ATHABASCA UNIVERSITY

BARRIERS TO THE RURAL WOMEN OF RANONG, THAILAND TO

ACCESSING EDUCATION USING INFORMATION AND

COMMUNICATION TECHNOLOGY

BY

YVONNE NOVAKOWSKI

A thesis submitted to the Athabasca University Governing Council in

partial fulfillment of the requirements for the degree of

MASTER OF DISTANCE EDUCATION

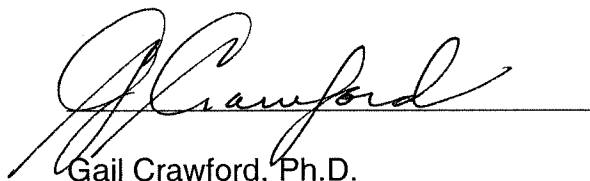Athabasca, Alberta

April, 2004

ATHABASCA UNIVERSITY

The undersigned certify that they have read and recommend to the Athabasca

University Governing Council for acceptance a thesis "BARRIERS TO THE

RURAL WOMEN OF RANONG, THAILAND TO ACCESSING EDUCATION

USING INFORMATION AND COMMUNICATION TECHNOLOGY" submitted by

YVONNE NOVAKOWSKI in partial fulfillment of the requirements for the degree
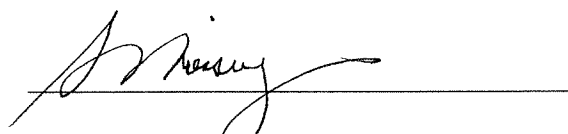
of MASTERS OF DISTANCE EDUCATION.

Martha Cleveland-Innes, Ph.D.

Supervisor

Gail Crawford, Ph.D.

Committee Member

Susan Moisey, Ph.D.

Committee Member

Date: April 21, 2004

DEDICATION

This is dedicated to my sons, Dominic, Gabriel and Adrian, who patiently waited for the day mom was finished her schoolwork, and my husband, Simon, who always assures me I have what it takes in all life's ventures.

ABSTRACT

The purpose of this research is to develop an understanding of rural women's barriers and challenges to education an access to Information and Communication Technology (ICT) in the province of Ranong, Thailand. For women in rural areas education is an opportunity to acquire knowledge and skills for their rapidly changing world. ICT is an effective means of delivering such education. Due to the interactive nature of ICT, women have the opportunity to access education not otherwise available, and a voice in the development of education programs that address their unique needs.

For this reason, a primary hypothesis held by the international community is that access to information and communication technologies will contribute and enhance women's lives. ICT are considered a crucial tool for distributed learning, networking, collaboration, e-commerce and e-government. The Government of Thailand has developed a National IT Policy Framework, IT 2010. This policy prioritizes the development of good practices with information and communication technologies to address the growing digital divide between developed and developing countries. Equitable access to education for all is also stressed in Thailand's educational and ICT policies, yet the reality is more difficult to attain. The premise of this study is that rural women need to be consulted and be key participants in the design, development and implementation of education and ICT programs.

One hundred women throughout the province of Ranong were interviewed regarding their educational barriers and their access to ICT. The women ranged in

age from 19 to 70 and came from various ethnic, religious, geographical and socio-economic backgrounds. This research concludes by presenting the difference between international and the Thai government's education and ICT policies and the reality of rural women's lives regarding education and ICT access.

This research is an initial process in understanding what needs to be in place for rural Thai women to command and make their own opportunities in ICT and education development.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

Introduction

"Technology is the tool, or channel, through which humanity has worked to manipulate nature in the pursuit of material comfort, but at the same time, the dangers which threaten humanity are also contingent on this technology. Technology is thus both an instrument for finding happiness and a catalyst for danger" (Payutto,1994, p.13).

Information and communication technology (ICT) holds the promise of transforming societies economically, politically and socially. Information Age with a myriad of possibilities, including increasing access to education. The development of ICT has significant possibilities for rural women of Thailand. The list of possibilities with ICT access includes: women will have greater employment opportunities; there will be global access for craftswomen; there will be improved opportunities to distance learning; rural women will have the ability to network women's organizations related to their concerns; women will be able to monitor global crop prices; and women can network, collaborate and share indigenous knowledge. Despite an extensive list of possibilities with ICT access, a crucial pervading question is "What has to happen for rural Thai women to make possible the opportunity for them to take charge?" It is this key question that has served as the initiative for this research.

Deemed to be tools for the empowerment of women, ICT can provide an opportunity for these women to acquire education and skills to transcend social restrictions. Yet, for most of the women of the world, these possibilities are unknown.

There are individuals, communities, and nations that are being marginalized in the global proliferation of the Information Highway. This marginalization is caused by the uneven distribution of ICT within societies and across the globe. The result is the 'digital divide,' an inequality between those who have access to information resources and those who do not. This divide is not unlike the economic divide that exists between developed and developing countries. Women are considered to be the most affected in these divides and it is mostly women in developing countries, who experience the widest part of the divides. Rural women of developing countries are even further removed from the Information age than men, whose poverty they share. The digital divide women experience is due to economic, social, political, and cultural forces. Women have lower levels of literacy and education relative to men. They contend with gender-related constraints on their time and mobility. They are more vulnerable to economic fluctuations and have less economic security than men. These forces contribute to the gender dimension of the digital divide.

Women of developing countries need opportunities to access ICT. They need to be aware of ICT potentials, and they need the ability to use ICT for social and economic gain. They need an opportunity to be free to invent their own uses and define the value of ICT for themselves. In this sense, they are creators, not only users.

ICT can inspire a vision of an inclusive and participatory information society. But for this to be actualized, it must be founded on the expectations, contributions, needs and priorities of all. The 1995 Beijing Declaration and Platform for Action "called for the empowerment of women through enhancing their skills, knowledge,

access to and use of information technologies." This statement reflects the views of the international community that ICT access equates empowerment. But ICT is not the solution to empowerment and poverty. As Batchelor (2002) presents, ICT relay information and this information needs to be transformed into knowledge, and the knowledge needs to be converted to action to contribute to empowerment. Similarly, to deliver an education program using ICT that does not address women's unique social, economic and cultural needs will not result in empowerment and poverty reduction. The extent to which women contribute and are decision makers in education and ICT development and implementation, will determine whether they are empowered or further marginalized economically and socially.

An initial step to developing an education system and ICT access that serves women is to understand the barriers that impede their access to education and ICT. The term 'education' is employed broadly in this study. Ideally, education provides the information, knowledge and skills that will empower women. However, although formal and non-formal education are necessary components for empowerment, they are not sufficient. ICT and education are only possible tools for empowerment.

To understand the barriers to rural women's access of education and ICT, it is necessary to examine the different values, relevancy and ideas pertaining to education and information. Terms such as 'global information highway,' 'information revolution,' 'information poverty' and 'information economy' illustrate the profound and dubious role of information in society. Naisbitt (1984) presents how an information society is one in which

> we now mass-produce information the way we used to mass-
> produce cars. In the information society, we have systematized the

production of knowledge and amplified our brain power. To use an industrial metaphor, we now mass-produce knowledge and this knowledge is the driving force of our economy (Naisbitt, cited in Roszak, 1984, p.22).

Roszak (1984) challenges how depth, originality and excellence, all factors of knowledge, have somehow become lost. Information is unquestioned in its neutrality. A "helpful heaping up of unassailable facts" (Roszak, 1984, p. 19) is "touched with a comfortably secure, noncommittal connotation" (Roszak, 1984, p. 19). Information is deemed as having great potential as a renewable and reusable resource, yet it can't be clearly defined.

To rural women in developing countries, the availability of such information and the development of ICT haven't any significance or meaning. All expressed speculations and potentials without effective action, are rhetorical statements. For rural women, such empowering information is just as inaccessible as the cars that are mass-produced or the gold at the end of the rainbow. Women are the workers in the mass-producing factories, but rarely the designers. Rural women need an opportunity to be the designers and creators in the information society and a chance for the gold at the end of the rainbow.

Various ICT projects, such as telecenters, have been initiated throughout the developing world. There has been a problem of sustainability of these projects, particularly as people question the relevancy and appropriateness of the services and projects. The extent that these projects contribute to people's empowerment is questionable and subject to controversy and debate. Assessments and evaluations of projects have a tendency to focus on socio-economic indicators. But how is empowerment assessed and defined? Who determines this? Is it possible to deliver

education using ICT that will result in empowering people? Is ICT access sufficient for empowerment? These questions are the nexus to the purpose of this research.

Background of Ranong Province

This research was conducted in the province of Ranong, Thailand. The province of Ranong is located 568 kms. Southwest from Bangkok. It is a long narrow province bordering on Myanmar (previously called Burma) to the North and extending along the Andaman Sea. Ranong is the capital of the province of Ranong. The population of Ranong city is roughly 30,000 people. The city of Ranong serves a large rural hinterland, as it is a center for fishing, marketing and crafts. There is a very diverse community, with islands one hour away populated with Burmese fisher people and sea gypsies. Women mainly make a living by running small businesses, working in the factories, growing coffee, rubber, palm and cashews, raising and selling chickens, cows and pigs and fishing. Very few women are working professionals. The women are predominantly Buddhist, with 11% of the population being Muslim.

Although Ranong city has excellent modern amenities such as hospitals, colleges and schools, there are people one hour down the highway, who live without electricity and sewer facilities.

The map in Figure 1 indicates the location of Thailand and Ranong province within Thailand.

<u>Provincial Capitals of Thailand</u>

Figure 1. Provincial Capitals of Thailand (Note: Ranong is located on the West Coast on the border of Myanmar, formerly Burma, and the Andaman Sea.)

Source: From the website http://www.maps-thailand.com/map_thailand_prov.htm (April 7, 2004).

Purpose

The purpose of this study is to identify the barriers experienced by rural Thai women to accessing education using information and communication technologies, ICT.

Problem

The policies in place for ICT development and education do not address the needs and challenges of rural women's daily lives. The following question was posed to explore this gap between policy and women's educational needs: 'What are the barriers for rural women in Ranong, Thailand in accessing education, and what is their awareness of ICT?'

The following questions provided the structure for addressing the problem:

1. What is the educational background of women and why did they stop attending school?

2. What were their interests when they attended school?

3. Are they still interested in education? What studies in particular?

4. Why are they unable to pursue education now?

5. Are they aware of computers and their uses?

6. Are they aware of distance education opportunities?

7. What technical ICT access is available to the women?

   a) Who are the shareholders, both private and public?

   b) What technical support is in place?

c) Who are using ICT?

d) What are the costs?

8. Have they an identified problem that can be solved by education?

The ICT and educational policies of Thailand and the international community were also examined to identity barriers women experience on a national and international level.

Assumptions of the Study

There are two fundamental assumptions of the study. These assumptions reflect the views of a white woman who is from a developed country and is sitting using her laptop to address an assignment for her tertiary education. Her children are eating store bought ready-made pizzas, her husband financially supports the family, so she is able to focus exclusively on her work. She has time and resources to access education. As a result, the perspective from which the study is undertaken will be biased by the context and past experience of the researcher.

The first assumption is that ICT will provide educational opportunities and programs that address the unique needs of rural women in Ranong, Thailand. This assumption is reinforced by the extensive rally from educational institutions and international development agencies heralding the potential of ICT to provide education for all. Thailand has, in its information and communication technology policies, prioritized access for all (Thuvsethakul & Koanantakool, 2002). However, there are few programs in place that effectively deliver education to rural women in

Thailand using ICT. The formal education system in Thailand is based on an American-English model of education. In the words of Arger (1987),

> … distance education as presently practised in the Third World is interwoven with the so called 'modernization paradigm' of development. It is noted that this paradigm has eurocentric premises which are unsuitable for the Third World (p. 41).

This assumption is founded on speculations and the potentials of ICT, without examining the key challenges the distance education system already contends with in developing countries.

The second assumption is that education is empowering and will serve to address rural women's needs. The research assumes that education will improve quality of life and therefore it is worthwhile to identify barriers inhibiting education being accessed. This assumption is made without an understanding of the education available for rural women and their lives.

Significance of the Study

The significance of this study is that it directly addresses what rural Thai women are saying about their education situation. In its dissemination to the research community, this research provides Thai women with a voice. This 'voice' can provide input to influence policy makers and distance education institutions in developing relevant, effective and sustainable programs to address their needs. Freire (1984) outlines the need for women and all people to reflect and understand what in their life inhibits the development of their potential and their ability to become empowered. This research presents the significance of incorporating indigenous knowledge into any education system and ICT development.

Limitations

Initially, sitting comfortably writing this proposal out on my laptop in Canada, it presented itself as a relatively straight forward research project. ICT, literacy and language skills for my friends in SE Asia was necessary to perpetuate our friendship and mutual learning. My sons have skills in ICT skills that surpass mine, and they have friends throughout SE Asia also. I saw the potential for an international dialogue using ICT. This may not be possible with my generation, but this could be a surety for my children's generation. It is mothers who influence children's values, ambitions and hopes. Mother's need a vision to be able to share one with their children. Therefore, to accomplish my dream, I needed to learn more about the needs and ideas of mothers in Thailand to see if this could be a feasible common goal.

I have focussed on women due to my interest in the educational background, needs and ideas of women, and my interest in the gap between government policies regarding education and implementation of ICT and the actual grassroot needs. However, I am assuming that there is an imbalance in opportunity for women and men regarding this issue. Sittirak, a Thai professor, states that women in Thailand are second class citizens. Women are not given the same opportunities in Buddhism, nor are they well represented in government.

It would have been informative to have a contrast in the villages of men's education. Thai rural men contend with similar problems as Thai rural women in accessing ICT for education. However, it was observed that young boys crowded the Internet cafes playing video games on-line. In four months of visiting the Internet

cafes, there were no young girls ever seen using the computers. I deduced there may be a gender division in who accesses computers. This observation contributed to my decision to focus on women. As both mothers and learners, education and ICT access affected their lives and their children's.

The focus on women also reflects my interest and comfort level. I am more comfortable speaking with Thai women than with Thai men. For example, with the women, I could talk about children and families. This common bond made the interviews more relaxed and comfortable for all of us.

Delimitations

This study examines the barriers experienced by rural women in Ranong, Thailand in accessing education and their awareness of ICT. This study focuses on the social barriers to women's ICT access versus the technical barriers to women's ICT access. The social barriers to accessing ICT overlap with the challenges women experience in accessing education.

Emphasis is placed on the policies of the international development community and the Thai government, as these agencies are the funding sources to affordable ICT for women. Policies contending with copyright, censorship, ownership, and freetrade issues pertaining to the Internet and information are not addressed. Technical facilities and availability of computers and the Internet are noted, but precise data about the hardware, Internet service providers and software is not extensively examined. These aspects do affect women's access, but the focus was on factors that had a more immediate impact for the women.

This research may be generalizable to the province of Ranong due to the sample size and the coverage of geographical area, but it would not apply to all of Thailand.

Definitions of Terms

The terms defined below are frequently used in this study.

Distance education: according to Moore and Kearsley (1996) the fundamental concept of 'distance education' is that the learner and the instructor are separated by distance and, sometimes, by time. Distance education is "…planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements" (p.2).

Digital divide: a term that refers to the disparity between those who have and have not access to the Internet. It is the term 'access' which is key to understanding the definition of the digital divide. Access was first considered simply as the technical access to computers and telecommunication services. Access is now defined more expansively, and takes into consideration access to the social infrastructure, such as education and content, that is essential to use ICT. Socio-demographic factors such as income, education, gender, race, ethnicity, age, linguistic background and geographic location are also taken into consideration (Wolff, & MacKinnon, 2002).

Empowerment: empowering women means enabling them to realize and utilize their full potentials to take part in decision making and exercise control over their

own lives and circumstances. It is breaking free from derogatory customs, beliefs and practices. It is taking an active part in the process of social, economic and cultural development (UNIFEM, n.d.).

Gender analysis: a process that assesses the differential impact of policies, programs, development and legislation on women and men. It challenges the assumption that men and women are affected the same way by development and policies. The purpose of gender analysis is to aid policymakers in making informed decisions with an appreciation of gender differences (Marcelle, 2000).

Information and Communication Technology, ICT: in the context of this thesis, information and communication technology refers to the hardware, software, data network services and supporting infrastructure to manage and deliver information using computers and the Internet.

Internet: a worldwide network of interconnected computers.

Stakeholders: The list of stakeholders in ICT development is extensive. The following are key stakeholders in ICT development in developing countries. Corporate, government and non-government agencies are listed: Canadian International Development Agency (CIDA); World Bank; International Asia-Pacific Telecommunity (APT); Asian Pacific Women's Information Network Center (APWINC); Commonwealth of Learning (COL); Global Knowledge Partnership (GKP); International Development Research Centre (IDRC); International Telecommunication Union (ITU); United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP); and United Nations Educational, Scientific and Cultural Organization (UNESCO). This list of stakeholders is not exhaustive. These

will be referred to as the 'international community' or 'stakeholders' in this paper. If the information is pertinent to a particular stakeholder, only those ones will be mentioned.

Summary

ICT are identified as an effective tool for rural women in developing countries to access education. The rural women of Ranong experience numerous barriers to accessing education using ICT. The purpose of this study is to determine and investigate what these barriers are. A qualitative methodology using interviews for data collection is employed. The significance of this research is it provides decision makers with relevant and comprehensive input about rural women's educational background and ICT awareness. This is pertinent information for ICT development and educational programs for women. A comprehensive analysis of the research question of 'what are the barriers to accessing education using ICT for rural women of Ranong, Thailand' is presented in the following four chapters: Chapter II – Literature Review; Chapter III – Methodology; and Chapter IV – Conclusion.

The following Chapter of the Literature Review provides a sample of the extensive literature on the issues, barriers and policies regarding ICT development and distance education in developing countries and Thailand.

CHAPTER II

Literature Review

Introduction

The literature review presents an overview of development in ICT in developing countries and the issues and barriers affecting rural women's access to ICT for education. Key international forums hosted by the United Nations, and informed by the international development community are discussed in the literature review to outline the history and background of global ICT development. These forums form the ground work to policies and projects of ICT development and they influence rural women's access to ICT.

No specific studies were found addressing the barriers experienced by rural Thai women to ICT for education. However numerous studies from other developing countries have been identified. The research from these studies will be presented.

The literature review is structured into the following pertinent and key topics:

1. International forums on ICT development and international policies and objectives regarding education;

2. Gender perspective applied to education and ICT development ;

3. Thailand's ICT development and education policies;

4. Barriers to rural women's access of ICT for education;

5. Issues-knowledge, development, distance education;

6. Determining ICT access-Access Rainbow.

ICT Development and Education

There is a consensus amongst the international development community that information and communication technologies, ICT, have remarkable potentials to revolutionize development throughout the world. The professed hope is that ICT development will contribute to the planet's productivity, the ability of developing countries to 'leapfrog' over costly development stages, and to promote networking to solve crucial global problems.

On the list of ICT potentials are the possibilities for distributed learning to provide basic education for all people. The 1995 Beijing Declaration and Platform for Action "called for the empowerment of women through enhancing their skills, knowledge, access to and use of information technologies" (United Nations, 1995). The 1990 World Conference on Education for All, the 2000 Dakar Meetings on World Education Forum and The UN Millennium Goals, all identify basic education as a priority (Osttveil, 2000). Each of these global forums emphasized the importance of gender equality and the empowerment of women. It is the hope that with ICT to access education, women in developing countries can address inequalities, injustices, and discriminations. Above all, they will be able to make informed decisions to better their lives.

Literature pertaining to the ways that ICT can contribute to women's economic empowerment is extensive. Assets to ICT access for women include: being able to work from home; having greater employment opportunities; an opportunity for global access for craftswomen; improved opportunities to distance learning; having the ability to network women's organizations related to their

concerns; being able to monitor global crop prices; and sharing indigenous knowledge.

The Honeybee Network of India is an example of an on-line network for rural people to share local knowledge. It is a non-government organization that is a "global initiative to give voice to creative and innovative people at grassroots" (www.honeybee.org/). Honeybee Network uses ICT to document and disseminate people's knowledge in local languages.

Recommendations emphasize the need for women to contribute to ICT development and implementation (United Nations Division for the Advancement of Women, 2002). However, at the time, this remains only a hope and possibility as few women in developing countries are able to access ICT or are even aware of ICT. This lack of awareness and accessibility is the first of many challenges and issues pertaining to using ICT for education for rural women.

ICT and Gender

There have been various international forums over the past three decades addressing gender issues, education, and ICT development. A major forum that is considered to have established the bill of human rights for women is the1979, United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). The Convention defined what constituted discrimination against women and established an agenda for nations to put into place to address and end discrimination. In ratifying the Convention, governments are committed to implement

the outlined measures to end discrimination against women (United Nations Division for the Advancement of Women, 2002).

Forums in 2003, have been organized based on the understanding that the way in which women's ICT access, participation, and leadership are addressed will determine whether information technology empowers women or contributes to their further economic and social marginalization. Therefore, both challenges and potentials need to be examined. Stakeholders in ICT development identify that all policies pertaining to ICT access and use, need to be well informed and aware of gender perspectives.

In August 2003, 'The Forum on ICT and Gender: Optimizing Opportunities' was held in Malaysia. The international development community met to reaffirm commitments made at the aforementioned international conferences and summits in order to increase awareness on the gender dimension of information and communication technology. They defined objectives to convey to the United Nations World Summit on the Information Society held in Geneva in December 2003. The Forum on ICT and Gender stressed the importance of ICT as a tool to women's empowerment, in providing a voice for women in governance and in achieving gender equality. They emphasized that women must take full participation in the Information Society. The Forum also stated that gender research and analysis on the impact of information and communication technology is essential for addressing gender equality (The Forum on ICT and Gender: Optimizing Opportunities, 2003).

To contend with concerns expressed in these forums, both the UN International Research and Training Institute for the Advancement of Women, IN-

STRAW, and the World Bank developed a virtual series on gender, the digital divide, and ICT development. These series addressed ICT and gender relations, and ways ICT may be used to overcome gender inequalities and bridge the digital divide. (United Nations International Research and Training Institute for the Advancement of Women, UN-INSTRAW; World Bank, n.d.).

General Gender Issues and Thai Women

The Thai government has ratified parts of CEDAW, but they claim that, due to social norms, changes are slow. Women outnumber men in civil service jobs, but the majority of these jobs are in the lower ranks. Women are still rare in government administrative and representative positions.

Families are fundamental to Thai values. Thailand is contending with the breakdown of families. The divorce rate is increasing. There is growing awareness and concern about women being subjected to domestic violence by their husbands. The number of households headed by women is increasing. Other problems include husbands' infidelity and multiple marriage registration. With children migrating from family villages, more elderly women are left alone after the death of husbands (United Nations Development Fund for Women, UNIFEM, 2002).

Gender Issues and Education for Thai Women

Kaewsaiha (1999) has outlined that Thailand's educational policies are placing emphasis on lifelong learning, universal education for all and the role ICT development. Compared to other countries in Southeast Asia, Thai women have one of the highest rates of literacy. Yet, only half of the female population finishes

primary education. In 1994, 62% of the female and 38% of the male population 13 years old and over were illiterate. Women have fewer opportunities for tertiary education. The majority of women take traditional studies, such as nursing, teaching and commerce. They are underrepresented in the sciences, engineering and math. Women studying forestry, veterinary services or animal husbandry are subjected to quota restrictions. Women doctors are also subjected to quotas when they are seeking positions.

The majority of the women have only enough education to get low level jobs in factories. Thai women are 50% of the workers in factories. They are the most vulnerable to economic downturns and unemployment due to automation.

Thai women consist of 44% of the labor force in 1995, with 80% of these in rural areas and 20% in urban areas (UNIFEM, 2002). Upon entering the work force, women have less opportunity to upgrade to get higher positions. A study conducted throughout Thailand in 2003, presents the low level of education of young Thai women. Young women in the work force, aged 12 to 15, with education grade six to nine, express an interest in more education. They presented the following reasons for not continuing their studies: they could not afford to continue; there were no schools with higher education close by; parents did not support them; and they had no guidance. It was recommended that the factories or expert agencies provide necessary training. Information about training needs to be disseminated to target groups. The women were willing to pay part of the costs. The study concluded by saying that women must be have an opportunity to the appropriate skills and knowledge before entering the work force (Sungsri, 2003).

Thailand Education and ICT

Despite gender considerations at an international level, the Thai government has not incorporated these into its *IT Policy 2010*. Thailand's *IT Policy 2010* outlines Thailand's ICT development objectives and plans of implementation. The Thai government identifies ICT development as contributing to poverty reduction, government and business efficiency, and education. The policy emphasizes the importance of distance education, both non-formal and formal, for developing human capacities. Although the Thai government has implemented communication centers with computer and Internet access in every province in the country, ICT are underutilized throughout Thailand. This underutilization is noted as being due to previous emphasis on the technical and economic aspects of ICT development. The *IT Policy 2010* policy stresses the need to focus more on knowledge and human capacity building. The government recognizes the need to give attention to those 'underprivileged and marginalized,' but specific attention for gender considerations are not addressed (Thuvasethakul & Koanantakool, 2002; Kaewsaiha, 2000).

The British education system was adopted in the reign of King Chulalongkorn (1868 -1910), as part of it modernization initiative. The concern that Thai women would be perceived as 'backward' motivated the education of women. This concern countered traditional views that women do not need to be educated as their purpose in life was marry, raise children, and mind the house. The school system of the 1960s focused on educating men to be civil servants and bureaucrats to work in the

growing centralized government. Values regarding rural women's education are slowly shifting, however, and education is becoming more of a priority (Costa, 1997).

Over the past decade, Thailand has focussed on developing systems for educational reform and change in response to globalization and the demands of the Information Age. Historically in Thailand, education administration has been highly centralized and people have had little influence on the development, design and implementation of education.

In Thai culture, there is high deference to those of senior status. People expect decisions to be made by those in authoritative positions. This means the ministry administrators make decision for principals, who make the decision for parents and teachers, and teachers make the decisions for students. With these new reforms, there is now an opportunity for people to be involved in how education develops. This reform will require a change in ideas of power, the structure and focus of education (Hallinger & Kantamara, 2002).

Distance Education in Thailand

The changes outlined above are apparent in Thailand's distance education system. Thailand has had an established distance education system for half a century. It addresses the needs of the following groups:

- secondary school graduates and working adults to pursuing higher education certificates and degrees;
- working people continuing education to upgrade the qualify of their life and their work;

- and people needing non-formal education and have not earned elementary and secondary education certificates.

Courses are predominantly delivered via television, radio, audiocassettes, and print. Several universities are now offering courses using both the print-based approach for students without access to the Internet, and computer-based approach for students wanting to use computers and the Internet. Currently, courses that are computer assisted or web-based are for secondary and higher education (Brahmawong, 2002).

Thailand's ICT Readiness and ICT Projects

An analysis of Thailand's ICT readiness identified that there is 3% Internet penetration nationally and 70% of these Internet users are in Bangkok. The analysis concluded that measures for community empowerment and funding were required. The study also noted that there needs to be more Thai content, as content is predominantly in English and urban based (Amin & Rodjanapiches, 2001).

Thailand has several telecenter projects, the Lighthouse Project and a Thailand Canada Telecenter Project, which have been funded by the international development community. These projects provide information about the effectiveness, sustainability and best practices. The Lighthouse Project established a telecenter in 1999 in a rural area of Northeastern Thailand. The telecenter is used by the following: teachers; local people to access recipes for making herbal medicine; farmers for checking rice prices; and for shoe designs by local shoe makers. Although there is no comment on the sustainability of the project, it is

highlighted as a successful telecenter project on the International Research and Development Centers website (International Development and Research Center, n.d.).

The objectives of the Thailand Canada telecenter project are as follows: to show that ICT services can be financially sustainable; to create jobs; to allow users to make informed choices; and to enhance rural development. This pilot project concluded that telecenters work more effectively when women were involved as managers and owners, and that non-formal education centers, such as libraries, were the best for profit (Wong, 2003). These projects provide a body of research to balance the speculations and anecdotal evidence pertaining to ICT development in developing countries.

Research projects related to ICT development and rural women are listed on the UNESCAP website (United Nations Economic and Social Commission for Asia and Pacific, UNESCAP, 2001). However, Internet searches did not obtain the actual results of these research projects.

Barriers to Rural Women in Developing Countries Accessing ICT for Education

The Commonwealth of Learning, COL, conducted research throughout the developing world to address barriers to women's use of ICT. The following were determined necessary considerations for Asian women's ICT access:

- Community needs - Any information and communication technology package must be grounded in the needs and realities of the community. A community's unique social, political, ethnic and religious characteristics must be considered.

- Gender equity - When new technologies are introduced, they are often seen as the domain for men. Women, youth and the disabled are excluded.

- Illiteracy - High rates of illiteracy in rural areas is a fundamental barrier to participation in knowledge societies. What is the level of education in a community?

- Relevant content - There is a marked shortage of relevant material of cultural content in the indigenous language addressing local needs.

- Financial sustainability - It is difficult to financially sustain projects when grant funding is exhausted.

- Lack of effective infrastructure - Telecommunication costs are still high and there is a poor electricity and telecommunication infrastructure in place.

- Access to the technologies – The women must find the technology easy to reach and not impose on their daily lives and responsibilities.

- Institutional barriers – Traditional formal education systems do not meet the needs of rural women.

- Lack of technical training – It is difficult to obtain technical training if there is access (COL, 1998).

The Commonwealth of Learning (1998) elaborates by outlining the following areas for more research:

- Needs, perspectives and areas where support is most needed;

- Strategies to encourage women's contributions to ICT;

- What are women's access and information concerns?

- What are the local cooperative support structures and groups for access, training and expertise that are willing to work to develop appropriate ICT delivery and access strategies for women?

- What are the potential uses of ICT for women?

Issues with ICT and Indigenous Knowledge

Balakrishnan (2002) notes the importance of the aforementioned barriers to women's ICT access. However, both Batchelor (2002) and Balakrishnan (2002) also identify the importance of combining traditional knowledge with 'foreign' knowledge in ICT development. Women are key stakeholders of indigenous knowledge. Therefore they need to be included in the process so this knowledge can be incorporated into any ICT projects.

Issues present themselves as the new form of information production and dissemination introduced with ICT, contradict rural women's empowerment process. In the traditional knowledge system, women's local knowledge about crops, seeds, medicinal plants and health care is highly valued in the community. Knowledge is based on experiment and experience and shared with all. The modern knowledge system introduced by distance education and through the Internet, creates an unfamiliar dynamic. There is a distance between the producers of the information and the users of the information, and it does not involve the community and the women. There is concern that this alien way of learning and sharing information may serve to undermine women's knowledge system (Balakrishnan, 2002).

This perspective is supported by feminist pedagogies that outline how knowledge is influenced and constructed in relation to gender, race and class (Tisdell, 1998; Freire, 1984). Feminist pedagogies also take into consideration personal insight, a concern with critical reflection, authentic knowing and action, all founded in concrete experiences of daily living (Loughlin & Mott, 1992; Hayes, 1989; Mezirow, 1984). Literature in adult education emphasizes the value of education grounded in the learners' experiences (Lindeman, 1984; Knowles, 1998).

Sittirak (1998) draws a connection between modernization, neo-colonization, development and technology and the devaluing of women's indigenous knowledge. Development and market economies have contributed to the collapse of the indigenous economy and environmental degradation. Natural resources were the basis for the traditional economy and women's sustaining economy. In market economies, the people lose control of their decision-making power over the uses of the local natural resources. Traditionally these decisions were determined collectively based on social and environmental needs. The result for the women is poverty and scarcity. The natural resources, the source of women's survival, become part of a global economy. The indigenous knowledge of women is undermined and they are excluded and displaced (Sittirak, 1998).

Balakrishkan (2002), Batchelor (2002), and Sittirak (1998) emphasize the need to honour and strengthen networks of indigenous knowledge, de-mystify research that adheres to the modernization paradigm, and challenge dominant powers monopolizing knowledge. Women in developing countries are the participants in 'development' and the makers of their own 'knowledge'.

27

Issues in the Information Age

Fundamental to education is the concept of knowledge and the way it is perceived, defined and used. The idea that 'knowledge is power' was popularized by Foucault (1971, cited in Baumann, 1999). Knowledge is fundamental to the information age. Yet, Scriven (1981) notes, "Information is not education. Information is not necessarily knowledge even though knowledge is based on information" (cited in Casas-Armengol & Stojanovich, 1990, p. 132).

The Information Age is in Thailand is heavily influenced by the international community. Developing countries follow external agendas that may not correlate with their development needs. Sittirak (1998) outlines how knowledge is controlled and used in development to reflect political and economic agendas. Therefore, it is necessary to deconstruct and demystify experts assumed privileges. Baumann (1999) stresses the need to respect, understand and recognize multiple domains and types of knowledge. It is detrimental to all, he notes, when developed countries presume to have the 'know how' to define and judge what other cultures need or what is worthy knowledge (Baumann, 1999).

Issues with Development, 'Expertism' and Rural Women's Empowerment

ICT development for education cannot be addressed in isolation and needs to be put in the context of development in Thailand and globilization. Finger (1995) states,

> Lifelong education is thought to simultaneously promote cultural
> modernization, further personal self-fulfillment, and actively

28

contribute to economic and social development. In short, within the framework of scientific humanism, adult education has become synonymous with development. In light of the noted biophysical and socio-cultural limits to development, however, scientific humanism as a foundation philosophy of adult education is in danger of becoming an autistic discourse, that is, a discourse that increasingly loses its contact with reality (p. 114).

There are extensive concerns regarding how globalized education presents risks to the cultures, languages and values of the people of the developing world (Sittirak, 1998; Evans, 1995 ; Spronk, 2002).

Mearns and Leach (1996) note, "it is possible to show that the interests of various actors in development-government agents, officials of donor agencies, the staff of northern and southern non-governmental organizations, and independent 'experts' are served by perpetuation of orthodox views" (cited in Baumann, 1999, p. 17). Cornwall (2000) elaborates and describes how development projects, which are intended to be transformative for local people, can result in supporting the status quo, which is highly inequitable for women. Prejudices and biases about whose knowledge counts are structured into development projects. Women's input is considered 'messier' and, therefore, of lesser value.

Overall, development has had detrimental ramifications for Thailand. Development has brought industrialization, environmental destruction, agribusiness and militarism to Thailand. The Thai's exposure to Western development and knowledge has been detrimental and undermined rural Thai's sustainable agricultural practices. It has also contributed to a breach in the relations between generations and destroyed women's productivity. These are the observations of Sittirak, (1998), who further notes the following:

29

> Development projects appropriated or destroyed
> the natural resource base for the production of sustenance
> and survival. It destroyed women's productivity both by
> removing land, water and forests from their management
> and control, as well as through the ecological destruction
> of soil, water and vegetation systems so that nature's
> productivity and renewability were impaired (Shiva, 1990,
> cited in Sittirak, 1998, p. 47).

There now exists an industry of development consisting of people (like the author of this research) from the developed world doing research and prescribing solutions to the developing world (Sittirak, 1998). Not unlike previous development projects, ICT development is presented as a potential tool to better women's quality of life. Potentially, access to ICT will provide rural women with a voice and access to education, which will lead to empowerment. For ICT development to address women's needs, it must incorporate women's indigenous knowledge. Otherwise, this tool, which is meant to empower, may actually become a barrier to their empowerment as women become more marginalized.

Issues of Distance Education in Developing Countries

"Western ideas of individualism, liberalism, constitutionalism, human rights, equality, liberty, the rule of law, democracy, free markets, the separation of church and state, often have little resonance in Islamic, Confuscian, Japanese, Hindu, Buddhist or Orthodox cultures" (Pacey & Penney,1995, p. 24).

Not unlike the heralded potential expressed about ICT for development today, distance education too had a time of similar enthusiasm in the developing world. Distance education was considered to be responsive to the needs of the

underserved, underprivileged and oppressed, and had the capability of providing "results in the empowerment of the individual through the acquisition of knowledge" (Omolewa, 1985; cited in Guy, 1991, p. 154). Distance education also "provides a manageable solution for the democratisation and liberalisation of education" (Gana, 1984; cited in Guy, 1991, p. 154). Guy (1991) notes these are significant claims but misleading. Distance education has been effective in teacher training. But problems have arisen in distance education with the isolation of learners, lack of student support and dated course materials. Guy (1991) has compiled a list of eight areas that require more research in developing countries:

1. The effects of technology

2. How distance students process, particularly when working in a second language

3. Learning styles of the students

4. Assumptions of distance education

5. Models of distance education that emphasize independence and autonomy

6. Definition and ownership of knowledge, potential for devaluing indigenous knowledge structures

7. Need to investigate cultural contexts in which distance education is situated

8. Distance education as a change agent and its potential in globalization.

Many of these suggestions correlate with areas of research necessary with ICT development.

Distance education is promoted on the merits that it can provide quality education in areas beyond the means of conventional education, and it will be cost

effective for the masses. Arger (1987) states that due to the "modernization paradigm" of development, distance education has an eurocentric agenda. Distance education is structured based on Western ideas and values of education, without an awareness of the various interrelationships between the learner, their community and culture. This connection needs to be fully understood by the shareholders involved in distance education programs (Pacey & Penney, 1995).

Issues with Distance Education and Culture

Pendell (1995) stresses the need to understand the educational practices of specific culture to effectively teach interculturally. Thai women have strong family values and their culture is collectivist. Thais look to their social group for 'making sense' and for determining the direction of change (Hallinger & Kantamara, 2002). They value group accomplishments more than individual ones. The maintenance of harmony is vital and losing face is like physical pain. Thais are high context meaning "much of the information or content of the message is actually in the physical context surrounding the communication or internalized in the people participating in the communication. Little of the meaning of the message is in the coded, explicit, transmitting part of the message" (Pendell, 1995, p. 313). High context cultures are indirect and group oriented. The isolation of distance education may not be conducive to Thai rural women's learning style.

Access Rainbow

The Access Rainbow was developed by Andrew Clement and Leslie Shade of the University of Toronto and the University of Ottawa, respectively. They explain their focus was to "develop and apply a pragmatic model of access to ICT which respects and embraces public interest perspectives" (Clement & Shade,1998). They also note that "many case's narratives about the advent of network technologies are simplistic, deterministic and mythic in scope" (Clement &Shade,1998). Clement and Shade's (1998) Access Rainbow model is used in this study to structure and analyze the findings regarding access to ICT for the rural women of Ranong. The Access Rainbow is a conceptual model consisting of seven layers of access to ICT. It aims to provide a workable definition and concrete steps for achieving universal access to ICT. Figure 2 displays the seven layers of the Access Rainbow.
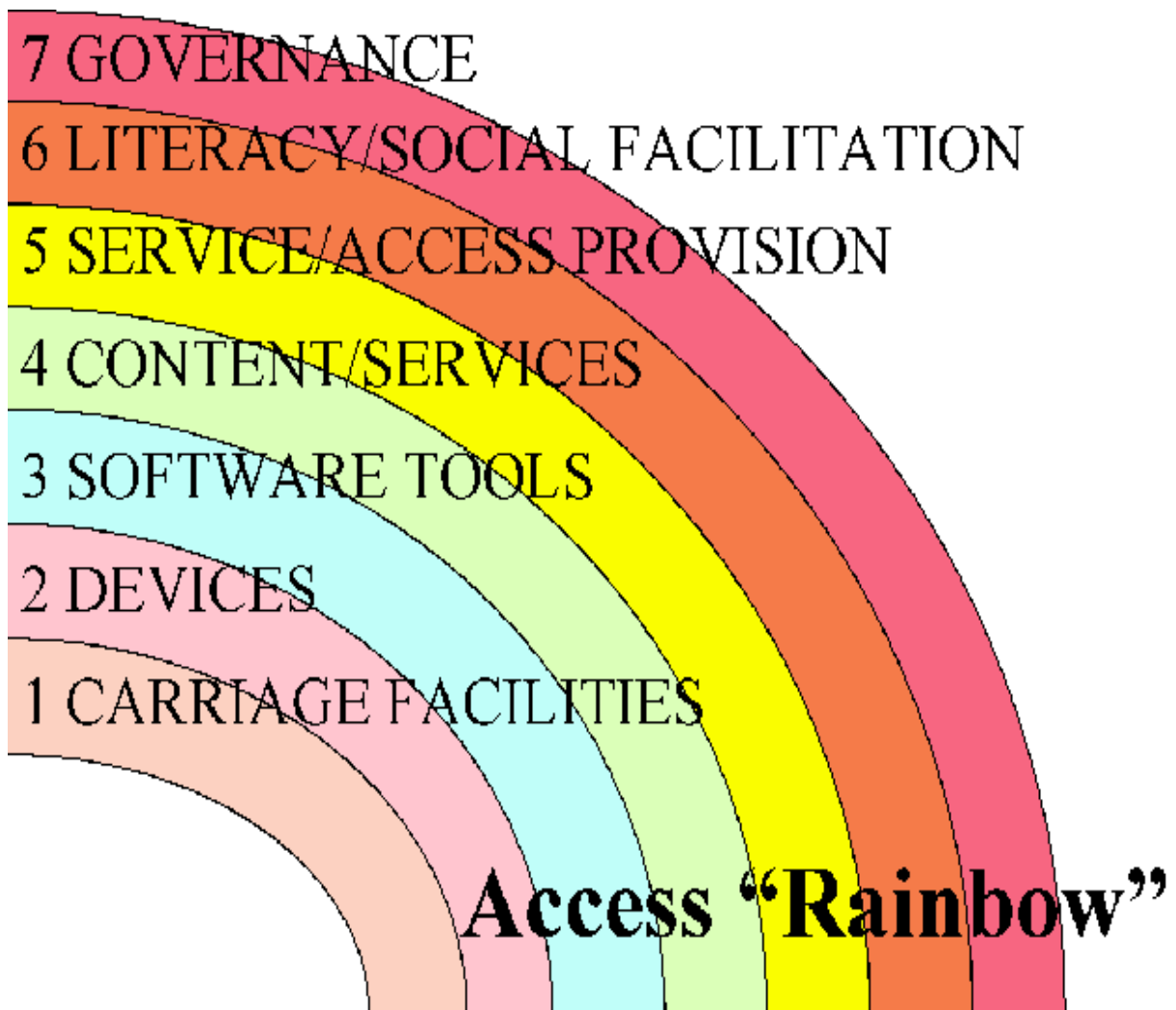
Figure 2: Access Rainbow.

Source: From the website

http://www.fis.utoronto.ca/research/iprp/publications/wp/wp10.html (April 8, 2004).

The seven interrelated layers are: 1) carriage facilities, 2) devices, 3) software, 4) content/services and 5) service providers, 6)literacy/social facilities, 7) governance. Figure 2 illustrates how the layers are integrated and the "multifaceted nature of the concept of access" (Clement & Shade, 1998). The lower layers represent the technical aspects of access and the upper layers emphasize the social

dimensions of access. Contents and services are strategically located in the center

to signify the importance of relevant content and appropriate services for access to

ICT (Clement & Shade, 1998).

Clement and Shade (1998) adopt the metaphor of the rainbow to symbolize

that the layers are united and diverse, harmonic and inclusive. The layers are

integrated and part of a whole and if any layer is not operable, universal access will

not be accomplished.

The Access Rainbow will be elaborated more on in the Methodology Chapter.

Summary

The literature review identifies the international communities and the Thai

Government's perspective and policies on the potentials of ICT development for

rural women of both Thailand and other developing countries. The possibilities,

potentials and issues for distance education with ICT development were also

discussed. The literature review presented the serious issues hindering women's

ICT access. The need to understand these issues emphasizes the significance of

this study.

The Access Rainbow was introduced as an effective model for assessing

access to ICT. In the following Methodology Chapter, more details pertaining to the

Access Rainbow and the methodology employed to investigate the barriers rural

women of Ranong experience in accessing education using ICT, is described.

CHAPTER III

Methodology

Introduction

From January 30, 2003 to the end of April 2003, one hundred women were interviewed in Ranong, Thailand pertaining to the research question, 'What are the barriers for rural women in Ranong, Thailand in accessing education, and what is their awareness of ICT?'

This research was motivated by observations made in April 2001 in Ranong, Thailand. At this time, informal conversations were had with several members of the community regarding the following topics: use of the Internet and e-mail; educational background; work; area of origin; and ambitions and socio-economic aspirations.

The following was noted about Ranong and the people:

- The city of Ranong serves a large rural hinterland, as it is a center for marketing produce and crafts.

- There is a very diverse community, with islands one hour away populated with Burmese fisherpeople and sea gypsies. Much of the menial labour is done by people from Myanmar.

- Although having modern amenities such as hospitals, there are people one hour away who have never seen Ranong and live without electricity and sewer facilities.

- Ranong has as many as four very busy Internet cafes. These are often crowded with young boys playing games. Rarely are women or girls seen using the computers.

- Keyboards were built with both the Thai script and English.

- There were some business people with PCs in the town itself. They used these to promote their businesses and contact customers. These people were all well educated and had strong English skills.

From this foundation, the research of 'rural women's barriers to accessing education using ICT' was developed.

Chapter III is organized under the following main headings: research design and method; research procedures; and summary.

Research Design and Method

The methodology of this research was qualitative fieldwork employing interviews with a feminist perspective. To clarify this statement, the following will be outlined:

- Considerations of field work in different cultures;

- Feminist perspective.

Bogdan and Bilken (1998) explain fieldwork as being in the subject's world "not as a person who pauses while passing by, but as a person who has come for a visit; not as a person who knows everything, but as a person who has come to learn; not as a person who wants to be like them, but as a person who wants to know what it is like to be them" (p. 73). They also stress the importance of appreciating that

there are "different rules about human communication and relationships" in working in other cultures (Bogdan & Bilken, 1998, p. 84). Neuman (2003) explains fieldwork as:

- studying people in their natural setting;

- studying people by directly interacting with them;

- studying people by observing them;

- and gaining understanding of the social world from the participant's perspective.

    In the preliminary informal study undertaken two years previously, it was determined that women were most comfortable in their natural environment. The women were shy and the majority had never spoken to a foreign woman, nor ever been questioned and interviewed. The interviews were informal, but structured around questions related to the women's educational goals and awareness of ICT. The women were mainly consulted when they were alone, or in a group of women. In a few situations when other family members were present and chose to speak for the woman, the questions were addressed directly to the woman to encourage her view. The women were encouraged to ask questions, but their questions were mostly about whether I was married and had children. As my skills in Thai developed and I could answer in their language, the rapport become much more comfortable. The women would invite friends over to hear me speak Thai. These were insightful learning experiences for me, but not necessarily empowering for the women. Bowes (1996) explains that empowerment can occur for different people in the process of the research and this can include the researcher.

Doing research in another culture requires researchers to be reflective about their own values and beliefs and considerate of the indigenous ways of knowing and relating (Bogdan & Bilken, 1998). This relates to two key considerations of feminist research. Feminist research takes into consideration the power that exists in the relationship of the researcher and the researched and feminist research is about empowering the researched (Bowes, 1996). The power relationship between the researcher and the researched was always taken into consideration.

The difference in feminism due to race and class also needs to be addressed in feminist research (Bowes, 1996). The fact that I am a white, North American, English speaking, educated woman affected the research. Being a woman made access and developing a rapport somewhat easier, but most of the women had never spoken to a foreign woman. Bowes (1996) notes this difference of power influences the relationship and can result in the researched "presenting a best face or a public account or simply lying" (p.4).

It is pertaining to the idea of empowerment that a feminist perspective versus conducting feminist research was based. This cautionary measure was employed to be aware of predefined agendas of "potentially impositional nature of empowerment" (Bowes, 1996, p.4). This is founded on the assumption that empowerment is desired by the researched. This can result in expecting particular outcomes, elitism and the researched not being heard, if their views are counter to feminist points (Bowes, 1996).

As is, the premise of this research is value laden. It is this subjectivity in research, that feminist research also identifies. The purpose of this research project

was to investigate the barriers to the women of Ranong, Thailand to education and access to ICT. This was founded on the ideology that access to information is a pertinent issue for women's empowerment. Through this research women were introduced to the idea of computers and the Internet and they reflected on their own educational goals and challenges. Many had not considered educational opportunities since leaving school at a very young age. In a way, this provides a voice for the women, but this is not empowerment. Bowes (1996) states "a simplistic view of empowerment would use qualitative research tools to allow the expression of views of groups in society who are not normally given this opportunity to contribute to research findings" (p. 2). She elaborates and presents that this 'raising voice' does not constitute empowerment, unless there is a thorough analysis of the power context upon which the views were based. This is not the case in this research project. Their responses ranged from elaborate explanations to very brief and shy replies.

It would be pretentious to state what empowerment means to the women or that the research contributed to their empowerment. To determine this, more research would be necessary. Adopting a feminist perspective identifies with Bowes (1996) argument for "empowerment to be seen, not as a prescriptively universal good, but as a series of issues about power, relevant to practice and research, part of a debate to which anti-racist, feminists and action-researchers can all contribute" (p. 5).

Bogdan and Bilken (1998) identify other considerations for doing research with another culture. Firstly, not all cultural groups share the definition of 'research'

and 'researcher'. This became apparent with the first initial interviews. The first group of women interviewed lived in an isolated village. My interpreter began by explaining what we were doing and after asking for consent, we conducted the interviews. After these initial interviews, my interpreter suggested that she presented me as a student, and explain the interviews related to my studies. I was more comfortable with this introduction and approach because I saw myself more as a student that a researcher.

Secondly, Bogdan and Bilken (1998) identify that a signed consent form does not "assure a meeting of the minds" (p. 84). The consent form was initially problematic as it was formally written in English and translated into Thai. The information it contained had no relevancy to the women. The women could not understand why they had to sign a form for me to talk to them and were more comfortable with the interpreter asking their consent and witnessing their oral consent.

Research Procedures

Hiring an Interpreter

The interpreter was a key person in the research. All the participants' ideas and views were passed via her to the researcher. Part of the process involved developing a rapport with the interpreter. The interpreter needs to be able to make spontaneous decisions about questions to present in follow up to the participants' replies. However, this process takes time. Despite debriefing and discussions

pertaining to the interviews, it was difficult for the interviewer to always see the significance in what the participant were saying.

Two different interpreters were used for this study. It is important to review the socio-economic background of the interpreters, as their background influenced their views and therefore, their interpreting. Humphries (1997) identifies that "All claims to truth are historical and cultural constructs and all need to be examined in that light" (p. 2).

Upon arriving in Ranong city, inquiries were made with people I knew about whether they knew of someone who could work as an interpreter. It soon became apparent that few women in Ranong had the necessary English skills to work as an interpreter. Those women who had strong enough English skills were unavailable as they worked full time. This was an unanticipated hindrance. Ranong had not been a popular tourist designation, so tourism had not encouraged the development of English language skills. I was fortunate to locate a university student in Bangkok who was willing to come the 500 km to Ranong city, during her spring break.

I had two interpreters, as the first interpreter had to return to university after one month. The first interpreter was 22 years old and in her third year of studies at university. She had never been to this part of Thailand and was quite shocked that such poverty existed. Her impressions were also a source of data pertaining to the extreme socio-economic conditions of Thai women. She was in disbelief when, on our second day, she spoke to a woman the same age as her and the girl could not read or write. She commented that sometimes she had the same amount for spending money on one night as this girl earned with her family in a month.

The second interpreter was a 35 year-old Thai woman, who was married to a British man. Her English was excellent and she knew the area extensively. She had lived in the village of Laun, 40 km from Ranong for the past two years. Being a small town, she was quite familiar with most of the families. With her assistance, I was able to make the interviews more personal. We began asking women about their interests and day-to-day life more. She also provided me with excellent detailed insights into the life of rural Thai women.

Participant Recruitment

Various people participated in the interviews to present data from more than one source of information. The targeted participants were rural women, but teachers, owners of Internet cafes, and officials working at communication offices were also interviewed regarding: use of the Internet and e-mail; what information technologies are available; infrastructure in place for access to information technologies; and educational opportunities that are provided. One hundred women were interviewed and they are considered the participants. The women were between 19 and 70 years of age, from various socio-economic backgrounds and ethnic groups. This was a convenience sample of women throughout the province of Ranong.

Two key consultants were available for the study. The head of the English department at Ranong's provincial high school translated the consent form and offered advice about the questions and structure of the study. Another teacher also provided ideas and input about the study. It was advised that it may be necessary to have a letter from the governor stating that the research was authorized by him. The

consultant felt the rural women would feel too insecure and cautious to speak with a foreigner without local authorization. We did not obtain this as the interpreter suggested that we try conducting the interviews and go from there. Upon explaining what we were doing and asking consent, the participants were very willing to talk.

Initially, the sample of women was determined by what areas were accessible by reliable and regular local transportation. Neither myself nor my interpreter were familiar with the many villages throughout Ranong province, so we relied on suggestions about where to go. When the second interpreter started to work, we were able to access more isolated areas by motorcycle.

The interviews were conducted during the day, which meant women working in the factories and away from the home were not interviewed. But, interviews were conducted on the weekends and some of these women were interviewed at this time. We were only refused twice to conduct the interviews and this was by two young Burmese women, who were reluctant to speak.

Each interview was from 15 minutes to two hours long. The length of time of the interviews was determined by the participants. The average age of the participants was 27 years, and ranged from 19 to over 70 years of age.

One participant was a 70+ year-old woman, who was interviewed at the Wat (Buddhist temple) in Laun. I had met this elder several times at morning prayers with the monks at the Wat. At this point I had been living in the village of Laun for 3 weeks and the village was becoming quite used to my presence.

Interviews were conducted in the communities of Hat Saen Pen, 15 kms from Ranong city, Laun, 45 kms from Ranong city, Talee Nok, 80 kms from Ranong,

Saam Sip, 45 kms from Ranong city and Ta Chang 20 kms from Ranong city. The women working and running shops at the main Ranong market were also interviewed. Although Ranong is a city and may not be considered rural, the women here were included in the study to provide a comparison between women who had less access, due to distance, from education and ICT facilities, and those who had facilities available.

It is important to note that women from 12 –19 years old who worked in the factories were not interviewed due to the need for adult consent.

Interview Questions

Refer to Appendix C for interview questions.

Data Collected from Other Sources

The village school teachers were an invaluable resource. The teachers understood the role of research and were knowledgeable of the economic, social and political structure of the communities. The teachers became the main source for information about educational opportunities for the women and what computers were available and used. They would offer advice, input about the research questions and confirm the data. The public school teachers of Talee Nok, Ta Chang and Ranong were interviewed. The adult educators of Saam Sip and Laun were also interviewed.

Two of the teachers at the adult education center in Saam Sip, were interviewed regarding the services and facilities provided. Numerous owners of Internet cafes and employees of communication centers were interviewed about

services, facilities and clients. Sukkothai Thammatarat Open University (STOU) was consulted about their distance education program. Two participants also explained that Ramkhameheng University offered distance education in Thailand. In this way a picture developed of the distance education infrastructure that was in place.

Extensive field notes were taken at the time of each interview. These data were discussed and reviewed with the interpreters. Separate field notes documenting my impressions and ideas were also kept. These aided in reflecting about the data, process and interviews. This also provided a means of reflection on my perspectives that may bias the interviews. I regularly consulted and shared my data with the two teachers at Ranong Provincial High School. They offered insights and explanations to questions I had.

The English department at Ranong Provincial High School invited me to present my research and to assist in an e-mail workshop with the English teachers at the school. The teachers did not ask any questions about the research. This opportunity provided data about the challenges that the teachers contend with in using computers and the Internet.

Data Analysis

Access Rainbow. The findings were analyzed using the Access Rainbow model developed by Clement and Shade (1998). The "Access Rainbow" is a seven layered conceptual model of access to information and communication technologies. Clement and Shade (1998) designed this model to incorporate considerations of all ICT, both old and new. But for this research, the focus is on the Internet and

computers. The focus of the model is to provide a workable definition of "universal access" and outline steps for achieving such. The seven layers of the Access Rainbow and a brief description of what they will present in the Results and Discussion Chapter are listed below.

1).Carriage

2). Devices

3). Software tools

These three layers, carriage, devices and software tools outlines the technical aspect of ICT access. These refer to the hardware, software, programs, the network lines, infrastructure and services in place to make ICT access physically possible.

4). Content/Services – This refers to content and services that meet, reflect and deliver the desired information, education, and/or knowledge requirements of the rural women of Ranong. This is a vital layer and strategically placed in the middle of the Access Rainbow for it is where "actual utility is most direct" (Clement & Shade, 1998). All the other layers need to be in place to have proper content/service access.

5). Service providers – This layer identifies the Internet network providers in Thailand.

6). Literacy/Social facilitation – This layer consists of a thorough discussion of the educational facilities and opportunities available to the women of Ranong province. This includes interviews with both school and adult educators who work in the communities. A brief description of the communities of Talee Nok, Haen San Pen, Ta Chang, Laun, Saam Sip and Ranong is also presented. For each village there is

an analysis of the grade levels the women completed, what they are doing for work and/or education now, and their awareness of ICT.

7). Governance – For this layer there will be an analysis of government policies and governing structure of ICT in Thailand.

Coding. The data were broken into age categories and education levels. These were determined based on the availability of education at various times in Thailand. Women's responses about why they had discontinued their childhood education and why they were not studying at this time were coded under the following explanations: no time; no money; no opportunity; family responsibilities; attitudes; and other reasons. Similarly, women's knowledge of computers and the Internet were coded into the following categories: no knowledge of computers; knowledge, but never used; use a computer; use a computer and the Internet; own a computer, but no knowledge; used a computer, but forgot; own and use a computer; and own and use a computer and the Internet.

To protect the privacy of the women, all transcripts and journals will be kept securely for a period of five years. After this time the data will be destroyed.

Summary

Bogdan and Biklen (1998) note that "Skin colour, race and cultural identity sometimes facilitate, sometimes complicate, and sometimes erect barriers in fieldwork" (p. 86). It was apparent that as I learned the language and was able to direct the questions myself, the women were more comfortable with me. But, this may also be a reflection of me being more confident and comfortable also. The

explanation may be more complex or simple, but the key is for the researcher to keep analyzing their values and perceptions.

A feminist perspective was employed in this field work in that the power relationship between the researcher and the researched was constantly kept in mind. The semi-structured method of interviewing allowed for flexibility regarding the comfort level on both party's part. Some women elaborated about their life and situation, where some women answered the questions but offered no more. Nevertheless, the interviews provided rich data addressing the research question. These data are presented in the next chapter.

CHAPTER IV

Results and Discussion

According to a traditional Thai proverb, women are "the hind legs of the elephant," docile followers of men, just one step behind. Feminist interpretation of proverb, "the hind legs support and carry the body when the front ones give out."

If there are any rules we can follow for the generation of ideas, it may simply be to keep the mind open and receptive on all sides, to remain hospitable to the strange, the peripheral, the blurred and fleeting that might otherwise pass unnoticed. We may not know how the mind creates or receives ideas, but without them…our culture would be unimaginably meager. It is difficult to see how the mind could work at all if it did not have such grand conceptions as truth, goodness, beauty to light its way (Roszak, 1986, p. 49).

Introduction

Many issues related to the accessibility of ICT are pertinent to rural women in Ranong. In this chapter, Clement and Shade's Access Rainbow model provides a structure to illuminate the unique issues and challenges affecting women's access to information and communication technologies for education. By focusing on these issues, a clearer perspective is gained of what support is necessary for women to access ICT. This analysis is organized around the Access Rainbow, Thailand's ICT and education policies, and the perspective of Ranong's rural women. The rainbow metaphor, with its mythical pot of gold at the end, is ideal for an analysis of women's ICT access. The model has seven interrelated layers: 1) carriage facilities, 2) devices, 3) software, 4) content/services and 5) service providers, 6)literacy/social facilities, 7) governance. The final two layers consist of government policies

pertaining to ICT access and women's insights, indigenous knowledge and barriers and opportunities with ICT access. The rainbow is universal and the product of sun breaking through after the rain. The colours of the rainbow are distinct, yet the beauty lies in the unity of them all. This relates to the Access Rainbow with its distinct layers but each interrelated and part of the integral whole. The colours and layers together are remarkable and a creation of beauty, but independently, nothing. Similarly, developing only one layer of the Access Rainbow will result in nothing – no ICT access. Addressing all the layers means an effective ICT system that addresses the unique needs of the rural women of Ranong, Thailand.

Access Rainbow

1. Carriage Facilities

Definition: These are the facilities that store, serve or carry information. Included in this is the telephone network and other networks. This layer also looks at the closeness of the network, the bandwidth available, the affordability and interoperability.

There are two domestic Internet exchanges NECTEC-IIR and CAT-NIX in Thailand. There is an estimated 6.0 Million Internet users and 4,794 schools are online with SchoolNet Thailand. There are 13,370 Internet domains under .th (Thailand domain).

2. Devices

Definition: These are the actual physical devices that people operate.

This refers to all physical devices required to gain access to the Internet, (e.g., computers, modems, phone lines, and the electrical network that supplies power to these devices). Physical devices need to be functioning, affordable, close in proximity and interoperable.

The Thai government has established telephone kiosks throughout the province. Many homes also have phones. Mobile phones are becoming increasingly available and affordable. Cell phones are prevalent throughout Ranong, with several stores for phones and accessories in town. People renting their mobile phones for 3 Baht per minute or $0.15 Can./minute are readily available. The calls are timed and charges are paid after the call. This system is very popular, but, people with cell phones that receive e-mail are finding reception is erratic through the province. More details regarding the computers and equipment available in Ranong, are outlined in 'content and services' of the Access Rainbow.

3. Software Tools

Definition: The program that runs the devices and makes connections to services.

In 1993 the Thai Linux Working Group was started. Its purpose is to promote local research and development of software The initial goal was to create a Thai version of Linux and Thai documentation for the software distribution. In 1998, NECTEC launched Linux-School Internet Server Version 2.0. This is an Internet server software that enables a school computers to connect to the Internet. This

software contains Web Administration Tool and web interface of system/user administration tasks (Thuvasethakul, n.d.).

Google, Microsoft Windows, and numerous websites are also available in Thai. Software is readily available inexpensively in Bangkok. The copyright laws are not honoured and prices are very low. But this software is usually in English and often the copies are not very good quality. Nevertheless, this black market industry is thriving, despite pressures from the international community and police interventions. It is possible to have CDs burned, designed and all media of computer advertising and websites done in Ranong town.

4. Content/Service Facilities

Definition: The actual information and communications services people find useful. Clement and Shade stress that the information and communication services must be participative, community-based, relevant and up-to-date.

For the Thai women, there isn't any content in place that is delivered through the Internet and computers. This is the conundrum. Therefore, this layer of the Access Rainbow focuses on what facilities exist for computer and Internet access. The following Table 1 presents the various Internet providers available in the province of Ranong.

Table 1: The Services and Costs of Internet Services in the Province of Ranong

City, Name of facility Private or Government?	Services provided	Cost	Who uses it?	Comments
Ranong-Kay Kai – private, family business Open 10-10pm.	eight Pentium two computers, 533 mh, CD drive and floppy. Windows Fax and telephone Connection-phone lines	15 Baht/hour or $.50Can./hour	Foreigners e-mailing and young boys playing games on-line	The owners are able to assist with simple problems. The computers crash sporadically, particularly in heavy rains.
Ranong-Godnet – private Open 9am-midnight In business two years.	11 Pentium 2 computers web cameras and microphones. CD drivers and floppy. Windows Connection-phone lines	30 Baht/hour or $1.00 Can./hour for foreigners 20 Baht/hour or $.66 Can/hour for local people	Mostly young boys playing games on line. Some foreigners e-mailing.	The owner is able to repairs. Would conduct classes if paid. People can ask for help. Weather is a problem for satellite. The phone lines always work. Expenses are 10000 Baht/month or $320. Can/month.
Ranong-Click Point-private	15 computers, floppy, no CD Scanner, Xerox and printer Offer Word, Windows, Excel and e-mail courses for 1000 Baht/10 hours or $33.Can/10 hours for one on one teaching. Connections-phone lines.	20 Baht/hour or $.66 Can/hour	Foreigners and locals. Boys playing games. Parents pay for their children to take courses. The attendant working said the customers are 50% Thai men and 50% women. But overall, it is hard for people to come to classes.	They assemble their own computers and fix them. This is cheaper than buying them. For electricity and phone lines it is 30000 Baht/month or $1000. Can/month

Kraburi- two private Internet Cafes	Each of these cafes had a minimum of five computers. One of the cafes Internet service was erratic and both were quite slow. Connections-phone line	50 Baht/hour or $1.50 Can./hour	There aren't any tourist or foreigners staying in Kraburi, so the cafes are the domain of young boys playing games on line.	The Internet lines here were exceptionally slow.
Kraburi- Government Phone Service	Phones stalls one computer with Internet	Need to use prepaid cards.	See people using phones, not computer.	
Communication Authority of Thailand- government communication center (one in Kampoe, Kraburi, Ranong)	one computer-fiber optic cable and satellite with antenna outside. Phones available for long distant calls.	Need to use prepaid cards.- Thaicard 300 or 500 Baht CAT NET card 100 or 300 Baht Phone Net 500 Baht. The cost is only 8 Baht/hour or $.24 Can/hour. (Best price in town.	Not used very much, although available to everyone. Cuts out when the electricity goes out. Some foreigners use it, and four or five Thai women-always the same ones.	Had the same computer for two years, professionally maintained. The man working here is able to provide some assistance, but does not know much about computers.
Government post office (In Ranong, Saam Sip, Kapoe, Kraburi)	One Hewlett Packard computer with Internet.	Prepaid cards are needed. Same cards as above.	Rarely used.	The employee in the post office in Saam Sip was asked about the computers. They had only had this for a month and did not know much about it.

Adult education office in Saam Sip. The adult education centers in the

province of Ranong are outlined more descriptively here as the women can receive

free assistance developing ICT skills here.

The adult education center is a free facility for the people. It has two computers with the Internet, printer, CD player and speakers. There is a library available for students and the communities. Each Ampoe (district) has an adult education office. There is a typewriter available, TV and CD player. The library has DVD's, videos, audiotapes, maps, atlases, magazines, and encyclopedias. Students come to watch videos and listen to CDs. This is a learning environment conducive to women as there is a play center with toys for children, a washroom and kitchen. The government pays for all classes. Resources can be borrowed for free, after an initial 30 Baht or $1.00 Can. registration fee. The workbooks are free also. The students are not using the computers, the computers are mainly used by the teachers and their children. There aren't any classes offered, teaching about computers. Most of the students are women. If someone asks for help with the computers, the teachers will help, but they have no structured class in place. They need five people to conduct a class.

5. Service Providers

Definition: The organizations that provide network access to users.

Thailand has 18 commercial Internet Service Providers. There are four non-commercial Internet hubs, PubNet, SchoolNet, ThaiSarn, and UniNet. The Internet is supervised by the National Information Technology Committee (NITC), the National Electronics and Computer Technology Center (NECTEC), the Telephone Organisation of Thailand (TOT) and the Communications Authority of Thailand

(CAT). By law, the CAT has a minimum 32 per cent share in all privately owned ISPs.

6. Literacy/Social

Definition: Clement and Shade explain this layer as encompassing the entire spectrum of skills and training necessary for women to take full advantage of ICT.

This layer of the Access Rainbow is addressed by outlining the following:

1. Table of women's education and age;

2. Challenges to the women's childhood formal education;

3. Women's barriers to education. This section is divided up into the various communities visited and a description of the women's educational background.

Participants and Educational Level

The following table presents the education level in relation to age of the woman interviewed in 2003.

Table 2: Age of Participant and Education Level Completed

Age of Participant	2003 Education level completed						Totals for age groups
	Illiterate	Grade four or less	Grade five-six	Grade seven-nine	Adult Upgrading taken (grades nine-twelve)	Grade 12, diploma or degree	
19-25	1	1	2	4	4	9	21
26-35		3	11	2	15	14	45
36 & older		11	7	6	4	6	34
Totals for grade levels	1	15	20	12	23	29	100

Note: Education was made compulsory to grade six in 1977 and to grade nine in 1994. Therefore, women 38 years and older in 2003, have received schooling only up to grade four for free. Women 24 years and older in 2003 have received schooling until grade six for free.

Challenges and opportunities to childhood formal education. Fifty-two percent of the women had grade six or less of formal education in their childhood. (This includes 16% of the women starting adult education with grade six or less.) The reasons women gave for not continuing their education were: no money; no time; too lazy; my head was not good for studying; and the school was too far. Most women's families could not afford to send them to school. They left school and helped raise younger siblings, worked on the coffee, rubber, palm plantations, cashew plantations, ran family businesses and fished. Often when families were large, the family could only afford to send their sons or one member to school. Some women lost a parent or both parents when they were young. They helped and worked to support their siblings or the family that looked after them.

The families that could afford uniforms, books and tuition, had other challenges. Schools with higher grades were located in larger centers and were far from their homes. Walking to school during monsoons was dangerous. The women would try to walk to school in these conditions. After a while of trying, they would

quit. The women had goals to be doctors, teachers, nurses, scientists and travelers. The majority of the women wanted to remain in school when they were children.

Women's opportunities and barriers to education. Forty-eight percent of the women had grade nine or less and have not taken adult education. Twenty-three percent of the women have taken upgrading. Twenty-nine percent of the women had grade 12, a college diploma or a degree. This amount includes one woman with grade four and beauty school training.

For the purpose of this research, five villages and towns were visited. Each village had unique challenges and opportunities for education. The following findings present a brief description of the villages and describes three educational groups: grade 12 and higher; grade nine and lower; and adult upgrading.

Village of Talee Nok. Talee Nok is a Muslim fishing village 80 kms south of Ranong. There wasn't any public transportation off the main highway to it, but rides were available with local people. The population was around 100. There are two distinct parts to Talee Nok. One part had a few bungalows on the river delta on a small spit of land where the ocean meets the river. There wasn't any electricity. There was a communal bathroom, shower, and water spigot outside. The area was littered with debris. There was a newly built road to service a beach resort close by. The other part of the community had electricity, telephones and TVs. Potted plants and neat little yards marked the contrast. The women of Talee Nok worked harvesting cashews, oysters and clamshells. They also fished and grew rubber

trees. The women said that, this year, 2003, the fishing was poor. The women said it is becoming increasingly difficult to make a living in these traditional ways. Other sources of income are now needed.

The local elementary school went to grade eight. There was one computer in the community. It was the teacher's personal computer. It didn't have an Internet connection. Adult education was offered intermittently in the village. It rotated between villages, but the women said it was too far to go to the other village. Six women were interviewed in Talee Nok.

The education of the women ranged from illiterate to one woman having grade nine. Two women have taken upgrading to grade eight and nine. The reasons women left school when they were children are the same in their adulthood. A 31-year-old woman with grade four education, left school because her parents died and she could not afford to go. She still lives in poverty and cannot afford adult education. Although adult education is free, she can't afford the time and there was no spare money. Her daughter had to leave school at grade eight because there was no money for her to continue. The woman had trouble reading a newspaper and expressed concern about her livelihood being threatened. She and her husband relied on fishing for a living.

Whether working on a cashew plantation or fishing, the women shared the same challenges to education. They do not have the time, money or opportunity for education. For only one woman in Talee Nok, money wasn't the factor. She had grade nine and had learned how to type using computers. However, for her, the adult education courses were not a challenge.

Out of all the 100 women interviewed, only one woman was illiterate, and she lived in Talee Nok. She was 22 years old and she had never attended school. She had always worked on the family's cashew plantation. She lived with her husband, her two children, his two brothers and his parents. They made 1000 Baht per month or $66.00 Can. per month. She was concerned that they did not make enough money, but she was unable to negotiate a better price for the cashews with the buyers. She had no time to study or attend adult education.

Interview with the teachers at the Talee Nok Elementary School. There were two teachers at the local school. The teachers were Buddhist, but the children were Muslim. The school went to grade six. The children often had religious studies during the week. There was a school with grades nine to twelve, 10 km away in Naga. Some of the students would go to the city of Nakhon Sri Tammarisat for religious studies after finishing school in Naga. The religious schools are not expensive and there was also a government school.

Many of the children would stay and help their parents, as they have no money to leave and no transportation to go elsewhere. Some people thought they did not need more education for life in the village. After a child finished school, they went to fish, but the fishing was not very good. The children don't know about the outside world or Bangkok. One boy went to Bangkok and could only make 8000 Baht/ month or $275.00 Can./month. This is not enough for Bangkok.

The girls get married around 19 and 20 years old. They have children and the cycle of poverty repeats itself. Overall, everyone wanted to learn, they just don't

have any money or time. Many of the girls wanted to be teachers, but couldn't afford to continue their education. When the students leave school they miss it, but after a while they forget all that they had learnt.

The teachers have ideas to do things differently, but the people are reluctant to change. Children just copy their parents and live the same. According to the teachers, the people are happy and the Muslims don't drink alcohol and this is a good thing, in their view. The teacher had contacted foundations to solicit funds for the students, but it is not enough. The teacher wants to help the students, but doesn't know how or the process for getting funds. She has bought the shoes and uniforms for many of the students. She also purchased the books and pencils, but the supplies aren't very good quality. She goes to Bangkok before the school season starts to do this. She had a meticulously documented inventory. The students called her Maa Kruu, which means mother teacher.

In the rainy season, which lasts about eight months, the people cannot fish and have to buy food. They go by songthieaw (pickup truck with benches in the back) to the market and this is expensive. Sometimes the students have no food and are hungry. When the teachers have extra food they give it to the students. The women work at a nearby island harvesting shells. A Thai company comes and buys the shells. They work from 8 am to 2:30 pm each day. They get paid about 50 –70 Baht/kilo or $1.66-$2.33 Can./kilo. The people get 30 Baht/50 kilo or $1.00-$1.66 Can./kilo for cashews. The teachers said that next year, grade 10 is supposed to be offered and it will be free.

Village of Haen San Pen. Haen San Pen is a small community 10 km. from Ranong. It is, in a sense, a suburb of Ranong, as many of the people work in Ranong. There is excellent local transportation to Ranong running on the 1/2 hour. The women of Haen San Pen work at shrimp factories, grow rubber, palm and cashews, work for fish companies, run restaurants and do odd jobs. Six women were interviewed here.

Grade 12 and higher education. Out of the six women interviewed in Haen San Pen, 3 have grade 12 or higher. These three women are well educated, but only one works in a professional position. She also uses a computer in her work. Of the two other women, one had completed a two-year college accounting course and was looking for work anywhere. She used a computer and the Internet extensively in school. The last woman had studied two years of traditional Thai dancing in Bangkok. There are no opportunities for her to employ these skills. She owns and runs a restaurant out of her home. She is learning to type on a computer she has bought for her children to play video games on. She will be sending her children to school in Bangkok when they get older. She said the education system and people in Haen San Pen are too traditional and don't know enough about the outside world. These women would like to have an opportunity to study more, but they need to work and support their children's education. The adult education provided does not meet their needs. For a higher level of education, they would have to leave the province.

Grade nine education and lower. The other women had grade four, six and nine, and they are aged 32, 35 and 38 years old, respectively. They were no longer

interested in school. The woman with grade four was a single mom with three children. She was renting her home and she did odd jobs to earn money. The house was bare with a fan and radio. There wasn't any TV or phone. Her parents were dead and her husband had not contacted her since going to Bangkok to work. When she did not have enough money, they went to live in a Buddhist temple. She enjoyed studying when she was young, but now she feels she "does not learn well, doesn't remember and doesn't care". One month after this interview was conducted, she was no longer living at her rented house.

Village of Laun. Laun is a small community 40 km. east of Ranong town. It is predominantly a government town. It has a hospital, a military base, temples, stores and a school that goes to grade nine. There are several small villages, Bang Sang To, Bang Kun Pang and Bang Gow within 20 kms of Laun. These villages consist of little more than a school, small restaurants and the homes for the coffee, palm, rubber and cashew growers. The findings from these smaller villages will be included with those on Laun. The women in these communities do a variety of jobs: own, run and/or work on the plantations; grow and sell vegetables and fruit; raise and sell chicken and pigs; teach in local schools; own and run restaurants; and fish and sell fish. A total of 42 women were interviewed in this area, including the interpreter for this research.

Grade 12 and higher. Fourteen or 1/3 of the women interviewed in these communities, had grade 12 or higher. Eight women studied accounting or secretarial courses when they went to school. These eight women were still interested in

studying other courses. They expressed an interest in studying law, English, business and cooking. However, they had little time and are busy raising families, helping parents and working on the farms, store and restaurants.

The remaining six women were working or visiting home. They were no longer interested in studying. Two women were working as teachers in the local school. Two young women were on school vacation and visiting their families. One woman had a very successful beauty salon. She had grade four education and had studied in a beauty school in Bangkok. The final young woman was unsure what to do with her education. She had graduated from accounting in Bangkok and she wanted to live close to her mother. But, there is no work available in her field in the community.

Grade nine education and lower. Eighteen women had only had their childhood formal education. Eight women were interested in more education. These women's level of education ranged from six to nine and their ages ranged from 21 to 58 years old. They explained that adult upgrading either did not address their interests or they had no time and money. Demands of young families and the hard work of the plantations took their time.

The other 10 women ranged in age from 28 to over 70 years old and had grade four or six. The women expressed an interest in more education, yet they presented the following reasons for not taking adult education: too old to study; no reason; my head doesn't work; no time; and I learn in my work around the house. The comment of 'too old' came from women aged 34, 36 and 49. All of these women had grade six.

An elder of the community explained that when she was young, girls did not need an education as they helped around the house and raised families.

A 42 year-old woman with grade four, said she learns at home. She owns and runs a large rubber plantation. She had been learning this business since she left school as a child. Her family was very successful. (Her daughter is referred to in the findings pertaining to women with grade 12 and higher). Her daughter was visiting home from university in Bangkok. Her daughter had not learned about the business and was studying business to work in the hotel industry. The mother had bought a computer with Internet access for her daughter. Her daughter insisted she needed e-mail access while she was visiting home.

Adult education opportunities for the community of Laun. Courses in agriculture, animal husbandry and upgrading were delivered in the community. These were also available for 3 hours on the weekends in Saam Sip, 13 km away. The courses were free, but women commented on the expense of transportation costs to and from the courses. Ten women were in the process, or had completed the courses. A 50 year-old woman with grade four, explained how she was determined to work with the people in the village. She told this to the teachers and completed grade nine. For five years she has been vote 'puu yai,' head person, in the village. This is a position funded by the government. She was very busy now, due to the government's campaign to eradicate the drug problem. Another woman in the process on completing grade nine, worked for the Thai banks. She was responsible for working with the farmers, who owed money and could not pay it

back. She would write the reports for the government explaining what the farmers planned to do about their situation.

Interview with the community adult educator. The teacher for the adult education course was a 38 year-old woman. She had been doing this work for four years. She said it is a lot of responsibility. She preferred to work in the office than to travel to the communities. The head office was in Saam Sip. When she is in the office, she is busy writing reports. The reports are to inform the government of what the people need for education.

The upgrading program was assessed by administering various tests about different subjects to the people. From these tests, the teachers determined what students needed. She had a total of 26 students, but the students were always changing. She explained that the teachers are responsible for finding the students. The teachers go door to door to find students. The program needed fifteen students to run. If she didn't have enough students, she didn't receive her full salary. It was difficult finding students though. She was finding the work in the field tiring and it was hard to keep the students motivated, although they liked to study. The teacher said she had a degree and her contract was renewed every year. In April of 2004, she was teaching grade 10, 11 and 12 upgrading, as well as, agriculture and gardening. These latter two courses were her specialty. The courses may change in the following year.

Upgrading is available throughout Thailand and is available for everyone. The Thai government ultimately determines what to teach and there are various

courses reflecting regional needs. Different subjects are taught at various times. Saam Sip also delivered English courses and computer courses. However, the computer courses are done with pictures, not real computers, in the communities.

Village of Ta Chang. Ta Chang is a little Muslim village approximately 20 km. south of Ranong. People work making shrimp paste, fishing and harvesting jellyfish, working for Andaman, Sipco and Phillips, (fish factories) and growing cashews and rubber. In the fish factories, they make upon average 2000-3000 Baht/month or $60.00 - $100. Can./month. Women are not promoted in the factories without a higher education.

The local school goes up to grade six. There is a computer in the school, but it is for the teacher's personal use. For more education, the students need to go to Ranong. According to the local teacher's estimates, when the students finish grade six, 30% go on to Ranong and 30% go to the Islamic school. The final 40% of the students quit school to work with their parents on rubber and cashew plantations, fishing or in whatever way necessary. Many of the people own their own house and land, but they don't have any money. Sixteen women in Ta Chang were interviewed.

Grade 12 or higher education. Two women received diplomas from the Ranong Technical Institute. Their diplomas were in biology and fisheries. They are interested in more education. One woman wanted to study about competitive sports, but she felt this was mostly a field for men. She also was interested in learning about business. The other woman was interested in studying biology and wanted to return

to the Technical Institute to study. However, her parents didn't support her in going to school. She thought they were old fashion Muslims. She runs a store and juice bar. She is married with two children.

Upgrading opportunities in Ta Chang. The upgrading course was conducted in the community. Four women were in the process of upgrading to grade 12 and three had completed upgrading to grade nine and twelve. All of these women had clear educational goals to: complete their grade 12 diplomas; teach; become nurses; run and own businesses; and study languages.

Grade nine education and lower. Seven women had grade four to eight. Their ages range from 34 to 46 years old. Most of the women were interested in studying about agriculture related businesses, but had no time for school. One woman with grade four, traveled to Malaysia to work for four months each year. She worked in hotels there and made much more money than working in Thailand. Another woman with grade four, worked packing fish in a factory. Her husband had left to work elsewhere and sends money home inconsistently. She had two daughters.

All but two women were interested in more education. One woman would not take adult education because she had to save money for her daughter who was going to Ranong Technical College. Her daughter's school costs 5000 Baht/ term or $175.00 Can./term.

Several of the women owned dessert shops. They ride around the communities on bicycles or motorcycles selling their desserts. One woman said when she works and rides fast, she can make good money. She needs at least 200 Baht/ day, $8.00 Can./day. for her family. She is married with three children.

City of Ranong. In Ranong there are two large covered markets. These house various restaurants and businesses. A variety of commodities are sold, from clothing and accessories to curries and meats. This particular market was selected for interviews because it is in the heart of the city and in close proximity to several Internet cafes. Ranong also offers numerous education opportunities, consisting of adult education and colleges. Twenty-six women who were working and running shops in the market were interviewed.

Grade 12 or higher education. Eleven women had grade 12 or higher education. Four women had degrees. One other woman was working on her degree and was home for vacation. Their degrees were in: marketing and management; communication and advertising; nutrition; and libraries. The woman with the communication and advertising degree knew Adobe, PhotoShop and other software programs. There were no opportunities for her to use these skills in Ranong. She owned and ran an oil and soap shop. Similarly, the woman who studied to be a librarian, made more money with her shop in the market than working as a librarian.

Four of the remaining women were interested in more education. They were interested in: tourism; English language; and general studies. One woman tried studying political science through distance education at Lumchai University in Bangkok, but found it difficult and withdrew after one year. She said she would like to try it again.

Upgrading. Adult upgrading is available in the community. Only one Muslim woman was attending adult education courses to finish her grade nine. She was 24

years old and had to leave school in grade four to help around the house. She

worked all week and went to school on Sundays. She was married with one child.

She commented that her husband helps her equally around the house.

Grade nine and less. Fifteen of the women had grade nine or less. Eleven of

these women had six or less. Four women were from Myanmar. They were reluctant

to be interviewed with their employers present. Of these women, three had grade

five and four and one had grade eight. The Burmese woman with grade eight was

2six years old. She described her life in Ranong while her employer was busy

elsewhere. She worked for her employer in their clothing shop and in their home.

She was paid 2000Baht/month, or $66.00.Can./month. Her family was in Myanmar

and she sent money home. She visited them on holidays and she wanted to return

to Myanmar to stay some day. She could speak Thai, but she could not read it. She

studied English for two years in school. Her working situation was similar to the other

women from Myanmar. She was unaware of adult education options. A Thai

employer explained that it was possible to study English, Thai, Burmese and

computers at the local adult education center. He believed the Burmese women

would be able to take the courses for free.

The majority of the women were interested in more education. They were

interested in studying; business; languages; and general studies. Yet, the women

had no time for adult education. Their family responsibilities and work kept them very

busy. Those women, who were not interested in education, expressed various

reasons. One woman with grade six, was interested in adult education but she did

not know about the programs. A 38 year-old woman with grade five had married

young. She had two children aged 25 and 18. She could not afford to continue going to school when she was young and had to help around the home. She enjoyed working and was not interested in studying. Two other women with grade five and six did not like studying and thought it was better to work.

E-mail Workshop with the teachers at Ranong Provincial High School. The teachers at Ranong Provincial High School are part of a project with The British Council, Bangkok. The director of the English program had been to a workshop on the benefits of this project. The on-line promotion of the site states the purpose of the project is to

> set up an e-group for forward-thinking Thai teachers of English called @ccessEnglish. This is a free online service offering materials, ideas and opportunities for communicating with other teachers throughout the country. It is easy to use and has many useful features for our members. We hope teachers from every corner of Thailand will enjoy the benefits of this group (British Council Thailand, n.d.).

For the teachers to access the chat support site, they needed to first have e-mail accounts. For many, this was their first time trying to establish e-mail accounts. In trying to do this, the program for setting up the e-mail account would not work and they had to repeat the process several times. At the end of the workshop, and after trying several times, many left without their e-mail account established. It was apparent the English instructions for e-mail sites are not designed for people with English as a second language. They were confusing even for the teachers with a strong command of English. The chat support site's purpose was to allow teachers to express concerns and their ideas in English. This is not as straightforward as it

seems, when viewed with a Thai culture context. It is challenging to express ideas in written English. Thais are concerned about losing face, they may not readily ask questions or 'chat' with people they don't know on-line. It still remains to be seen how effective this method is for them.

The Village of Saam Sip. Saam Sip is about 40 km from Ranong on the main highway going east to Chumphon. In Saam Sip the post office has a computer with the Internet. There is also an adult education center with two computers and the Internet. The community is an active fishing village. The Sunday fish market is very popular, with people coming from as far as Laun to buy fish. Four women were interviewed in Saam Sip.

Upgrading. One 22 year-old woman was in the process of upgrading to grade nine. Another woman, aged 29 had completed upgrading to grade nine. The 22 year-old studies at the adult education center on the weekends. She wanted to go to university. She had seen the computers at the center, but she hadn't ever used them. She was unaware that it was possible to get courses on how to use them. In her free time she made cigarette papers to sell to the stores. Her mother and grandmother all work together. They get 10 Baht or $0.30 Can per package of papers. The 29 year-old woman had completed upgrading to grade nine. She had a business selling oysters, crabs and brooms. Her family owned land and grows rubber. They also fished. She knew about the computer at the post office, but she said the people working there were not able to help people use the computers.

Grade four. The other two women were 46 and 50 years old with grade four. They said they were too old to study and were no longer interested. The 50 year-old had a shop selling snacks and sweets. She did everything herself. She made enough money to support her family. She had taught the business to her daughter. She took only one day off a week. Her daughter was studying business at the technical school in Ranong. Her son was working in Phuket with a computer company. He sent money home to help her. The 46 year-old had land and a rubber plantation. She fished for crab and fish. Her son worked in Bangkok in an office. He had grade 12 and he was studying as he worked.

Interview with interpreter. My interpreter was 35 years old and married to a British man. They both lived in Laun. She learned English from her husband. She had a diploma in business. She and her husband earned a living exporting products to Britain and teaching English. They had a computer with the Internet but she didn't use it. Other than playing music with the computer, she is not interested. Meanwhile her husband did computer work by contract for people. He was very knowledgeable of open source software, computer maintenance and design.

Summary of Literacy and Facilitation. Of the 20 women with college diplomas and degrees, only four were working in a profession or vocation. Two women were working as teachers, one woman in water testing for a company and one woman ran her beauty salon. The remaining women were running their own businesses, plantations and restaurants. One woman expressed it was her choice to run her own

business rather than work in her profession and her decision was based on financial considerations. Other women felt they had no opportunities to work in their field. This was due to no work available and family responsibilities. Therefore their knowledge and skills in nutrition, economics, dance, secretarial, library science, biology and fisheries were not used.

Frequently women with grade nine or less expressed an interest in learning, but in the course of the interview, they would change their views. No time, opportunity and money were the consistent reasons for not taking adult upgrading. Many women expressed the attitude that they were incapable of learning. Women with grade six or less were more likely to express a lack of interest or confidence in learning. Despite reasons for not continuing their education, all the mothers were adamant about their children going to university.

If a women with grade 12 or higher education wants to continue studying, her only options are distance education or to leave the province for higher education. Out of the 100 women interviewed, only six women knew about distance education opportunities. Three of these women tried, but did not complete courses. They considered the courses expensive, time consuming and the materials outdated. One teacher had received her certification by studying with Sukkothai Thammarit Open University, (STOU), for two years. Another woman had graduated with a baccalaureate in nutrition from STOU. She had studied in Bangkok, but found the support for students lacking. The sixth woman knew about distance education from her brother, as he studied this way. All the delivery methods were by post and print materials. The exams were written at the universities or at established test centers.

Most of the women are aware of computers, but they are not aware of their potentials. They are very interested in learning more. The women's awareness ranges from understanding how to use e-mail and the Internet, to seeing their children do schoolwork and playing video games on the computer. The women have also noticed computers being used in the factories and hotels they work in. The women with higher education know much more about computers and have more computer skills. Twenty-one percent of the women have used computers, but this is to various capacities. Most of the women practiced typing and used the word processing programs. Only seven women have ever used the Internet and e-mail. Six women own computers, but only three had the Internet. A few women own computers for their children to play games.

Overall, the women want education, but their lives are encumbered with making ends meet.

7. Governance

Definition: How decisions are made concerning the development and operation of the infrastructure. The most recent ICT policies and the administrative structure of ICT will be presented here in two parts. The first part examines three crucial questions presented by Clement and Shade (1996): 1) Access for whom?; 2) Access to what?; and 3) Access for what purposes? These questions will be addressed in reference to Thailand's ICT and education policies. The second part pertains to the governing body and structure regarding ICT development in Thailand.

1) Access for whom? The Thai government reports that ICT can be employed in national development to provide equal opportunity and benefits for everyone in society. They stress that this includes those in rural areas and the underprivileged. ICT will also enable the private sector and the government to deliver more efficient and effective services to all citizens (Thuvasethakul & Koanantakool, 2002). The National Education Act states that is the right of learners to be able to develop their capabilities with ICT for education. With ICT capabilities they will become lifelong learners and they will be able to access the knowledge and skills they desire. It is stressed again, that ICT for education will be provided for the under-privileged.

2) Access to what? The Thai government outlines that the national information infrastructure consists of much more than telecommunication's facilities that carry, exchange, store, or process message, voice, data, and images. It also consists of telephones, pagers, fax machines, switches, copper wire & coaxial cable, satellites, fiber optic cable, microwave transmission, computers, printers, compact discs, scanners, bar-code readers, cameras, televisions and monitors. They note that this list is increasing with the development of new equipment and technologies and particularly with development in applications and systems software. The telephone service and the high-speed telecommunication system are identified as major developments that link the entire country. The government stresses that in the present Industrial Age, these systems must be universally available and accessible to all (Thuvasethakul & Koanantakool, 2002).

Section 63 of the *National Education Act* outlines the State's commitment to provide the necessary infrastructure, frequencies and signal transmission devices for ICT (radios, television, computers). They stress that this will all be provided for education, both non-formal and formal and for religious, artistic, and cultural affairs (Thuvasethakul & Koanantakool, 2002).

3) Access for what purposes? The Thai government presents that ICT can improve quality of life by providing opportunities to support education, rural development, environment and natural resources conservation and wealth distribution programs. They also state that ICT can aid in building the economy and social harmony. ICT will empower humans by helping them to gain wisdom and learn to reason better. ICT will also empower people by bridging distances for interactions and communications. They will improve and make new ways for working, learning, communicating and problem solving (Thuvasethakul & Koanantakool, 2002).

Section 23 of the *National Education Act* presents the goals, priorities and purpose of the Thai education system. It is also provides insight to fundamental values of Thai culture such as: reverence for the monarchy; idea of Thai wisdom and the emphasis on a happy life. Section 23 outlines that non-formal, formal and informal education will emphasize:

(1) knowledge about oneself, family, community nation and the world;

(2) scientific, technological and environmental knowledge and skills;

(3) knowledge about religion, art, culture, sports, and Thai wisdom;

(4) knowledge and skills in mathematics and languages;

(5) knowledge and skills in career development and leading a happy life (National

Education Act).

Governing Body. Section 69 of the National Education Act presents the goals of

the state in administrating ICT development. The State will establish a central unit

responsible for all aspects of implementation of ICT development and utilization for

education. This includes evaluation, production and application (The National

Education Act).

Related to Section 69, in 2002, the Ministry of ICT was implemented in

Thailand. It addresses issues pertaining to: privatization of government ICT facilities;

international commitments, WTO, APEC, ASEAN; new telecommunications laws;

NTC and NBC rules and regulations; and knowledge centers and equal access.

Summary of National IT Policy-IT2000. The following summarizes:

1)   the achievements of the National IT policy-IT2000;

2)   the focus of the National IT Policy-IT2010;

3)   the goals of the National IT Policy-IT2010;

4)   ways to accomplish goals.

1) ICT initiatives achieved under IT2000:

- National Internet Exchange Points: all domestic Internet traffic gets

    exchanged within the country;

- SchoolNet Thailand: A national school information program using the Internet, projected 5000 school on line by 2002, http://school.net.th/library/;

- Government Information Network (GINet): government intra- and inter agency ICT network;

- Development of legal infrastructure; laws to support ICT applications.

2) National IT Policy-IT2010: Thailand's focus is to become a Knowledge-Based Society and Economy (KBS/KBE). Emphasis is on:

- Building human capital,

- Promoting innovation, and

- Investing in information infrastructure and promoting the information industry.

3) IT2010 goals are:

- e-Society - digital divide, quality-of-life, culture, health, public participation;

- e-Education - life-long learning, computer literacy, human resource development, virtual education, etc.;

- e-Government – public service using ICT, employment, legal infrastructure;

- e-Commerce – finance, tourism, IT services and other industries;

- e-Industry – manufacturing and IT related industries, issues of standardization.

4) The following presents ways to address the aforementioned goals:

- priority will be given to the creation of useful information, contents and knowledge - establish Knowledge Centers in schools, communities and state agencies;

- continual human capacity building - develop indigenous human resources;

- work to close the digital divide - address illiteracy and lack of management expertise; develop a clear leadership mechanism in ICT development - the Prime Minister is made the Chairman of the National Informational Technology Committee for the purpose of continuity;

- and co-ordinate the policy with the National IT Committee (NITC) - NITC is obligated under the Constitution of the Kingdom of Thailand to "facilitate Thai society with the means for efficient, indiscriminate and equal accessibility and usage of the IT Basic Infrastructure" (Thuvasethakul, & Koanantakool, 2002).

Summary of Governance. Thailand's policies pertaining to ICT are evolving quickly. There is now a shift from focusing on the technical aspect of access to the human capacity building aspect. The government recognizes the need for education and public awareness campaigns pertaining to ICT. The ICT that are in place are under-utilized. However, there is little addressing the unique needs of women and gender issues in ICT access.

CHAPTER IV

Conclusion and Recommendations

Introduction

The women of Ranong may not be aware of the use of computers and the Internet, but they know about change. They have seen their villages transform from being only accessible by water, without running water or power, change to having giant orange transceivers, power lines, water lines and racing motorcycles on tarmack roads. They have seen the structure of their village change from gathering at the well in the morning and gossiping to telephone conversations and watching soaps on TV. Although being reluctant to talk of the future, the mothers know it lies in education for their children.

Despite having little formal education, they are rich in indigenous knowledge and wisdom. This research investigated the barriers that rural women experience in accessing ICT for education. It was established on the premise that women were being deprived of various socio-economic opportunities. The idea of 'women being deprived of various socio-economic opportunities' was based on assumptions, without an awareness of the culture and the women's needs.

The women's lives are not rich materialistically, but they are rich emotionally, physically and spiritually. Women do not have time for school because of the time they invest in their family and their community. Children are not raised in daycares and elders do not die alone in old folks home. The value of family and community

guides women's lives. It needs to be questioned what information is so pertinent and empowering that these women need to have access to ICT.

The conclusion consists of four parts. The first part employs analyzing the barriers women experience accessing ICT by reviewing the results in the Access Rainbow. Clement and Shade (1998) summarize a model of access needs to:

- Include support for the creation, dissemination and retrieval of information;

- Encompass conventional and new technology;

- Recognize both the social and technical aspects of infrastructure development;

- Identify the services that are essential;

- Identify 'access gaps' in the services and social segments needing to be addressed.

The Access Rainbow will be reviewed and the 'access gaps' or rather, issues of each layer will be identified. The 'essentials' will be presented in the Recommendations section. The second part of the conclusion identifies the socio-cultural barriers women experience. The third part examines the limitations of this research. The final part presents recommendations for further research.

Access Rainbow - Barriers to Women Accessing ICT for Education

1). Carriage Facility Issues

Until recently, Thailand's telecommunications services have been a monopoly controlled by the government. Due to limited budgets, the government was unable to meet the expanding demand for services. Now private companies have been

granted concessions to provide fixed and mobile services. There are access gaps resulting from the expense of providing terrestrial-link carriage services to those living in rural and remote areas. There is concern that with privatization, the rate of phone line penetration may drop. However, with increasing satellite-based mobile phones, remote areas may become relatively inexpensive to serve. In Thailand as of 2001, mobile phone users surpassed mainline telephone users. However, these satellite services were generally aimed at high-income markets. For the women in isolated villages, this is an absolute barrier (World Bank, 2003).

2). Device Issues

Using computers requires extensive skills. With 76 letters, typing in Thai is challenging. For women with low literacy, using ICT seems currently impossible, but there are ways to address this limitation. It is possible with a graphical user interface (GUI) that employs designs using icons, pull-down windows, and other non-textual devices operated with a mouse, women with low literacy can use a computer (Balka, 1997).

3) Software Issues

When examining the software available for word processing and office functions, only Microsoft was noted. This may become a problem for telecenters that cannot afford software. Balka (1997) presents the problem with using old equipment is that programs are requiring more sophisticated computer platforms to run. Women's organizations, telecenters and those who have invested in personal computers, may be limited by the computer equipment as to what programs and

software they can use. A possible solution to this is open source software. At the World Summit on the Information Society in 2003, the use of open-source software was stressed to address affordability. Using open source software also encourages national talent to develop software.

4) Issues with Content and Services

Women's lives are so busy, the content of any course, computer assisted, or not, needs to be extremely captivating to draw them away from their responsibilities of work and family. For rural women, with low literacy, there are no educational programs in place using the Internet. The Commonwealth of Learning (1998) identifies relevant content as one of the most pertinent barrier to women's access to education, with or without ICT.

The idea of 'relevant content' is very vague and invites many questions. Firstly, who determines and defines what 'relevant content' is? Fingers (1995) presents that adult education needs to respond to the "new challenges posed by the global, biophysical and socio-cultural crises" (p. 117). To accomplish such adult education needs to be a collaborative venture. Adult educators of feminist approaches express that the learning process needs to contribute to women's development and it needs to be grounded in their own knowledge (Tisdell, 1998). "Feminist pedagogy rests on two basic assumptions: That all the educational needs of women are not met in the most effective way through traditional models of education and that education must serve as a means for individual development and social change in order to meet these needs" (Hayes, 1989, p. 56). Freire, (1984)

presents that women of minorities and the developing world need to be able to identify the 'imposition of the oppressors' knowledge upon the oppressed, denies the illiterate not only literacy but their very identity" (cited in Maher, 1987, p. 93). To accomplish such, women need to critically reflect on their life. They need to name, describe and analyze their world and identify aspects that are socially, culturally and historically constructed (Mayer, 1987).

The international community repeatedly reiterates that ICT development will contribute to women's empowerment. This goal of empowerment also reflects the objectives presented by adult education. However, education or ICT access does not equate empowerment for rural women in developing countries. Education, a possible means for empowerment, may be what is actually hindering rural women in actualizing empowerment. This may be part of the explanation of the pronounced gap between the international community's and the Thai government's objectives for education and ICT development, and the reality of rural women's education and ICT access.

To better understand this 'gap', and what entails as 'relevant content' for rural women, the following analysis is necessary:

- review the stated objectives of the international community and the Thai government;
- examine the experiences of women and their indigenous knowledge;
- describe the education system in place.

International community's and Thai government's policies regarding purpose to ICT development. The international community and the Thai government present the purpose of access to ICT is to improve quality of life. The following perspectives of the international community and the Thai government are presented to provide a juxtaposition of what is intended versus what is the reality for rural Thai women.

The Forum on ICT and Gender 2003 called upon all stakeholders to recognize:

- The importance of ICT as a tool to promote women's empowerment, rights and dignity and full participation in the information society
- that ICT offers immense possibilities for enhancing women's participation in socio-political development that will reduce poverty and improve quality of life
- the potential of ICT to overcome women's isolation give all women a voice and improve governance with a view to achieving gender equality (The Forum on ICT and Gender: Optimizing Opportunities, 2003).

The World Summit on the Information Society (WSIS) in Geneva in 2003, states in its Declaration of Principles,

> We, the representatives of the peoples of the world, assembled in Geneva from 10-12 December 2003 for the first phase of the World Summit on the Information Society, declare our common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights (World Summit on the Information Society, 2003).

Thailand's *IT Policy Into the 21st Century* states the following:

Generally, IT can improve the quality of life. Through a host of new technologies: computers, data communications, and electronic media, IT offers new possibilities and opportunities to support the quest for: a well educated society experiencing well-being; a more effective rural development and wealth distribution program; a better environment and natural resources conservation effort; a new direction to build economic strength and social harmony. …IT empowers human ability to reason and gain wisdom, to bridge distances and to interact, communicate and work. IT not only make what we can do today much more easily, quickly, and efficiently. IT can also make possible new ways of working, learning, communicating, and solving problems (Thuvasethakul, C. & Koanantakool, T. 2002).

This exemplifies the consensus, commitment and determination on the part of the international community regarding ICT remarkable potential for education for all and women's empowerment. These are powerful statements, but they need to be grounded in women's reality.

Rural women's experiences and indigenous knowledge. The rural women of Ranong are owners, managers and workers on cashew, palm, coffee and rubber plantations. They are harvesting shellfish, running fish farms, fishing and processing shrimp, crab and jellyfish. They are raising chickens and pigs. They are feeding their country. They know about natural medicines, the power of natural elements, what wild plants to harvest and numerous uses of bamboo, banana leaves and coconut. They know the state of the environment and they know what is affecting it. The rural women are key stakeholders in rural and agriculture development in their

communities. They confront problems of crop and animal production and management, animal health, fishing and aquaculture on a daily basis (Balakrishnan, 2002). Rural women's low literacy and lack of formal education are not barriers to their empowerment, as they are empowered with their local knowledge.

The main reason women presented for not taking adult education or other higher education was that they did not have any time. When women say they do not have the time or money for their own education, they are making a statement of their priorities. Time and money is invested in the social fabric of their community and family. They make time for funerals, house warmings, birthdays, monk initiations and other celebrations the community determines. These are elaborate events that involve the entire community. There is shadow puppetry, traditional and modern dance and theater. The results are seen in the cohesiveness and compassion in the villages. This is a culture where women are encouraged to please and create harmony in dissent and dispute. Besides working at their jobs and businesses, women's are nurturing, protecting home and family from disease and dirt, raising animals, catching fish and preparing nutritious food.

Costa (1997) notes, this is valuable knowledge, but not the knowledge that equips women to contend with the challenges of inequity, capitalism and globilization. UNIFEM identifies knowledge as the fundamental element in empowering women to have the confidence and awareness to assert how they would like to see their world structured and governed. Foucault (1971) presents the idea that 'knowledge is power', therefore, power is wielded by those who determine, define and grade the knowledge (Cited in Baumann, 1999). It is these factors that

rural women contend with as their livelihood of subsistence becomes less

dependable and their knowledge base changes.

This reflects the concern expressed by Balakrishnan (2002) regarding ICT

development. With ICT development, the indigenous knowledge systems that are

the root to rural women's empowerment will be undermined. This is the situation in

Ranong. Thailand has experienced decades of Westernized education and

development projects promoting values of capitalism and consumerism. Modern,

western values have "suppressed, devalued, deligitimized and marginalized"

indigenous knowledge (Sittirik, 1998, p. 125). As long as women were able to live

lives of subsistence, Western education was not relevant to their lives. It did not

equip them with the skills to grow their own food and raise families (Sittirik, 1998).

Rural women's education. The women know their life of subsistence is being

threatened due to degradation of the soil and over fishing. Yet, the education they

receive in adult upgrading is just enough to support the status quo, but not enough

to equip them with skills to question their state.

 Costa (1997) presents that formal education in Thailand is a "disciplinary technology

of nationalism that serves to mold bodies into docile manifestations of Thai national

identity" (p. 1). Education perpetuates Thailand's authoritarian patriarchal society

and reinforces these cultural values. In Thailand, education has contributed to the

acceptance of social contradictions, inequalities and social hierarchy (Costa, 1997).

This acceptance of social hierarchy and inequalities is prevalent in Ranong. It is

seen in the exploitation of women from Myanmar. A woman with grade four

education is able to send her daughter to university because she hires people from Myanmar for a fraction of the price of Thai labour, to work on her plantation. There is no questioning of this. Yet, one well-educated young woman acknowledged that Ranong's economy would collapse without the cheap labour from Myanmar. The headwoman of Luan saw the Burmese as a problem due to problems with drug smuggling. She saw it as her job to address this situation. Yet her neighbours relied on the Burmese's labour for their economic benefit.

The former situation is not unique amongst the women. The Thai school system does not equip women with critical thinking skills or teach them to question authority (Costa, 1997).

This aspect of adult education was noted throughout the interviews, but it was more apparent with one young woman. A young woman with grade 12 upgrading, was a civil servant for the government in its new loan system for farmers. She would inform the farmers of guidelines and stipulations in receiving loans and what to do if they could not repay their loans. She documented the farmer's position and reported it to the government. However, she didn't realize the role she played in a system that was serving to be detrimental to the local farmers. Women would line up to see these government representatives and offer their land for collateral to a cash loan. With the money they would buy fertilizer for crops, motorcycles and pay for their children's education. But what they acquire is a debt, which is difficult to repay. The women have never had expendable cash like this before and they do not have budgeting skills. They now contend with the possibility of losing their land. Ideally, the adult education system would equip them the skills to address this situation. But

even more so, equip the young woman who is working for the government to think

critically about her role and what she is part of. This is also a statement about

women's low expectations from society, they are so pleased to have the education,

they do not question the quality of it.

Costa (1997) also presents that the Thai formal education system teaches

village children to be "agents of production" (p. 5). The fisherwomen express

concerns about the decline in the fishing and how it is more difficult to catch fish to

sell. A young woman growing cashews, expressed concerns about the prices being

too low. She is frustrated that she does not have the skills to challenge the prices

she is offered. A similar concern is that the price of fertilizer for the coffee plants is

increasing and coffee prices are not getting better. Overall, the cost of farming and

fishing is going up, but they are not making more money. The illiterate young woman

growing cashew, is just as vulnerable to the global fluctuation of prices as a woman

with grade 12 education. The education that the women with grade 12 received did

no equip her with any more skills than the women who is illiterate, neither woman

knows how to contest or change her situation.

The teacher at Talee Nok, explained how the children are caught in a cycle of

poverty that they are unable to break away from. Their isolation fortifies the values

they learn from their parents and they do not consider another life. However, their

lives of subsistence are drastically changing as the fish become depleted. The

lifestyle that barely supported their parents, won't support them. This teacher was

exceptional in her effort to bring the world to these children and introduce other

means of production than what they knew. This was an awkward situation though,

for she was Buddhist and the children were all from Moslem families. There were conflicting ideologies between the children's families and the teacher.

Sittirak (1998) presents a different perspective than Costa pertaining to Thai education. This is probably indicative of the fact that Sittirak (1998) is a Thai feminist and a product of the westernized Thai school system. Sittirak (1998) identifies education in Thailand as a means to promote Western values and materialism. The education system in Thailand was adopted during a period of nation building at the turn of the 19th century. It was important to the ruling monarchy that Thailand was viewed as modern and as advanced as other European powers. Related to this was the need to educate Thai women so they would not be perceived as backward (Costa, 1997).

Summary of issues with content. Relevant content is identified a key barrier to women's ICT access. The gap between international policy regarding the intended goal of ICT development and the actual lives of rural women can begin to be addressed by developing content that respects women's indigenous knowledge and is grounded in their life experiences. Batchelor (2002) suggests that a balanced mix of 'foreign' knowledge and the women's knowledge may be an empowering mixture.

5) Issues with Service providers

The private service providers are profit driven and they are increasingly controlling the information available, choosing to promote sites that pay. The information that is available to women may be highly controlled and limited. Balka (1997) presents this as a serious problem for information pertaining to women and

women's organizations, as these are not deemed profitable. According to Reporters Without Borders, The ICT minister of Thailand has asked the country's Internet operators and Internet service providers to block access to 'obscene' or 'subversive' websites. 'Subversive' refers to content that threatens national security and is against the monarchy. Internet service providers are required to retain data about their customers for a minimum of three months, to be able to prosecute people logged onto websites with 'unsuitable content' (http://www.rsf.org/article.php3?id_article+7251). Thailand has a history of censoring the media.

The Thai government is committed to ICT development and education for all. This commitment is reflected in the development of communication centers, post offices and adult education centers with ICT. However, these facilities are all underutilized. The communication centers and post offices are in large towns. They are not accessible to people in isolated villages. The prepaid cards for the post office and the communication centers are deterrents for people to use the computers. The price per hour is low with the cards, but the initial investment appears high. Also, in the post offices and in the communication centers, there are only male staff members. This is another possible constraint to women using the facilities.

The free adult education centers are staffed by women and provide playing areas for children. There are also CDs and software available in Thai at the center. These environments may be more welcoming and less intimidating for women. The Internet cafes are managed equally by women and men and they are knowledgeable and helpful, but the cost for the Internet is the highest. The noise level and the young

boys playing video games may be a deterrent though. Many of the women with computers, had bought them specifically for their children to use playing video games. They were not inclined to use the computers themselves.

The government's SchoolNet program was established to get schools online, but only the provincial high school has a computer lab and the Internet. In the small schools, the teachers have their personal computers, but these are used for word processing programs and do not have Internet access. The children do not access these computers. Despite policies, service providers are not in place.

There is a pronounced difference in the ICT development between urban and rural areas. In April, 2003, 50,000 computers sold within hours in Bangkok. These were offered at cut rates by the government. There were 100,000 people lined up to purchase the computers (Bangkok Post). On that day, more computers sold than exist in the province of Ranong. This imbalance of ICT access is creating a digital divide within the country.

6) Issues with Literacy and Social Facilitation

The province of Ranong has a skeletal technical infrastructure in place for ICT access, but it does not have the social infrastructure in place. The social infrastructure refers to the necessary computer, awareness, literacy, skills and training to use ICT.

The ICT access in place, is only technical access. This means the hardware is in place, but there is no training or help available to use the computers. The government communication centers and post offices have computers and the Internet service, but the employees are unable to help the women. Similarly, the

adult education center has computers and the Internet, but they have not effectively informed the women of the services available. The rural women know they can take courses at the adult education center and also, in their villages. But, they did not know that the adult education center in Saam Sip will provide a beginner computer course. The adult education will provide a course, if they are asked and there are five students to take the course. However, the women have not been informed of this option, nor was there a precedent of the women initiating courses. The teacher going into the community is responsible for informing the community about options, however, the teacher working in the communities finds regular duties demanding. Sungsri (2003) also notes there is a problem disseminating information about educational opportunities to the women working in the factories.

The government's IT policy 2010 identifies the need to train teachers in ICT skills. However, this training is being implemented without considering the busy workload teachers already contend with. Thai teachers contend with large classes, long hours and they are responsible for the janitorial maintenance of the school. Time is a rare commodity for the teachers at Ranong Provincial High School. At a workshop, teachers were to establish an e-mail address and then access a support site for Thai English teachers. After several attempts to establish an e-mail account, half of the group of 12 teachers left without managing to do this. The English instructions for e-mail sites are not designed for people with English as a second language. The instructions are unclear and confusing, even for teachers with a strong command of English. The support site's purpose was to allow teachers to express concerns and their ideas pertaining to teaching English. This site was also

in English. This is not culturally sensitive or respecting the challenge of expressing ideas in written English. Thais are concerned about losing face, they may not readily ask questions or 'chat' with people they don't know on-line. The teachers were interested, but they were not concerned when they could not get an e-mail account started. It still remains to be seen how effective this method is for Thai teachers.

The teachers had a strong command of English, they are well educated and they have free access to the computers in the school. Yet, they found maneuvering the Internet and accessing sites challenging. They did not see any real purpose to use a support site to discuss their profession when they have colleagues present. This presents a perspective of how challenging this will be for women of low literacy and no computer literacy skills. This also emphasizes the need for content that is culturally informed and relevant to the life experiences of women.

7). Issues in Governance

There are several issues pertaining to the governance of ICT development at both a national and international level. Critics at The World Summit on the Information Society, WSIS, in Geneva in 2003 presented that the forum was not singly about making ICT available to poor countries, but about selling equipment, software, investing in infrastructure and maintaining power over the Internet. The WSIS is committed to progress, but this does not imply a commitment to universal humanistic values and social ethics.

One of the major factors regarding ICT development is that the Internet is basically controlled by the United States. Supporters of global governance are

contesting this and advocating for international governance of the Internet. The hope is an international governing body will apply uniform standards for security and address the issues of better access for poor countries (terraVIVA Online, December, 2003).

The Thai government has identified the next stage for ICT development is to build the human capacity aspect of access. Yet, the Thai government has not adopted a gender analysis in its plans and implementation of ICT development. Although documenting access for 'all citizens,' and the 'under-privileged,' it remains to be seen what this implies. Will this apply to the women workers from Myanmar and rural women with grade six or less education? Neice (1996) presents the following pertinent questions that need to be addressed by Thailand's government:

- Who has privileged access to information technology and who are the disadvantaged?

- Are those without access already amongst the disenfranchised?

- What are the differences in opportunities and quality of life between those who are technically literate or information privileged, and the technically illiterate or information deprived?

- Are there implications for social integration and social cohesion between those "globally plugged-in and wired technical and economic elite, and a large amorphous public mass, outside the loops, left only to experience the residual entertainment values of the endless flow of bitstreams?" (Neice,1996).

Thailand's policy still needs to address the gender differentials in education and access to ICT. Women have yet to be included and consulted pertaining to distance learning and ICT development.

Access Rainbow Summary

. Clement and Shade (1998) stress that each layer of the Access Rainbow needs to be operable for there to be ICT access for the rural women of Ranong. They also emphasize that the access needs to reflect the needs and interests of the people. In reviewing each layer of the Rainbow, it is apparent that each layer presents barriers to women accessing ICT. In the carriage, devices and software layers there are challenges regarding the costs of implementing infrastructures and buying and maintaining equipment, hardware and software. This is not to mention the challenges of an Internet system that is predominantly English and Western in focus. These layers refer to the technical aspect of access to ICT. There are extensive issues regarding the content and literacy layers of the Access Rainbow. Clement and Shade (1998) stress the importance of the content layer. It is apparent that there is not sufficient content to meet the needs of rural women of Ranong. Therefore despite the governance layer expressing intent and the technical access being in place, rural women are not accessing ICT due to a weak educational structure and lack of relevant content for inspiration and motivation.

Governance was the final layer in the Access Rainbow. It outlined the plan and structure in place for ICT development. The Thai IT 2010 Policy displays intent

for developing both technical and social access to ICT. As noted, the ICT in place are underutilized and do not address the needs of rural women. It remains to be seen how effectively the social dimension of ICT development is implemented. Part of the challenge to access to ICT is that ICT development for rural women is not a profitable venture with quick economic returns. Private, market-driven and entrepreneur styled ICT development will not serve the needs of rural women.

Overall the majority of the women are not aware of the uses of computers. They may see them being used by management in the factories, in businesses and by the teachers. But the women aren't aware of the variety of uses. A small number of women in the more isolated villages didn't know about computers. However, distance and exposure to computers were not the factors to awareness of ICT. Women working and living in Ranong city have technical access to computers, but they are just as unaware of the use of computers as the women who lived in isolated villages without technical access. It is through their children that women are becoming aware of computers.

Low literacy, lack of money, little time, self-deprecating attitudes and lack of relevant content are the barriers women experience in accessing education, whether they are using ICT or not. They don't have ICT access for all the aforementioned barriers and because of the weak technical and social ICT infrastructures in place. It is a vicious cycle for the women. In having little education they are unable to access ICT. In not being able to access ICT they are unable to access education programs. There aren't any education programs in place for the women, and there isn't any incentive to design and implement programs for the women without the women

being prepared to use what is implemented. The challenge for rural women in accessing education using ICT is formidable. They need to contend with overcoming these barriers and this is before the necessary investment of time and money for skill development in computer literacy. They also contend with contradictions presented by the hope of modern education and maintaining their fundamental traditional values of family and community.

The international development community stresses access to ICT for all. They present the potentials for women to be empowered by education delivered by ICT. They provide templates of gender analyses to employ in ICT development. There is increasing awareness of the value of indigenous knowledge. However these rather philanthropic objectives are controlled by economics. As stated by President Kennedy "…Foreign aid is a method by which the U.S. maintains a position of influence and power around the world" (New Internationalist, 1979, cited in Arger, 1987, p. 51).

The Access Rainbow encourages the viewing of all of the factors that support or impede access.

Beyond ICT Access: Socio-cultural Barriers

Rural women live with the degradation of the land and sea. They know their lifestyle is not enough to support their children and their children's children. Education is seen as more than a process of acquiring knowledge and skills, it is a perceived value and a hope for a better life. As a women saves, borrows and

labours for her daughter's education, she is investing for her old age. She is providing her daughter with a means of making money, and she knows her daughter will send money and provide for her. Education is an opportunity for both of their financial security. However, in validating modern education, much of the traditional wisdom gets overlooked and dismissed (Sittirak, 1998). Thai people, who view education through 'lens of modernity,' can only see the 'bright side' of development. But this view can leave them lost between two worlds (Sittirik, 1998, p.138).

The women of Ranong view education through 'lens of modernity' and see it as a way to a better life. This quest for education is not questioned. Yet, the women are living contradictions of education providing a better life. Rural women's education does not affect their opportunities to own and run small businesses, farm and fish. Woman with grade four and six education are running shops beside women with grade 12, a diploma or bachelor's degree. Business is not necessarily more successful for the women with higher education. Similarly women owning and running plantations have grades ranging from four to higher education. The educated women with training in forestry, nutrition and biology are not using their education and forgetting their skills. The difference in work opportunities based on education is seen in the factories, companies, government agencies, and professions. These are also areas in which women trade their autonomy for regular pay. However, that is the price for the financial security.

Education can provide opportunities, but these opportunities need to be weighed in consideration of other cultural values. As women enter professional fields, they are increasingly contending with conflicts between established traditional

values of community and family and their needs with a career. The only two women unemployed had higher education. They were finding it difficult to find work. One young woman was having trouble determining what to do. She wanted to stay in her community with her mother, but to work in her field she would have to leave.

The need to leave to work is another dilemma facing rural educated women. The migration of rural women, both educated and not, to urban centers in quest of the 'better life', is a serious problem for the villages and Thailand. One of Thailand's major hopes for ICT development, is to provide education as a possible solutions to counter this migratory trend (Kaewsaiha,1999). This migration has contributed to the prostitution industry in Thailand. Families replace their daughter's labour by hiring help and the girls send remittance to contribute to the family's expenses (Sittirak, 1998).

As farming and fishing become less and less lucrative, those hoping to find better work opportunities, are leaving for the urban centers. Sittirak (1998) presents the quest for the better life and western education as creating a generation gap. The 'educated' generation is becoming alienated from their parents, and this is affecting the dynamic of the family and the community. One elder in the temple at Laun was concerned that the younger generation was no longer practicing Buddhism or understood the old ways. The younger generation was working in urban centers and grandparents are left in the villages raising their grandchildren. The grandparents know this is affecting the community, but they see the situation as acceptable, because their children send money home. That daughters are proving to be more

financially supportive than sons, is contributing to a change in traditional views regarding parents supporting their daughter's education (Costa, 1997).

This can be seen as a beneficial change in traditional values regarding daughters and education. However, the commitment daughters make to their parents is rooted in Buddhism. In Buddhism, women are not valued in the same way as men. From a Buddhist monastic perspective, women produce sons to become monks and they provide food for the monks. Women cannot be ordained as monks. They can become nuns, but this has less social and cultural status than the monk. In Buddhist texts, authored by male monastics, women are depicted as greedy, weak in wisdom, and inferior to men, yet they are appreciated for their contributions to the monks and monasteries. Daughters need to make 'merit,' as they can not reach enlightenment. Providing financially for parents is a way to make merit (Swearer, 1999). From one perspective women being encouraged to pursue education can be seen as a potentially empowering opportunity. In another sense, traditional values rooted in inequality can be the motivation. The rural women in Ranong are contending with such contradictions.

Issues regarding education as both a tool of nationalism, modernization and Westernization, and a tool of empowerment are very complex (Costa, 1997). There is a tension between tradition and modernity that shifts and is different at the local, national, and international levels. Such tension is witnessed in the international community's policies regarding ICT development and what rural women actually contend with.

Limitations of the Study

There are extensive limitations to a study that involves language translations and has pronounced socio-cultural differences between the researcher and the researched. At the time of the research, it is difficult to identify these and it is possible to unknowingly commit social blunders. Concepts and ideas that are taken for granted are also challenged when working with another culture. The two limitations presented here are the result of such differences and challenges.

The first limitation is in the communication between the researcher and the researched. The women interviewed were reluctant to speak of their goals and ambitions. Questions were asked regarding these, to determine what their needs for education were. Initially, this reluctance was interpreted as being related to Buddhism, in that the questions referred to the future. However with discussions with other educators, I realized that the women's reluctance was due to never being asked questions about their ambitions and goals. They were socialized to be good wives, loving, submissive and discouraged to be ambitious. Now they had a foreign woman asking them such questions. I enjoyed a position of privilege with the Thai women. I am white, western and a teacher. Teachers are highly respected in Thai culture. Due to this, women deferred to me. They would give me their time and patience, even though some of the questions had no relevancy to their life.

The women were also reluctant to ask me questions and most women just answered the questions related to their education. It is difficult to assess how much gets lost in these cultural differences and in the translation. I know there were times the women spoke for some time, but my interpreter only responded with a short

reply. The interviews changed as my Thai became stronger and I could determine what was being said.

The second limitation is how 'developing countries' are perceived as less developed and this perception reflects biases. Sittirik (1998) challenges these preconceived ideas that developed countries are 'developed' and that developing countries are 'developing'. She notes that there are other ways of accessing 'developed' than from just an economic perspective. She presents how privileged countries need to see that their materially overdeveloped affluent society is 'underdeveloped' and suffers from a deficiency in

> …self-sufficiency, co-operation with other people and nature instead of competitiveness, respect for all creatures on the earth and their diversity, belief in the subjectivity not only of human beings but also of non-human beings, communality instead of aggressive self-interest of individuals, creativity instead of 'catching up with the Jones'…. Satisfaction and joy in one's work, happiness instead of standard of living, joy of life that springs from cooperation with others and an understanding in the meaningfulness of what one does (Mies, 1990, cited in Sittirak, 1998, p. 89).

Sittirak presents the sharp contrast of my Western world and the Buddhist rural Thais. This research was the meeting of two extremely different cultures. I was constantly aware of the possibilities for miscommunication, misconceptions and misunderstandings. But at the same time there was no way of knowing that this had occurred. The Thais are very polite and generous, they would treat me with kindness even upon social blunders. I was asking the women about something that is past and no longer has a bearing upon their life. In the Buddhist philosophy of life, all is seen as impermanence and it is our attachments that cause us suffering. It is interesting to be in the midst of people who are not limited by the need to ask

questions. I could see that to some extent the Thais were perplexed that I needed to. I often would feel that my questions were irrelevant and did not pertain to anything significant, as they accepted their lives. They had in place family and community support and many of the problems they contended with were due to my culture being able to live more comfortably. I was in a position of power, yet I did not merit it. This is a limitation upon this approach to research and to the values that motivated it.

Recommendations

This research identified education as being highly valued by the women participants, yet the education system in place isn't addressing their needs. This is understandable in a rapidly changing world and particularly as the education system adopted in Thailand, was not of their own making. Now with the potential of ICT as a powerful tool for education, another variable is added to the challenges of developing an education system that works for women in rural Thailand. It is apparent that the emphasis of implementing ICT is premature, for rural women's lives are in a process of change. They are experiencing the loss of their traditional livelihood and a severe shift in the structure of their communities. It will take time to develop the myriad of skills necessary to be creators in developing ICT to serve them. It appears more important at this point to reform the education system and include rural women in this process.

The following recommendations elaborate on the aforementioned points.

1. Half of the women interviewed did not take adult education and they presented various reasons. The women expressed conflicting ideas regarding

107

education. They would enthusiastically express how they enjoyed studying and what they would like to study. Then they would present the barriers as to why they did not pursue more education. The overall impression I was left with was, if the women were given an opportunity for education that was vibrant, stimulating and grounded in their indigenous knowledge and life experiences, they would find a way to access it. However this again is an assumption. More in-depth case studies of women's lives would contribute to a greater understanding of indigenous knowledge and the significance of this in their lives. At the end of the study the women were asked more about their informal knowledge, but this ended up being about their hobbies and their household chores. Short, one time interviews do not address this sufficiently.

2. The international community and the Thai government view that the development of ICT will lead to empowerment. It has been presented that education does not necessarily result in empowerment and can serve to undermine women's indigenous knowledge. The education system for rural women needs to be revolutionized. It is inadvisable to use such an innovative tool as ICT to just reinforce a system that does not work. The fact that women's knowledge is contextual and rooted in experience needs to be recognized. This needs to be the foundation of any knowledge base for their inclusion in 'knowledge societies'.

With this base women will become creators with ICT. They will find a way to fortify their values of family and community by disseminating their knowledge and sharing it with their absent youth, other communities and the world.

3. If the international community is sincere in its commitment to education for all and ICT access for all, then more research needs to be done on 'what are the

barriers to the developed world accessing rural women's indigenous knowledge'.

This will provide the foundation of 'relevant' content and it is a more humble

approach than presuming that the developed world has the answers, information

and knowledge to which the rest of the world needs access.

REFERENCES

Amin, M. & Rodjanapiches, N. (2001). *Accelerating e-readiness in Thailand: A case study.* Asian Development Forum – E-Readiness. Retrieved January 7, 2004, from

http://www.worldbank.org/html/extdr/offrep/eap/eapprem/buildingamin.pdf

Arger, G. (1987). Promise and reality: A critical analysis of literature on distance education and the third world. *Journal of Distance Education*, 2(1). p. 41-58.

Balakrishnan, R. (2001). *Harnessing ICT for advancement of rural women.* ESCAP Expert Group Meeting: ICT from A Gender Perspective. Food and Agriculture Organization. Retrieved November 7, 2002, from

www.unescap.org/wid/04widresources/11widactivities/01ICTegm/fao.pdf.

Balka, E. (1997). *Viewing the world through a gendered lens.* Prepared for Universal Access Workshop: Developing a Canadian Access Strategy: Universal Access to Essential Network Services. Retrieved December 8, 2003, from

http://www.fis.utoronto.ca/iprp/ua/gender/balka.html.

Bangkok Post. (2003, April 30). *ICT to sell B10,900 PCs.* Retrieved February 11, 2004, from http://www.bangkokpost.com/.

Batchelor, S. (2002). *Using ICT to generate development content.* Retrieved December 12, 2003, from www.iicd.org.

Baumann, P. (1999). *Information and power: Implications for process monitory.* A *review of the literature.* London: Overseas Development Institute. Retrieved

October 15, 2003, from

www.odi.org.uk/publications/working_papers/wp120.pdf.

Bogdan, R. & Bilken, S. (1998). *Qualitative research for education. An introduction to theory and methods* (3rd Edition). Needhan Heights: Allyn & Bacon.

Bowie, A. (1996). Evaluating an empowering research strategy: Reflections on action research with South Asian women. *Sociological Research Online,* 1*(*1). Retrieved February 1, 2004, from

http://www.socresonline.org.uk/socresoline/1/1/1.html.

Brahmawong, C. (2000). *STOU Plan 2000: Distance education system of Sukhothai Thammathirat Open University*. Retrieved on January 12, 2004, from

http://www.unescobkk.org/ODL/doc/chaiyong-STOU-DE.doc.

British Council Thailand. (n. d.) *An e-group for Thai teachers of English*. Retrieved on April 10, 2003, from www.britishcouncil.or.th/en/partnerships/pnr-elt-accessenglish.html.

Casas-Armengol, M. & Stojanovich, L. (1990). Some problems of knowledge in societies of low development: Different perspectives on conceptions and utilization of advanced technologies in distance education, In M. Croft, I. Mugridge, J. S. Daniel & A Hershfield, (Eds.), *Distance education: Development and access*. Caracas: ICDE.

Clement, A. & Shade, D. (1998). *The Access Rainbow: Conceptualizing universal access to the information/communications infrastructure*. Working Paper no. 10. Retrieved November 15, 2002, from www.fis.utoronto.ca/iprp/publications/wp/wp10.html.

Commonwealth of Learning. (1998). *Barriers to information and communication technologies encountered by women*. Retrieved March 1, 2002, from www.col.org/wdd/BarriersICT_Asia_report.pdf.

Cornwall, A. (2000). *Making a difference? Gender and participatory development*. IDS Discussion Paper 378. Institute of Development Studies. Retrieved March 12, 2002, from http://www.ids.ac.uk/ids/bookshop/dp/dp378.pdf.

Costa, L. (1997). *Exploring the history of women's education and activism in Thailand*. Retrieved January 22, 2004 from www2.hawaii.edu/~seassa/explorations/v1n1/2/art4/v1n2-frame4.html.

Evans, T. (1995). Thinking globalisation: Issues for open and distance educators in Australia and the South Pacific. In F. Nouwens. (Ed.). *Distance education crossing frontiers*. Rockhampton, Australia: Central Queensland University.

Finger, M. (1995). Adult education and society today. *International Journal of Lifelong Education*, 14(2), 110-119.

Freire, P. (1984). Pedagogy of the oppressed. In S. Merriam (Ed.). *Selected writings on philosophy and adult education*. Florida: Kreiger.

Global Knowledge Partnership. (2003). Forum on ICT and gender. Optimizing opportunities. Retrieved February 10, 2004, from http://www.globalknowledge.org/gender2003/.

Guy, R. (1991). Distance education and the developing world: Colonisation, collaboration, and control. In T. Evans & B. King, (Eds). *Beyond the text: Contemporary writing in distance education*. Victoria, Australia: Deakin University Press.

Hallinger, P. & Kantamara, P. (2002). Educational change in Thailand. In A. Walker, and C. Dimmock, (Eds), *School leadership and administration*. New York. N.Y: RoutledgeFahmer Publishing.

Hayes, E. R. (1989). Insights from women's experiences for teaching and learning. In E. R. Hayes (Ed.). Effective Teaching Styles. *New Directions for Adult and Continuing Education,* No. 43. San Francisco: Jossey-Bass.

Humphries, B. (1997). From critical thought to emancipatory action: Contradictory research goals? *Sociological Research Online, 2*(1). Retrieved February 2, 2004, from http://www.socresonline.org.uk/socresonline/2/1/3.html.

International Development and Research Center, IRDC. (n. d.). *Part 3: Tracking market trends*. Retrieved November 2, 2003, from

http://network.idrc.ca/ev.php?URL_ID=9783&URL_DO=DO_TOPIC

Kaewsaiha, T. (1999). *Learning technology "To reach the unreached" in Thailand.* Retrieved November 5, 2002, from

http://www.unesco.org/bangkok/education/ICT/ICT_enabling/ap_policy/Learntec-Tongyoo.pdf

Knowles, M.S. (1998). A theory of adult learning: Andragogy. In M.S. Knowles. *The adult learner* (5th ed.). Houston: Gulf.

Lindeman, E. C. (1984). For those who need to be learners. In S. Merriam (Ed.). *Selected writings on philosophy and adult education*. Florida: Kreiger.

Loughlin, K. A., & Mott, V. W. (1992). Models of women's learning: Implications for continuing professional education. In H. K. M. Basket & V. J. Marsick (Eds.). Professionals' Ways of Knowing: New Findings on How to Improve Professional Education. *New Directions for Adult and Continuing Education*. No. 55. San Francisco: Jossey-Bass.

Marcelle, G. (2000). *Transforming information and communications technologies for gender equality*. Gender in Development Monograph Series #9. Retrieved on March 12, 2002, from www.undp.org/gender/resources/mono9.pdf

Maher, F. A. (1987). Toward a richer theory of feminist pedagogy: A comparison of "Liberation" and "Gender" models for teaching and learning. *Journal of Education,* 169(3), 91-100.

Mezirow, J. (1984). A critical theory of adult learning. In S. Merriam (Ed.). *Selected writings on philosophy and adult education*. Florida: Kreiger.

Moore, M.G. & Kearsley, G. (1996). *Distance education: A system view*. California: Wadsworth Publishing Company.

Neice, D. (1996). *Information technology and citizen participation*. Retrieved December 2, 2003, from http://www.fis.utoronto.ca/iprp/ua/neice.html

Neuman, W.L. (2003). *Social research methods: qualitative and quantitative applications.* Boston: Pearson Education Inc.

Osttveil, S. (2000, June). From Jomtien to Dakar and beyond. *TechknowLogia.*

    Retrieved February 20, 2004, from

    http://www.techknowlogia.org/TKL_Articles/PDF/136.pdf

Pacey, L. M. & Penney, W. P. (1995). Thinking strategically: Reshaping the face of

    distance education and open learning. In J. Roberts & E. Keough (Eds.). *Why*

    the information highway? Lessons from open and distance learning. Toronto:

    Trifolium Books Inc.

Payutto, B. (1994). *Toward sustainable science.* Thailand: Fong Tong Enterprise

    Co., Ltd.

 Pendell, S. (1995). Teaching interculturally: Crossing cultural frontiers in education.

    In F. Nouwens. (Ed.). *Distance education crossing frontiers.* Rockhampton,

    Australia: Central Queensland University.

Richardson, D. (2000). Rural access: How can connectivity contribute to social and

    agricultural development? *TechKnowLogia.* Retrieved November 1, 2002,

    from www.TechKnowLogia.org.

Roszak, T. (1986). *The cult of information.* New York: Pantheon Books.

Shade, Leslie. (2002). *The digital divide: From definitional stances to policy*

    initiatives. Retrieved November 15, 2002, from

    www.fis.utoronto.ca/iprp/publications/shade_digitaldivide.pdf

Sittirak, S. (1998). *The Daughters of development: Women and the changing*

    environment. New York: Zed Books.

Spronk, B. (2002, May). *Globalisation, ODL and gender: Not everyone's world is getting smaller*. Retrieved September 20, 2002, from www.cade-aced.ca/icdepapers/spronk.htm

Sungsri, S. (1998). *Guidelines for providing vocational training for unskilled young women to enter the labour market*. Retrieved on January 2, 2004, from www.stou.ac.th/aaou2003/Full%20Paper/Guidelines.pdf

Swearer, D. (1995). *The Buddhist world of Southeast Asia*. New York: State University of New York Press.

TerraVIVA Online. (2003, December). *Who should master the domains?* WSIS, Media, Technology and Communications. Retrieved on February 22, 2004, from http://www.ipsnews.net/focus/tv_society/viewstory/asp?idn=75.

Thuvasethakul, C. & Koanantakool, T. (2002). *National ICT policy in Thailand*. Retrieved January 20, 2004, from www.nectec.or/th/users/htk/publish/20020302-National-ICT-Policy-v16-word.pdf.

Thuvasethakul, C. (n.d.). *The Internet in Thailand*. Retrieved January 12, 2004, from http://www.nectec.or.th/users/htk/milestones.html

Tisdell, E. J. (1998). Poststructural feminist pedagogies: The possibilities and limitations of a feminist emancipatory adult learning theory and practice. *Adult Education Quarterly*, *48*(3), 139-156.

United Nations. (n.d.).*Convention on the elimination of all forms of discrimination against women, CEDAW.* Article 19. Thailand. Retrieved January 22, 2004, from

http://www.un.org/womenwatch/daw/cedaw/index.html,

http://ods-dds-

ny.un.org/doc/UNDOC/GEN/N97/267/79/IMG/N9726779.pdf?OpenElement

United Nations. (1995). *Fourth world conference on women. Beijing action plan.* Retrieved January 10, 2002, from http://www.un.org/esa/gopher-

data/conf/fwcw/off/a--20.en

United Nations. (n.d.). *Millennium goals.* Retrieved February 20, 2004, from

http://www.un.org/millenniumgoals/

United Nations Development Fund for Women, UNIFEM. (2002). *2000 gender and development in Thailand section A - Thai women at a glance.* Retrieved on November 30, 2003, from

http://www.unifem-eseasia.org/resources/others/gendev/sectiona.htm

United Nations Division for the Advancement of Women, UNDAW. (2002, July). *ICT as a tool for women's economic empowerment.* Retrieved October 23, 2003 from http://www.un.org/womenwatch/daw/egm/ICT2002/reports/week1.html)

United Nations Economic and Social Commission for Asia and Pacific, UNESCAP. (2001, June). *Inter-agency directory on women and information and communication technology (ICT) in the Asian and Pacific Region.* Retrieved November 22, 2003, from

http://www.unescap.org/wid/04widresources/10ICT/ICT-directory.pdf

United Nations International Research and Training Institute for the Advancement of

Women, UN-INSTRAW. (n.d.). *Gender and ICT – virtual seminar series.*

Retrieved November 11, 2003, from

www.un-instraw.org/en/research/gender_and_ICT/vss_4.html

Wolff, L. & MacKinnon, S. (2002). What is the digital divide? *TechKnowLogia.*

Retrieved November 16, 2002, from www.TechKnowLogia.org.

Wong, W. (2003). *Do women mangers make a difference?: Lessons learned from*

the Thailand Canada Telecenter Project. Empowering the poor through

information access: What works and what is sustainable?. Asian Regional

Conference for WSIS. Retrieved January 22, 2004, from

http://www.worldbank.org/gender/digitaldivide/ wsistokyo/part3/warrenwong.pdf

World Bank. (2003). *ICT at a glance Thailand.* Retrieved on January 20, 2004, from

www.worldbank.org/cgi-

bin/sendoff.cgi?page=%2Fdata%2Fcountrydata%2FICT%2Ftha_ICT.pdf&su

bmit=Go

The World Bank Group. (n.d.). *Gender and the digital divide seminar seri*es.

Retrieved November 10, 2002, from www.worldbank.org.

World Summit on the Information Society. (2003). *Declaration of principles.*

Retrieved February 2, 2004, from http://www.itu.int/dms_pub/itu-

s/md/03/wsis/doc/S03-WSIS-DOC-0004!!MSW-E.doc

Appendix A: Information Letter

Project Title: What are the Barriers to Rural Women of Ranong, Thailand Accessing Education Using Information and Communication Technologies, ICT.

Project Description and Purpose: Yvonne Novakowski is a student in the Masters of Distance Education program at Athabasca University in Canada. She is working on her thesis for the degree requirement. The purpose of this project is to study the educational/training needs, awareness and uses of ICT of women in Ranong. I will be interviewing women and other people who are involved in education and ICT projects and development in Ranong to learn what are women's challenges and ideas pertaining to using ICT for lifelong learning. The study will be over a 3 ½ month period and participants will be interviewed three or more times. Interviews will be about one hour long, depending on participant's availability. Interviews will be conducted with an interpreter as needed. It is hoped that the information from this study will contribute to the development of ICT programs for lifelong learning and aid in decision making regarding distance education and ICT projects and policies. This study is funded by the Canadian International Development Agency (CIDA). The final report will be submitted to the Canadian International Development Agency and to Athabasca University. All data will be kept for 5 years and stored securely, protecting the privacy of the participant. **All information will be held confidential,**

except when legislation or a professional code of conduct requires that it be

reported.

Researcher's Name: Yvonne Novakowski
                1440 Glenaire Cr.
                Kelowna, B.C., Canada, V1Y 3N1
                (250) 869-0942
                e-mail: y_novakowski@shaw.ca

Any concerns can be expressed to the interpreter and directed to:
Martha Cleveland-Innes, Ph.D.,
Associate Professor, Centre for Distance Education/
Master of Distance Education Program
Athabasca University,
1 University Drive,
Athabasca, Alberta
T9S 3A3, Canada
Phone: (800) 788-9041 ext. 6426
Email: martic@athabascau.ca

Appendix B: Consent Form

Consent:

You have been informed and understand the objectives of this project, and you

consent to be interviewed. You understand that steps will be undertaken to ensure

that these interviews will remain confidential unless you consent to being identified.

You also understand that, if you wish to withdraw from the study, you may do so

without any repercussions and at any time. Any data that you provide may be

withdrawn at your request and the material will be withdrawn. If you do not want your

name used, it will not appear in written material other than general lists of the

researcher. These lists will be kept totally confidential and not released or published

in any form.

Signature _____

Date: _____

(Please Note: In case the participant is unable to read this consent form, it will be read by the interpreter in Thai and their consent witnessed by the interpreter.)

I have witnessed the written or verbal consent of the participant**.**

Signature of Witness:_____

Date:_____

Consent to be Interviewed

Name:_____

Signature:_____

Date:_____

Signature of Witness:_____

Date: _____

Appendix C: Research Instruments - Interview questions.

There are two sections presented here. The first section presents the open questions that will be presented to the participants. The comments in brackets outlines the purpose of the question. The second section presents questions for further investigation related to the questions asked the participants.

Section I

The key questions of the study are:

1. How long have you gone to school? Where was this? What grade did you complete? [What systems are the women use to. What is the women's level of literacy?]

2. Why did you leave school?

   [Possible barriers, challenges to education for women.]

3. Would you like to study/train again/still? What would you like to study/train in?

   [What are the educational/training and development needs of women? - Indigenous knowledge and local content?]

4. Have you ever taken any distance education courses? Do you know about distance education courses?

   [Any experience with distance education?]

5. Have you ever used a computer? If yes, for what and where? How much did it cost?

   [What is their access and awareness of ICT?]

6. (Note: If the participant wants to continue studies.) Would you be interested in studying by distance education? Why or why not?

   [What are the barriers and challenges to accessing ICT?]

7. How would it work for you?

   [What is the learning context? What are the women's goals and learning environment?]

Section II

The following are underlying questions.

1. What are the best practices or examples where ICT have been found to be useful, particularly in reaching out to women and to those who have difficulty accessing education?

2. What are possibilities and/or implications with increased use of ICT to deliver education and training?

3. What are ideas for particular programs that could be developed to support training of women in the use of the new ICT?

4. Are there ways to ensure that women are not further disadvantaged or marginalised?

5. Related to these aforementioned points:

- Are there ways to increase the power, accessibility and decrease costs of the technologies to assist women to overcome these constraints?

- How can distance education programs ensure that the women's needs are being met, using the capacities of the new technologies? What performance indicators or evaluations can be developed from what the women express?

- Can problems of illiteracy be overcome using these new information delivery systems? If yes, in what ways?

- Are there ways in which women's and girls' awareness of the potential benefits of ICT and their confidence in their ability to use them can be increased?

- Do working women have the opportunity to enhance or upgrade their skills, knowledge and access to ICT? If yes, in what positions, careers, professions, etc.)

- What initiatives for capacity building through distance education programs, exist?

- Are there courses and programs which use gender sensitive training methodologies, materials and language?