

Knowledge Management of Elderly People for Resources and Local Wisdoms Conservation in Mae-Sai Community

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Abstract: This research is a participatory action research. The objectives of the research are to: explore Mae-Sai community context; investigate problems in the conservation of resources and local wisdoms of Mae-Sai community; study the pattern of knowledge management of the elders on resources and local wisdoms conservation for lifelong learning in Mae-Sai community. The research area covered 4 villages of Mae-Sai sub-district, Rong-Kwang District, Phrae Province, Thailand. The data were collected from document, interviewing, focus group, learning stages and SWOT analysis brainstorming in community. The participants in the research learning process were the elderly, monks, volunteers for health care in community, the village committees, youths and government representatives numbering 60. The results revealed the four understanding elderly local wisdom among; the wisdom of indigenous herbal medicines which inherited the knowledge from ancestors from generation to generation; the wisdom of agricultural sufficiency; the wisdom of woven and the wisdom of Lanna folk music.

Key words: Knowledge management, elderly people, resources and local wisdom conservation, lifelong, learning

INTRODUCTION

Statement of the problems: In the 21st century, Thailand and other countries across to the world begin to enter a new current of change called “knowledge society” and “knowledge-based economy” which knowledge and innovation are main factors for development and production rather than capital and workforce. Many organizations put the importance on knowledge and an individual who is a creator and user knowledge. Besides, the 11th National Economic and Social Development Plan also put the importance on human resource development leading to the sustainable lifelong learning society. Manual learning among people of different ages is promoted on the basis of existing resources and local wisdoms as valuable capital used for the promotion of stability in the national economic and social aspects (ONESDBNESDB, 2014). At the present, a number of elderlies in Thailand increase rapidly. It is expected that Thailand will rank 5th in a number of the elderlies in Asia in 2025 or 13.9 million (Prusak, 2001). However, if they are able to be well self-reliant with good livelihoods, they can be an important power of the population group. Hence, the enhancement of potential of the elderlies in the

community of each area by the conservations is useful. Also, it promotes the elderlies to be proud of them that can construct benefits to the community or society.

Objectives of the study:

- To explore Mae-Sai community context
- To investigate problems in the conservation of resources and local wisdoms of Mae-Sai community
- To study the pattern of knowledge management of the elderlies on resources and local wisdoms conservation for lifelong learning in Mae-Sai community

Significance of the study: Mae-Sai community has the elderly capital having diverse local wisdoms such as herbs, village doctor, exorcise misfortune, ritual ceremony, sufficiency economy, basketry, local music, etc. Besides, there are health networks, i.e., health communicator and village volunteer in 4 villages of Mae-Sai sub-district. Both are important mechanism on the movement of health management in the community. However, Mae-Sai community still lack of the integration in the body of knowledge management of the elderlies. It is found that

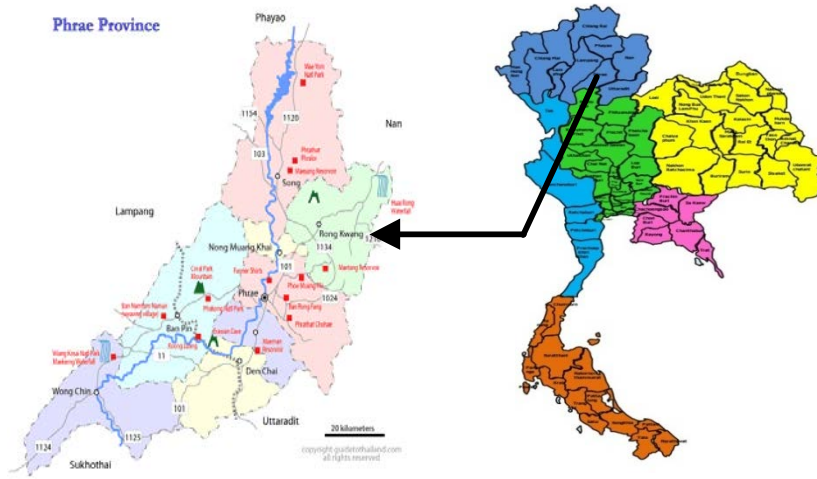


Fig. 1: Research area in Mae-Sai community, Rong-Kwang Districts, Phrae Province, Thailand

various local wisdoms accumulated mostly lack of transfer to new generations at a family, community and society level. Also, it lack of body of knowledge collection as an empirical system. This results in loss of local wisdoms or cultural roots and lack of sustainability.

Therefore, to conserve resources and local wisdoms of the elderlies in Mae-Sai community the researchers agreed to conduct a study on “knowledge management of elderly people for resources and local wisdom conservation in Mae-Sai community.” This aimed to promote the elderlies in Mae-Sai community to have an opportunity to show their potential in body of knowledge to the youths or community based on their accumulated experience. Their knowledge transfer will be beneficial of the community and it can be regarded as the construction of a quality society or lifelong learning. People of all sectors in the community participate in data seeking and collection, systematic body of knowledge keeping which can be retrieved and disseminated for the benefits to the public.

Scope of the study: This qualitative study employed a participatory action research. It investigated Mae-Sai community context, culture, elderly wisdoms and collected the body of knowledge/potential of the elderlies in the community which is beneficial to the community and public. Locale of the study covered 4 villages obtained by purposive sampling. It was a case in the areas where there are a lot of varieties of herbal plants in Mae-Sai community, Phrae Province which was shown in Fig. 1. People in Mae-Sai community had formed a group to establish the local wisdoms conservation center and they

had work experience in the form of parties with both public and private agencies. Key informants were 60 people who were knowledgeable in the conservation of local resources and wisdoms, community leaders, monks, community representatives, the elderlies who were knowledgeable in herbal plants, basketry, sufficiency economy, local songs/music, etc and personnel of local administrative organization. Personnel of public/private agencies and local people participated in brainstorming, implementation and decision-making as a lifelong learning. Obtained body of knowledge in Mae-Sai community would be extended to other communities.

Literature review

Knowledge management: Dr. Ryoko Tayama (Associate Professor, Graduate school of Knowledge Science, Japan Advance Institute of Science and Technology) as cited that by Saeteo (2005) had explained that knowledge can be classified into 2 types as follows.

Tacit knowledge: It is the knowledge gained by experience, talent and instinct of an individual in true understanding various things. It is the knowledge which is hard to communicate; it cannot be transferred verbally or in the form of written language or figure such as work skills, craft skill, analytical thinking, etc.

Explicit knowledge: it is a rationale knowledge which can be collected and transferred in various forms such as figure, written language, theory, formula and various manuals

The goal is to make tacit knowledge disperse to explicit knowledge. That is, it can be learned and

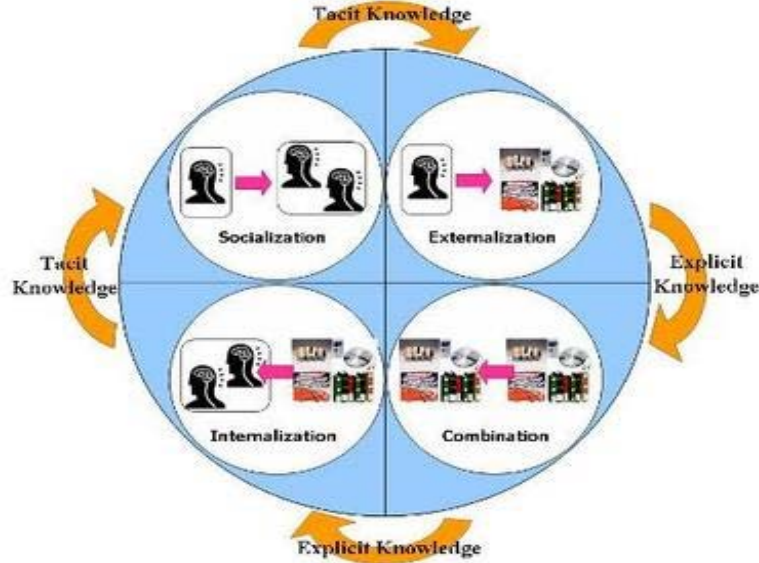


Fig. 2: The “SECI” cycle of knowledge management (Nonaka and Takeuchi, 1995)

transferred to other people or groups or it can be transferred within an organization or between organizations.

Conceptual framework of knowledge management:

Nonaka and Takeuchi (1995) had proposed a conceptual framework of knowledge management by setting a relationship between knowledge of the two types in the form of “SECI” cycle. It is a knowledge conversation cycle between Tacit knowledge and Explicit knowledge to have the occurrence of new knowledge without an end since learning happens all the time. The “SECI” cycle is the enhancement of knowledge construction in 4 aspects: socialization, externalization, combination and internalization as shown in Fig. 2.

The knowledge conversion process or “knowledge spiral” (SECI Model) is prepared by Nonaka and Takeuchi and it explains the knowledge occurrence and conversion in 4 forms as follows:

Socialization: It is the process of Tacit knowledge changing through experience sharing due to the same environmental condition. An individual can acquire Tacit knowledge through assimilation, observation or practice from hidden knowledge to hidden knowledge called “Socialization: S”. This is concealed knowledge exchange between individuals-learning exchange and knowledge construction which an individual having experience will transfer it to another through the process of practice. In fact, this “Socialization” is knowledge exchange which does not through a clear process or communicative tools.

Thus, this type of knowledge exchange must pass through direct interaction between individuals or practice in the actual situation such as knowledge transfer between the supervisor and the trainee.

Externalization: It is the process of knowledge conversion to be clearly appeared knowledge. This step is essential to the process of knowledge construction because it is the step of Tacit knowledge is made to be clear by a comparison, example giving or hypothesis setting—from Tacit knowledge to Explicit knowledge called “Externalization: E” In this process, an individual having Tacit knowledge tries to converse his knowledge to be Explicit knowledge by using a comparison, analogy, principle, concept, hypothesis or model. The conclusion of practice methods which a personnel of an organization discovers that it is the best method, not time consuming and save of organization resources is the operation manual for instance.

Combination: It is the process of the conversion of Explicit knowledge. That is, making a systematic thinking unit it becomes to be knowledge. This knowledge mainly arises from knowledge exchange of individuals together with knowledge through media and various knowledge channels such as minute exchange, conversation through telephone and computer networks. Therefore, the new knowledge in this process must be arranged or grouped from Explicit knowledge to Explicit knowledge called “Combination: C”. In this process, an individual has knowledge exchange and combination of Explicit knowledge through printed and electronic media.

Internalization: It is the process of the conversion of Explicit knowledge to be tacit knowledge from various knowledge which an individual again. That is, it becomes to be an untouchable valuable knowledge called "Internalization: I". Learning of an individual and experience gained from the socialization, externalization and combination process create knowledge as a new innovation of an individual obtained by a learning process such as skills in new jobs discovered from work experience and learning accumulated a long time.

Important component of knowledge management:

- People: it is the important component since people are important knowledge sources of an organization and they use knowledge for benefits
- Tool and technology: these are tool for people to seek for knowledge, keeping, exchange and application easily and rapidly
- Knowledge process: it is the management administration for the application of knowledge aiming to improve an efficiency in work performance and occur innovation

Steps of knowledge management: Knowledge management is like other science management. That is, there is planning and practice on survey of current condition and goal setting. An important implementation step includes knowledge generation and knowledge transfer.

Knowledge survey and planning: This begins with the survey of the current environmental conditions in terms of knowledge within an organization and goal determination. This aims to perceive the current conditions of the body of knowledge in the organization:

- The community needs for what additional knowledge aspects each strategic objective
- People in the community need for additional knowledge aspects
- How would it is beneficial to the society

The next operation plan included two parts:

- Knowledge development sources: this included time span and budgets
- Knowledge transfer: what knowledge which what agency must be the center for collection and dissemination

Knowledge generation: This focuses on the application of knowledge to an organization. This can be done by the following methods:

- Knowledge generation for the external agency. Examples are academic textbook buying, conclusion of news, invitation of a resource person, findings external resource persons, etc
- Knowledge generation inside an organization. Generally, it is the development by the agency established for care taking particularly on a research and development agency. Besides, there are forms of recording and analyses of matters whether it is successful or not. All of this can be called a case study assisting knowledge and experience transfer from generations to generations. A case study is a tool used widely for rapid and effective personnel development

Knowledge transfer and sharing: It is process making developed knowledge be dissemination to target personnel. The knowledge be different goals in two form:

- Emphasis on efficiency or the rapid dissemination of body of knowledge with the lowest costs
- Emphasis on effectiveness or the dissemination of complete body of knowledge with the least missing out

Local wisdom: Local wisdoms is a body of knowledge sharing the same meaning of folk wisdoms (Kohlbacher, 2006; Wattanaphun, 1997). In other words, folk wisdoms can be described as ideas, understanding and attitudes which have been developed by local people and it is as used in daily life activities. Also, local wisdoms can be referred to as "practical thought" which plays important roles in livelihood of man.

Local wisdom traits: Sirasoonthorn (2007) explained that wisdoms have two important traits: abstract wisdoms and concrete wisdoms. The former includes thinking process, outlook, values, benefits and meaning which people give to things around them. Also, it includes the philosophy in livelihoods related to daily life of an individual such as birth, getting old, ailment and death. The latter includes the yields of a body of knowledge of people in a particular society such as handicrafts, form of farming, music and equipment used in daily life activities. There are many kinds of wisdoms which relate to earning a living, livelihoods, arts and culture, tradition, thought, attitudes, buildings, tools/equipment, etc. This can be grouped into 9 types (Reason, 1994; Chimplee, 2012):

- Language and culture
- Religion and tradition
- Arts and architecture

- Education and learning
- Medicine and public health
- Natural resources and environmental conservation
- Livelihoods and way of life
- Governing and administration and way of life
- Governing and administration
- Production and consumption

Although, the afore wisdom traits are different but it is found that wisdoms has important properties which are consistent with each other:

- Holistic-integration of the three components : person, society and nature
- Equality and solidarity: it is put the importance in terms of related components
- Connectivity: connection with various system of the society
- Diversity
- Dynamic: change and flexibility in accordance with social and cultural conditions which have been changing all the time
- Transfer: from one generation to another generation by the process of socialization and social interaction

In addition, wisdoms must comprise process related to learning which will lead to the occurrence of wisdom understanding and perception of learning combination from diverse knowledge background. It does not cling to a particular kind of knowledge but it must be a situation having a continual process (situated knowledge). Besides, people must adapt themselves to be existent in the society based on self-understanding, world understanding and affirm stand point in correct and good way (Sirasoonthorn, 2007).

Elderly: Elderly can be referred to as a person of 60 year old and above and lives in locale of the study. Aging is an un-avoided phenomena happening to man. Panthong (2008) cited that the elderly is a person who is 60 year old and above. It is the age which body and mind are deteriorated.

Theory related to the elderly based on psychology: This theory attempts to explain causes making the elderly has change in personality (Phoosuwan, 2014) and it has two sub-theories.

Personality theory: This theory claims that the elderly is happy or not depends on background and spiritual development. That is old people grown up in a stable and

warm family usually are happy and able to stay with cousins happily. In contract, people grown up in a selfish or narrow minded family usually are not happy and cannot get along with other well so they are pitiful.

Brilliant theory: This theory believes that the elderly who still be brilliant is a person who is interested in various stories and be attempts to learn all time. Hence, he must be healthy and does not disturb other people.

The elderly participation in the construction of benefits

Roles in the family: Although, the elderlies have not many roles in economic aspects but they play important roles in the family. That is, they help lessen burden and make people of working age be able to fully earn a living. Most of the elderlie also play roles in family assistance such as watchdog and doing housework.

Participation in community activities: The elderly participation in community activities reflects their potential. It is found that most of the elderlies (male and female) still participate in community activities and cremation welfare is the activity found most (32.4%). This is followed by the elderly club (26.1%) and occupational group (11.2%), cooperative/saving group (11.2%). Based on age of the elderly, the elderlies of 60-69 year old are found to participate in community activities most. The elderly participation in community activities in urban and rural areas are clearly different. It is found that the elderlies living in rural areas participate in community activities rather than those living in the urban areas. This is due to tighten relationships of people in the rural areas.

Lifelong learning: Life long learning means the process of changes in thought, mind and physical skills to be positive. Educators define life as man growth, lifelong as a life span and learning as a process of positive behavioral change. This happened 30 year ago under the attempt of OCED UNESCO and Council of Europe to be responsive to deficiency happened in the past. Lifelong learning is not only adult education but also all forms of lifelong learning. Therefore, the facilitation of lifelong learning must put the importance on comprehensive view. In Thailand, it focuses on the education focusing on the occurrence of correct learning skills which are harmonious to livelihoods in accordance with body, mind and intellect. In other words, the elderlies must have enough knowledge and code of conduct under Progressivism learning (Leesuwan, 2000) through doing rather than knowing.

Participatory action research process: The concept about people participation is a process providing an opportunity for people to express their opinions or play roles in the responsibility of project implementation for community development. That is, they participate in every step from the beginning up to the end of a project (planning, implementation, assessment, problem analyses and responsibility sharing). Besides, the participatory action process is a technique on community problem investigation and analysis focusing on group forming of people in the community in the form of effective people organization. They must put the importance on data because it can help them analyze community problems and develop the community. Important traits of the participatory action research are: an analysis of community organization and community learning based on problem learning (Cassano and Dunlop, 2005; Kongmanus, 2016; Tarmuchi *et al.*, 2015).

MATERIALS AND METHODS

This research is a qualitative research which conducted by using participatory action research and knowledge management technique as a tool to create learning process in Mai-Sai community. The examples of research areas were 4 villages in Mae-Sai sub-district, Rong-Kwang district, Phrae Province. The population example consists of villagers, children and youths, occupational group network, village folk philosopher, assistant village headman of community leaders, sufficiency economy community's networks, experts and local academics in Mae-Sai community, including Mae-Sai chief executives of the administrative organization which participated to think to do to solve and to obtain a model of knowledge management of the elderlies on resources and local wisdoms conservation for lifelong learning together 60 people.

Research instruments: Semi-structured interview schedule, species list, focus group discussion and field trip recording form were used for data collection. The field trip recording form was of 3 parts: jotted notes, researcher inference notes and field notes developed by the researchers under the condition and community context. A brainstorming venue was held for SWOT analysis on knowledge management in the conservation of local resources and wisdoms in Mae-Sai community in the past. This aimed to seek for a model of knowledge management for the conservation of local resources and wisdoms.

Data collection: The qualitative methods were mainly employed for data collection. Techniques of data

collection comprised community evidence/documentary analyses, community survey (walking), in-depth interview with local scholars, focus group discussion, observation and informal discussion. During the interview and doing activities, the researchers observed and made a record about behaviors of information providers so that this data collection would be helpful in the understanding of behaviors of the information providers whether it was consistent with the interview or activities. Besides, a conversation technique was employed for checking correctness and validity the information or data between the researchers and the information providers (Chai, 2014).

For data validity and reliability testing, the researchers employed triangulation technique for reference, connection and conformity of data from various sources and different methods. This would nourish results of analyses be valid and reliable. Outcome reflection of the community venue after the conclusion of basic findings was also employed.

Data analyses: Daily and weekly data analyses were conducted after data had been collected by using in-depth interview, focus group discussion and observation. Obtained data were grouped and interpreted in accordance with content analysis for issue conclusion and an analysis of relationships between data groups (Kohlbacher, 2006).

RESULTS AND DISCUSSION

Mae-Sai community context: Mae-Sai community context was socially strong which could maintain traditionally physical condition. Most people there were engaged in agriculture and 90% were rice farmers, followed by corn growers, tobacco growers and soybean growers. They also were agricultural hired workers for earning supplementary incomes such as rice harvest, corn harvest, forest product collecting, etc. Besides, it was found that the belief has influence on their livelihoods such as merit making and donation. Regarding the conservation of resources and local wisdoms, it was found that Mae-Sai community has Mae-Sai temple as their spiritual center. They use northern dialect as the medium of communication. Besides, there was local wisdom about herbal plants for healing cancer, high blood pressure and diabetes. There was conservation of local music which was played during important festivals such as New Year day and Songkran festival. Moreover, the president of the local administrative organization put the importance on the development of quality of life of local people as well as the conservation of local resources and

wisdoms. The predominant body of knowledge on wisdoms of the elderlies in Mae-Sai community includes:

- Wisdom on herbal plant growing for healing diseases such as cancer and hemorrhoids
- Sufficiency agriculture focusing on the balance of livelihoods based on moderation, reasonableness and good immunity
- Wickerwork wisdom
- Local music wisdom

Four main problems in the conservation of local resources and wisdom in Mae-Sai community

Keeping data on wisdoms of the elderly: It was found that there was lack of the collection of body of knowledge or a specific skill on local wisdoms. Besides, there was lack of empirical wisdoms of the elderly and there was no transfer to new generations.

Methods of wisdom transfer and conservation: It was found that activities on wisdom transfer and conservation was not continual. The conservation and transfer were practiced during festivals only.

Personnel and local people: It was found that personnel and local people lack of special skills in the preparation of local curriculum for the occurrence of learning process for lifelong learning.

Public relations: It was found that there were inadequate media for public relations.

Elderly's KM patterns for resources and local wisdom conservation in Mae-Sai community: There are 4 phases for elderly's KM patterns for resources and local wisdom conservation in Mae-Sai Community which consist with "SECI Model" by Nonaka and Takeuchi (1995).

First phase is "Socialization" which share tacit knowledge through face-to-face communication or share experience. In a case of Mai-Sai's KM pattern use the exchanging and sharing their knowledge in a form of storytelling. This could be done through descendants in the community such as stories telling about herbal plants and wickerwork.

Second phase, is "Externalization" which focuses on tacit to explicit knowledge linking. It helps in creating new knowledge as tacit knowledge comes out of its boundary and become collective or crystallized knowledge. In

Mae-Sai have the exchanging stages both of inside and outside of community. Moreover, there was knowledge sharing in brochures, a manual on local wisdoms of Mae-Sai community and annual report for summarizing and improving in advance.

Third phase is "Combination" which transform from explicit knowledge to explicit knowledge. In this phase knowledge is also analyzed and organized. In Mae-Sai have KM patterns by using the knowledge distribution both inside and outside community through social media such as face book, you tube.

Fourth phase, is "Internalization" that is explicit knowledge is created using tacit knowledge and is shared across the organization became the learning spiral of knowledge creation. The case of Mae-Sai's KM Model use PDCA circle in managing their activities, study and develop the Mae-Sai local wisdom learning center. This was done through brainstorming, planning and assessment for the conservation of local resources and wisdoms.

CONCLUSION

The predominant elderly wisdom body of knowledge consisted of 4 aspects as follows: producing local medicinal plants; sufficiency agriculture; wickerwork and local music. All of these reflected knowledge and capability of people in the community as well as the abundance of social capital and local wisdoms until it was the local body of knowledge. This conforms to an idea by Panit (2005) which claimed that the intellectual capital and the natural resource capital are considered as a social capital assisting community development. This also conforms to a study of Na Thalang which revealed that the dimension of local wisdom management is not only data keeping without community-based but people in the community must be promoted to realize the values of local wisdoms which is essential. According to the problems in the conservation local resources and wisdoms, the following were found: elderly wisdom data keeping; methods of elderly wisdom conservation and transfer; local people and personnel and limitation of public relations.

Therefore, knowledge management is a method connecting man and knowledge. The raised process is learning exchange such as work experience between people the application of knowledge will cause new knowledge and those listening to new knowledge will apply it from one person to another person so it is an endless process. Besides, there is no fixed method or a certain place. It is the process of intention between the provider and the receiver for knowledge movement

leading to community development and sustainable knowledge management (Wanirittha, 2016). Due to problems in the conservation of local resources and wisdoms in Mae-Sai community, this leads to brainstorming and coordination in implementation, planning and seeking for models of elderly wisdom knowledge management for lifelong learning of Mae-Sai community. Eventually 4 models were found based on “SECI Model” by Nonaka and Takeuchi (1995). This comprised: “Socialization” which share tacit knowledge through face-to-face communication or share experience. “Externalization” which focuses on tacit to explicit knowledge linking. “Combination” which transform from explicit knowledge to explicit knowledge and “Internalization” that is explicit knowledge is created using tacit knowledge and is shared across the organization became the learning spiral of knowledge creation. The case of Mae-Sai’s KM Model use PDCA circle in managing their activities, study and develop the Mae-Sai local wisdom learning center. This is through the coordination brainstorming, implementation, planning and assessment for the conservation of local resources and wisdoms of Mae-Sai community. Like as the research published by Phuntulee (2009) launched that participatory learning process in community would lead to idea crystallizing by using knowledge based problem solution certainly, create participatory monitoring and evaluation process with related stakeholders in community and help improve human well-being continuously in community by learning process together from every groups in community. This conforms to a study by Wanichritta (2016) which proposed that knowledge management of each group or community should be consistent with operation and way of life of each group or community for the occurrence of explicit knowledge transfer and reuse it becomes to be tacit knowledge like SECI Model of Nonaka (Ikujiro Nonaka) and Takeuchi. This will be a basis for sustainable development and it will cause the connection of knowledge management in the province or other organizations.

RECOMMENDATIONS

There are some recommendation for community policy related to this, described as follows: it should have promotion on continual activity holding related to local wisdom transfer to create and awareness of good local wisdoms of the community. It should have the preparation of a pilot plan on local wisdom development and transfer (4 models) contained in the community pilot plan.

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REFERENCES

- Cassano, D.R. and J.M. Dunlop, 2005. Participatory action research with South Asian immigrant women: A canadian example. *Crit. Soc. Work*, 6: 1-2.
- Chai, A.A., 2014. A model of local wisdom knowledge management on bamboo shoot processing of baan phutoey community, Kanchanaburi Province. *Public Affairs J.*, 2014: 241-258.
- Chimlee, K., 2012. Knowledge management models for local wisdom in wickerwork handicrafts: A case study of local community enterprises in Nakhon Ratchasima Province. National Institute of Development Administration, Bangkok, Thailand.
- Kohlbacher, F., 2006. The use of qualitative content analysis in case study research. *Forum Qual. Sozialforschung Forum Quali. Soc. Res.*, Vol. 7.
- Kongmanus, K., 2016. Development of project-based learning model to enhance educational media business ability for undergraduate students in educational technology and communications program. *J. Adv. Humanities Soc. Sci.*, 2: 287-296.
- Leesuwan, C., 2000. Policy of lifelong learning promotion. Office of the Basic Education Commission, Thailand.
- Nonaka, I. and H. Takeuchi, 1995. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York, USA.
- ONESDBNESDB., 2014. The 11th national economic and social development plan. Office of the National Economic and Social Development Board: NESDB, Bangkok, Thailand. http://www.nesdb.go.th/ewt_news.php?nid=4153.
- Panit, W., 2005. *Knowledge Management of Practitioners*. Tathata Publication Company, Bangkok, Thailand.
- Pamthong, K., 2008. Health empowerment process of the elderly living alone at Viangsawan community, Mae Mo District, Lampang Province. BA Thesis, Chiang Mai University, Chiang Mai, Thailand.
- Phoosuan, N., 2014. *The Stress of Elderly in a District, Sakonnakhon Province*. Mahasarakham University, Talat, Thailand.

- Phuntulee, S., 2009. The development of Huay Mai's community master plan by community participation, area based. *Dev. Res. J.*, 3: 47-56.
- Prusak, L., 2001. Where did knowledge management come from?. *IBM. Syst. J.*, 40: 1002-1007.
- Reason, P., 1994. Three Approaches to Participative Inquiry. In: *Handbook of Qualitative Research*, Denzin, N.K. and Y.S. Lincoln (Eds.). SAGE Publications, Thousand Oaks, California, pp: 324-339.
- Saeteo, Y., 2005. Measurement analysis knowledge management: The key to build organization intelligent. National Productivity Institute, Bangkok, Thailand.
- Sirasoonthorn, P., 2007. *Community Practice on Learning: Concept, Technique and Method*. Chulalongkorn University Press, Bangkok, Thailand.
- Tarmuchi, R.N., H. Mohamed and A.S. Ismail, 2015. Asynchronous learning tools use in graduate study: A preliminary survey. *Int. J. Humanities Arts Soc. Sci.*, 1: 13-18.
- Wanichritta, T., 2016. *Knowledge Management in Community: A Case Study of Ecotourism Management by Participation of the Community*, Samut Songkhram Province. Silpakorn University, Bangkok, Thailand.
- Wattanaphun, C., 1997. *Current Indigenous Knowledge Systems: Research and Development*. Chiang Mai University, Chiang Mai, Thailand.