Chapter 5

Discussion and Conclusion

5.1 Introduction

The world has rapidly changed in terms of the economical and social factors. This has led to the beginning of the living trend in a modern city life with new technology and direct access to the media. The consequences of this transformation are that this trend has changed the way of life and has led to the misuse and the misleading or loss of local original traditional knowledge (TK) especially in local communities.

The lack of appropriate regulations and mechanisms to manage and protect the local traditional knowledge in Thailand causes an essential study to the creation of a defensive protection system for Thai traditional knowledge. This will provide a first step of self protection for the local community. Thus, to manage and protect the local traditional knowledge, a new self-management and protection system for managing local traditional knowledge s required. Therefore, the objective of this research is to propose a defensive protection system for Thai local traditional knowledge that will provide the local communities a prototype of self management and protection from the misuse, and the misleading or loss of the community's traditional knowledge.

In the first chapter, the objective of this research has ben translated in to the following research questions:

5.1.1 The Research Questions:

1. How to design a management method in order to identify intellectual capital and to protect traditional knowledge of a community?

2. What is the appropriate TK defensive protection system for Thai community by applying Intellectual Capital Concept, Knowledge Management approach and WIPO/ UNESCO framework?

3. What are proper strategies to manage and protect local community traditional knowledge to be survived?

4. How to encourage community to aware and alert of protecting TK?

This chapter discusses some of the important aspects relates to the research. Starting with answering the research questions, the discussion focuses on what problems have been solved according to the Mea-hiya community and what has been learned from this research. The research limitation is also examined. Most importantly, a defensive protection system is presented in a research generalization. A conclusion is finalized at the end.

5.2 Question 1: How to design a management method to identify intellectual capital and to protect the traditional knowledge of a community?

Answer:

As the aim of this research is to design and test a management method to manage and protect traditional knowledge, the research decided to follow a design-based approach. Knowledge management process, intellectual capital process (Roos at al, 1997) and risk management technique are combined and designed into an eight steps process (see Chapter 3). The research has developed a valid and reliable process and a system for solving specific problems in the Mea-hiya community which can be contributed to other classes of problems in similar contexts as well.

Regarding the Mea-hiya community, it was found that the structural capital played the most important roles followed by relational and human capital. This statement is verified by the following:

First, according to the arrangement of the thirty selected indicators, the indicators can be arranged according to the particular outlook of the community intangible capital. Sixteen indicators related to structure capital (40% of the intellectual capital), twelve indicators related to relational capital (31% of the intellectual capital) and eleven indicators related to human capital (29% of the intellectual capital). Thus, the direction of Mea-hiya community cultural management was to focus mainly on structure capital. The relationship capital and human capital were nearly equal in focus.

Second, according to the strategies, key success factors and indicators defined by the stakeholders, the Mae-hiya community conducted eight initial stage activities. There were eight activities that were related to seventeen indicators. Eight indicators associated with the structural capital (42% of the intellectual capital), six indicators associated with the relational capital (32% of the intellectual capital), and five indicators associated with the human capital (26% of the intellectual capital). The value of intellectual capital in the initial stage of managing traditional knowledge was to focus on structural capital followed by relational capital and human capital.

Third, according to the consolidation of the indicators by applying the risk management technique, there were 10 indicators associated with the risks. Five indicators associated with the structural capital (50% of the intellectual capital), Three indicators associated with the relational capital (30% of the intellectual capital), and two indicators associated with the human capital (20% of the intellectual capital). The indicators consolidation also led to confirm that the structure capital was the most important and followed by relational capital and human capital.
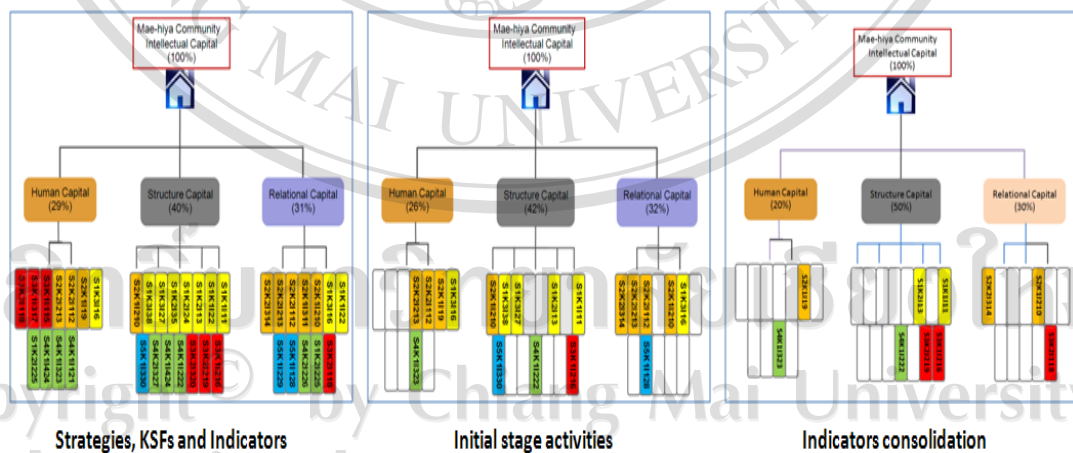

Figure 5.1 Mea-hiya community IC

5.2.1 Mea-hiya Community's Traditional Knowledge Intellectual Capital

Structural capital plays the most important role in the Mea-hiya community because it is easier to implement for the stakeholders than from other types of capital. Many structural capital activities can provide obvious outcomes for the community such as establishing the Three Generation Center, conducting cultural activities, or creating cultural inventories. The Mea-hiyas can see the direct physical outcome from the results of structural capital compared to relational capital and human capital which are more subjective. Moreover, the actions are supported by the local government who has all the resources (the local government has the highest level of participation to the cultural domain of the community) because the local government wants the Mea-hiya to see physical outcomes that represent the local government's work (political hidden agenda).

Structural capital consists of the organizational capital. The organizational capital consists of innovation and process capitals. The Mea-hiya community process capital is presented by the process of the participation process for managing cultural activities and the formulating strategy, KSFs and indicators, the creation of the risk assessment and the contingency plan. The innovation capital includes intangible assets and intellectual property which is the source of renewal for the company. The Mea-hiya community intangible assets are presented by the cultural rituals and ceremonies. The Mea-hiya community intellectual property is presented by the local cultural inventories and local subjects that are taught in schools.

Human capital includes experience, skills, and know-how of the employees. This asset creates value for the organization (Edvinsson, 1997). It includes both direct and indirect support, and for each there are both physical and intangible elements (Edvinsson, & Sullivan, 1996). The Mea-hiya community human capital is presented by the key stakeholders, the local philosophers, students, teaching courses and seminars.

Relational capital refers to the relationship in an organization or community and the relationship between organization and its stakeholders. This capital offers a reducing transaction cost and promoting corporation. The Mea-hiya community

relational capital is presented by media partnerships, public relations and social networks of the community.

In addtion, the Mea-hiya intellectual capital model consists of the structural capital, the human capital and the relational capital. The model does not have a customer capital which is different from the original model proposed by Edvinsson 1997 and Ross et al 1997 (see page 80). The direction of managing the Mea-hiya community's traditional knowledge is to focus mainly on structural capital. The relational capital and human capital are equally focused. At this point, the researcher agrees with the result because the structure capital is easy to understand and to be implemented by the Mea-hiyas. The structure capital serves as an initial stage vehicle to manage the community traditional knowledge. However, the relational and human capital must be more focused and improved. The customer capital should be considered in the future of the development. The Mea-hiya intellectual capital model is proposed as the following:
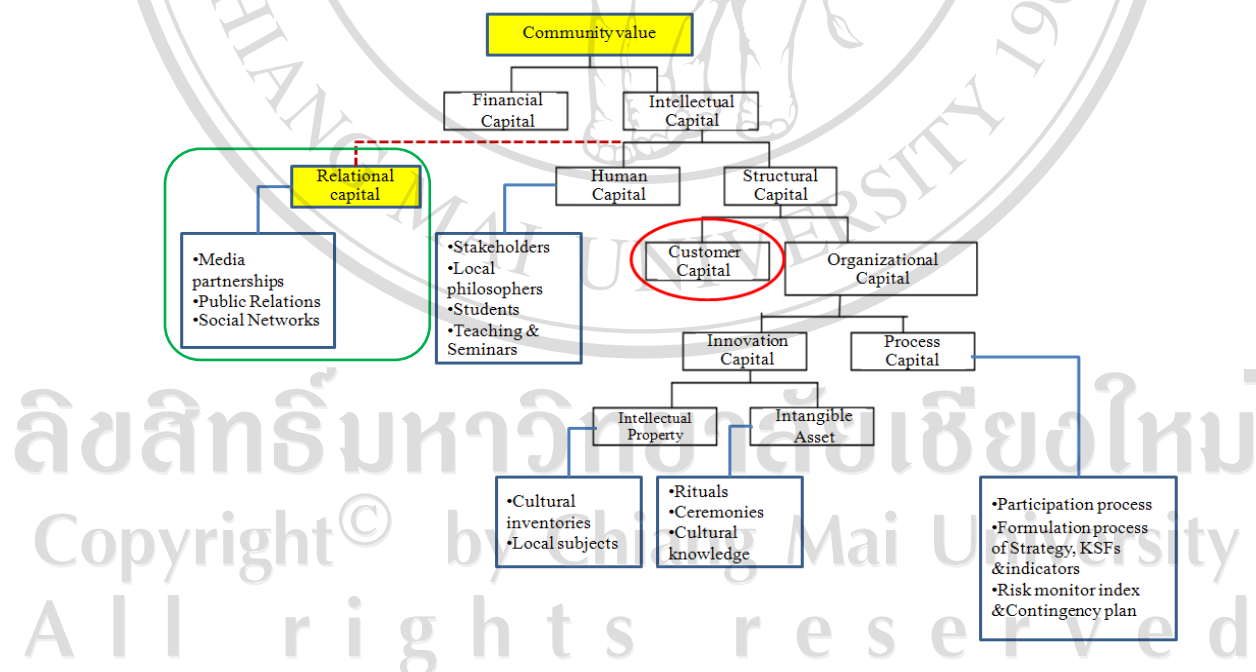
Figure 5.2 The Mea-hiya intellectual capital model

The intellectual capital model of the Mea-hiya community is created by having the structural capital as a center of the development. The relational capital and human capital are on the side of the model.
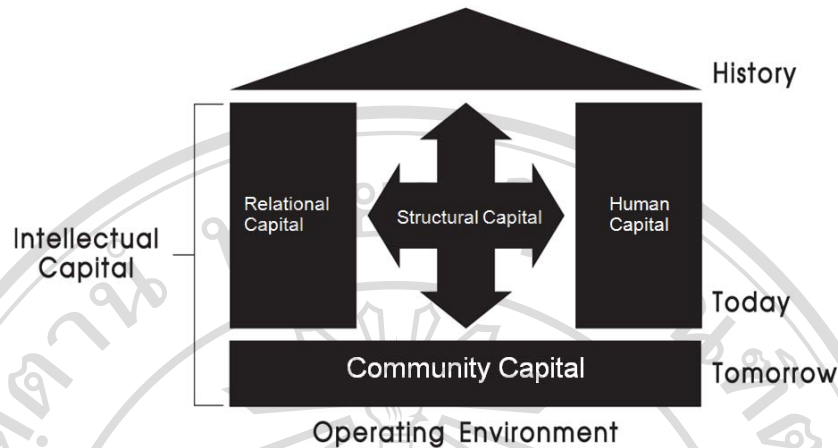
Figure 5.3 The Mea-hiya community intellectual capital model

5.2.2 Notice: Missing of Customer Capital

Edvinsson, 1997 and Ross et al, 1997, propose the first intellectual capital model (see page 63). The model illustrates the major building blocks. This illustration starts with the market value and deducts the financial capital. This leaves the intellectual capital as the balancing item. The next level shows that the intellectual capital is divided into two categories, the structural capital and the human capital. Structural capital includes customer capital and organizational capital. Organizational capital consists of innovation capital and process capitals. Innovation capital includes intangible assets and intellectual property.

According to the results, the customer capital is missing from the Mea-hiya intellectual capital model (Figure 5.2). Customer capital refers to an emerging concept developed in partnership with the businesses. Business requires marketers to be more accountable, collaborative and commercial (Matcoff, 1999). Customer capital consists of all of the market channels and customer relationships, as well as an understanding of the impacts with government and industry association. Customer capital is not included due to the community's traditional knowledge which has its own unique public domain characteristics and has existed for such a long time. With these reasons the Mea-hiyas are more willing to conserve their traditional knowledge more than to commercialize it as a product.

However, with the impact of globalization along with a new-era of political concepts, (which have influenced beliefs, religions and cultures), culture with previous strong roles seems to have a lesser importance in modern society. Moreover, the economic perspective based on materialism is now widespread around the world. Consequently, traditional knowledge that has been viewed as value is turned into a profit seeking event with the highest bidding price. The search for profit from the traditional knowledge is deviated and certain violations have occurred. For example, TK has been exploited with no concern about the ideas or beliefs created. No prior consent has been done with the traditional culture for generating economic benefits, thus resulting in a loss of personal profit sharing with that local community or group.

5.2.3 Suggestion

Obviously the current culture of the nation has been transformed into a culture where people commercialize their beliefs, values, and tradition. The practice has led the people to develop this attitude as an acceptable habit that presents itself as the norm. However, these two types of culture should have a sense of co-existence as long as there is a set of moral principles. This statement needs to be aware by the Mea-hiya community. In addition, the reputation of the Leang Dong ritual has expanded nationwide. Many TV programs and magazines come to do some reports on the ritual. Moreover, the ritual is placed on the tourism calendar of the Tourism Authority of Thailand. The ritual has become a tourist attraction. Consequently, the Mea-hiya community should consider developing customer capital to manage and protect the traditional knowledge. Creating customer capital is not easy for the Mea-hiya community (non-business domain). For this research, the term for customer in the Mea-hiya context should be referred to as the "the recipient"; someone who receives the benefits. However, in the initial stage, customer capital can be created by:

First, the Mea-hiya community should develop the community's regulations to protect the traditional knowledge from someone who might want to generate an economic benefit without prior consent from the community. For example, the story of Leang Dong ritual must be disseminated with consent or reimbursing the benefits

to the community. Some economic principles should be involved, but the same form of culture should be retained as well.

Second, since some of the community traditions are well known, this is a good opportunity to use this advantage to create customer capital. With the stream of cultural tourism, promoting the community traditions and ceremonies intensively can be one of the must see festivals (as Phee-Ta-Kohn at Lai Province) that will gather many tourists. This would also make the Mea-hiyas feel proud of their very old ritual. This will draw the Mea-hiyas to look back and appreciate their cultural heritage value in order to conserve, transmit, and protect the community's cultural heritage. The customer capital might encourage the community to promote the conservations of traditional knowledge effectively.

Third, the community should focus on the fifth strategy and it's KSF: a strong public relation which is one of the defensive sub-systems. This strategy and system will lead to create a strong connection to the public. The community should look at the modern trades of the businesses in the community to get their supports. These companies have a high capability to provide support in many ways. Moreover, Chiang Mai is a tourism and cultural hub; there are many potential agencies for the community to make a partnership in the cultural and tourism domain.

From one point of view, the community cannot avoid the consumer culture. Furthermore, the community does not refute the developments in the economic and social sectors. In reality, all developments are highly welcomed. The customer capital in TK can answer the questions of how the community develop its' economy and society without destroying the cultural heritage and how can the community live in the modern city life but at the same time still cherish their traditions.

5.3 Question 2: What is the appropriate TK defensive protection system for Thai community by applying Intellectual Capital Concept, Knowledge Management approach and WIPO/ UNESCO framework?

Answer:

5.3.1 Modifying the Process (Research Novelty)

Roos at al, (1997) recommends a process to manage intangible resources for an organization consisted of a four steps model: the vision or mission of the organization, translating the vision into strategies, identifying the key success factors (KFS), and selecting indicators to measure KFS. Roos also recommends consolidating indicators into one smaller measure to get a clearer picture of the value-creating process (see page 70). The intellectual capital process model is a business oriented concept and rarely applied to the non-business domain. In contrast, the challenge of this research is to apply the IC concept to a community's traditional knowledge for the first time in Thailand. The real added value of the intellectual capital concept is to provide a new perspective to the local community's intangible cultural heritage.

The main objective of this research is to propose a defensive protection system for the Thai local traditional knowledge that will provide the local communities a prototype of self management and protection from the misuse and the misleading or loss of the community's traditional knowledge. In order to accomplish the objective, the research has designed on a method based on three theoretical backgrounds - intellectual capital process, knowledge management process and risk management process. Therefore, the research has modified the intellectual capital process from the four steps process model to an eight steps process model to fit into our specific situation in the Mea-hiya community. However, the process can be complied with academic disciplines and practical approaches. To provide local communities a prototype of self management and protection from the misuse and the misleading or loss of the community's traditional knowledge, the research proposes a process to manage traditional knowledge which consists of eight steps.

5.3.1.1 A Process for Managing Local Traditional Knowledge (Eight Step Model)

Step1: Stakeholder analysis,

- Getting key people who are highly involved in the community's traditional knowledge subject.

Step 2: Strategies formulation

- Translation of stakeholders needs & expectations to formulate strategies in managing and protecting traditional knowledge

Step 3: Key success factors verification

- Using strategies to identify key success factors (KFSs). The KFSs are a list of must do activities to achieve the strategic goals.

Step 4: Indicators selection

- Measuring the achievement of each KFS by putting indicators to reflect each KFS.

Step 5: Risk analysis

- Identify the strategy and KSFs' risks will lead to key indicators
- Evaluation of risks (likelihood & seriousness valuation)

Step 6: Risk prioritization and indicator consolidation

- Assessing risk by using risk matrix to provide an understanding of the magnitude which leads to the risk ranking mechanism.
- Prioritizing risks and indicators provides the smaller number of indicators to improve the visualization of the value-creating processes of the cultural management.

Step 7: Surveillance function

- Creating the typical activation order of different levels of protection in response to a situation in the community to understand how different levels of protection are challenged as a typical incident develops.

Step8: Contingency planning.

- Creating the action plan to mitigate the risks. The plan includes the risk owner and knowledge requirement to manage the risk.

All steps require a full participation of the stakeholders to create a knowledge creation process to exchange knowledge and experiences and cerate new knowledge to solve problems in managing their community traditional knowledge. The results from the eight steps model should be the community's strategies, KSFs, indicators, risk monitor index and contingency plan in manage the community's traditional knowledge.

5.3.1.2 A Defensive Protection System for Local Community to Manage and Protect Traditional Knowledge

The Mea-hiya community traditional knowledge management system which is complied with the objectives of Thailand National Sustainable Development and international organizations particularly UNESCO and WIPO could be a prototype of a defensive system for the local Thai communities to manage traditional knowledge systematically and practically.

The general missions of a traditional knowledge defensive protection system are the following (Figure 5.4):
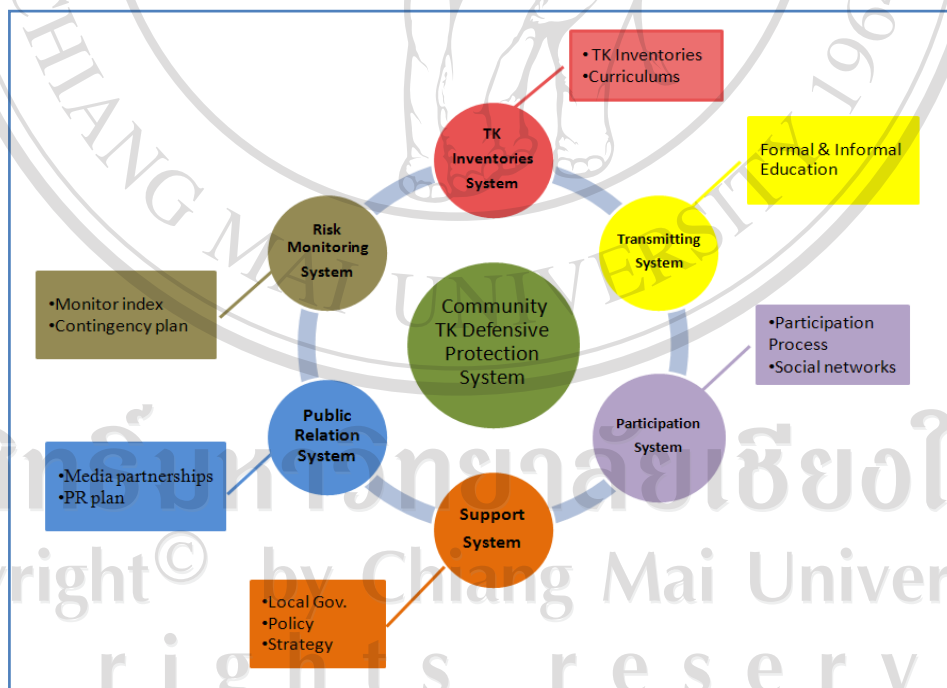
1) To encourage study and research to acquire more inventories about the traditional knowledge;

2) To enhance the promotion of traditional knowledge transmitting to the next generation under appropriate formal and informal education;

3) To promote and encourage the people to participate in cultural management and to recognize the value of traditional knowledge which is their intangible cultural heritage;

4) To establish support from government, NGOs and private agencies for managing traditional knowledge;

5) To disseminate the information about cultural heritage to the public so that they have a good understanding and cooperation in managing the traditional knowledge;

6) To monitor for improper exploitations of traditional knowledge for preventing and protecting the improper exploitations of community traditional knowledge.

Figure 5.4 General missions of a traditional knowledge defensive protection system

5.4 Question 3: What are the proper strategies to manage and protect the local community's traditional knowledge to survive?

Answer:

According to the research, the strategies that a community should have are:

- The strategy that encourages studying and researching to acquire traditional knowledge inventories;

- The strategy that enhances the promotion of traditional knowledge transmitting to the next generation under an appropriate formal and informal education;

- The strategy that promotes and encourages the people to participate in cultural management and to recognize the value of traditional knowledge which is their intangible cultural heritage;

- The strategy that establishes support from government, NGOs and private agencies for managing traditional knowledge;

- The strategy that disseminates the information about cultural heritage to the public so that they will have a good understanding and cooperation in managing the traditional knowledge;

- The strategy that keeps monitoring on improper exploitations of traditional knowledge for preventing and protecting the improper exploitations of community traditional knowledge.

5.5 Question 4: How to encourage the community to be aware and alert of protecting TK?

Answer:

5.5.1 Getting People Involved

According to the implementation of the eight steps process, the first thing is to have the key stakeholders indentified and selected. The result shows that seven key stakeholders of the Mea-hiya community are the local government, the Mea-hiya Community Cultural Council, local leaders, schools, temples, local philosophers, and the villagers.
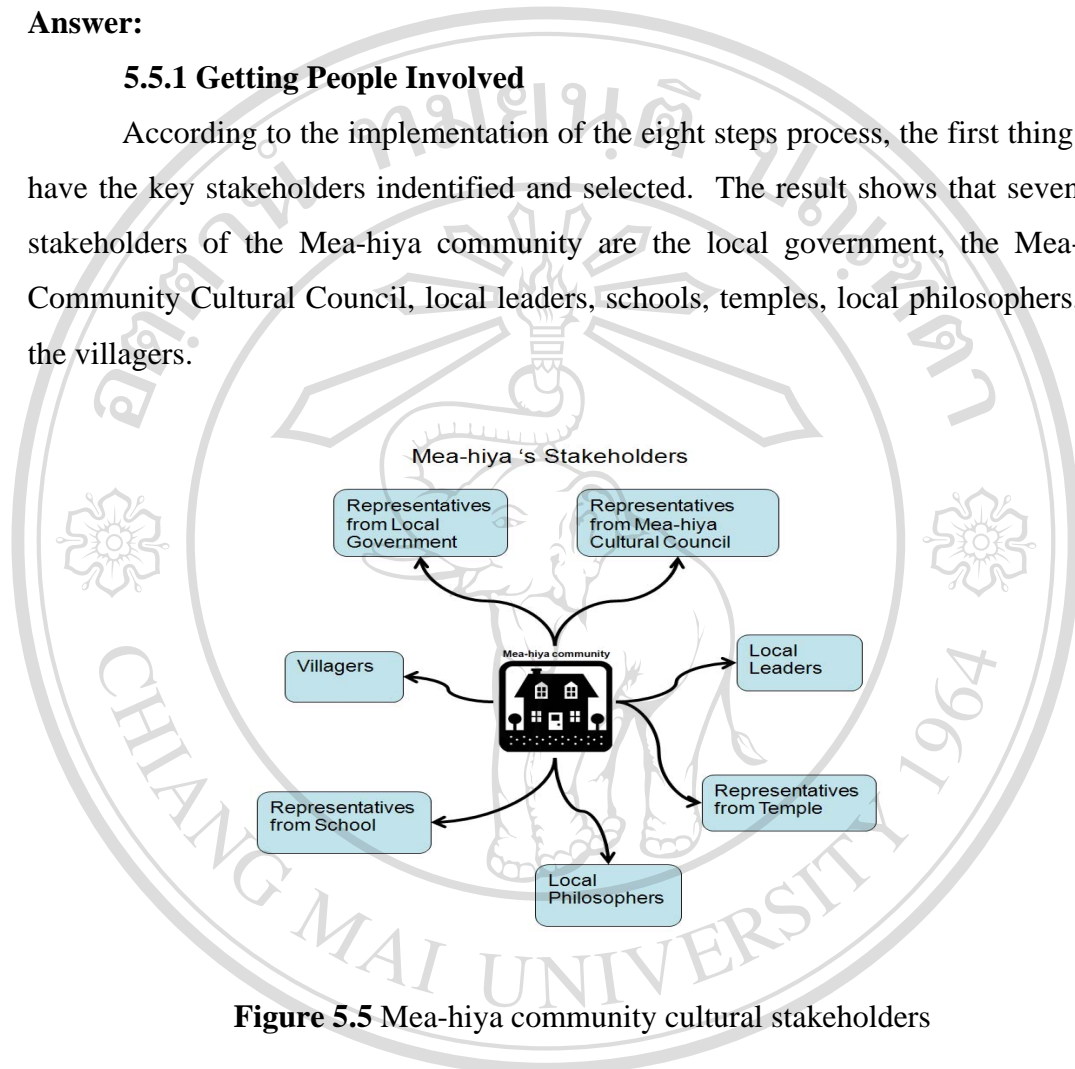
Figure 5.5 Mea-hiya community cultural stakeholders

The process allows the real key people in the cultural domain to participate in the process from the beginning. The community can focus on the right stakeholders who are considered as the most important people to the community's cultural domain. With several stakeholders coming from various segments of the Mea-hiya's society the procedure provides opportunity for the community to solve their problems; despite the minimum of participation from the people in the community for managing their traditional knowledge

229

Key points: Understanding the key stakeholders allows the Mea-hiya community to satisfy everyone's needs and requirements while receiving the much needed support. As the traditional knowledge projects become more important, the projects will affect more and more people. Some of these people have the power to undermine the projects and others may be strong supporters of the projects. The benefits of using a stakeholder-based approach for managing traditional knowledge are that:

- Using the opinions of the most powerful stakeholders (local government and cultural council) to shape the projects at an early stage. Not only does this make it more likely that they will support the project, their input can also improve the quality of the project.
- Gaining support from powerful stakeholders can win more resources for the project. This makes it more likely that the projects will be successful.
- Communicating to stakeholders early and often can ensure that they know what's happening in the community. The stakeholder can also fully understand the benefits of the cultural project which means they can support you actively when necessary.
- Anticipating to what the key stakeholders' reaction are to the cultural project provides the action plan that will win the key stakeholders support.
- Simulating the stakeholders to gain participation.

5.6 What problems that we solved in the Mea-hiya community?

Table 5.1 The Mea-hiya community TK situations and a defensive protection system

The Mea-hiya community TK situations (Chapter 1)	A defensive protection system
The life in the Mea-hiya community has changed tremendously led to the misuse, misleading and loss of local original culture	**Actions:** Teaching local history subject in schools Create the youth groups & support Activities The activities of recovering the tradition, inheriting the tradition and significant local rituals have been established in the official annual activity The local government has established the Three Generations Center to be the place for elders, middle age and youth participating together in any activity including cultural activities.
The cultural ritual has vanished from the community and some cultural ritual performances have changed the way of performing. Some of local philosophers who know about ritual, ceremony and traditional knowledge are now aging	**Actions:** The Mea-hiya culture council has arranged and video-taped the Dum Hua tradition and distributed to the school and public The cultural council is planning to revise the content of Liang Dong ritual by setting up a seminar among the ritual's experts Focusing on local philosophers to transfer knowledge
The Mea-hiya community had often at times experienced a big controversial	**Actions:** Strong Public relations The culture council president, village philosopher and local

misunderstanding issues	people have an opportunity to broadcast Liang Dong ritual to the public through the channel 5 television station
The council does not have the precise policies and strategies to provide a systematic way to manage their cultural heritage	**Actions:** Eight step process: Five Strategy, ten KSFs, thirty indicators, risk monitor index and contingency plan
People in the community haven't really participated fully in managing their cultural activities.	**Actions:** There would be a meeting to gain community's opinions for every cultural activity Stakeholders participation

5.6.1 Traditional Knowledge Management and Adaptation of Leang Dong Ritual

Having experienced big controversial issues from society in 2006 (see page 7), the Mea-hiyas have learned from their experiences to manage their traditional knowledge. They have adapted the Leang Dong ritual to keep their belief and faith survive in present society. From the community meetings, the Mea-hiyas have decided:

First, to solve the controversial unhealthful issue of eating uncooked meat and blood in the ritual, the community has begun to buy a cow form an official slaughterhouse. A villager is assigned to contact with the slaughterhouse two or three weeks before the ritual to find the most perfect cow available. Although the cow does not have all qualifications, the Mea-hiyas agree to buy the cow which has a health check certification.

Second, to solve the controversial of animal torture issue, the community has decided to have a cow killed in very early morning at a secret place by executioners. No people allowed participating in this event.

Third, to solve the public heavy negative criticism issue, the Mea-hiyas has begun to clarify their action by broadcasting Liang Dong ritual to the public through the channel 5 television station. The community has also disseminated the story of Leang Dong history to the people who come to see the ritual. This action creates a sense of understanding about the community's background and belief which had existed for centuries (Strategy No. 5, relational capital). The community has created opportunities to build a good image for the community as being the preserver of a very long and unique tradition (structural capital).

With these adaptations, the oldest and biggest Leang Phee ritual can continuously be performed meanwhile the Mea-hiyas are proud of their very old ritual.

5.7 What has been learned from the research?

Participation of the stakeholders is the key. The whole process is practical and quantifiable because during the process, the stakeholders have participated and provided their knowledge and experience to generate these matters. The social network is formed and senses of belonging is found because the people's experiences and opinions are important and used in managing the community's traditional knowledge. The stakeholders know better. The research result shows that the Mea-hiya community's strategies, KSFs, indicators, risk monitors index and contingency plan can respond directly to the cultural situations of the community because they are grounded by the stakeholders' needs and expectations.

Defensive protection system for TK is the best way for Thailand at this moment. It has been proven that Thailand does not provide sufficient protection to Thai traditional knowledge (see page 43). Because the positive protection system (special laws) must take time to create, the only way to protect the local community's traditional knowledge is by using a self defensive protection system. UNESCO and WIPO encourage the community to apply a defensive protection system. This includes the widest possible participation of communities and individuals to create,

maintain, and transmit traditional knowledge. In addition, it involves them actively in managing equally and disclosing information about patent registration, setting-up of traditional knowledge database, and the amendment of patent laws. The research demonstrated that the eight steps process encouraged the Mea-hiya community to reach some of these requirements (participation and TK inventory). The community itself plays the most important role in conserving their traditional knowledge.

The local communities' traditional knowledge can be adapted to survive and fit into the modern world. The Mea-hiyas has showed that they can learn from their experiences to adapt their traditional knowledge. From having serious controversial issues, the community has turned around the situation and created positive effects to the community image by managing their traditional knowledge properly.

Knowledge management and intellectual capital are supported and encouraged with each other. In the process, the intellectual process model deals with the allocation of cultural resources and encourages learning, participation, and forming an awareness to the community's cultural heritage. The knowledge creation process encourages stakeholders to exchange knowledge and experiences. New knowledge was created during their participation. The implementation of some community rules and regulations will allow the community to appreciate their cultural heritage value and to recognize the guideline mutually arranged by themselves in order to conserve, promote, and protect the community's traditional knowledge. Therefore, it is suggested that the local communities should continually promote community learning which will result in the efficient management of the community's cultural resources.

IC process can be applied to a non-business segment. In this research we learned how to apply the business conceptual model in the non-business context. In addition we found that the IC application was perfectly matched to traditional knowledge management. Traditional knowledge is a community's intellectual capital with very context specific. The application is suitable for a non-profit organization like the Mea-hiya community's body. The IC concept is also pragmatic and quantifiable which requires participation from related stakeholders to share their knowledge and experiences that can be examined in the Mea-hiya community.

5.8 Research limitation

As with any research, this study has several limitations. First, the use of secondary data has been criticized for being limited. Only one community was accounted; hence, limiting its generalization. However, the research already mentioned in Chapter 3 that the research aimed at a specific situation which can be contributed to classes of similar problems in similar contexts. Second, the research applied an IC concept, which is business oriented, to a non-business topic. There were no guideline literatures, no examples or similar case studies. The researcher had some difficulty in conducting the work. However, this might be a big challenge in providing a new perspective to the local community's intangible cultural heritage.

Despite these limitations, the results from this exploratory study are important and revealing. This study provides local community with insights to not only identify community intellectual capitals but also guide them to manage and protect their traditional knowledge effectively.

5.9 Research Generalization

Generalization of research findings is considered an important criterion for academic rigor. This is indeed important when the research aims at developing explanatory knowledge. However, this research has produced concepts of prescriptive solution. These concepts use heuristic rules that will never be generalized broadly. The research findings can be applied for solving a specific problem which can be contributed to communities that have similar problems in similar contexts to the Mea-hiya community. The community that can be applied the synthesis of 8 steps process and 6 systems to create the defensive protection should have the characteristics as followed:

- It is a rural community that is transformed to be an urban community with the issues of conserving its' traditional knowledge which lead to the misuse, the misleading and loss of its original traditional knowledge.

- It is an old community which has unique ritual or tradition that significant to society.

- A community is experiencing serious controversial cultural issues that might destroy the community's reputation.
- A community has a cultural council that has flaws in managing traditional knowledge to conserve, transmit and protect its' cultural heritage.

The following are some of the reasons in which the designed process and system can be extended and generalized to local communities which have the same characters as the Mea-hiya community in the future.

5.9.1 The Defensive Protection System of Traditional Knowledge for Thai Local Community

A local community should establish a standpoint in the traditional knowledge conservation, promotion, and protection along with utilizing them appropriately and impartially. With the fact that the local traditional knowledge should be managed, supervised and cared for by specifically-assigned community bodies. These issues are significant. They cover a wide scope, and must depend on specific knowledge and expertise. This system should consist of qualified experts (stakeholders), with specific knowledge and expertise in the traditional knowledge domain, who are selected from every segment of the community. Their main duties are to supervise and manage the traditional knowledge of the community. The eight steps process is actionable and quantifiable. It can be applied to set up a vision, policies, strategies, KSFs, indicators and a plan for risk management. The process can create a defensive protection system to manage the local traditional knowledge. The participation process must be implemented from the beginning in the community. The ultimate objectives are to arouse the community to recognize the value of their traditional knowledge, which will be further conserved, protected and utilized appropriately.

The defensive protection system includes the creation of TK inventories and the transmitting of TK to the next generation. It is also a system that encourages people to participate in cultural management, establish support from the local government, NGOs and private agencies, disseminate the cultural heritage to the public, and monitor for improper exploitations of traditional knowledge (Figure 5.5).

By establishing the community defensive protection system in the community with specifically-assigned duties in the management of cultural heritage, any actions carried out will be networked under the strong participation from all sectors. Furthermore, the concepts about the management of traditional knowledge will become systematic and pragmatic. These are the significant elements that will keep the conservation, promotion, and protection of the invaluable cultural heritage to be effective and sustainable.
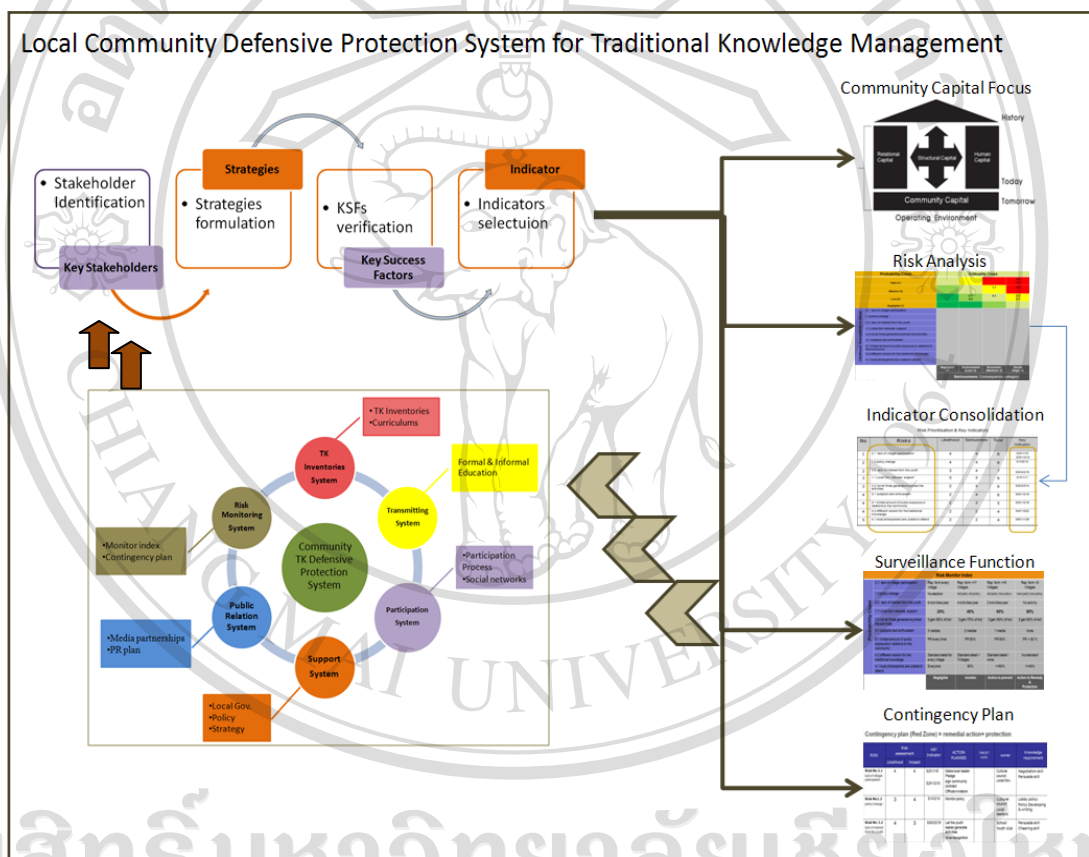
Figure 5.6 A defensive protection system for

the local community's traditional knowledge

Conclusion

Local communities are running a risk of losing of the cultural heritage due to an insufficient conservation and protection, and wrong/improper exploitations. Thus, in practice, managing and protecting traditional knowledge must be considered seriously.

The objective of this research aims to propose a defensive protection system for Thai local traditional knowledge to provide local communities a model of self management and protection from the misuse and the misleading or loss of the community's traditional knowledge. In order to accomplish the objective, the eight steps process model was designed based on intellectual capital process, Knowledge Management process, and risk management as theoretical backgrounds. This process has been experimented in the Mea-hiya community systematically.

The field experiment revealed that the process requires a full participation of identified stakeholders which have provided five strategies, ten KSFs, thirty indicators, a risk monitor index, and a plan for risk management to manage and protect their traditional knowledge. This community traditional knowledge can be adapted to the economical and social changes in the globalization. This traditional knowledge management constructs the direction of the community's intellectual capital which is to focus majorly on structural capital. The relational capital and human capital are nearly equal in focus. In addition, customer capital has been excluded due to the Mea-hiyas prefer to conserve their traditional knowledge more than to commercialize it as a product. However, with the stream of commercializing cultural values and tradition, the customer capital should be considered in the future by creating principles of reimbursing benefits to the community, promoting the community traditions, and acquiring supports form business sector extensively.

The research structured the Mea-hiya community traditional knowledge management to comply with NSDS, UNESCO and WIPO frameworks. The management consisted of eight step process and six systems. The eight steps process and the six systems have generated a new perspective to manage the Mea-hiya community's cultural intellectual capital. They could be a model which can provide a

contribution to solving a specific problem in a community that has endanger traditional knowledge that conflict to the new life style of new generation people.

Therefore, the research proposes a defensive protection system which consists of the eight steps process and the six sub-systems (Figure 5.5) which can be applied to a local community that has similar problems in similar contexts as the Mea-hiya community.

The eight steps process to manage and protect a local community traditional knowledge consists of step1) Stakeholder analysis, step 2) Strategies formulation, Step 3) Key success factors verification, step 4) Indicators selection, step 5) Risk analysis), step 6) Risk prioritization and indicator consolidation, step 7) Surveillance function and step 8) Contingency planning.

The system consists of six sub-systems including 1) the TK inventory creation system, 2) the transmission system, 3) the supporting system, 4) the participation system, 5) the public relation system and 6) the surveillance function system.

The defensive system requires strong participation from all relevant sectors. The system complies with the objectives of the Thailand National Sustainable Development, UNESCO and WIPO, thus making this system standard, practical and sustainable.