community impact of an established IT Center.

Firstly, do the people impacted by an IT Center project site have a desire for information technology within their community? Do they even want IT Centers? Did they initially want them, but then upon implementation, express distaste in them? There may be other community enhancing and communication improving tools that would be better suited to specific cultures and traditions. A proper understanding of every culture and community that is targeted for IT Centers is integral to the success of the projects. As with the villagers of Mae Moh, when people express desire for IT Centers, is what they eventually acquire what they expected? Does it meet their needs? The standards and usefulness of the equipment may be different among different cultures and types of people using the IT Centers. These are sensitive issues that extend past the scope of our project, but greater exploration may provide the answers to whether or not the IT Centers established in the Mae Moh community truly benefit the region. Are these IT Centers really what the Mae Moh villagers need? Do they serve useful purposes within the context of the original goals, and if not, do they still benefit the community in other ways? But most importantly, have these IT Centers helped to self-empower the villagers and aid in their community development?

7 Bibliography

- Betts, Brian A., Leah M. Henry, Heather C. Maisey, and Nadia S. Syed, "Empowering Local Citizens in Rural Thailand to Seek Options for Environmental Health Management Through Capacity Building." (WPI: Interactive Qualifying Project, 2001).
- "Capacity Building", Lessons from Sub-Saharan Africa. n.d., <www.enda.sn/energie/cc/lessons.htm> (7 November 2002)
- "EGAT's Thermal Power Plants", n.d., <<http://www.egat.or.th/english/powerplants/thermal2.html>> (27 Nov. 2002).
- "Electronic Networking for Rural Asia/Pacific" Pan Asia Networking, (2001), <<http://www.enrap.org/index.cfm>> (23 Nov. 2002)
- "International Development Research Centre," (1999) <<http://www.idrc.ca/acacia/studies/ir-gove.htm#ICTs%20and%20Community%20Building%20-%20the%20example%20of%20Tampines%20WebTown>> (25 Nov. 2002).
- Norris, Pippa. Digital Divide: Civic Engagement, Information Poverty, and The Internet Worldwide, New York: Cambridge University Press, 2001.
- Schaeffer, Peter., and Scott Loveridge, ed. Small Town and Rural Economic Development: A Case Studies Approach, Westport: Praeger Publishers, 2000.
- Singleton Jr., Royce A., and Bruce C. Straits, Approaches to Social Research, Third Edition. New York: Oxford University Press, 1999.
- Sonsak Suksai, "EGAT to Face Lawsuit over Toxic Discharge," Bangkok Post, 17 July 2002.

Stone, Antonia. Cambridge, MA: CTCNet, Education Development Center. (2000)

<<http://www.CTCNet.com>> (12 November 2002).

Vichit-Vadakan, Nuntavarn. Village Information Center: A Bridge to World

Knowledge (1 October 2002).

Appendix A: Map of Amphoe Mae Moh (Mae Moh district)

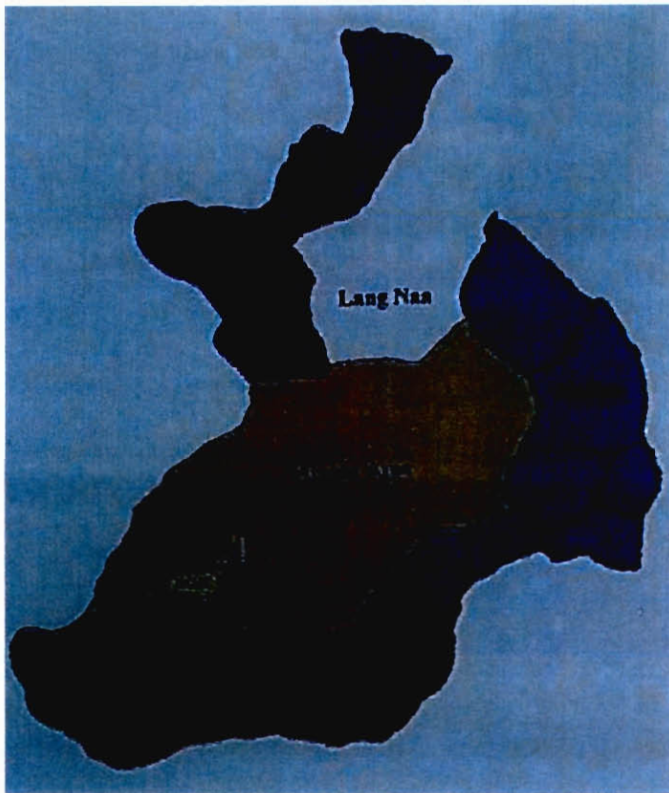


Figure 1: Color-coded map illustrating the five tambons (sub-districts) of amphoe Mae Moh (Mae Moh district). Tambon Mae Moh is

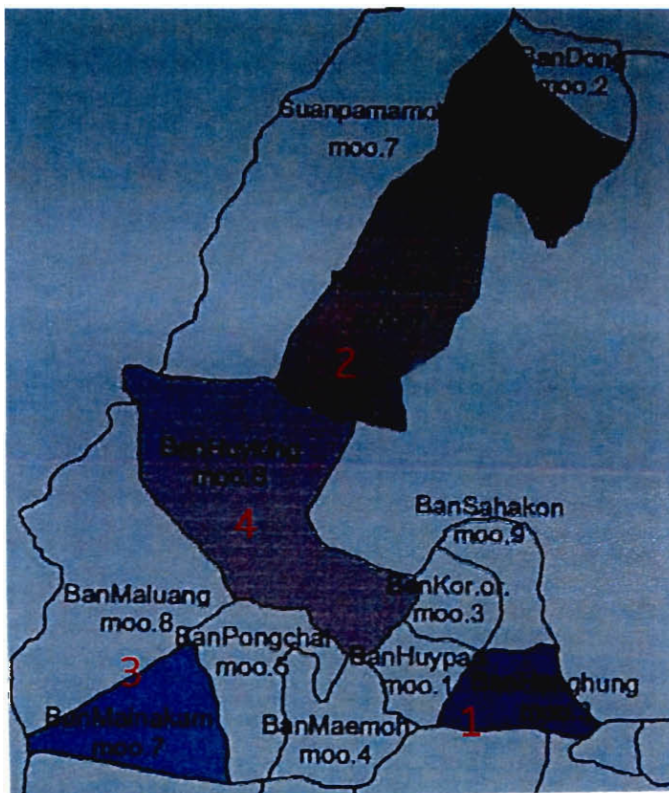
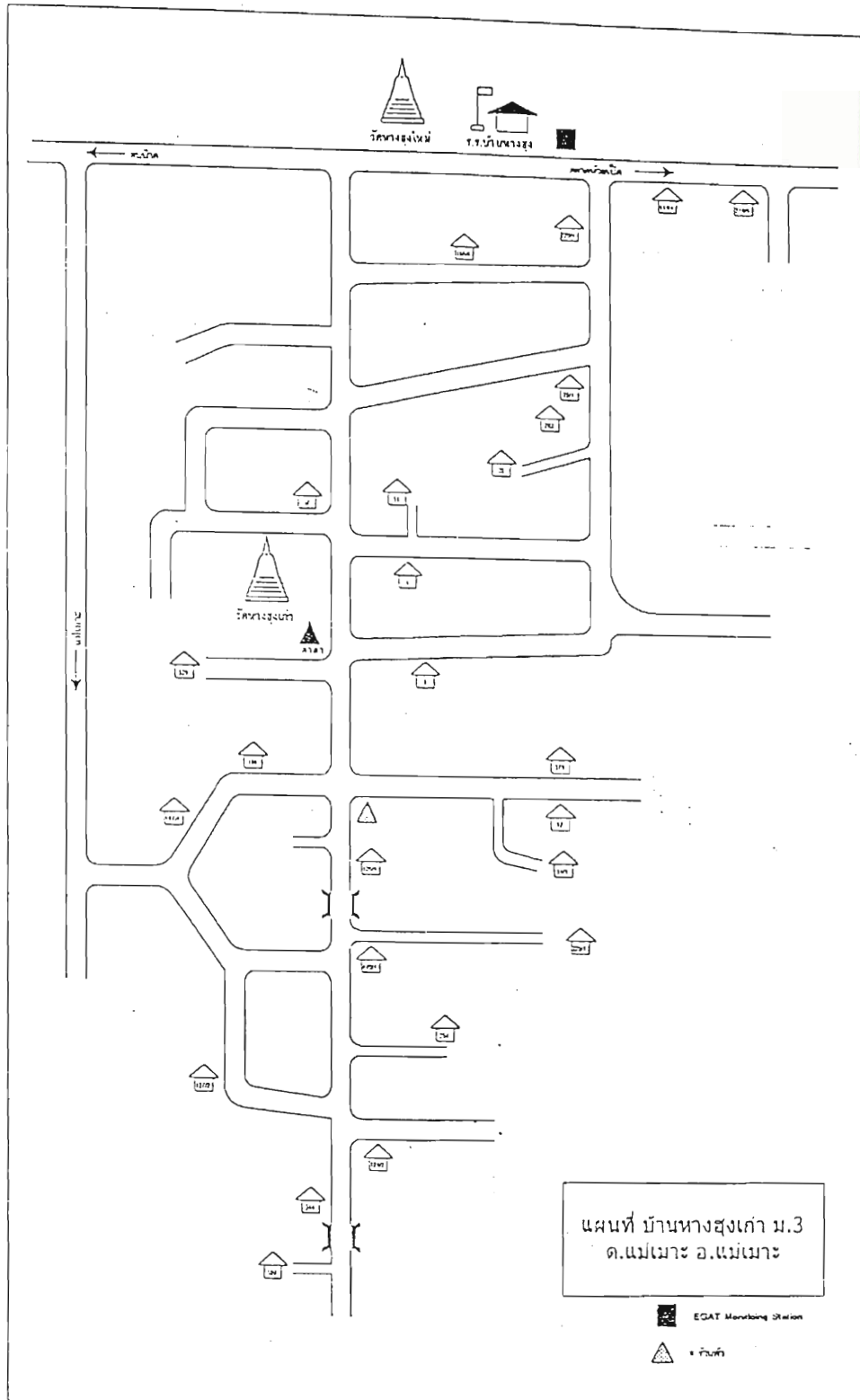


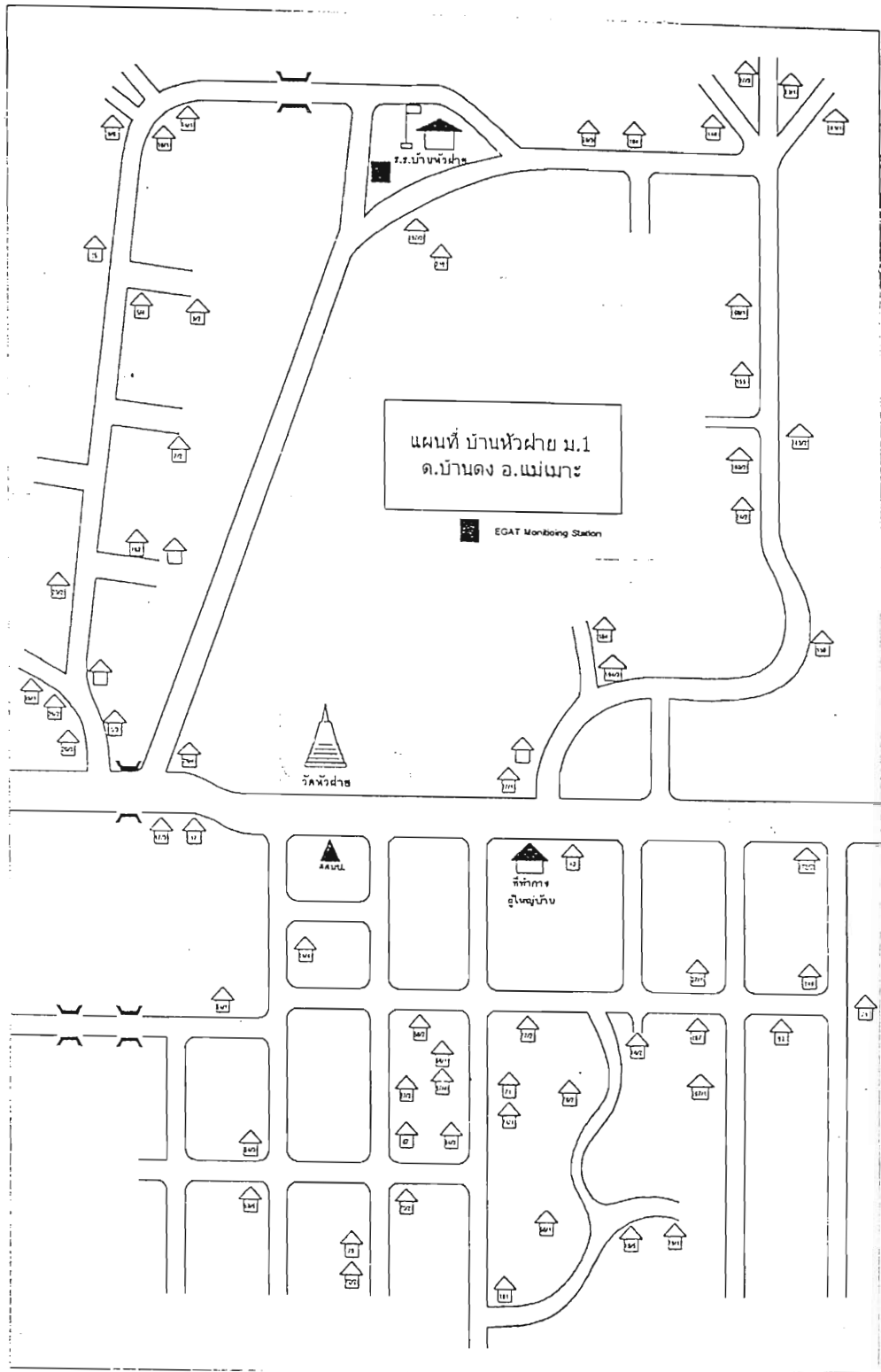
Figure 2: Detailed map of the four villages specific to this project, labeled with red numerals in the order of our visitation. Hang

Appendix B: Village Specific Maps

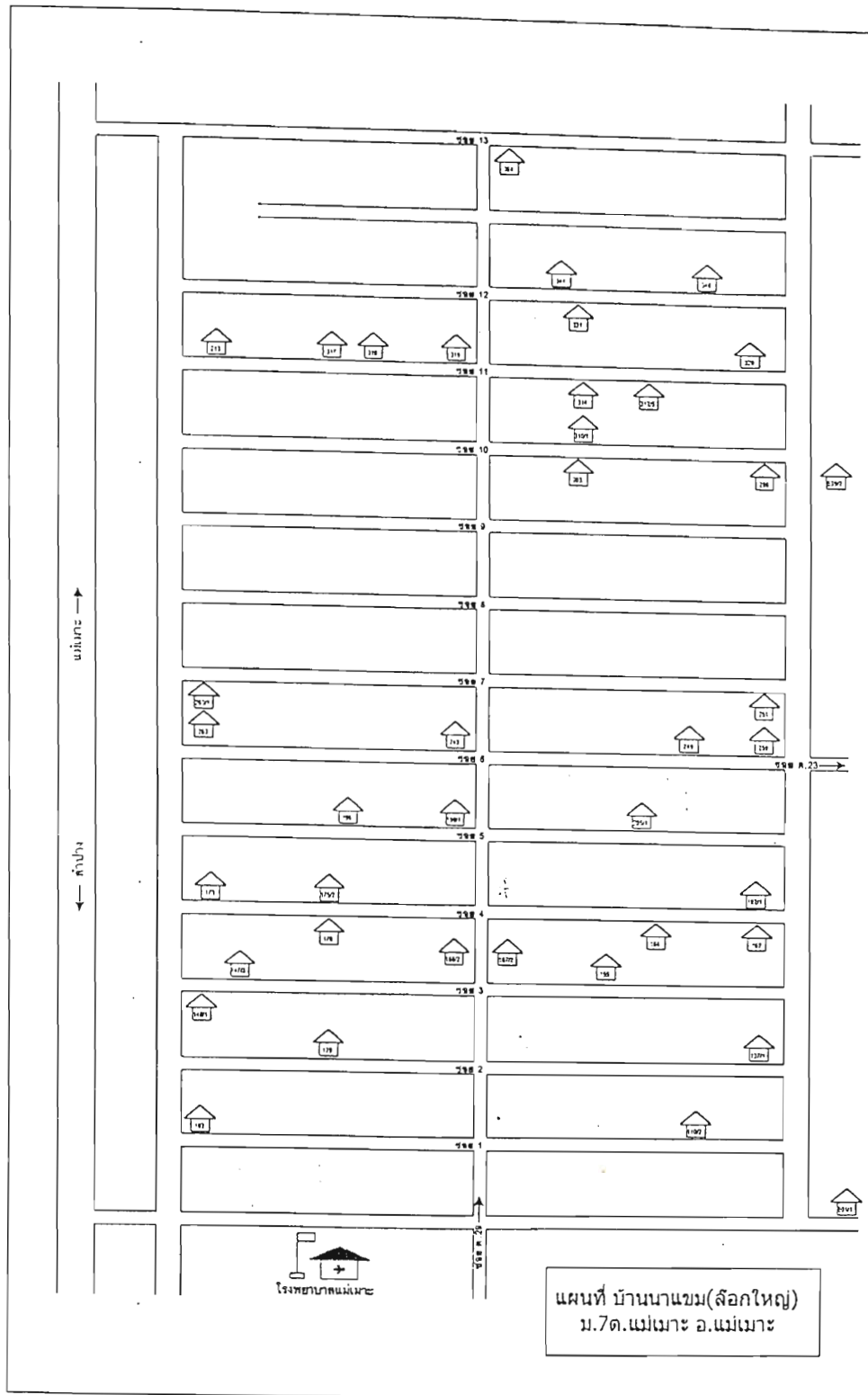
แผนที่ หน้า 3



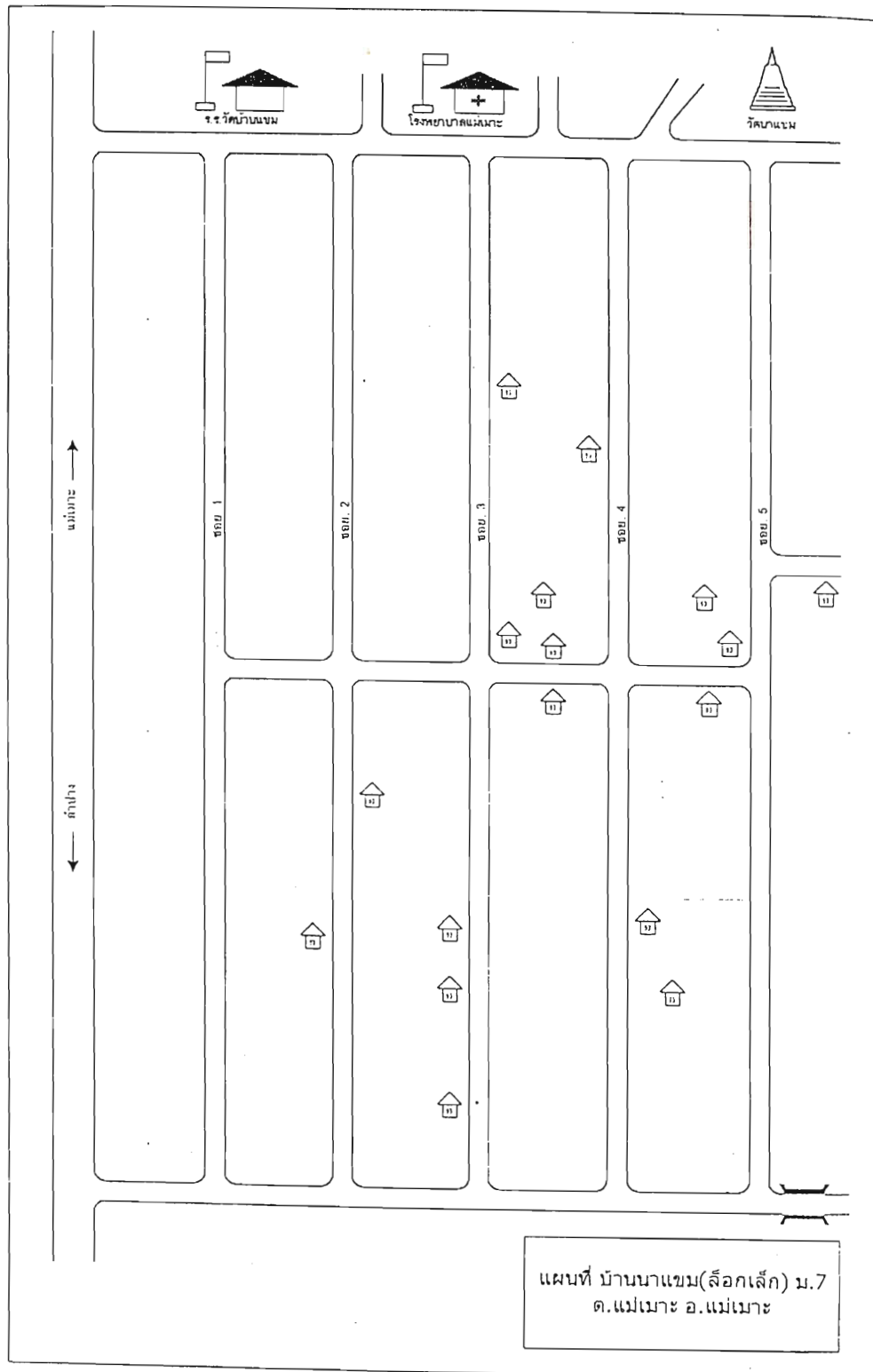
Map 1: Hang Hung Village



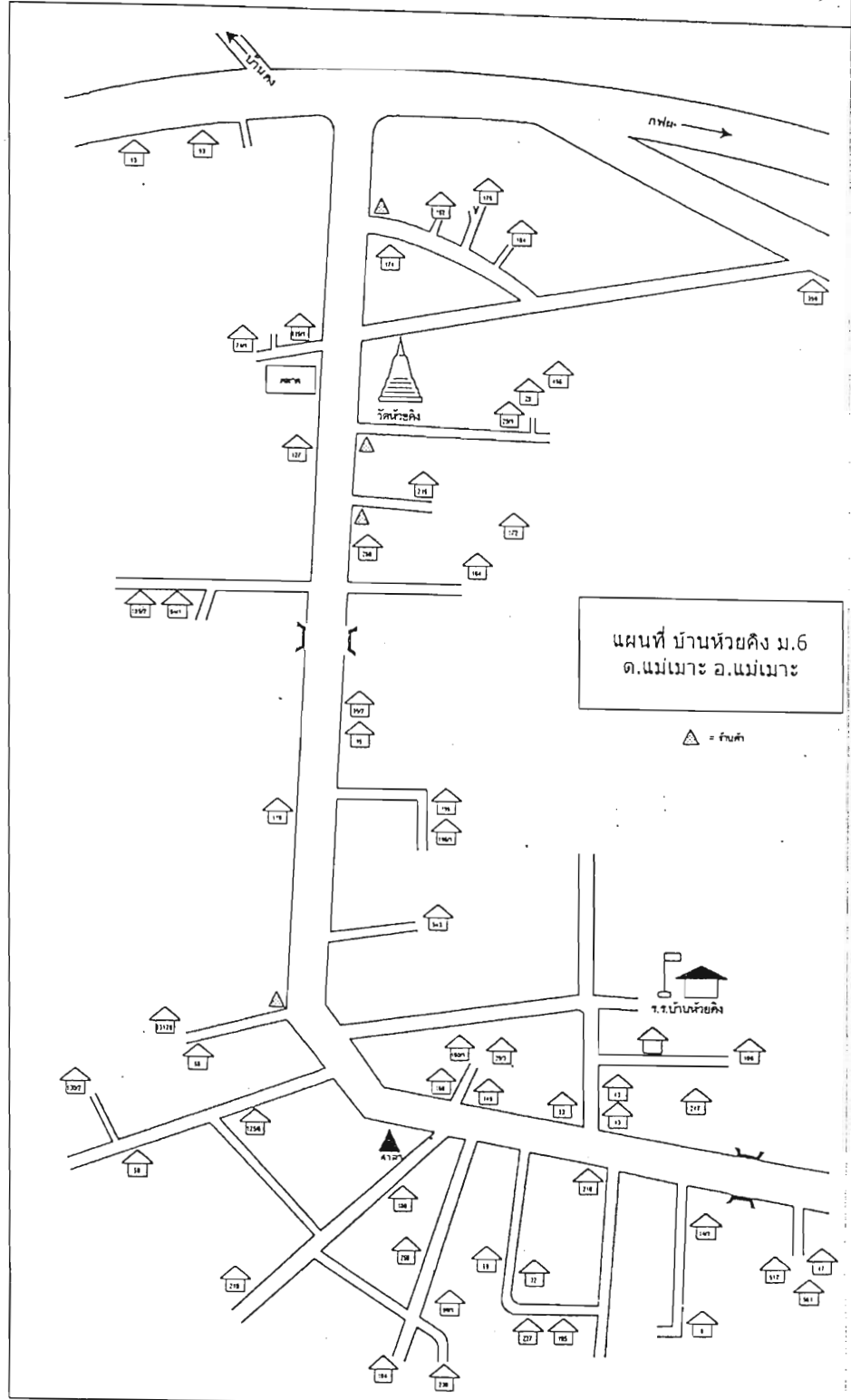
Map 2: Hua Fai Village



Map 3A: Na Kam Village, Northern Half



Map 3B: Na Kam Village, Southern Half



Map 4: Huay King Village

Appendix C: Village IT Center Photos

Hang Hung



Photo 1: The desk and fax machine in the Hang Hung IT Center.



Photo 2: An overview of the Hang Hung IT Center, users on the left and the operator in the blue jacket.

Hua Fai



Photo 3: The operator's desk and workspace in the Hua Fai IT Center.



Photo 4: Typical Hua Fai IT Center users. IT Center equipment also in picture: computers and printer.

Na Kam



Photo 5: Overview of the Na Kam IT Center, with the operator pictured second from left.



Photo 6: Operator's desk, TV, rack of magazines (back left corner), and computers of Na Kam IT Center.

Huay King



Photo 7: Users at Huay King IT Center, located in the elementary school.



Photo 8: Anthony Cosenze, Advisor Richard Vaz, and student on-lookers outside of the Huay King IT Center, where there is table space and extra room.

Appendix D: Administration General and Specific Research Questions

- 1) Who is responsible for the advisory functions of the IT Center and what are their tasks and goals?
 - a) What do the IT Center's administrative operations involve?
 - b) Who is ultimately responsible for the IT Center(s)?

Who holds the power to make decisions that would significantly influence the IT Center(s)?

- c) Who is in charge of financial planning and cost analysis?
 - d) Does an IT Center advisory committee exist?
 - e) What is the internal organization of the IT Center committee(s)?
 - f) Is there a hierarchy of leadership and/or distinguished obligations among the members of the IT Center committee(s)?
 - g) What are the bureaucratic rules and procedures for the IT Center committee?
 - h) Do all the stakeholders play an active role administratively?
 - i) Is the IT Center committee ensuring the IT Center adheres to the original objectives of the program?
 - j) Is communication facilitated and maintained between all stakeholders? If so, who is responsible for this?
 - k) How will the transfer of management affect the current management operations?
 - l) Is the advisory committee the same group as the daily managerial staff?
- 2) Who is responsible for the daily managerial operations of the IT Center and what are their tasks? How well are the daily managerial operations carried out?
 - a) What records and inventory are kept regarding the IT Center(s)?
 - b) What are the daily tasks carried out at the IT Center(s)?
 - c) Who carries out the daily tasks (decision-making, planning, operations, and clerical work)?
 - d) Is the IT Center appropriately staffed?
 - e) Are there any volunteers, or the possibility for people to volunteer at the IT Center(s)?
 - f) What is the organization among the employees/volunteers?

- g) To what level is the staff trained?
- h) To what extent can the staff offer technical support?

Appendix E: Interest Level General and Specific Research Questions

- 1) What are the differences between the IT Center users and non-users that may affect their usage?
 - a) Are the computers/Is the Internet used for educational purposes? Other purposes?
 - b) How many people usually use the IT Center per day? per week? per month?
 - c) What are the peak and off hours and days of use of the IT Center?
 - d) What is the most and least common use of the IT Center?
 - e) Is there a particular demographic interest or lack of interest?
- 2) How is the IT Center received by the users?
 - a) Does the village head support the IT Center?
 - b) Does the local government (SAO) support the IT Center?
 - c) How do the villagers feel about the IT Center?
 - d) Are the villagers educated on computer applications?
 - e) Do the villagers have a use for what the IT Center provides?
 - f) Is the equipment offered at the IT Center in good working condition?
 - g) Is the IT Center comfortable and inviting?
 - h) Do the villagers feel the management is helpful? friendly? informed?
 - i) Is the IT Center in a good location within the village?
 - j) Does resentment for EGAT hinder participation?
 - k) Do the villagers know about the VIC?
 - l) Do the villagers know the VICs purpose/function?
- 3) What efforts are being made to improve the public image of the IT Center and to increase its usage?
 - a) Is there a homepage for the IT Center computers?
 - b) What is the homepage for the IT Center's computers?
 - c) Do any public relations efforts exist (advertising, workshops, training programs)? If so, what are/were they?
 - d) Is the IT Center advertised within the village? Outside the village?
 - e) Are there workshops for the customers?

- f) Who is in charge of the public relation matters?
- g) Does a form of a public relations team or division exist for the IT Center(s)?
- h) What efforts are made to better the IT Center's public image? Are training programs and/or workshops offered?
- i) Are the IT Centers being used by local businesses to increase sales and profits?
- j) Are there organizations willing to donate money or services to the IT Center(s)?

Appendix F: Economic General and Specific Research Questions

- 1) How successful are each of the IT Centers financially and what are their sources of income and their expenses?
 - a) What are the IT Center's sources of income?
 - b) Is there a user fee? If yes, what is the fee?
 - c) Is there a membership program? If yes, is there a fee? If yes, what is the fee?
 - d) What is the minimum income necessary to monetarily maintain the IT Center(s)?
 - e) What are the IT Center's expenses?
 - f) Is the advisory committee paid a salary?
 - g) Is the staff paid a salary?
 - h) Are there any volunteers, or the possibility for people to volunteer?
 - i) How much is spent on equipment upgrades?
 - j) Does the IT Center pay rent for its space? If yes, what is the cost?
 - k) What are the utilities (electricity, internet, phone) costs?
 - l) How often are equipment repairs needed?
 - m) How much is spent on equipment repairs?
 - n) What is the balance between income and expenses?
- 2) To what extent is financial planning organized and carried through?
 - a) Have there been any fundraising events?
 - b) Is there a budget? If yes, what is the budget?
 - c) Who is in charge of the financial matters?
 - d) Who manages to the budget?
 - e) Are records kept? If yes, what is recorded?
 - f) Is a record kept of all income and expenses?

Appendix G: Villager Questionnaire

English

- 1) What is your age? _____
- 2) What is your gender?

- a) Male b) Female
- 3) What is your occupation?
- a) Student
- b) Employed, please specify _____
- c) Unemployed
- 4) How do you obtain information and/or news? Circle all that apply.
- a) Television e) Telephone
- b) Radio f) From other people
- c) Newspaper, Magazine g) From a conference/meeting
- d) Community Leader
- 5) Have you ever used the IT Center in your village?
- a) Yes, continue to question 6 b) No, skip to question 7
- 6) What have you used the IT Center for? Circle all that apply.
- a) Educational purposes c) Business
- b) Games / Entertainment d) Communication
- 7) Have you seen or heard of the IT Center in your village?
- a) Yes, continue to question 8 b) No, skip to question 9
- 8) By what means have you heard of or seen the IT Center? Circle all that apply.
- a) Advertisement c) School
- b) From someone else d) Other, please describe _____
- 9) Which of the following pieces of equipment do you feel comfortable using? Circle all that apply.
- a) Computer d) Video Cassette Player
- b) Television e) Photocopier
- c) Fax Machine f) Telephone
- 10) Which of the following pieces of equipment do you own? Circle all that apply.

- a) Computer
- b) Television
- c) Fax Machine
- d) Video Cassette Player
- e) Photocopier
- f) Telephone

11) You would be likely to use the IT Center more often if: (Circle all that apply)

- a) The IT Center was located closer.
- b) The fee was less.
- c) There was more availability of the equipment.
- d) Other, please describe _____.

12) Do you have any suggestions to help improve the IT Center?

Thai

1. ท่านอายุเท่าไร..... ปี (นับจากวันเกิดที่ผ่านมา)		
2. เพศ	① ชาย	② หญิง
3. ท่านมีอาชีพอะไร		
	① นักเรียน / นักศึกษา	③ ไม่มีงานทำ
	② รับจ้าง (ระบุ)	
4. ท่านเคยรับข้อมูลข่าวสารผ่านทางใดบ้าง		
	① โทรทัศน์	② วิทยุ
	③ หนังสือพิมพ์ / นิตยสาร / สิ่งตีพิมพ์	④ ผู้นำชุมชน
	(16) โทรศัพท์	(32) เพื่อนบ้าน / คนในครอบครัว
	(64) จากการฟังการบรรยาย / ประชุม	
5. ท่านเคยไปใช้บริการศูนย์สารสนเทศชุมชนในหมู่บ้านท่านหรือไม่		
	① เคย (ตอบข้อ 6 ด้วย)	② ไม่เคย (ข้ามไปข้อ 7)
6. ท่านไปใช้ศูนย์สารสนเทศเพื่อการใด		
	① เพื่อการศึกษา	② เล่นเกมส์ / เพื่อความบันเทิง
	③ ทำธุรกิจ	④ ติดต่อสื่อสาร เช่น Chat
7. ท่านเคยเห็นหรือเคยได้ยินเกี่ยวกับศูนย์สารสนเทศชุมชนในหมู่บ้านท่านหรือไม่		
	① เคย (ตอบข้อ 8 ด้วย)	② ไม่เคย (ข้ามไปข้อ 9)
8. ท่านเห็นหรือได้ยินข่าวเกี่ยวกับศูนย์สารสนเทศชุมชนจากที่ใด (ตอบได้มากกว่า 1 ข้อ)		
	① จากการโฆษณา	② มีคนบอกท่าน
	③ จากทางโรงเรียน	④ อื่นๆ ระบุ
9. เครื่องมือหรืออุปกรณ์ชนิดใดที่ท่านสามารถใช้ได้อย่างสะดวก (ตอบได้มากกว่า 1 ข้อ)		
	① คอมพิวเตอร์	② โทรทัศน์
	③ เครื่องส่งแฟกซ์	④ เครื่องเล่นวีดีโอ
	⑤ เครื่องถ่ายเอกสาร	⑥ โทรศัพท์
10. ท่านเป็นเจ้าของเครื่องมือหรืออุปกรณ์ชนิดใดในข้อต่อไปนี้ (ตอบได้มากกว่า 1 ข้อ)		
	① คอมพิวเตอร์	② โทรทัศน์
	③ เครื่องส่งแฟกซ์	④ เครื่องเล่นวีดีโอ
	⑤ เครื่องถ่ายเอกสาร	⑥ โทรศัพท์
11. ท่านคิดว่าท่านจะไปใช้บริการศูนย์สารสนเทศชุมชนบ่อยขึ้นในกรณีที่..... (ตอบได้มากกว่า 1 ข้อ)		
	① ศูนย์ฯ จะตั้งอยู่ใกล้กว่านี้	② ค่าบริการถูกลงกว่านี้
	③ เมื่อมีเครื่องมือหรืออุปกรณ์เพิ่มมากกว่านี้	
	④ อื่นๆ โปรดระบุ.....	

12. ท่านมีข้อเสนอแนะอย่างไรในการช่วยปรับปรุงศูนย์สารสนเทศชุมชน	
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Appendix H: User Questionnaire

English

- 1) What is your age? _____
- 2) What is your gender?
 - a) Male
 - b) Female
- 3) What is your occupation?
 - a) Student
 - b) Employed, please specify _____
 - c) Unemployed
- 4) How did you first find out about the IT center?
 - a) Advertising
 - b) From someone else
 - c) School
 - d) Other, please specify _____
- 5) Would you or have you recommended this center to a friend?
 - a) Yes
 - b) No
- 6) What time of the day do you generally use the IT center?
 - a) Opening – 11 AM
 - b) 11 AM – 2 PM
 - c) 2 PM – 5 PM
 - d) 5 PM – Closing
- 7) How many times a month do you use the center? _____
- 8) If the center was more accessible (easier to get to), would you go more often?
 - a) Yes, continue to question 9
 - b) No, skip to question 10
- 9) How could the IT Center be more accessible? _____
- 10) Do you think that the managerial staff is sufficiently trained to technically assist you if there is a computer problem?
 - a) Yes, skip to question 12
 - b) No, continue to question 11
- 11) In what area(s) are they lacking? _____
- 12) Do you feel that there is sufficient staffing?
 - a) Yes, continue to question 13
 - b) No, skip to question 14
- 13) Is the IT Center overstaffed?
 - a) Yes, skip to question 15
 - b) No, skip to question 15
- 14) How many more staff do you feel is required?

31) What do you feel is the most important improvement needed?

Thai

1. ท่านอายุเท่าไร..... ปี (นับจากวันเกิดที่ผ่านมา)		
2. เพศ	① ชาย	② หญิง
3. ท่านมีอาชีพอะไร		
	① นักเรียน / นักศึกษา	
	② รับจ้าง (ระบุ)	
	③ ไม่มีงานทำ	
4. ท่านเคยรับข้อมูลข่าวสารผ่านทางใดบ้าง		
	① โทรทัศน์	② วิทยุ
	③ หนังสือพิมพ์ / นิตยสาร / สิ่งตีพิมพ์	③ ผู้นำชุมชน
	(16) โทรศัพท์	(32) เพื่อนบ้าน / คนในครอบครัว
	(64) จากการฟังการบรรยาย / ประชุม	
5. ท่านได้แนะนำเกี่ยวกับศูนย์สารสนเทศนี้กับเพื่อนของท่านหรือไม่		
	① แนะนำ	② ไม่ได้แนะนำ
6. โดยปกติท่านจะใช้บริการศูนย์สารสนเทศเมื่อใด		
	① ตั้งแต่เปิดจนถึง 11 โมงเช้า	② 11.00 – 14.00 น.
	③ 14.00 – 17.00 น.	④ 17.00 - เวลาปิดศูนย์
7. ท่านใช้บริการศูนย์ฯ นี้เดือนละกี่ครั้ง / เดือน		
8. ถ้าการไปใช้บริการที่ศูนย์ฯ ง่ายขึ้นท่านจะไปใช้บริการบ่อยกว่านี้หรือไม่		
	① ใช่ (ข้ามไปข้อ 9)	② ไม่ใช่ (ข้ามไปข้อ 10)
9. การที่จะไปใช้บริการที่ศูนย์ฯ ง่ายขึ้น ท่านจะทำอย่างไร		
.....		
.....		
.....		
10. ท่านคิดว่าเจ้าหน้าที่ศูนย์ฯ ได้รับการอบรมทางด้านเทคนิคเพียงพอที่จะให้ความช่วยเหลือท่านเมื่อคอมพิวเตอร์เกิดปัญหาหรือไม่		
	① เพียงพอ (ข้ามไปข้อ 12)	② ไม่เพียงพอ (ข้ามไปข้อ 11)
11. ท่านคิดว่าเจ้าหน้าที่ศูนย์ฯ ขาดทักษะในเรื่องใด		
.....		
12. ท่านคิดว่าจำนวนเจ้าหน้าที่ศูนย์ฯ มีเพียงพอหรือไม่		
	① เพียงพอ (ข้ามไปข้อ 13)	② ไม่เพียงพอ (ข้ามไปข้อ 14)
13. ท่านคิดว่าจำนวนเจ้าหน้าที่ศูนย์ฯ มีมากเกินไปหรือไม่		
	① ใช่ (ข้ามไปข้อ 15)	② ไม่ใช่ (ข้ามไปข้อ 15)

14. ท่านคิดว่าศูนย์ฯ ควรจะมีเจ้าหน้าที่กี่คนจึงจะเพียงพอ					
① 1 คน		② 2 คน			
③ มากกว่า 2 คน					
15. โดยเฉลี่ยท่านได้รับความช่วยเหลือจากเจ้าหน้าที่ศูนย์ฯ บ่อยเพียงใด					
① ทุกครั้งที่ท่านไปใช้บริการ		② วันเว้นวัน / เป็นบางครั้ง			
③ น้อยมาก					
16. ท่านคิดว่าเจ้าหน้าที่ศูนย์ฯ มีความสามารถเพียงพอหรือปฏิบัติงานอย่างเต็มที่หรือไม่					
① ใช่					
② ไม่ เขาควรจะปรับปรุงอย่างไร					
17. ท่านคิดว่าเครื่องมือหรืออุปกรณ์ที่ใช้ภายในศูนย์ฯ อยู่ในสภาพที่น่าพอใจหรือไม่					
① พอใจ					
② ไม่พอใจ ระบุเหตุผล.....					
18. อุปกรณ์ใดภายในศูนย์ฯ ที่ควรจะได้รับการปรับปรุงมากที่สุด					
.....					
19. ท่านคิดว่าภายในศูนย์ฯ มีอุปกรณ์เพียงพอหรือไม่					
① เพียงพอ					
② ไม่เพียงพอ ควรเพิ่มอุปกรณ์ชนิดใด.....					
20. อุปกรณ์ภายในศูนย์ฯ เหล่านี้ท่านใช้บ่อยครั้งเพียงใด					
		บ่อยมาก	บ่อย	ไม่บ่อยมาก	ไม่เคยใช้เลย
	คอมพิวเตอร์	①	②	③	④
	โทรทัศน์	①	②	③	④
	เครื่องเล่นวีดีโอ	①	②	③	④
	เครื่องส่งแฟกซ์	①	②	③	④
	เครื่องถ่ายเอกสาร	①	②	③	④
	อื่นๆ ระบุ.....	①	②	③	④
21. ถ้ามีการอบรมเกี่ยวกับการใช้คอมพิวเตอร์หรือโปรแกรมอื่นๆ ท่านจะเข้าร่วมหรือไม่					
เข้าร่วม		ไม่เข้าร่วม			
22. ท่านคิดว่ามีกลุ่มใดหรือส่วนใดของชุมชน ที่ไม่ได้เข้ามาใช้บริการศูนย์สารสนเทศ ซึ่งเขาเหล่านั้นน่าจะได้รับประโยชน์จากการเข้ามาใช้บริการศูนย์ฯ					
① มี กรุณาระบุ.....					
② ไม่มี					
23. ในกรณีที่ผู้นำชุมชนหรือผู้นำหน่วยราชการส่งเสริมหรือไม่ส่งเสริมการใช้บริการศูนย์สารสนเทศ จะมีผลต่อการตัดสินใจเข้าใช้บริการศูนย์ฯ ของท่านหรือไม่					
① มีผล		② ไม่มีผล			

24. อัตราค่าบริการสมเหตุผลหรือไม่		
① ใช่	② ไม่สมเหตุผล	
25. ในกรณีที่อัตราค่าบริการเพิ่มขึ้นเพื่อนำเงินรายได้มาปรับปรุงสิ่งอำนวยความสะดวกต่างๆ ในศูนย์ ท่านยังจะมาใช้บริการอยู่หรือไม่		
① ยังคงใช้บริการอยู่	② ไม่มาใช้บริการ	
26. ท่านทราบหรือรู้จักบุคคลที่บริจาคเงิน อุปกรณ์ หรือให้บริการต่างๆ แก่ศูนย์ฯ หรือไม่		
① รู้จัก	② ไม่รู้จัก	

27. ท่านสนใจที่จะมีส่วนร่วมในการหาเงินสนับสนุนสำหรับการพัฒนาเครื่องคอมพิวเตอร์หรืออุปกรณ์อื่นๆ ภายในศูนย์ฯ ให้มีความสามารถในการใช้งานสูงขึ้นหรือไม่		
① สนใจ	② ไม่สนใจ	
28. ท่านคิดว่าศูนย์สารสนเทศชุมชนตั้งอยู่ในที่ที่เหมาะสมหรือไม่		
① เหมาะสมแล้ว		
② ไม่เหมาะสม ควรปรับปรุงในด้าน.....		
29. ศูนย์สารสนเทศชุมชนแห่งนี้มีประโยชน์ต่อท่านหรือไม่		
① มีประโยชน์	② ไม่มีประโยชน์	
30. ศูนย์สารสนเทศชุมชนแห่งนี้มีประโยชน์ต่อชุมชนของท่านหรือไม่		
① มีประโยชน์	② ไม่มีประโยชน์	
31. ท่านคิดว่าสิ่งที่สำคัญที่สุดที่ควรจะได้รับการปรับปรุงภายในศูนย์ฯ มากที่สุดคือ		
.....		
.....		
.....		

Appendix I: IT Center Operator Interview Questions

English

1. Can you give a description of your daily activities as the IT center operator?
2. If not already mentioned can you give a description of how clerical, janitorial, and financial activities are taken care of?
3. About how many people come to the IT center everyday?
4. We have been told there is a logbook of users, is that still in use? Would we be able to view it?
5. Is there a specific time of the day or day of the week that it is used the most?
6. What age group do you feel uses the IT center the most, what gender? Do you know why other age groups do not come as often?
7. What kinds of activities are the centers used for the most?
8. What is the fee to use the IT center? Is there a time limit? Is there a membership program?
9. Are there ground rules posted for proper equipment use and conduct?
10. Do you feel people understand the original objectives of the IT centers and if so do they use them accordingly?
11. Do you find yourself helping users often? Is computer literacy to be a problem, are many people in the village computer illiterate?
12. What types of computer training programs take place through the center? Are people receptive to them? Do you feel the need for more? Are there other community outreach programs?
13. Are you interested in starting more training programs? Would you be capable and willing to teach training sessions?
14. How does the center advertise or make the community aware of the benefits of the IT center?
15. Do you have any other ideas on how to build awareness and participation in the IT center?
16. We were told there was a problem with users playing games and there was not sufficient computers available for other uses, has anything been done to fix that?

17. What are your feelings about the location of the center and the quality of the facilities? Do you have any ideas for improvements? If so, have you thought about where the money would come from?
18. How has the transfer of management from the College of Public Health to the Sub District Organization affected daily operations at the IT center?
19. How does the income generated by the It center get allocated, is there an established budget?
20. How well do the IT center advisory board, committee, and yourself communicate—how often?
21. Are there any businesses or organizations that have expressed interest and support of the It center?
22. How does the IT center envision equipment upgrades in the future?
23. What do you see as potential problems for the sustainability of the IT center?

Thai

1. กรุณาบอกรายละเอียดของกิจกรรมประจำวันของท่านในฐานะผู้ดูแลศูนย์ฯ
2. (ในกรณีที่ผู้ดูแลศูนย์ฯไม่ได้ระบุถึงกิจกรรมในข้อที่1)
กรุณากล่าวถึงว่าผู้ดูแลศูนย์ฯได้ทำงานธุรการ เช่นการทำสมุดจำนวนผู้เข้ามาใช้บริการ ดูแลความสะอาดของศูนย์ฯ หรือทำบัญชีรายรับ รายจ่ายหรือไม่ อย่างไร กรุณาอธิบาย
3. มีผู้เข้ามาใช้บริการศูนย์ฯประมาณวันละกี่คน
4. ในช่วงเริ่มการดำเนินงานศูนย์ฯทราบว่ามีกักกันที่กักจำนวนผู้เข้าใช้บริการ และในปัจจุบันนี้ยังทำอยู่หรือไม่ * และถ้าจะขอดู หรือขอถ่ายเอกสารได้หรือไม่
5. มีช่วงเวลาใดของวัน หรือในช่วงวันไหนของสัปดาห์ที่มีผู้ใช้บริการมากหรือไม่
6. ท่านคิดว่ากลุ่มผู้ใช้บริการศูนย์ฯสารสนเทศหมู่บ้านกลุ่มใดที่เข้ามาใช้บริการมากที่สุด เพศใด และ*ท่านทราบหรือไม่ว่าเหตุใดกลุ่มผู้ใช้บริการอื่นๆไม่เข้ามาใช้บริการ
7. กิจกรรมประเภทใดที่ศูนย์ฯถูกใช้บริการมากที่สุด
8. ท่านคิดค่าบริการในการเข้าใช้เท่าใด * ระยะเวลาในการใช้จำกัดหรือไม่ *และมีระบบการสมัครสมาชิกหรือไม่
9. ท่านได้ทำเอกสารอธิบายกฎระเบียบการอธิบายขั้นตอนการใช้เครื่องคอมพิวเตอร์หรืออุปกรณ์ต่างๆ ในศูนย์ฯหรือไม่ * และขอถ่ายเอกสารได้หรือไม่
10. ท่านคิดว่าชาวบ้านในหมู่บ้านนี้รับทราบถึงวัตถุประสงค์ของการก่อตั้งศูนย์สารสนเทศนี้หรือไม่ *และถ้าทราบ ชาวบ้านได้มาใช้บริการศูนย์ฯตรงตามวัตถุประสงค์หรือไม่
11. ท่านได้ช่วยเหลือผู้ใช้บริการบ่อยหรือไม่ *
ท่านคิดว่าความรู้เกี่ยวกับคอมพิวเตอร์เป็นปัญหาหรือไม่ *
12. มีการจัดโปรแกรมการอบรมคอมพิวเตอร์อะไรบ้างที่ดำเนินการในศูนย์ฯ (โดยกลุ่มใดสอนก็ได้) และชาวบ้านพอใจหรือไม่กับการมีโปรแกรมการอบรมนั้นๆ * ท่านคิดว่าชาวบ้านต้องการการอบรมในด้านใดๆ เพิ่มเติมหรือไม่ * และมีชุมชนใดที่ไม่ได้รับบริการหรือเข้าไม่ถึงโปรแกรมนี้หรือไม่
13. ท่านสนใจที่จะจัดทำโปรแกรมการอบรมหรือไม่ * และท่านสามารถสอนได้หรือไม่
14. ทางศูนย์ฯมีการโฆษณาประชาสัมพันธ์ให้ชาวบ้านเห็นความสำคัญของการเข้าใช้บริการศูนย์ฯหรือไม่

15. ท่านมีความคิดเห็นอื่นๆที่จะเสนอถึงวิธีทำให้ชุมชนมีความตระหนักและมีส่วนร่วมในการให้บริการศูนย์ฯแห่งนี้หรือไม่
16. ท่านคิดว่าการศึกษาที่เด็กที่เข้ามาใช้บริการในศูนย์แห่งนี้แล้วเล่นเกมคอมพิวเตอร์ เป็นสิ่งที่ดีหรือไม่ดีสำหรับศูนย์
17. ท่านคิดว่าศูนย์แห่งนี้ตั้งอยู่ในที่ที่เหมาะสมหรือไม่
 *และคุณภาพของสิ่งอำนวยความสะดวกต่างๆ มีคุณภาพดีหรือไม่ *
 ท่านมีความคิดเห็นที่จะปรับปรุงหรือไม่ *ถ้ามี
 ท่านคิดว่าท่านจะหางบประมาณมาจากที่ใด
18. การถ่ายโอนศูนย์ฯ จากวิทยาลัยการสาธารณสุข จุฬาลงกรณ์ไปยังองค์การบริหารส่วนตำบลมีผลต่อการดำเนินงานของศูนย์หรือไม่
19. รายได้จากการดำเนินงานของศูนย์มีการบริหารจัดการอย่างไร
 เช่นท่านต้องจ่ายค่ากระแสไฟฟ้า ค่าทำความสะอาดศูนย์
 หรือค่าซ่อมแซมคอมพิวเตอร์หรือไม่
20. มีการประชุมระหว่างที่ปรึกษาศูนย์ฯ คณะกรรมการศูนย์ฯ
 และตัวท่านในฐานะเจ้าหน้าที่ดูแลศูนย์บ่อยหรือไม่
21. มีหน่วยงานหรือองค์กรใดแสดงความสนใจ หรือประสงค์ที่จะสนับสนุนศูนย์หรือไม่
22. ท่านคาดว่าศูนย์ฯ จะมีการพัฒนาหรือทำเครื่องคอมพิวเตอร์ให้มีความสามารถในการใช้งานสูงขึ้นอย่างไร
23. ท่านคิดว่าสิ่งใดที่จะเป็นปัญหาสำหรับความยั่งยืนของศูนย์สารสนเทศหมู่บ้านแห่งนี้

Appendix J: IT Center Committee Focus Group Questions

English

1. What are your reasons for being a member of this committee? What are the benefits and advantages of being a member of this committee?
2. What do you believe the community and its citizens can gain by using the IT Center? Has this IT Center benefited your community? If so, in what ways? If not, why?
3. What do you believe is necessary in order for the IT Center to succeed and be sustainable? As a group, what are your objectives and goals in helping the IT Center be successful and sustainable? How are you going about accomplishing your goals? What are your future plans?
4. The IT Centers were established to offer access to information, build communication between stakeholders, help the community capitalize on information technology, and better the community. Do you believe the IT Center is succeeding in accomplishing the original objectives of the IT Center pilot program? Please consider each objective.
5. Have you experienced problems involving your meetings proceedings and plans of action? Have you experienced difficulty in managing your finances? If so, what and how have you gone about resolving the issues? How have you improved as a functional group in the last year? How do you feel you could improve as a functional group? Are there functions you could do better? How do you envision your board being self-sustainable and successful?

6. How can community awareness and interest be increased? Do you have plans on attracting non-users? If so, what are the plans? Are they targeted towards specific groups such as older adults or married women? What more do you hope to offer at the IT Center?

Thai

1. กรุณาให้เหตุผลที่ท่านเข้ามาเป็นสมาชิกของคณะกรรมการศูนย์สารสนเทศชุมชนแห่งนี้
★ และท่านได้รับประโยชน์หรืออย่างไรจากการที่เป็นหนึ่งในกรรมการของศูนย์
2. ท่านมีความเชื่อหรือไม่ว่าชุมชนและชาวบ้านในหมู่บ้านจะได้รับประโยชน์จากศูนย์สารสนเทศชุมชนแห่งนี้
★ และศูนย์สารสนเทศชุมชนแห่งนี้มีประโยชน์สำหรับชุมชนของท่านหรือไม่อย่างไร
กรณาระบุเหตุผล
3. ท่านมีความเชื่อหรือไม่ว่าศูนย์สารสนเทศแห่งนี้จะบรรลุวัตถุประสงค์และยั่งยืน
*** ★ ในฐานะของกลุ่มคณะกรรมการศูนย์ฯ ท่านมีวัตถุประสงค์และเป้าหมายอย่างไร
ในการที่จะช่วยให้ศูนย์สารสนเทศชุมชนแห่งนี้ประสบผลสำเร็จและมีความยั่งยืน
★ และท่านจะไปถึงเป้าหมายนั้นได้อย่างไร
★ ท่านได้วางแผนสำหรับการดำเนินงานศูนย์สารสนเทศชุมชนไว้อย่างไร
4. ศูนย์สารสนเทศชุมชนนี้ตั้งขึ้นเพื่อให้ประชาชนสามารถเข้าถึงข้อมูลข่าวสารทำให้มีการสื่อสารกันระหว่างผู้มีส่วนได้ส่วนเสีย หรือกลุ่มต่างๆ ในชุมชน
ช่วยให้ชุมชนฉวยโอกาสในเรื่องข้อมูลข่าวสารด้านเทคโนโลยี
และทำให้ชุมชนมีการพัฒนาในที่สุด
ท่านคิดว่าจากโครงการนำร่องศูนย์สารสนเทศชุมชนที่จัดตั้งขึ้นนี้บรรลุตามวัตถุประสงค์ที่ตั้งไว้หรือไม่
★ (ทั้งนี้เพื่อให้ง่ายขึ้นสำหรับคณะกรรมการศูนย์
ผู้สัมภาษณ์จะต้องถามรายชื่อถึงวัตถุประสงค์ของการจัดตั้งศูนย์ ตั้งแต่ข้อ 4.1-4.6 ว่าสิ่งเหล่านี้เกิดขึ้นหรือไม่) ดังนี้
5. วัตถุประสงค์ของการตั้งศูนย์สารสนเทศคือ
 - a. สร้างระบบความรู้และข้อมูลต่างๆ
ที่ทันสมัยและเกี่ยวข้องกับชุมชนโดยให้ราษฎรสามารถ เข้าถึงได้ตามความต้องการ เพื่อนำไปใช้ให้เป็นประโยชน์
 - b. สร้างระบบเชื่อมโยงข้อมูลต่างๆ
ระหว่างหน่วยงานทั้งภาครัฐและภาคเอกชนกับราษฎรในชุมชน
 - c. นำเทคโนโลยีในการสื่อสารและสารสนเทศ
มาส่งเสริมการพัฒนาอาชีพให้ราษฎรในชุมชนมีรายได้เพิ่ม
 - d. นำเทคโนโลยีในการสื่อสารและสารสนเทศมาส่งเสริมในการเรียนรู้แก่ราษฎรทุกเพศทุกวัย

- e. สร้างรูปแบบและการพัฒนาชุมชน แบบมีส่วนร่วมของหน่วยงานต่างๆ
- f. การลดและกำจัดการขัดแย้งระหว่างราษฎรกับองค์กรของรัฐในเรื่องการบริหารจัดการกับมลภาวะสภาพแวดล้อมในพื้นที่อันสืบเนื่องจากเดิม ไม่มีการสื่อข้อมูลระหว่างกันอย่างมีประสิทธิภาพ
6. ท่านเคยประสบปัญหาเกี่ยวกับวิธีดำเนินการประชุมหรือปัญหาในเรื่องแผนการทำงานในระหว่างคณะกรรมการศูนย์ด้วยกันเองหรือไม่
- ★ ท่านเคยประสบปัญหาในการบริหารการเงินของศูนย์หรือไม่ หรือไม่
เช่นการที่ศูนย์มีรายได้ไม่คุ้มกับรายจ่าย หรือปัญหาอื่นๆ หรือไม่
- ★ และในกรณีที่เคยประสบกับปัญหาทางการเงินของศูนย์หรือไม่ หรือปัญหาด้านอื่น
ท่านในฐานะคณะกรรมการศูนย์ได้ดำเนินการแก้ไขอย่างไร
- ★ ในปีที่ผ่านมาคณะกรรมการศูนย์มีปัญหาในการดำเนินงานหรือไม่อย่างไร
และในปีนี้มีท่านได้มีการแก้ไขหรือไม่ ปรับปรุงอย่างไร
- และท่านคิดว่ามีสิ่งใดที่ท่านสามารถทำได้ดีกว่านี้หรือไม่
- ★ ท่านคาดหวังว่าทำอะไรที่จะให้คณะกรรมการศูนย์สามารถประสบผลสำเร็จในการทำงานและพึ่งตนเองได้ (เช่นในการจัดประชุม ในกลุ่มคณะกรรมการเอง มีการริเริ่มที่จะจัดประชุมปรึกษาหารือเกี่ยวกับการดำเนินงานของศูนย์หรือไม่ หรือต้องมีคนนอกมาแนะนำ)
7. ท่านคิดว่าทำอะไรที่จะให้คนในชุมชนสนใจและตระหนักถึงความสำคัญของศูนย์สารสนเทศชุมชนและเข้าใช้บริการเพิ่มมากขึ้น
- ★ ท่านมีแผนอย่างไรหรือไม่ในการที่จะดึงดูดผู้ที่ไม่เคยมาใช้บริการให้เข้ามาใช้บริการ
- ★ กรณาระบบแผนของท่าน
- ★ และแผนที่ท่านได้วางไว้นั้นจะจริงในกลุ่มใดกลุ่มหนึ่งเป็นพิเศษหรือไม่ เช่น
กลุ่มผู้สูงอายุ หรือกลุ่มแม่บ้าน ★ มีสิ่งใดที่ท่านคิดหวังว่าท่านจะทำให้ศูนย์ฯ อีกหรือไม่

Appendix K: Hang Hung Data Collection Results

I. Villager Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Completed/Total Questionnaires Requested: 36/36

13) What is your age? **(36,0)**

Age groups: 9 and under (5, 14%); 10-19 (5, 14%); 20-29 (1, 3%); 30-39 (5, 14%); 40-49 (5, 14%); 50 and over (15, 41%); Special Interest Age Group 10-15 (3, 8%)

14) What is your gender? **(34, 2)**

a) Male **(14, 41%)**

b) Female **(20, 59%)**

15) What is your occupation? **(34, 2)**

a) Student **(12, 35%)**

b) Employed, please specify **(12, 35%)**

Coded responses: General labor (7, 58%); Housewife (2, 17%); Government (1, 8%); Not specified (2, 17%)

c) Unemployed **(10, 30%)**

16) How do you obtain information and/or news? Circle all that apply. **(36, 0)**

a) Television **(29, 81%)**

e) Telephone **(4, 11%)**

b) Radio **(8, 22%)**

f) From other people **(2, 6%)**

c) Newspaper, Magazine **(7, 19%)**

g) From a conference/meeting **(1,**

d) Community Leader **(10, 28%)**

3%)

17) Have you ever used the IT Center in your village? **(33, 3)**

a) Yes, go to question 6 **(13, 39%)**

b) No, skip to question 7 **(20, 61%)**

18) What have you used the IT Center for? Circle all that apply. **(10, 6, [20])**

a) Educational purposes **(3, 30%)**

c) Business **(3, 30%)**

b) Games / Entertainment **(3, 30%)**

d) Communication **(3, 30%)**

19) Have you seen or heard of the IT Center in your village? (31, 5)

- a) Yes, go to question 8 (21, 68%) b) No, skip to question 9 (10, 32%)

20) By what means have you heard of the IT Center? Circle all that apply. (17, 9, [10])

- a) Advertisement (3, 18%) c) School (4, 24%)
b) From someone else (13, 76%) d) Other, please describe (3, 18%)

Coded responses: Community leader (2); Not specified (1)

21) Which of the following pieces of equipment do you feel comfortable using? Circle all that apply. (35, 1)

- a) Computer (9, 26%) d) Video Cassette Player (8, 23%)
b) Television (23, 66%) e) Photocopier (2, 6%)
c) Fax Machine (4, 11%) f) Telephone (22, 63%)

22) Which of the following pieces of equipment do you own? Circle all that apply. (32, 4)

- a) Computer (5, 16%)
b) Television (30, 94%)
c) Fax Machine (2, 6%)
d) Video Cassette Player (12, 38%)
e) Photocopier (0, 0%)
f) Telephone (17, 53%)

23) You would be likely to use the IT Center more often if: (Circle all that apply) (29, 7)

- a) The IT Center was located closer. (8, 28%)
- b) The fee was less. (9, 31%)
- c) There was more availability of the equipment. (15, 52%)
- d) Other, please describe (2,7%)

Coded responses: Provided training program about IT (1); Under necessity (1)

24) Do you have any suggestions to help improve the IT Center? (11, 25)

Coded responses: More public relations (4); Equipment in good condition (1); Provide training programs (2); Operator should set definite operation hours (1); More equipment (6) with sub-category: More computers (5)

II. User Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Received/Total Questionnaires Distributed: 48/50

1) What is your age? **(48, 0)**

Age groups: 9 and under (3, 6%); 10-19 (22, 46%); 20-29 (15, 31%); 30-39 (5, 11%); 40-49 (3, 6%); 50 and over (0, 0%); Special Interest Age Group 10-15 (16, 33%)

2) What is your gender? **(47, 1)**

a) Male **(20, 43%)**

b) Female **(27, 57%)**

3) What is your occupation? **(46, 2)**

a) Student **(28, 61%)**

b) Employed, please specify **(11, 24%)**

Coded responses: Accountant (1, 9%); Housewife (2, 18%); Vendor (2, 18%); Not specified (6, 55%)

c) Unemployed **(7, 15%)**

4) How do you obtain information and/or news? Circle all that apply. **(48, 0)**

a) Television **(38, 79%)**

e) Telephone **(4, 8%)**

b) Radio **(9, 19%)**

f) From other people **(7, 15%)**

c) Newspaper, Magazine **(27, 56%)**

g) From a conference/meeting **(7, 15%)**

d) Community Leader **(15, 31%)**

5) Would you or have you recommended this center to a friend? **(48, 0)**

a) Yes **(47, 98%)**

b) No **(1, 2%)**

6) What time of the day do you generally use the IT center? **(46, 2)**

a) Opening – 11 AM **(6, 13%)**

c) 2 PM – 5 PM **(24, 52%)**

b) 11 AM – 2 PM **(6, 13%)**

d) 5 PM – Closing **(11, 24%)**

7) How many times a month do you use the center? **(46, 2)**

Frequency per month categories: Less than 5 (7, 15%); Between 5 and 10 (21, 40%); Over 10 (18, 39%)

8) If the center was more accessible (easier to get to), would you go more often? **(44, 4)**

- a) Yes, go to question 9 (42, 95%) b) No, skip to question 10 (2, 5%)

9) How could the IT Center be more accessible? (15, 33, [2])

Coded responses: Located closer (5, 33%); More available equipment (3, 20%); More space (4, 27%); Safer location (1, 7%); Should have parking lot (2, 13%); Waiting users should form a queue (1, 7%); *This question was misunderstood by a very high percent of the sample (69%)*****

10) Do you think that the managerial staff is sufficiently trained to technically assist you if there is a computer problem? (44, 4)

- a) Yes, skip to quest. 12 (39, 89%) b) No, go to question 11 (5, 17%)

11) In what area(s) are they lacking? (5, 0, [43])

Coded responses: Maintenance of equipment (4, 80%); Technical ability (1, 20%)

12) Do you feel that there is sufficient staffing? (46, 2)

- a) Yes, continue to q. 13 (44, 96%) b) No, skip to question 14 (2, 4%)

13) Is the IT Center overstaffed? (44, 4)

- a) Yes, skip to question 15 (5, 11%) b) No, skip to quest. 15 (39, 89%)

14) How many more staff do you feel is required? (31, 17)

- a) 1 (22, 71%) c) More than 2 (0, 0%)
b) 2 (9, 29%)

15) On average, how many times do you receive assistance from the staff? (46, 2)

- a) Every visit (36, 78%)
b) Every-other visit (5, 11%)
c) Less than every-other visit (5, 11%)

16) Do you feel that the staff is good at their job? (46, 2)

- a) Yes (44, 96%)
b) No; how could they improve? (2, 4%)

Coded response: Should improve technical ability (2, 100%)

17) Do you think that the equipment in use at the center is acceptable? (47, 1)

- a) Yes (40, 85%)
b) No; why not? (7, 15%)

Coded responses: Computers not acceptable (6, 86%); Copy machine needed (1, 14%)

18) What type of equipment upgrade is most needed? (28, 20)

Coded responses: Computer (10, 36%); Chairs (3, 11%); Copy machine (3, 11%); Telephone (2, 7%); Fax (1, 4%); Printer (1, 4%); TV (1, 4%); Video game equipment (1, 4%); None (8, 29%)

19) Do you think that there is enough equipment? (47, 1)

a) Yes (38, 81%)

b) No; what is needed? (9, 19%)

Coded responses: More computers (7, 78%); Copy machine (3, 33%); More chairs (1, 11%); Printer (1, 11%)

20) How often do you use each type of equipment at the IT Center?

(1. Very Often, 2. Often, 3. Not Very Often, 4. Never)

a) Computer (45, 3): 1 (29, 65%) 2 (10, 22%) 3 (4, 9%) 4 (2, 4%)

b) Television (42, 6): 1 (0, 0%) 2 (8, 19%) 3 (21, 50%) 4 (13, 31%)

c) Video Cassette Player (42, 6): 1 (0, 0%) 2 (2, 5%) 3 (19, 45%) 4 (21, 50%)

d) Fax Machine (43, 5): 1 (1, 2%) 2 (11, 26%) 3 (12, 28%) 4 (19, 44%)

e) Photocopier (43, 5): 1 (1, 2%) 2 (6, 14%) 3 (13, 30%) 4 (23, 54%)

f) Other:

Telephone (8, 40): 1 (4, 50%) 2 (4, 50%) 3 (0, 0%) 4 (0, 0%)

21) Would you participate if instructional workshops or training programs were offered? (46, 2)

a) Yes (40, 87%)

b) No (6, 13%)

22) Are there any sectors of the community that do not use or take advantage of the IT Center, which you believe could benefit from its use? (43, 5)

a) Yes, please list here: (13, 30%)

Coded responses: Housewives (2, 15%); Elderly (2, 15%); General villager (1, 8%); Adults (1, 8%); Unanswered (8, 62%)

b) No (30, 70%)

23) If the village head or local government leader either promoted or discouraged the use of the IT center, would this affect your decision to use the center? (46, 2)

a) Yes (33, 72%)

b) No (13, 28%)

24) Is the user fee fair? (47, 1)

31) What do you feel is the most important improvement needed? (26, 22)

Coded responses: More seating (8, 31%); More computers (6, 23%); A copy machine (5, 19%); Equipment improvement (3, 12%); Air conditioning (1, 4%); Larger Center (1, 4%); More computer programs (1, 4%); A printer (1, 4%); Public telephone (1, 4%); Users should form a queue (1, 4%); None (1, 4%)

III. IT Center Operator Interview

Date : 14 January 2003
Time : 7:00-7:54pm
Location : Home of Hang Hung village head, Khun Kaew
Respondent : Khun Mint
Translator : Nong Dtai
Others Present : Khun Kaew and her husband Khun Jeep

- 1 She starts the day with janitorial work, check up computer, financial activities
- 2 *See response 1*
- 3 Average 5 persons/day
- 4 She records everyday
- 5 Saturday-Sunday (9:00AM-15:00PM) is the most used of the week
- 6 On average student and teenagers (both F, M) use IT Center most
The other age group such as the elderly, they have never used computer and too old. The important thing is they have to earn their living
- 7 Computer
- 8 15 bt/hours, (unlimited), membership program are available (everybody is welcome)
- 9 Most children know how to use computer from school
- 10 People in the village understand the original objectives of the IT Center well, they encourage their descendants to use IT Center
IT Center is worth using, some use internet, educational purposes, government news
- 11 She doesn't help much because the users who know more will transfer knowledge to the younger. The users come together and consult each other more than asking assist from IT Center. The seniors are illiterate especially 40 years old up, they are not interested in IT Center
- 12 There is no computer training programs that take place through the center, as Mae Moh vidhaya (high school) set computer course and subsidize by subdistrict

administrative organization. High school provide special evening course for public, those who are interested can enroll, there is not enough computers in IT Center.

- 13 She is interested in setting computer program but it should be intermediate course such as Microsoft Word, Excel, Internet using.
- 14 Leaflet distribution, by verbal, village header announce through village broadcast
- 15 IT Center operator herself think that this center is mobile library, people gain benefit
- 16 Play video game is not a problem at all, in the contrary, it is the way to practice skill and easily to get used to computer
- 17 IT's location is in proper place, the quality of facilities are adequate. She would like to improve in some equipment such as CPU is under quality. First money should come from the villagers (Tod Pa Pa, donation) then we should ask from government, private agency.
- 18 No problem right now, she is not sure for the future
- 19 At present The College of Public Health support, after it should be SAO
 - a. the computers are in warrantee period
- 20 Not very often, people who are in charge (advisory board, committee, operator) also have duty, we meet once a two month. She met the chairman more often than the rest.
- 21 She doesn't see any businesses or organizations expressed their interest only villagers, SAO
- 22 Interviewer misunderstand the question but IT operator got the point SAO promise to buy more computer to IT Center
- 23 Expenditure is the problem for the sustainability, we didn't get profit from running the center (lower income)
 - a. salary (3000/month)
 - b. internet
 - c. electricity bill
 - d. maintenance cost
 - e. cartridge
 - f. paper

IV. IT Center Committee Focus Group

Date	:	15 January 2003
Time	:	7:00-8:00pm
Location	:	Hang Hung IT Center
Respondents	:	10 people
Translators	:	Pii Dtai

- 1 IT Committees were elected by the villagers, the benefits and advantages they've got are
 - participation in community task force
 - gain knowledge in computer
 - exchange the idea in between group
- 2 IT Center is worth using and the villagers gain
 - villagers have opportunities to learn better practices in computers and the other programs
 - consume information and new technology in agricultural, educational
 - communicate with relatives via internet
 - young generation can update and learn computer skills
 - community consume precise and accurate information, therefore, the villagers can apply the knowledge gained from IT Center into develop community
 - everyone can access IT Center (in the village itself and surrounding village) instead of going in Lampang downtown which cost more.
 - to promote the products that use local labor and resources with the aim to expand into both domestic and foreign markets (one tumbol one product) they mentioned about hand made flowers from the left use such as stocking, peanut herbal
 - E-commerce
- 3 They believe that the IT Center will be succeeded and sustainable, in order to reach the goal and objective, they will
 - training program must be set to stimulate and encourage villagers and cover vast target groups: students, housewives, family headman, and the elderly. This

project will submit to SAO or quality of life development fund

- start membership program in term of becoming a partner (partnership)
- buy more computer by raise money from villagers (set Paa pa, Kan Toh dinner)
- submit proposal to SAO for subsidy IT Center.
- IT operator will be assigned to train intermediate computer for free to those who are interested (on process)
- build network connection within Lampang province
- set webpage introduce products inside village to network, as mentioned above include in the plan.

4 IT Center objectives

- To create an information and knowledge systems useful, up to date, related to the community's needs, and easy to access for the villagers.
- To set up an information network between public and private organization
- To bring new technology to create jobs and increase income for communities
- To bring new technology to support as learning tools to villagers
- To promote and create participation development between organization
- To reduce and conflict eliminate between villagers and government body in environmental issues which mal interact in the past

Everybody agreed that IT Center pilot project met all the objectives

5 –They have no experienced difficulty in managing finances

- Yes we do have problem in our meeting proceedings
- *IT Committees have their duty and couldn't participate in meetings without notify
- Last year they all as It Center Committees, they made public relation about the beneficial and advantage of IT Center to villagers, encourage students to use computer

*They did not pay attention

In order to develop the center, IT Center Committee should set plan, specify the activities and committee should pay more attention to public work with sincerity

6 Public relation about benefit and advantage of visiting IT Center should be set in order to attract non-users, encourage people

- arrange the computer exhibition
- set computer program training

Appendix L: Hua Fai Data Collection Results

I. Villager Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Completed/Total Questionnaires Requested: 48/48

1) What is your age? **(48, 0)**

Age groups: 9 and under (0, 0%); 10-19 (7, 15%); 20-29 (3, 6%); 30-39 (15, 31%); 40-49 (11, 23%); 50 and over (12, 25%); Special Interest Age Group 10-15 (3, 6%)

2) What is your gender? **(47, 1)**

a) Male **(22, 47%)**

b) Female **(25, 53%)**

3) What is your occupation? **(45, 3)**

a) Student **(6, 13%)**

b) Employed, please specify **(25, 56%)**

Coded responses: General labor (2, 8%); Housewife (1, 4%); Government (2, 8%); Caddy (1, 4%); Commerce (2, 8%); Farmer (1, 4%); Not specified (16, 64%)

c) Unemployed **(14, 31%)**

4) How do you obtain information and/or news? Circle all that apply. **(47, 1)**

a) Television **(35, 74%)**

e) Telephone **(2, 4%)**

b) Radio **(7, 15%)**

f) From other people **(2, 4%)**

c) Newspaper, Magazine **(9, 19%)**

g) From a conference/meeting **(4,**

d) Community Leader **(12, 26%)**

9%)

5) Have you ever used the IT Center in your village? **(47, 1)**

a) Yes, go to question 6 **(23, 49%)**

b) No, skip to question 7 **(24, 51%)**

6) What have you used the IT Center for? Circle all that apply. **(21, 3, [24])**

a) Educational purposes **(10, 48%)**

c) Business **(2, 9%)**

b) Games / Entertainment **(3, 14%)**

d) Communication **(6, 29%)**

- 7) Have you seen or heard of the IT Center in your village? **(44, 4)**
- a) Yes, go to question 8 **(39, 89%)** b) No, skip to question 9 **(5, 11%)**
- 8) By what means have you heard of the IT Center? Circle all that apply. **(38, 5, [5])**
- a) Advertisement **(14, 37%)** c) School **(4, 11%)**
- b) From someone else **(24, 63%)** d) Other, please describe **(1, 3%)**

Coded responses: Community leader (1)

- 9) Which of the following pieces of equipment do you feel comfortable using? Circle all that apply. **(45, 3)**
- a) Computer **(9, 20%)** d) Video Cassette Player **(9, 20%)**
- b) Television **(34, 76%)** e) Photocopier **(4, 9%)**
- c) Fax Machine **(2, 4%)** f) Telephone **(17, 38%)**
- 10) Which of the following pieces of equipment do you own? Circle all that apply. **(46, 2)**
- a) Computer **(3, 7%)**
- b) Television **(44, 96%)**
- c) Fax Machine **(1, 2%)**
- d) Video Cassette Player **(19, 41%)**
- e) Photocopier **(0, 0%)**
- f) Telephone **(16, 35%)**

11) You would be likely to use the IT Center more often if: (Circle all that apply) (44, 4)

- a) The IT Center was located closer. (11, 25%)
- b) The fee was less. (6, 14%)
- c) There was more availability of the equipment. (34, 77%)
- d) Other, please describe (1, 2%)

Coded responses: Under necessity (1)

12) Do you have any suggestions to help improve the IT Center? (17, 31)

Coded responses: More public relations / advertising efforts (2); Equipment in good condition / upgrades (1); Provide training programs (1); More equipment (17) with sub-categories: More computers (11), Copy machine (1), Fax machine (1)

II. User Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Received/Total Questionnaires Distributed: 50/50

1) What is your age? **(48, 2)**

Age groups: 9 and under (8, 17%); 10-19 (37, 77%); 20-29 (3, 6%); 30-39 (0, 0%); 40-49 (0, 0%); 50 and over (0, 0%); Special Interest Age Group 10-15 (30, 63%)

2) What is your gender? **(50, 0)**

a) Male **(37, 74%)**

b) Female **(13, 26%)**

3) What is your occupation? **(50, 0)**

a) Student **(49, 98%)**

b) Employed, please specify **(1, 2%)**

Coded response: Caddy (1, 100%)

c) Unemployed **(0, 0%)**

4) How do you obtain information and/or news? Circle all that apply. **(50, 0)**

h) Television **(46, 92%)**

l) Telephone **(1, 2%)**

i) Radio **(5, 10%)**

m) From other people **(4, 8%)**

j) Newspaper, Magazine **(6, 12%)**

n) From a conference/meeting **(1,**

k) Community Leader **(6, 12%)**

2%)

5) Would you or have you recommended this center to a friend? **(50, 0)**

a) Yes **(47, 94%)**

b) No **(3, 6%)**

6) What time of the day do you generally use the IT center? **(50, 0)**

a) Opening – 11 AM **(44, 88%)**

c) 2 PM – 5 PM **(1, 2%)**

b) 11 AM – 2 PM **(2, 4%)**

d) 5 PM – Closing **(14, 28%)**

7) How many times a month do you use the center? **(14, 36)**

Frequency per month categories: Less than 5 (3, 21%); Between 5 and 10 (4, 29%); Over 10 (7, 50%)

8) If the center was more accessible (easier to get to), would you go more often? **(50, 0)**

a) Yes, go to question 9 **(50, 100%)**

b) No, skip to question 10 **(0, 0%)**

- 9) How could the IT Center be more accessible? **(50, 50)**
- 10) Do you think that the managerial staff is sufficiently trained to technically assist you if there is a computer problem? **(50, 0)**
- a) Yes, skip to quest. 12 **(48, 96%)** b) No, go to question 11 **(2, 4%)**
- 11) In what area(s) are they lacking? **(3, 0, [6])**
- 12) Do you feel that there is sufficient staffing? **(50, 0)**
- a) Yes, continue to q. 13 **(47, 94%)** b) No, skip to question 14 **(3, 6%)**
- 13) Is the IT Center overstaffed? **(49, 1)**
- a) Yes, skip to quest. 15 **(41, 82%)** b) No, skip to quest. 15 **(8, 16%)**
- 14) How many more staff do you feel is required? **(42, 8)**
- a) 1 **(40, 96%)** c) More than 2 **(1, 2%)**
- b) 2 **(1, 2%)**
- 15) On average, how many times do you receive assistance from the staff? **(49, 1)**
- a) Every visit **(39, 80%)**
- b) Every-other visit **(4, 8%)**
- c) Less than every-other visit **(6, 12%)**
- 16) Do you feel that the staff is good at their job? **(50, 0)**
- a) Yes **(46, 92%)**
- b) No; how could they improve? **(4, 8%)**
- 17) Do you think that the equipment in use at the center is acceptable? **(50, 0)**
- a) Yes **(42, 84%)**
- b) No; why not? **(8, 16%)**
- 18) What type of equipment upgrade is most needed? **(28, 20)**
- 19) Do you think that there is enough equipment? **(49, 1)**
- a) Yes **(32, 65%)**
- b) No; what is needed? **(17, 35%)**
- 20) How often do you use each type of equipment at the IT Center?
(1. Very Often, 2. Often, 3. Not Very Often, 4. Never)
- a) Computer **(46, 4):** 1 **(20, 43%)** 2 **(21, 46%)** 3 **(4, 9%)** 4 **(1, 2%)**
- b) Television **(13, 37):** 1 **(0, 0%)** 2 **(10, 77%)** 3 **(2, 15%)** 4 **(1, 8%)**
- c) Video Cassette Player **(11, 39):** 1 **(0, 0%)** 2 **(5, 45%)** 3 **(5, 45%)** 4 **(1, 10%)**

- d) Fax Machine (12, 38): 1 (0, 0%) 2 (3, 25%) 3 (6, 50%) 4 (3, 25%)
- e) Photocopier (40, 10): 1 (18, 45%) 2 (3, 7.5%) 3 (16, 40%) 4 (3, 7.5%)
- f) Other: *None*

21) Would you participate if instructional workshops or training programs were offered? (42, 8)

- a) Yes (42, 100%)
- b) No (0, 0%)

22) Are there any sectors of the community that do not use or take advantage of the IT Center, which you believe could benefit from its use? (47, 3)

- a) Yes, please list here: (14, 30%)
- b) No (33, 70%)

23) If the village head or local government leader either promoted or discouraged the use of the IT center, would this affect your decision to use the center? (47, 3)

- a) Yes (44, 94%)
- b) No (3, 6%)

24) Is the user fee fair? (47, 3)

- a) Yes (40, 85%)
- b) No (7, 15%)

25) If the user fee was raised slightly to improve the facilities and equipment, would you still pay to use the IT center? (46, 4)

- a) Yes (44, 96%)
- b) No (2, 4%)

26) Would you yourself, or do you know of anyone who, would donate money, equipment, or services to improve the center? (47, 3)

- a) Yes (47, 100%)
- b) No (0, 0%)

27) Would you be interested in participating in a fundraiser for the center to upgrade the equipment? (49, 1)

- a) Yes (46, 94%)
- b) No (3, 6%)

28) Do you think that the building that the center is located in is acceptable? (47, 3)

- a) Yes (33, 70%)
- b) No; how could it be improved? (14, 30%)

29) Is the IT center beneficial to you? (49, 1)

- a) Yes (46, 94%)
- b) No (3, 6%)

30) Is the IT center beneficial to your community? (49, 1)

a) Yes **(44, 90%)**

b) No **(5, 10%)**

31) What do you feel is the most important improvement needed? **(26, 22)**

III. IT Center Operator Interview Results

Date : 22 January 2003
Time : 3:00-4:06pm
Location : Hua Fai IT Center
Respondent : Khun Bao
Translator : Aacaan Ton

- 1 as the IT centers operator, she opens the center twice a day
in the morning 9:00-12:00AM
afternoon 4PM-7:00PM
she cleans up the room and also the equipments in the center, after that she does
the routine work
- 2 See above
- 3 On the average there are 15 person/day, some uses computers, some makes a
photocopy
- 4 She recorded the logbook daily
- 5 The users use most on Saturday and Sunday, and in the evening after schools on
weekday.
- 6 The group of users which use IT centermost are students in secondary schools,
lower secondary schools, boys more than girls, as boys tend to play computer
game
- 7 Computer game program
- 8 10 baht per hour, there is unlimited of time per user
no membership program provide
- 9 There are ground rules for users
- 10 The villagers understand the objectives, and they use the IT Center according to
the objective
- 11 The IT center operator helps users not very often (less) [*The interviewer didn't
ask why, less users, users didn't interesting in beneficial program*]

indigenous people have less educated and computer illiteracy, there are serious obstacle for people

- 12 All the training programs will be held at Mae Moh Vidhaya High school, the villagers satisfied with the programs and they have that opportunities. The villagers need to be trained how to access to the Internet (chatting, email)
- 13 IT operator is interested in starting more training programs, she thinks she can teach intermediate level.
- 14 She did the posters with useful information
- 15 The customers will visit IT Center more if we can provide more computers.
- 16 Play video game by the children is not a problem as long as we gain revenues
- 17 The location of the IT Center and the quality of the facilities are OK. She would like to improve in the future and the money would come from SAO and EGAT
- 18 Nothing change, IT Center still operate.
- 19 Pay the electricity bill
- 20 The meeting was held once a month
- 21 SAO.
- 22 New program or new software should be installed in the future.
- 23 IT Center could not cover all operating cost, it could not generate enough revenue to support the salary (revenue 1500-1600 baht a month while alary 3000 baht a month). SAO will support the IT Center after setting a budget plan, however, at present the money is from village union.

IV. IT Center Committee Focus Group Results

Date : January 2003
Time : 4:30-5:20pm
Location : Hua Fai IT Center
Respondents : 4 people
Translators : Aacaan Ton

1. –As the advisory board he is glad because IT Center is the way to increase knowledge.
 - Their young generation (youth, children) will spend time wisely on computer and stay away from drug addicted.
 - To become part of the Advisory Board is beneficial for him and community tasks such as he can type and print without going to town.
 - We need more computers for the children
 - Now Hua Fai Center faced the obstacle: failure and poor performance of the telephone lines (couldn't access the Internet)
2. The community and its citizens gain more knowledge most from using the IT Center. IT Center served as a place that delivered the valuable information and communications technology to people in the rural areas.
 - We can use computer as a helping tool for community tasks.
3. IT Center will succeed and sustainable if the IT Center Committees committed themselves to work well and effectively together.
 - The problem now is computers malfunction or breakage, they are in warranty period.
 - In order to maintain the IT Center, still need support from other organizations.
 - Need the independent and private place for IT Center (Now IT Center is located in women's association group.)
4. –couldn't connect internet
 - yes
 - yes, in the future there will be a commercial IT Center in the village

-yes, only youth use IT Center most

-yes

-yes, in the past there is no information from EGAT or government, nowadays community know environmental information from EGAT such as air pollution level daily, job vacant etc

5. The advisory board are absent from meeting but in managing IT Center finances are not the problem.

-The problem in operating IT Center is children users cheated by not paying the fee. The advisory board should reconsider and revise the rules.

6. First we have to help ourselves but we still need support from other organization. IT Center earned 2000 bt per month mostly from computer game which is quite good but the children users always use first pay later and some escape.

Plans to attract non-users are to make advertisement in the village nearby.

-offer training program about computer use, the trainer should be the experienced person in the village and focus on the older who feel that computer use is too difficult for them.

- In practical, the meeting will be held between the advisory board, EGAT, SAO and plan the fundraising.

V. Hua Fai Current Rules of Conduct

- Please take off your shoes before entering IT Center.
- Do not bring food or beverage inside.
- Please inform IT center operator whenever facing the problem.
- Do not bring IT Center 's properties outside.
- Check all your belongings before leaving, make the table tidy and clean
- Do not turn off the computer.

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IQP/MQP SCANNING PROJECT



George C. Gordon Library
WORCESTER POLYTECHNIC INSTITUTE

Appendix M: Na Kam Data Collection Results

I. Villager Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Completed/Total Questionnaires Requested: 74/77

1) What is your age? (73, 1)

Age groups: 9 and under (5, 7%); 10-19 (19, 26%); 20-29 (11, 15%); 30-39 (16, 22%); 40-49 (12, 16%); 50 and over (10, 14%); Special Interest Age Group 10-15 (9, 12%)

2) What is your gender? (72, 2)

a) Male (28, 39%)

b) Female (44, 61%)

3) What is your occupation? (74, 0)

a) Student (24, 32%)

b) Employed, please specify (36, 49%)

Coded responses: General labor (7, 19%); Housewife (1, 3%); Government (7, 19%); Commerce (1, 3%); EGAT (2, 6%); Farmer (2, 6%); Public relations (1, 3%); Vendor (4, 11%); Not specified (11, 30%)

c) Unemployed (14, 19%)

4) How do you obtain information and/or news? Circle all that apply. (71, 3)

a) Television (61, 86%)

e) Telephone (4, 6%)

b) Radio (34, 48%)

f) From other people (12, 17%)

c) Newspaper, Magazine (27, 38%)

g) From a conference/meeting (7,

d) Community Leader (17, 24%)

10%)

5) Have you ever used the IT Center in your village? (64, 10)

a) Yes, go to question 6 (19, 30%)

b) No, skip to question 7 (45, 70%)

6) What have you used the IT Center for? Circle all that apply. (18, 1, [55])

- c) Business (1, 6%)
 - d) Communication (5, 28%)
- 7) Have you seen or heard of the IT Center in your village? (62, 12)
- a) Yes, go to question 8 (51, 82%)
 - b) No, skip to question 9 (11, 18%)
- 8) By what means have you heard of the IT Center? Circle all that apply. (51, 0, [23])
- a) Advertisement (23, 45%)
 - b) From someone else (28, 55%)
 - c) School (7, 14%)
 - d) Other, please describe (2, 4%)

Coded responses: Public announcement (1); Seen personally (1)

- 9) Which of the following pieces of equipment do you feel comfortable using? Circle all that apply. (72, 2)
- a) Computer (25, 35%)
 - b) Television (62, 86%)
 - c) Fax Machine (5, 7%)
 - d) Video Cassette Player (23, 32%)
 - e) Photocopier (2, 3%)
 - f) Telephone (46, 64%)
- 10) Which of the following pieces of equipment do you own? Circle all that apply. (66, 8)
- a) Computer (13, 20%)
 - b) Television (58, 88%)
 - c) Fax Machine (2, 3%)
 - d) Video Cassette Player (29, 44%)
 - e) Photocopier (3, 5%)
 - f) Telephone (47, 71%)

11) You would be likely to use the IT Center more often if: (Circle all that apply) **(48, 26)**

- a) The IT Center was located closer. **(19, 40%)**
- b) The fee was less. **(14, 29%)**
- c) There was more availability of the equipment. **(21, 44%)**
- d) Other, please describe **(2, 4%)**

Coded responses: Provided more computers (1); Under necessity (1)

12) Do you have any suggestions to help improve the IT Center? **(10, 64)**

Coded responses: Provide more information (1); Increase operation hours (1); More computers (5); Fee changes (2); More space (1); Better location (1)

II. User Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Received/Total Questionnaires Distributed: 10/50

1) What is your age? **(10, 0)**

Age groups: 9 and under (0, 0%); 10-19 (10, 100%); 20-29 (0, 0%); 30-39 (0, 0%); 40-49 (0, 0%); 50 and over (0, 0%); Special Interest Age Group 10-15 (7, 70%)

2) What is your gender? **(9, 1)**

a) Male **(7, 78%)**

b) Female **(2, 22%)**

3) What is your occupation? **(10, 0)**

a) Student **(10, 100%)**

b) Employed, please specify **(0, 0%)**

c) Unemployed **(0, 0%)**

4) How do you obtain information and/or news? Circle all that apply. **(10, 0)**

a) Television **(6, 60%)**

e) Telephone **(1, 10%)**

b) Radio **(1, 10%)**

f) From other people **(2, 20%)**

c) Newspaper, Magazine **(4, 40%)**

g) From a conference/meeting **(1,**

d) Community Leader **(1, 10%)**

10%)

5) Would you or have you recommended this center to a friend? **(10, 0)**

a) Yes **(6, 60%)**

b) No **(4, 40%)**

6) What time of the day do you generally use the IT center? **(10, 0)**

a) Opening – 11 AM **(5, 50%)**

c) 2 PM – 5 PM **(5, 50%)**

b) 11 AM – 2 PM **(0, 0%)**

d) 5 PM – Closing **(0, 0%)**

7) How many times a month do you use the center? **(8, 2)**

Frequency per month categories: Less than 5 (4, 50%); Between 5 and 10 (4, 50%); Over 10 (0, 0%)

8) If the center was more accessible (easier to get to), would you go more often? **(9, 1)**

a) Yes, go to question 9 **(6, 67%)**

b) No, skip to question 10 **(3, 33%)**

9) How could the IT Center be more accessible? **(13)**

- 10) Do you think that the managerial staff is sufficiently trained to technically assist you if there is a computer problem? (9, 1)
- a) Yes, skip to quest. 12 (6, 67%) b) No, go to question 11 (3, 33%)
- 11) In what area(s) are they lacking? (3, 0, [6])
- 12) Do you feel that there is sufficient staffing? (9, 1)
- a) Yes, continue to q. 13 (5, 56%) b) No, skip to question 14 (4, 44%)
- 13) Is the IT Center overstaffed? (9, 1)
- a) Yes, skip to question 15 (2, 22%) b) No, skip to quest. 15 (7, 78%)
- 14) How many more staff do you feel is required? (7, 3)
- a) 1 (1, 14%) c) More than 2 (4, 57%)
- b) 2 (2, 29%)
- 15) On average, how many times do you receive assistance from the staff? (9, 1)
- a) Every visit (5, 56%)
- b) Every-other visit (2, 22%)
- c) Less than every-other visit (2, 22%)
- 16) Do you feel that the staff is good at their job? (9, 1)
- a) Yes (9, 100%)
- b) No; how could they improve? (0, 0%)
- 17) Do you think that the equipment in use at the center is acceptable? (9, 1)
- a) Yes (6, 67%)
- b) No; why not? (3, 33%)
- 18) What type of equipment upgrade is most needed? (28, 20)
- 19) Do you think that there is enough equipment? (9, 1)
- a) Yes (7, 78%)
- b) No; what is needed? (2, 22%)
- 20) How often do you use each type of equipment at the IT Center?
(1. Very Often, 2. Often, 3. Not Very Often, 4. Never)
- a) Computer (9, 1): 1 (5, 56%) 2 (2, 22%) 3 (2, 22%) 4 (0, 0%)
- b) Television (9, 1): 1 (5, 56%) 2 (3, 33%) 3 (0, 0%) 4 (1, 11%)
- c) Video Cassette Player (9, 1): 1 (2, 22%) 2 (3, 33%) 3 (3, 33%) 4 (2, 22%)
- d) Fax Machine (8, 2): 1 (2, 25%) 2 (1, 13%) 3 (0, 0%) 4 (5, 62%)

- e) Photocopier (8, 2): 1 (2, 25%) 2 (0, 0%) 3 (4, 50%) 4 (2, 25%)
- f) Other
- 21) Would you participate if instructional workshops or training programs were offered? (8, 2)
- a) Yes (8, 100%) b) No (0, 0%)
- 22) Are there any sectors of the community that do not use or take advantage of the IT Center, which you believe could benefit from its use? (10, 0)
- a) Yes, please list here: (2, 20%)
- b) No (8, 80%)
- 23) If the village head or local government leader either promoted or discouraged the use of the IT center, would this affect your decision to use the center? (10, 0)
- a) Yes (10, 100%) b) No (0, 0%)
- 24) Is the user fee fair? (10, 0)
- a) Yes (7, 70%) b) No (3, 30%)
- 25) If the user fee was raised slightly to improve the facilities and equipment, would you still pay to use the IT center? (10, 0)
- a) Yes (7, 70%) b) No (3, 30%)
- 26) Would you yourself, or do you know of anyone who, would donate money, equipment, or services to improve the center? (10, 0)
- a) Yes (4, 40%) b) No (6, 60%)
- 27) Would you be interested in participating in a fundraiser for the center to upgrade the equipment? (9, 1)
- a) Yes (7, 78%) b) No (2, 22%)
- 28) Do you think that the building that the center is located in is acceptable? (9, 1)
- a) Yes (9, 100%)
- b) No; how could it be improved? (0, 0%)
- 29) Is the IT center beneficial to you? (9, 1)
- a) Yes (9, 100%) b) No (0, 0%)
- 30) Is the IT center beneficial to your community? (9, 1)
- a) Yes (9, 100%)
- b) No (0, 0%)

31) What do you feel is the most important improvement needed? (26, 22)

III. IT Center Operator Interview (Present)

Date : 31 January 2003
Time : 1:15-1:58
Respondent : *unknown*
Location : Na Kam IT Center
Translator : Nong Waan

- 1 Clean up the computer and does routine work
- 2 See above
- 3 10 people/day
- 4 Yes
- 5 Weekday 4PM-8PM, weekend 9AM-8PM: time that IT Center is used most operation hour 10:00AM-8:00PM weekday, 9:00AM-8:00PM weekend: put this notice at the entrance
- 6 The youngster boys age 14-17 are the frequent users, the grown up spend time on chat pirch or typing
- 7 Computer game and pirch
- 8 15 baht/hour unlimited. If there are more customers waiting, IT operator will inform those who occupied computer for a long time to leave. There is no membership program, but the center offered bonus to the frequent users by get 1 hour free from 10 hours paid.
- 9 There is a rule on the board like keep the IT Center tidy and clean at all time etc
- 10 She thought that only the IT Center Committees who knew the original objectives, not the villagers
- 11 The unexperienced users need to be coached, almost the users who visit the IT Center knew how to access the information via the Internet
- 12 Since she has been working here, there were no such a training program took place here.

- 13 She herself is able to teach Microsoft Word, Excel since she finished in computer science in vocational school, bachelor in Management. She need more time to revise and bring up her knowledge again.
- 14 PR, voice announcement to publize IT Center
- 15 Encourage and inform the beneficial in using Internet.
- 16 Some people might think that playing video games by the children is bad. In her opinion, however, think that playing video game is good for 2 reason, firstly, IT Center get revenue. Secondly, children can relax, in the contrary, children waste their time and money.
- 17 IT Center located in the center and closed to the community. She think of improving the facilities by IT Center Committee submit the proposal to SAO, EGAT
- 18 No effect
- 19 The income goes to her salary, the rest put in the bank account (maintenance computer) SAO support electricity bill and telephone bill. Water free
- 20 Once a two month
- 21 NO.
- 22 The computers need to be upgraded, the first two computers are not update. She needs more computers, keyboard, more printers, money, and users
- 23 In the future we should improve all the facilities we have now in order to compete with the commercial IT Center, otherwise the users might change to the better place.

IV. IT Center Operator Interview (Recent Past)

Date : 2 February 2003
Time : 4:00-4:56pm
Location : Shop of Na Kam village head, Khun Boonthan
Respondent : Pii Hoi
Translator : Nong Waan

She is the ex-IT operator for 12 months, now she works in the mobile phone company as an accountant in downtown Lampang.

In her point of view, IT Center is served as a key to access to information and communications technologies, especially for low income earners, some explore a job from website. There were the activities when she was on duty:-

- 1 Her routine work was clean up the center and computers, record the number of users. After finish janitorial work she did the account
- 2 See above
- 3 The average users on weekday are 5 people, on weekend 10 people.
- 4 Yes
- 5 The users visited the center in the evening on weekday, an early in the morning of weekend.
- 6 IT depends on the activities, boys liked to play computer games. Women tended to use computer for internet browsing, contact other people. people at 40 years up didn't visit the IT Center as they lacked of knowledge about the use of the Internet and computers
- 7 Computer games
- 8 15 baht/hour, for the frequent users, there will be a promotion 10 hours get 1 hour free. The users can ask for member card free.
- 9 Yes, there are ground rules, but she did not put on the board
- 10 She thought people do know about the objectives but they didn't use IT Center accordingly as they have to work. Even housewives still don't use IT Center.

- 11 In general, the users know how to use computers according to their purpose. Especially interested children found themselves easily access the internet, however, people who are generally less educated and less exposed to new technology like computers are in trouble. This particular group need support and coaching from IT operator. She taught 2-3 children. IT Center shows “current popular/useful websites” on the board. (she resigned from IT operator because she graduate in account not computer, she did not know about software.) For the older people, they are not interested in computer and did not eager to learn
- 12 When she worked at IT Center, there was no such a computer training programs. Every village are welcome to join the program that held at Mae Moh High School
- 13 She can teach basic computer for children (Word, Excel)
- 14 By chief of a tambon (we call kamnan) make a voice announcement (announcement from loudspeaker)
- 15 It Center has 6 computers and it is enough for the users, but the important think is IT Operator should be a person who experienced in computer and can guide or mentor to users. For example the commercial IT Center nearby which the owner is a programmer then the students can consult him For the older people, housewife they didn’t interested in computer
- 16 Computer game is the first step for children to get used to computer, they can use mouse, keyboard properly.
- 17 IT Center located in the center of the community, but far away from the main street which users mostly are from the village. Other villagers may not know
- 18 No effect, after transferred IT Center to SAO, SAO has not interfere in operating. IT Center still she is not sure about the future
- 19 After transferred to SAO, SAO support electricity bills except salary, telephone bill come from IT Center income
- 20 Once a month, there are 10 people in the meeting
- 21 EGAT, SAO, community

The tape finished before question 22 and 23

V. IT Center Committee Focus Group

Nakham IT Center Committee

- 1) IT Center delivered the knowledge through Internet and the villagers can interact all over the world and our community can compete or equal to any other community.
- 2) The community and its citizens gain not only knowledge but also communicate via internet and the important thing is create new jobs such as make artificial flowers, food, local wine.
- 3) As the committee group, in order to maintain the IT Center we should increase the users and we believe that the center will succeed and be sustainable since its operator and teacher are effectively work.

The future plan:

- allow other group to use IT Center:- continuing education group.
 - focus on house-wives to use IT Center
 - focus on youth to participate in Internet using.
 - In order to attract users are:- set village webpage, those who are interested can visit web
 - : reduce fee
 - : provide more computers
 - The commercial computer shop affected community IT center in arousing children interest since the commercial computer shop has update game, typing faster.
 - Play computer game is not the objective of IT Center, however, in crisis period we have to accept money from computer game. There is one computer reserved for typing.
- 4) –Yes
- The villagers could not update or set up an information by themselves, this process is done by Chulalongkorn officer
 - Use the IT Center in publicize one tumbol one product to distribute in community, which benefit villages nearby
 - Yes
 - When community need support from other organization- EGAT, SAO
 - EGAT provides information through Internet from IT Center which reduce conflict and villagers didn't protest against EGAT.

5) The main problems is the meeting time didn't fit the committee members, since they all have work, some work in shift, women couldn't meet late at night.

-we do have a problem in managing IT Center finances when failure in internet access which caused less users. The solution is asking donation from villager to buy new computers.

-there were too much meeting last year, which should reduce the number of committee members as everybody can join the meeting.

-IT operator salary is quite low.

We could not have experienced IT operator with 3000 bt per month

6) –Plans to attract non-users are make public relation and publize via community broadcast radio (voice announcement)

-Guide them to visit maemoh.com website, they will get familiar with the information and spread to the other.

Appendix N: Huay King Data Collection Results

I. Villager Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Completed/Total Questionnaires Requested: 67/68

- 1) What is your age? **(67,0)**
Age groups: 9 and under (4, 6%); 10-19 (15, 22%); 20-29 (12, 18%); 30-39 (12, 18%); 40-49 (18, 27%); 50 and over (6, 9%); Special Interest Age Group 10-15 (7, 10%)
- 2) What is your gender? **(67, 0)**
 - a) Male **(37, 55%)**
 - b) Female **(30, 45%)**
- 3) What is your occupation? **(65, 2)**
 - a) Student **(20, 31%)**
 - b) Employed, please specify **(38, 58%)**
Coded responses: General labor (17, 45%); Housewife (1, 3%); Government (2, 5%); Commerce (5, 13%); EGAT (5, 13%); Farmer (2, 5%); Child development (1, 3%); Not specified (5, 13%)
 - c) Unemployed **(7, 11%)**
- 4) How do you obtain information and/or news? Circle all that apply. **(67, 0)**
 - a) Television **(62, 93%)**
 - b) Radio **(42, 63%)**
 - c) Newspaper, Magazine **(30, 45%)**
 - d) Community Leader **(28, 42%)**
 - e) Telephone **(12, 18%)**
 - f) From other people **(17, 25%)**
 - g) From a conference/meeting **(12, 18%)**
- 5) Have you ever used the IT Center in your village? **(63, 4)**
 - a) Yes, go to question 6 **(21, 33%)**
 - b) No, skip to question 7 **(42, 67%)**
- 6) What have you used the IT Center for? Circle all that apply. **(21, 4, [42])**
 - a) Educational purposes **(15, 71%)**
 - b) Games / Entertainment **(8, 38%)**

c) Business (2, 10%) d) Communication (4, 19%)

7) Have you seen or heard of the IT Center in your village? (64, 3)

a) Yes, go to question 8 (50, 78%) b) No, skip to question 9 (14, 22%)

8) By what means have you heard of the IT Center? Circle all that apply. (49, 1, [17])

a) Advertisement (14, 29%) c) School (28, 57%)

b) From someone else (22, 45%) d) Other, please describe (4, 8%)

Coded responses: Community leader (1); Public announcements (1); IT Center committee (1); Training (1)

9) Which of the following pieces of equipment do you feel comfortable using? Circle all that apply. (66, 1)

a) Computer (26, 39%) d) Video Cassette Player (32, 48%)

b) Television (59, 89%) e) Photocopier (7, 11%)

c) Fax Machine (5, 8%) f) Telephone (42, 64%)

10) Which of the following pieces of equipment do you own? Circle all that apply. (60, 7)

a) Computer (12, 20%)

b) Television (56, 93%)

c) Fax Machine (2, 3%)

d) Video Cassette Player (33, 55%)

e) Photocopier (1, 2%)

f) Telephone (33, 55%)

11) You would be likely to use the IT Center more often if: (Circle all that apply) (53, 14)

- a) The IT Center was located closer. (16, 30%)
- b) The fee was less. (20, 38%)
- c) There was more availability of the equipment. (26, 49%)
- d) Other, please describe (5, 9%)

Coded responses: Equipment was updated (1); More knowledgeable staff (1);

Under necessity (3)

12) Do you have any suggestions to help improve the IT Center? (15, 52)

Coded responses: More public relations (2); Equipment upgrades (3); Fee change (2);

Better telephone connection (1); More comfortable (1); Game playing limits other

users (3); More staff (1); More equipment (5) with sub-category: More computers (4)

II. User Questionnaire

The data presented in the parentheses after the correlating answer represent: (frequency of responses, percent response, [not applicable but not missing data]). The data presented after the question represent: (total number of responses, number of missing data).

Total Questionnaires Received/Total Questionnaires Distributed: 51/51

1) What is your age? **(51, 0)**

Age groups: 9 and under (2, 4%); 10-19 (49, 96%); 20-29 (0, 0%); 30-39 (0, 0%); 40-49 (0, 0%); 50 and over (0, 0%); Special Interest Age Group 10-15 (44, 86%)

2) What is your gender? **(48, 3)**

a) Male **(31, 65%)**

b) Female **(17, 35%)**

3) What is your occupation? **(51, 0)**

a) Student **(51, 100%)**

b) Employed, please specify **(0, 0%)**

c) Unemployed **(0, 0%)**

4) How do you obtain information and/or news? Circle all that apply. **(51, 0)**

a) Television **(48, 94%)**

e) Telephone **(4, 8%)**

b) Radio **(21, 41%)**

f) From other people **(4, 8%)**

c) Newspaper, Magazine **(12, 24%)**

g) From a conference/meeting **(1,**

d) Community Leader **(6, 12%)**

2%)

5) Would you or have you recommended this center to a friend? **(50, 1)**

a) Yes **(47, 94%)**

b) No **(3, 6%)**

6) What time of the day do you generally use the IT center? **(49, 2)**

a) Opening – 11 AM **(8, 16%)**

c) 2 PM – 5 PM **(21, 43%)**

b) 11 AM – 2 PM **(18, 38%)**

d) 5 PM – Closing **(3, 6%)**

7) How many times a month do you use the center? **(42, 9)**

Frequency per month categories: Less than 5 (13, 31%); Between 5 and 10 (23, 55%); Over 10 (6, 14%)

8) If the center was more accessible (easier to get to), would you go more often? **(50, 1)**

a) Yes, go to question 9 **(23, 46%)**

b) No, skip to quest. 10 **(27, 54%)**

9) How could the IT Center be more accessible? **(50, 50)**

- 10) Do you think that the managerial staff is sufficiently trained to technically assist you if there is a computer problem? (50, 1)
- a) Yes, skip to quest. 12 (44, 88%) b) No, go to question 11 (6, 12%)
- 11) In what area(s) are they lacking? (3, 0, [6])
- 12) Do you feel that there is sufficient staffing? (49, 2)
- a) Yes, continue to q. 13 (48, 98%) b) No, skip to question 14 (1, 2%)
- 13) Is the IT Center overstaffed? (51, 0)
- a) Yes, skip to quest. 15 (21, 41%) b) No, skip to quest. 15 (30, 59%)
- 14) How many more staff do you feel is required? (23, 28)
- a) 1 (22, 96%) c) More than 2 (0, 0%)
- b) 2 (1, 4%)
- 15) On average, how many times do you receive assistance from the staff? (51, 0)
- a) Every visit (40, 78%)
- b) Every-other visit (9, 18%)
- c) Less than every-other visit (2, 4%)
- 16) Do you feel that the staff is good at their job? (50, 1)
- a) Yes (41, 82%)
- b) No; how could they improve? (9, 18%)
- 17) Do you think that the equipment in use at the center is acceptable? (51, 0)
- a) Yes (29, 57%)
- b) No; why not? (22, 43%)
- 18) What type of equipment upgrade is most needed? (28, 20)
- 19) Do you think that there is enough equipment? (51, 0)
- a) Yes (12, 24%)
- b) No; what is needed? (39, 76%)
- 20) How often do you use each type of equipment at the IT Center?
(1. Very Often, 2. Often, 3. Not Very Often, 4. Never)
- a) Computer (49, 2): 1 (33, 67%) 2 (4, 8%) 3 (12, 25%) 4 (0, 0%)
- b) Television (36, 15): 1 (4, 11%) 2 (13, 36%) 3 (10, 28%) 4 (9, 25%)
- c) Video Cassette Player (36, 15): 1 (0, 0%) 2 (1, 3%) 3 (18, 50%) 4 (17, 47%)
- d) Fax Machine (26, 25): 1 (0, 0%) 2 (0, 0%) 3 (1, 4%) 4 (25, 96%)

- e) Photocopier (26, 25): 1 (0, 0%) 2 (0, 0%) 3 (6, 23%) 4 (20, 77%)
- f) Other: *None*
- 21) Would you participate if instructional workshops or training programs were offered? (46, 5)
- a) Yes (45, 98%) b) No (1, 2%)
- 22) Are there any sectors of the community that do not use or take advantage of the IT Center, which you believe could benefit from its use? (50, 1)
- a) Yes, please list here: (18, 36)
- b) No (32, 64%)
- 23) If the village head or local government leader either promoted or discouraged the use of the IT center, would this affect your decision to use the center? (49, 2)
- a) Yes (38, 78%) b) No (11, 22%)
- 24) Is the user fee fair? (49, 2)
- a) Yes (35, 71%) b) No (14, 29%)
- 25) If the user fee was raised slightly to improve the facilities and equipment, would you still pay to use the IT center? (50, 1)
- a) Yes (37, 74%) b) No (13, 26%)
- 26) Would you yourself, or do you know of anyone who, would donate money, equipment, or services to improve the center? (50, 1)
- a) Yes (8, 16%) b) No (42, 84%)
- 27) Would you be interested in participating in a fundraiser for the center to upgrade the equipment? (50, 1)
- a) Yes (50, 100%) b) No (0, 0%)
- 28) Do you think that the building that the center is located in is acceptable? (50, 1)
- a) Yes (30, 60%)
- b) No; how could it be improved? (20, 40%)
- 29) Is the IT center beneficial to you? (50, 1)
- a) Yes (50, 100%) b) No (0, 0%)
- 30) Is the IT center beneficial to your community? (49, 1)
- a) Yes (50, 100%)
- b) No (0, 0%)

31) What do you feel is the most important improvement needed? (26, 22)

III. IT Center Operator Interview

Mrs. Nannicha Wanlept, 24 years old: IT Operator

- 1 Give advice to children users who use internet, typing sporadic as villagers or teacher assigned
- 2 Routine work is financial, summarize and report in monthly meeting.
- 3 Average youth children users 6 person in weekday, 10 weekend
- 4 Yes
- 5 On weekday the users use IT Center most at 3:00PM after school. On weekend, early in the morning
- 6 Children and youth are the group that use IT Center most (11-12 years old or pratom 5-6 equal to grade 5, 6), while the older did not use computers as it wasn't necessary
- 7 Internet for search information, computer game
- 8 15 bt/hr, no time limit
The users can fill in the application form and will get 1 hr free from 10 hour.
- 9 Yes, and put on the wall.
- 10 Yes, they understood because there was an open ceremony, for the educated (SAO officer) they use the center for search information and looking for a job. She helped the users when the couldn't access the internet
- 11 People in the village are computer illiterate and it is a problem because one couldn't follow the instruction.
- 12 The training program provided in Maw Moh Wittaya High School, the housewife groups are outreach the program because they are busy with their work.
- 13 She can teach intermediate of Internet using and Microsoft Word, Excel.
- 14 The village header made voice announcement (radio broadcast in the village)
- 15 The village header or teacher should be the key person to inform and encourage the villagers. Firstly, demonstrate how to access website, connect to the universal information after that they will realize how beneficial IT Center is.
IT Operator would like to set training program but she haven't propose the idea to the Committee group yet as the computers are unadequate

- 16 Playing computer game is the first start of getting familiar with mouse, keyboard, which help the children, youth in the future.
- 17 The location of the IT Center is suitable. The qualities of the facilities is OK, but she needs more computers and printer, copying machine and the money would come from SAO, EGAT.
- 18 Yes it is, IT Center Committees now are villagers in the community, after transferring to SAO committees might have changed by SAO.
- 19 Income allocated to the IT operator salary, miscellaneous and electricity bill.
Hang Hung IT Center support telephone bill
- 20 Once a two month
- 21 EGAT, SAO
- 22 As the IT Center operator, she needs more computers for the users in order not to wait for a long time. Teacher from Mae Moh who is knowledgeable about computer (Mr. Sawing) gave technical support.
- 23 No problem (the villagers want to maintain this IT Center to their young generation)

IV. IT Center Committee Focus Group

Date : January 2003
Time : 8:00-9:54pm
Location : Huay King IT Center, Huay King school
Respondents : 12 people
Translators : Nong Waan

1. Person 1, Village leader: IT Center is the modern thing in village, as the young generation can acquire and continuously renew their abilities and knowledge
person 2: IT Center is the channel for youngster who need to open their opportunities and become part of the digital age. The knowledge they gained from IT Center will benefit their hometown and country.
person 3: Everybody at all age group have opportunity to learn better practices, more information
person 4: Thanks to Dr. Nuntavarn, who initiate such a useful project in his/her village. As the IT Center committee he/she would like to maintain this center to his/her young generation
person 5: IT is the community that should take the initiative and be responsible for maintaining the IT Center
2. Has this IT Center benefited your community?
village leader: people who are interested in using IT Center would increase their knowledge, to gain on-line access, opportunities to learn better practices through formal and informal sources
: there were initial training programs held at EGAT for all the people who interested, as almost all villagers are less educated, computer illiteracy are common.
: there are limited of experienced staffs, only teachers are experienced and enthusiastic about computer or Internet using, unless their assist, unexperienced users could not use computers
3. –As the IT Center Committees, we should shared experienced and organize, plan long term directions by making a public relation or encourage customers to visit

IT Center

-The main obstacle is financial, IT Center was transferred to SAO. SAO did not interested in running IT Center now run by village itself. The village committee was set in order to develop and enhance productivity by promoting and providing villagers how beneficial from using IT Center. Encourage the villagers to visit IT Center, there will be a high return on income. In the future SAO will support and IT Center will expand more services such as typing, printing.

4. 1: as a whole, IT Center succeeded in accomplishing the original objectives (80%). The advantage of the location is the best among the other 3 IT Centers, the children are the key to transfer knowledge to their parents.
- 2: the main obstacle is the failure and poor performance of the telephone lines especially Huay King Center. (didn't meet this objective)
- 3: the villagers earn their living as unskilled labor (put the fertilizer in farm, cleaning 100 baht a day), instead of doing in farm. EGAT allocate a plot of land per family and applied the New Theory based on the royal speeches of HM the King

At present village committees try to disseminate beneficial about new technology to villagers. SAL is partial assist

Fundraising

- As Huay King IT Center didn't have financial difficulties like Hang Hung and Nakham, but IT committee itself plan to raise money to IT Center which SAO is willing and able to shoulder part of it costs.
- They commented in failure of Nakham IT Center for diverse reasons:
 - Nakham IT operator is not friendly but for Huay King, IT operator has friendly matter, good services mind
 - The frequent users on weekend are teachers and youngsters
 - IT Center Committees always shared experiences, shared operating results, and fully committed to maintain the IT Center to their young generation.
- *As the committees group they ensure that this IT Center will last as long as we cooperate between SAO.
people at all age group can learn and practice through computer, the youngsters

curious to learn whenever the experienced staff trained-

- Committees need the training program from EGAT which focus on 3 groups

-housewives

-indigenous people

-students, youth

For the elderly, the lack of knowledge about the use of the Internet and computers is the obstacle, in the contrary, the youngster adapt most quickly and easily to use the new technologies.

5. IT Center Committees are get along well, the problems are inadequate equipments. More users than computers. Last year Huay King IT Center earned profit

Solution

- SAO will support computer
- The failure and poor performance of the telephone l lines, EGAT will take responsibility in this matter. (as now the telephone organization of Thailand did not provide the main line)

6. IT Center Committee will plan to make an advertisement, as the situation in the village is unpeaceful.

-non-users are elderly, housewives and family headman, they tend not to use computers, it takes time to encourage them

-for youngsters, they are the frequent users

Objective

1: To create an information and knowledge systems useful, up to date, related to the communities' needs, and easy to access for the villagers.

2: To set up an information network between public and private organization

3: Bring about new technology in information system to improve the living conditions of the villagers

4: People at all age group have opportunities to learn better practices through information and communications technologies, as a powerful mean of conveying information of all kinds

5: Create participation development between stakeholders

6: Reduce and eliminate between villagers and government body in environmental management issues.