

# An Investigation into a Community Information Database System in the Northeast of Thailand: Community Empowerment through Community Learning Centres

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## ABSTRACT

*This paper presents an investigation into a Community Information Database System (CIDS) in the Northeast of Thailand. The purpose of the study is to investigate the information needs and local knowledge of the community, to classify and design a model for a community information database system for rural community development in Thailand, to create a prototype of the community information database system to empower local communities to deal effectively with their own problems and their own sustainable development, to implement the community information database system and examine its functions in the community.*

*The study will be conducted in some selected communities of Inpeng Community Network which consists of 800 communities from 84 sub-districts in 4 provinces in the Northeast of Thailand. These include Sakon Nakhon, Kalasin, Mukdaharn and Udornthani.*

*There are five phases in the research plan: Phase 1: Data Collection. There are three steps in collecting the data. Firstly, the researcher will visit the community and give a questionnaire to respondents. Secondly, questionnaires will be collected administered by using SPSS package and other electronic tools. Thirdly, the researcher will return to the community and conduct interviews and make tape recording digital video records, other electronic records of local knowledge details, found from the target population in the first step.*

*Phase 2: Classification of the community information needs and local knowledge by determining of classification schemes suitable for the retrieval of local knowledge. This will be facilitated by creating subject headings, designing worksheet formats for information and using Sear List of Subject Headings of the Library of Congress cataloging in the publication of data.*

*Phase 3: Design and develop an appropriate community database system prototype that is applicable to the community and design the web site using the library automation software such as INNOPAC, VTLS, HOLIZON and/or other electronic tools. The phase also includes setting up the community information database network system between the Rajabhat Institute and a community learning center in the community for testing and evaluation.*

*Phase 4: Test and evaluate the community information database system by questionnaire interview the end-users in the community what they think of the database design, the benefits and the convenience in using to the CIDS and the classification of the community information needs and the computer network system analysts, adapt the model the assessment of the database model network between the community and the Rajabhat Institute.*

*Phase 5: Obtain recommendations to improve the community information database system by asking for feed back from community members, library staff and also from students and instructors of Rajabhat Institutes.*

*The study will be the study conducted in some selected community of Inpeng community network. This study expected to discover the information needs and local knowledge and to establish a new theory of community empowerment by using this information, and then establishing an appropriate community information database system model that is applicable to the rural community in Thailand. It also aims to empower the community to create and involve itself in creating new knowledge.*

**Keywords:** *Community Information Database System (CIDS), Community Learning Centre, Information Needs, Information Retrieval, Local Knowledge, and Community Empowerment.*

## INTRODUCTION

In developing countries and the world's rural regions, technology has increased the information needs of people relative to their previous patterns of information use. We find that considerable preparation and some specialization is thus required to deal with the complexities introduced by technology. The relationship between the need for information and the complexity of modern civilization is even more dramatically illustrated by the technology of medicine and transportation; anyone who has encountered an occasion requiring assistance with automobile repairs or a medical problem has been faced with this problem. Not only do we need more information to cope with more complex problems, but also to take advantage of new leisure, entertainment, and cultural activities made available to us by these technologies (Kochen & Donohue, 1976).

Viewed as information being a basic human need, information can also be considered as the power tool of the information age (Haywood, 1995). Information is thus a product to highly treasure, not only for economic reasons but also for achieving quality in the social, cultural, and political life that developing countries strive for (Sweeney, American Society for Information Science., & Institute of Information Scientists (Great Britain), 1982).

In the past Thai rural communities have lived adequately based on four basic needs of enough food, suitable clothing, adequate medicine and comfortable dwellings. However, the development of information technology has caused changes to life in rural and urban society, often causing disruptive social and economic change. In this context information can be used to span the gap between resources and needs. If people in communities know where to turn, they can be aided in making the needed connections between the resources and their needs.

Information has thus become the fifth basic need. In the information age, people must have adequate knowledge to earn their living and have suitable development. The effectiveness with which information is generated and communicated determines the rate of progress of a society and the fulfillment of its people. So an information database system that can serve the information needs of the community is essential (Ginman, 1990). To help a community develop and keep up with the rapid changes of globalization an understanding of information in society will help it adjust to its social consequences (cited in Martin, 1988).

Each community has its body of knowledge and its own local intelligence, which have enabled it to survive and prosper (Dordick & Wang, 1993).

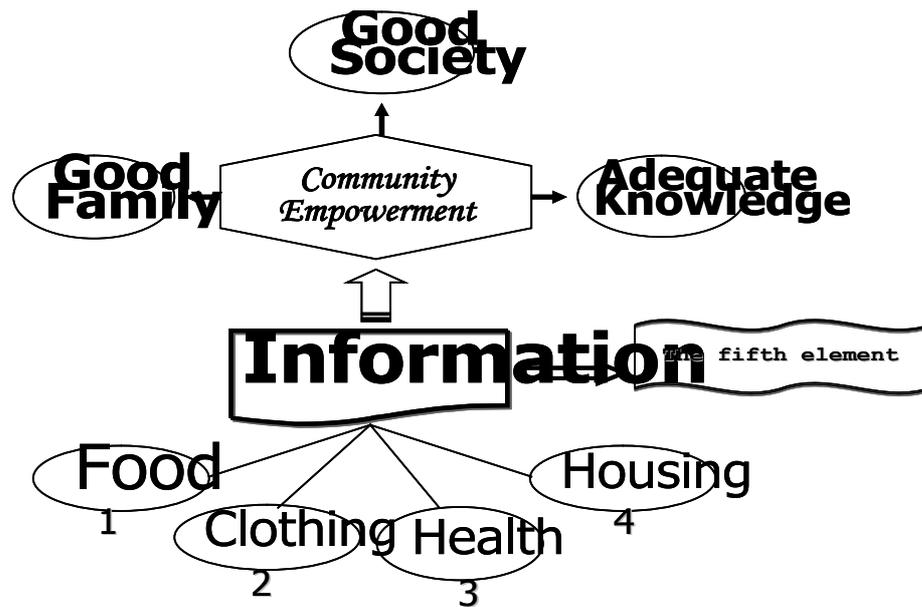


Figure 1.1: Quality of life and the information system

Figure 1.1 shows the relationship between the local information system, quality of life and its sustainable development.

#### THE SIGNIFICANCE OF THE RESEARCH

1. The community information database system developed in this research will distribute new knowledge for community development to empower communities and help them with community action plans. It will involve community groups and other partners to manage and monitor their own crisis-response initiatives with sustainable results.
2. The community information database system is expected to be a model or prototype of an information database that can serve community development.
3. The community information database system will collect all information needs and local knowledge so that can be accessed anywhere and anytime.

#### THE PURPOSE OF THE RESEARCH

1. To investigate the information needs and local knowledge of the community.
2. To classify the information needs and local knowledge into a retrieval form of knowledge.
3. To design a model community information database system for rural community development in Thailand.
4. To create a prototype of community information database system to empower local communities to deal effectively with their own problems and their own sustainable development.

## THE RESEARCH AIMS TO ANSWER THE FOLLOWING QUESTION

1. What are the information needs of Inpeng Community Network?
2. What is the local knowledge of Inpeng Community Network and how can it be collected?
3. What is an appropriate model for the information system that is applicable to rural communities in Thailand in terms of their information needs?

## Information Needs and Community Information Needs

There is much research available on community information needs and information theory. The most relevant to this study are “Maslow’s hierarchy of Needs and Information” and “Gibson’s Community Information Needs”.

In the late 1960’s Abraham Maslow (Maslow, 2001), a humanistic psychologist and information theorist developed a hierarchical theory of human needs. He believed that people are not controlled by mechanical forces (the stimuli and reinforcement forces of behaviourism) or unconscious instinctual impulses of psychoanalysis alone. Maslow instead focused on human potential, believing that humans strive to reach the highest levels of their capabilities. He set up a hierarchical theory of needs in which all the basic needs are at the bottom, and the needs concerned with are highest potential are at the top. This hierarchical theory is often represented as a pyramid (Figure 2.1), with the larger, lower levels representing basic needs, and the upper point representing the need for self-actualization. Each level of the pyramid is dependent on the previous level. For example, a person does not fulfil the second need of self-actualisation until the demands for the first have been satisfied.

A person at each level in the hierarchy of needs seeks information on dealing with what is important to him. For example coping some information such as seeking information when lost, when out of food, or when sick.; Helping information such as seeking information on how to be safe with enough food, adequate shelter and emergency supplies; Enlightening information such as seeking information on how to have a happier marriage or more friends; Empowering information such as seeking information to help the ego; Edifying information such as seeking moral and spiritual uplifting with the word of God, spiritual music, or paintings

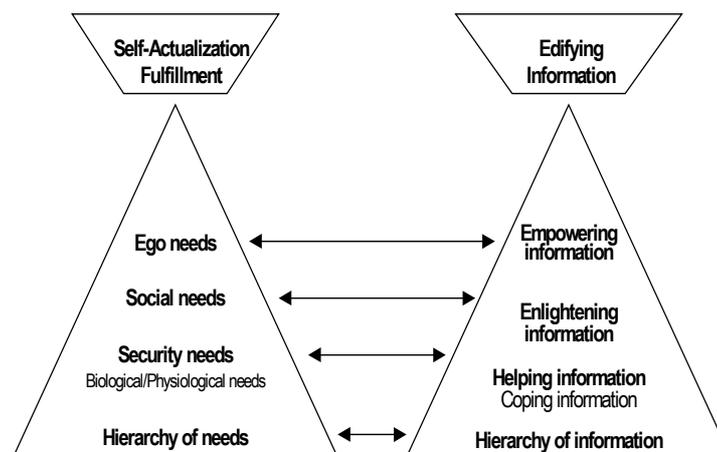


Figure 2.1: Maslow’s Hierarchy of Needs and Information (Maslow, 2001)

Ginger Gibson (Gibson, 2001) has reviewed community information needs in the mining life cycle. This report lists factors that affect community participation in making informed

decisions about mining activities. Communities are often seen by mining executives as the least important audience and do not consult with or provide information to community members. However, it is this group who are most affected by mining operations. Impacts include increases in cost of living, taxation increases and outsiders moving into the community.

The research focused on four factors including community right, information access varying information needs and encouraging access to information. The four factors are 1). Principle of consultation Communities have the right: to be informed of development before mine operation begins; to seek multiple accounts of effect of mining; to be seek information from sources that the trust. 2). Access to information and communication by timing, format, channels and information sources for communication. 3). Community information needs specific to sectors; provide difference information during the phases of mining and each mining site and community will be unique such as information needs from mining companies, the government, and community level and also other sectors. 4). Information sharing mechanisms and capacity building such as local resource centres, clearing houses and databases, electronic and printed bulletins, access to independent expertise, technical capacity, capacity building, monitoring realities, funding mechanisms and translation services.

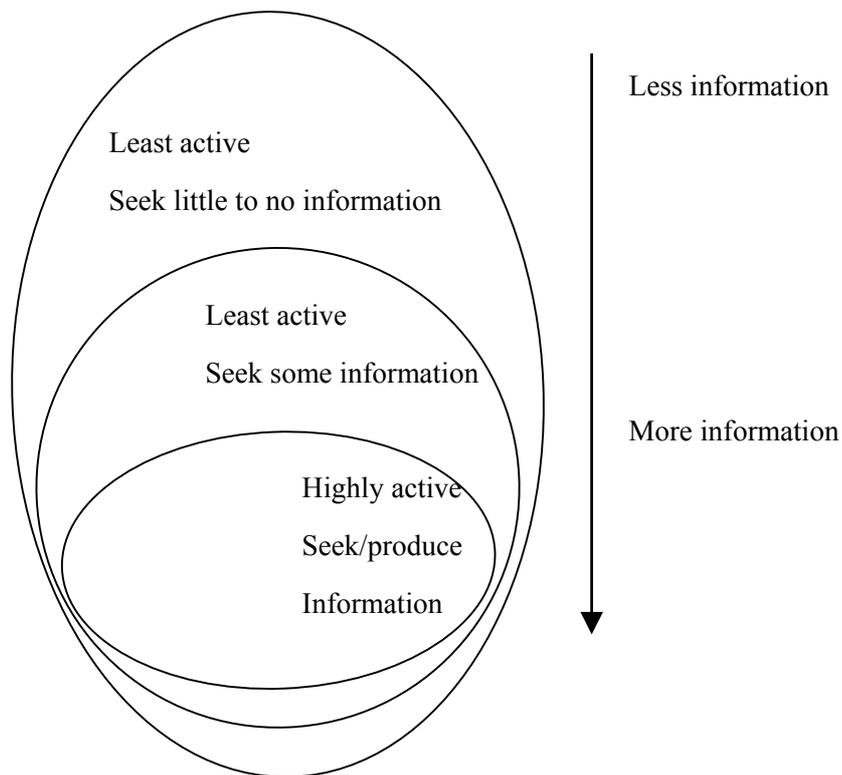


Figure 2.2: Segmenting Community by Interest in Information (Gibson, 2001)

Figure 2.2 shows the relationship between individual activeness in the community and their interest in information. A range of materials is required to ensure coverage of each of these segments at a suitable level of detail.

#### Community empowerment and community development

In 1997, (United Nations, 1999b) UNESCO Bangkok submitted its final report on literacy as a tool for the empowerment of the poor. This report defines empowerment in general terms,

as the process that enables human individuals to develop the capacities needed to take control of their lives, to take action to overcome oppression and to realize their full human potential.

The report stated that the process of empowerment is a long and complex one. It involves building awareness of the situations/conditions requiring critical review of the situations pertaining to causes and effects; critical thinking about human capacities so that people realize they can do something to improve their situation; the development of skills, capacities and others human potentials; the acquisition of acquiring technical expertise and external assistance; and finally becoming self-dependent or self-reliant. Schematically, the empowerment process may be depicted as shown in Figure 2.3.

Apart from developing appropriate knowledge, skills and attitudes, individuals also need enabling of external conditions of resources and opportunities for their empowerment. Specifically, they need support in terms of capital (funding/loans), resources, equipment, facilities and literacy.

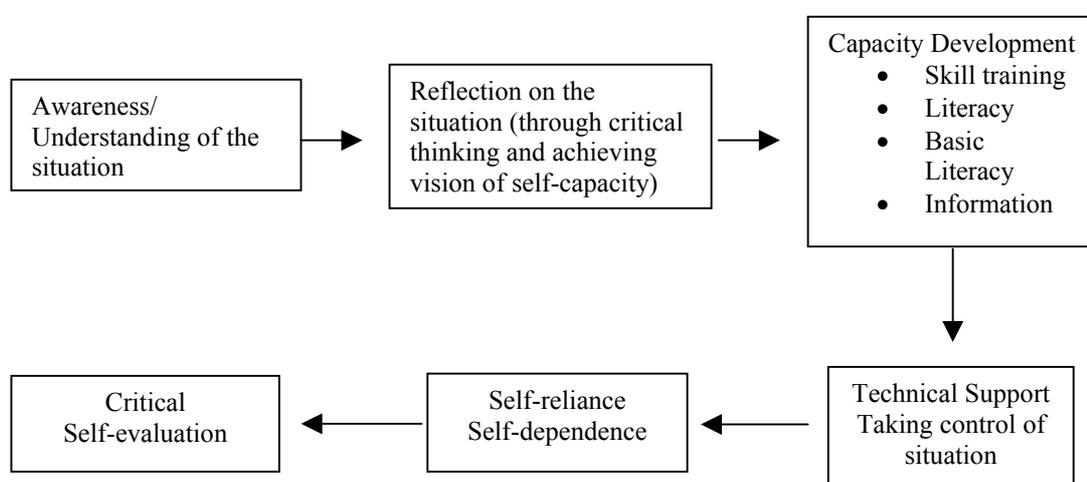


Figure 2.3: The Empowerment Process. (United Nations, 1999b)

For the empowerment process to be effective, it requires the integration of the empowerment of the poor into national development policy, institutionalization of socio-engineering activities and proper coordination of empowerment programs.

In 1997, the Asian Economic Crisis had a tremendous effect on development issues throughout the Asia-Pacific region, including Thailand. The obvious negative economic effects have, however, overshadowed the social impact of the crisis. As a result, the Thai government has proposed a policy framework and strategy to empower communities to respond to present economic situation, and to prepare them to be better able to respond to new crises in the future. Consequently the Community Empowerment for Response to Crisis Action Plan (CERCAP) was formulated to support local communities which undertake proactive crisis-responsive initiatives (United Nations, 1999a).

Similarly, in the United States, Jafar (Jafar, 1998) provided a more refined understanding of the concept of community empowerment. Jafar's aim was to illuminate the processes needed to transform community empowerment from a complex theoretical construct into a quantifiable and practical development concept. Community empowerment was seen as the implicit and explicit objective of interventions designed to enhance development at the community level. This research focused on developing a comprehensive framework to

assess the impact of community-based development interventions. To gauge community empowerment, a methodology was designed to provide both subjective and objective measures of the concept. Jafar argues that there is a direct relationship between both measures, as socio-economic development factors significantly influence the extent to which residents perceive the degree of empowerment of their community. The research also establishes the multivariate nature of community empowerment, by identifying community management, community participation, and a sense of community as three principal components of the concept. Additionally, the research analyses the effect of the residents' gender and age on the overall perception of empowerment and shows that, although gender and age in general do not directly influence perceived community empowerment, socio-economic factors combined with age and gender do influence these perceptions. Based on the results of this study, certain indicators of social and economic development variables are seen as the most significant determinants of perceived community empowerment and its components.

In Canada, Thomas (Thomas, 1998) explored the current and potential role of community computer networks (CCNs) in the empowerment of communities in the planning process. This study addressed the concepts of community empowerment, the place of community empowerment in the planning process, and the theory and practice of CCNs as a product of information technology. It included the framework of a case study of the Seattle Community Network (SCN), and an exploration of the SCN through the eyes of three functional character explorations. The study revealed that the concepts of community empowerment and planning were compatible with radical planning practice and theory within the context of CCNs, and could empower communities by increasing the perception of personal power through greater knowledge, and co-operation with the rest of community. Thus, Thomas was able to show that CCNs can be useful in achieving these aims.

#### Information Model and Community Information Database System

Rowlatt Day, Morris, & Robert (Rowlatt, Day, Morris, & Robert, 1998) describe the SEAMLESS project in the United Kingdom. This two year research project, funded by British Library, aimed to develop a new model for citizens' information facilitating electronic communication between information providers and customers. The SEAMLESS project enabled co-operation between various information providers, the design and implement common standards for data transfer between different systems, and finally facilitated communication between all users, including the end users i.e. the customers.

The SEAMLESS project has had considerable on local, national and regional levels and the teams are working with significantly more organizations than originally envisaged, thus demonstrating the need and viability of an information technology model to assist in community empowerment.

The community information database system (CIDS) will be a model or prototype of a community information database system this study aims to design. Further development of the system will be made following the examples of the database systems already established in Australia and USA.

In Western Australia an information database system (Infolink), shown in Figure 2.3, has been initiated by the Western Australian government and community organizations. The purpose of the database is to provide referral to other organizations that may satisfy the particular information needs of clients.

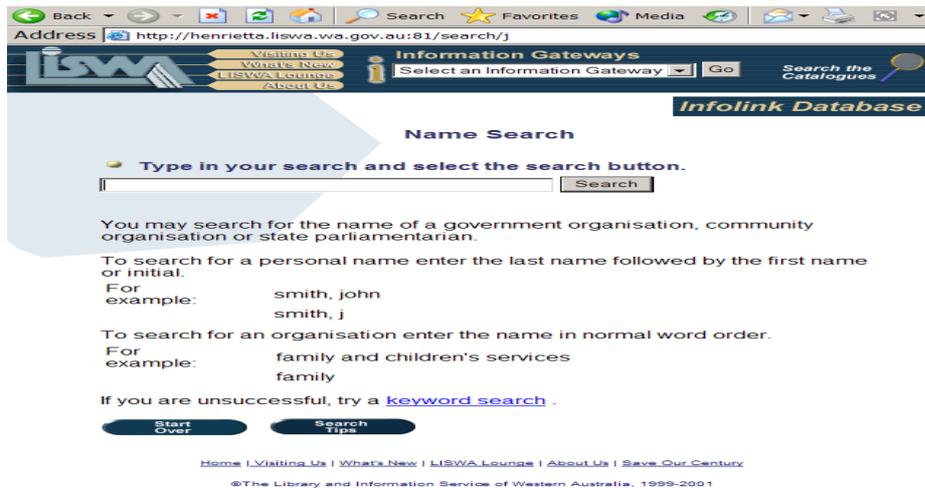


Figure 2.4: the name search for Infolink Database. (The library & Information Services of Western Australia, 2001)

The Infolink database (Figure 2.4) is protected by copyright and is part of the Library and Information Services of Western Australia (LISWA). LISWA's mission is to provide and promote equitable access to information resources and services which support the intellectual, economic, cultural, social and recreational needs of the people of Western Australia. The Infolink database covers statewide, regional and some local organizations and services. The database records fall into two broad groups: (1) government and community organization records which provide basic relevant data about the organization; and (2) information records which either describes a service or function provided by the government or community organizations which provide basic current information on a variety of topics. Community requirements for certain types of current information are also covered (The Library and Information Services of Western Australia (LISWA), 2001).

In the United States O'Leary(O'Leary, 2000) describes an information model for community information, NorthStarNet (NSN). This Community Information service model has transformed the local library into a twenty four hour regional information resource for the 1.6 million populations. NSN started in 1995 with four local libraries.

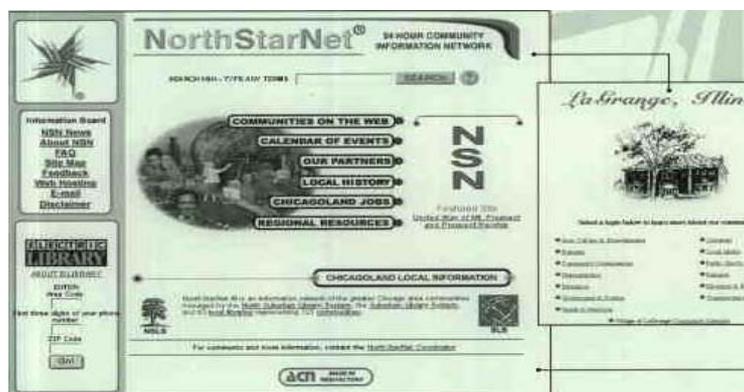


Figure 2.5: The NorthStarNet: a model for community information (O'Leary, 2000)

Figure 2.5 shows the menu of NorthStarNet website providing many services. It is a large public library consortium serving the suburban regions north and west of Chicago. It

involves regional library systems, dozen of medium and small local public libraries, and hundreds of local community organizations and businesses.

## THEORETICAL FRAMEWORK

Figure 3.1 below shows the relationship between the community information database system and the mission and responsibility of the Rajabhat Institute, as it is a higher education institution for community development.

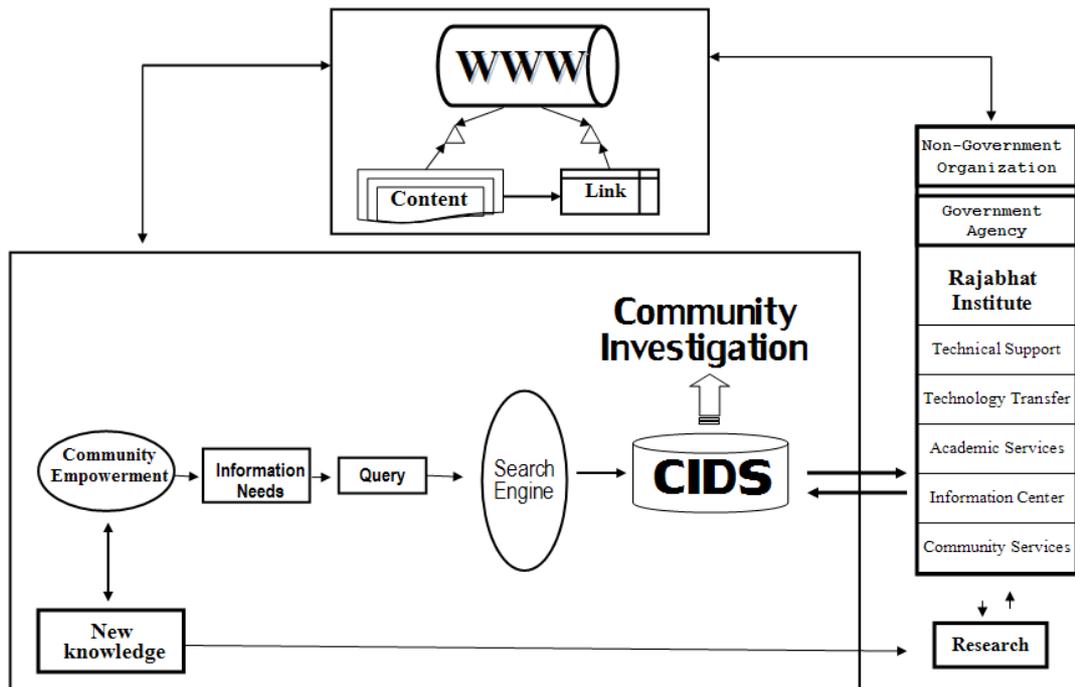


Figure 3.1: The Community Information Database System (CIDS Architecture)

CIDS is the community information database system which will result from this study. It will be a community information database system under the academic service system of the Rajabhat Institute. The Rajabhat Institute will be responsible for the administration and management of the database system, as part of its information technology service system, which includes the computer center, the office of academic services, and the academic service unit to the community.

According to article 7 of Rajabhat Institute Act (Rajabhat Institute Council), the Rajabhat Institutes' objectives for local development are to provide academic and high level vocational education, to conduct research as an academic service to the general public, to improve, transfer and develop technology, to preserve and promote arts and cultures, and to produce teachers and elevate their status.

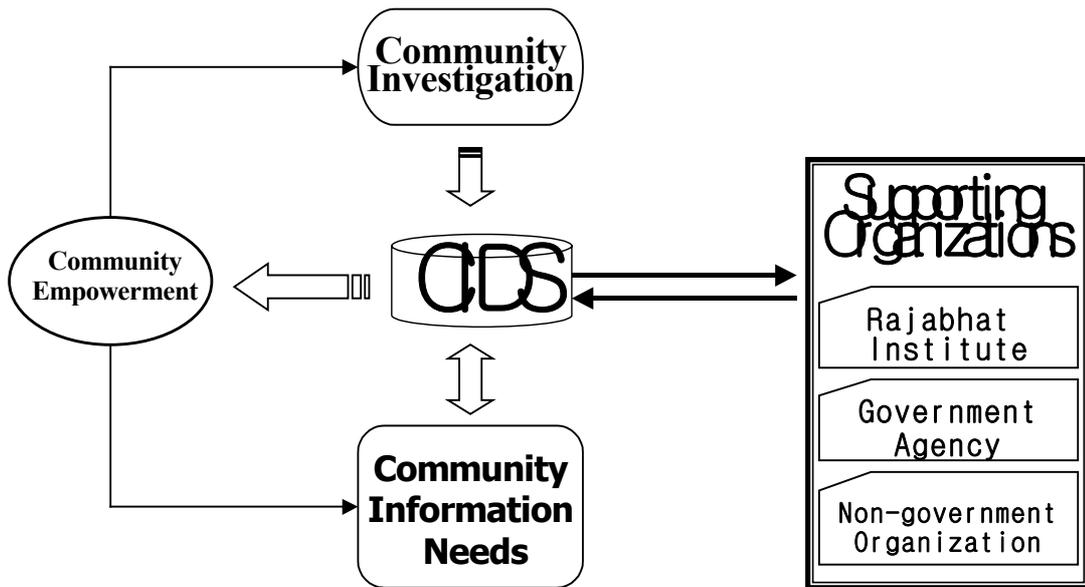


Figure 3.2: The CIDS and Community Information Needs Model

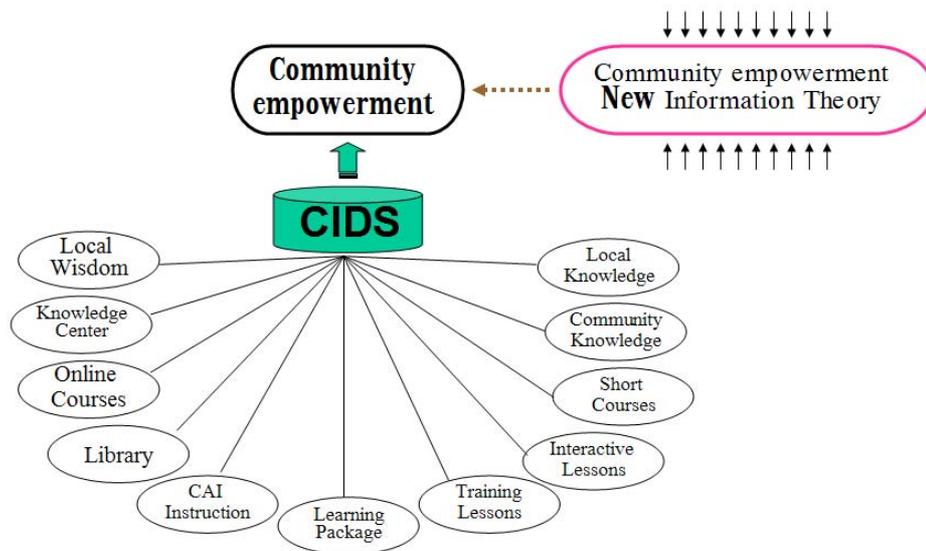


Figure 3.3: The CIDS and Community Empowerment

Figures 3.2 and 3.3 above show the significance of CIDS which acts as the knowledge bank of the community. Besides collecting all knowledge in the community database system, it also supports non-formal education. It is the intelligence storage of the community that will promote self-support and self-development, CIDS will be a source of new knowledge that encourages new information theory which strengthens the community.

## RESEARCH METHODOLOGY

The location of the study will be in some selected communities of Inpeng Community Network which consists of 800 communities from 84 sub-districts in 4 provinces in the Northeast of Thailand - Sakon Nakhon, Mukdaharn, Udonthani and Kalasin. The target population will be community members, community coordinators and local knowledge experts. The reason why some Inpeng communities are selected is because Inpeng community network has been considered a network of strong communities through self-support and empowerment. This study has several phases. The first phase will involve a survey to obtain descriptive information and will incorporate an action research perspective and evaluation of a community database.

**Research plan phase I: Data Collection:** There are three steps in collecting data. Firstly, the researcher will visit the community and giving a questionnaire to respondents. Secondly, questionnaire will be administered by using SPSS package and other electronic tools. Thirdly, the researcher will return to the community and conduct interviewing and tap recording or digital video recording or other electronic recording in the electronic form some local knowledge detail from the target population that found from the first step.

**Research plan phase II: Information Categorization:** This phase will involve examination of the community information needs and local knowledge and selection of a classification scheme that can be applied, which will be suitable for the retrieval of local knowledge. This will be facilitated by creating subject headings, designing worksheet formats for information using the Sear List of Subject Headings of the Library of Congress cataloging of publication of data.

**Research plan phase III: Database Model Design:** This phase includes the design and development an appropriate community database system prototype, the design of a homepage and WebPages by using the library automation software such as INNOPAC, VTLS, HOLIZON and/or other electronic tools. The community information database network system will also setup between the Rajabhat Institute and the community-learning center in the community for testing and evaluation.

**Research plan phase IV: Testing and Evaluation:** Phase IV will include testing and evaluation of the community information database system, by questionnaire and interview to the end-user in the community that how they find to the database design, the useful and the convenience in search to the CIDS and the classify community information needs and the computer network system analysts, adapt the model the assessment of the database model network between the community and the Rajabhat Institute.

**Research plan phase V: Recommendations:** Recommendations will be obtained to improve the community information database system through feed back from community members, library staff and also from students and instructors of the Rajabhat Institutes.

## CONCLUSION

The purpose of this study is to investigate the information needs and local knowledge of the community, and to classify and design a model for a community information databases system for rural community development in Thailand. This will empower local communities to deal effectively with their own problems and their own sustainable development.

This study expects to find the information needs, local knowledge, and establish a new theory of community empowerment through using this information, and then establish an appropriate community information database system model that is applicable to the rural community in Thailand. It also aims to empower the community to create and involve itself and establish more new knowledge. Additionally the Rajabhat Institutes and other

educational institutions may find appropriate models for new curriculums based on community information needs.

The proposed research will provide the valuable data about the information needs and local knowledge and a new theory of community empowerment through information. Another benefit is the CIDS Database architecture that is applicable to rural community in Thailand. This will empower the local community to create an involve itself and to seek more new knowledge. In addition, the CIDS will benefit the Rajabhat Institutes and educational institutions in determining new curriculum based on the community information needs.

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## APPENDIX A: GLOSSARY

As this research is based on a community database system and community empowerment through a community-learning center there are several terms that will be used frequently during the project. The following is a list of the most commonly used terms:

**Community:** (a) A group of people living in the same locality and under the same government. A body of people having common rights, privileges, or interests, or living in the same place under the same laws and regulations, (b) members are people who are living and working in the villages or sub-districts of the community.

**Empowerment:** A process that enables human individuals to develop the capacities needed to take control of their lives, to take action, to overcome oppression and to realize their full human potential.

**Database:** One or more large structured sets of consistent data, usually associated with software to update and query the data. A simple database might be a single file containing many records, each of which contains the same set of fields where each field is a certain fixed width.

**Information:** (a) Knowledge gained from a local person who has expertise in local wisdom such as agricultural, manufacturing, social, cultural and artistic etc. or some special wisdom that enables his people to survive in community life.

**Information:** (b) (1) Informing, telling; knowledge, news. (2) Data organized and presented by someone.

**Information:** (c) A product of great value, not only for economic reason but also for achieving the quality of social, culture, and political life that developing countries strive for

**Investigation:** The action of making a search or inquiry, systematic examination on careful and detailed research.

**Inpeng Community network:** A network of community learning centers whose activities have been practiced in about 800 communities in 84 sub-districts from 4 provinces: Sakon Nakhon, Kalasin, Mukdaharn and Udonrathani. Their focus is on self-sufficiency, self-reliance, sustainable development, spirit of cooperation and preservation of natural resources and environment.

**Local knowledge:** (1) the knowledge and local wisdom which people in the community have learned and used from generation to generation. (2) All experiences that they gained from informants and by themselves. (3) Everything that one has learned by oneself and one used to solve the problem. It is one's intelligence or the whole of his body of knowledge.

**Community Information:** anything that helps people copes with problems of daily living and facilitates community participation.

**Community Learning Center:** It's a local education institute outside the formal education system, for villages or urban areas, usually set up and managed by local people to provide various learning opportunities for community development and improvement of people's quality.