

## The Development of Knowledge Management Program For The Leader on Self-Reliant Melientha Suavis Pierre Growing Learning Center Based on Sufficiency Economy Philosophy in Thailand

Pairote Boriboon, Chalard Chantarasombat, Adul Pimthong

Article Info	Abstract
<p><b>Article History</b></p> <p>Received: June 05, 2021</p> <p>Accepted: January 10, 2022</p> <hr/> <p><b>Keywords :</b> Development, Knowledge Management Program, Leader of Self-Reliant Learning Center, Learning by Doing, Sufficiency Economy Philosophy, Life-long Learning</p> <p><b>DOI:</b> 10.5281/zenodo.5834322</p>	<p><i>The objectives of this research were; 1) to study situation, problem, and need before providing knowledge management for leader of Self-Reliant MelienthaSuavis Pierre Growing Learning Centerbased on Sufficiency Economy Philosophy, 2) to construct and develop Knowledge Manager Program for leader of Self-Reliant MelienthaSuavis Pierre Growing Learning Centerbased on Sufficiency Economy Philosophy, 3) to study the effect of usage in Knowledge Manager Program and 4) to evaluate the usage of Knowledge Manager Program.The target group included26 farmer families working in their farm and garden. The volunteer of the project was: (1) 8 families fromKhoabuekuy Community, Hloa Sub-district, Kosumpisai District, MahaSarakhmProvince, (2) 7 families from WangyaiCommunity, Wangyai Sub-district, Wangyai District, KhonKaen Province.The research instruments were: 1) the instruments in development (the training schedule, and handbook for developing the Knowledge Manager), and 2) the instruments for collecting data (the Achievement Test, Item discrimination, and Reliability, the Behavioral Evaluation Form of Knowledge Managers as Leaders of Self-reliant Center, The After-Action Record (AAR), and the Questionnaire on Satisfaction in Seminar Training of Knowledge Managers as Leaders of Self-reliant Learning Center). The statisticsused were the Percentage, Mean, Standard Deviation, T-test, and Effectiveness Index. The research resultsshow: 1) the farmers had their land for earning their living, but they had debt, 2) both of the training schedule and handbook, found that they consisted of Propriety, Feasibility, and Utility in the "Highest" level, 3) the efficiency of program on the efficiency of outcome were 86.59/80.75, 4) the effectiveness index of knowledge manager as self-reliant leaderswas 0.6745, 5) the self-reliant knowledge manager had satisfaction on the seminar training, in "High" level, and 6) it was difference before and after implementation.at .01 significant level.</i></p>

### Introduction

Knowledge Management was the process implemented systematically in knowledge searching, knowledge construction, and knowledge storage by collaborative learning of organization through the process of classification, analysis, and organization of knowledge. This could support the knowledge to be used, changed, and enhanced in using for work development, human development, and organizational development, for daily life (Panich, 2005). Knowledge Management was very important especially in agriculture, as major sector leading to sufficient living and consuming in community. Besides, it was the origin of every field on development which was staple for national security. After the economic crisis in 1997, the new theory of agriculture principles as the practice guidelines based on Sufficiency Economy Philosophy in agriculture, was applied in every level broadly. It led to sufficient living and consuming with the security, increasing expenditure, being self-reliant, and solving poverty problem. The agriculturists who applied the Sufficiency Economy Philosophy, had progress from the beginning, medium, and advanced levels. It was similar to Manolai S. (2014) on learning by doing theory. He was an agriculturist at Ban-pone-had, Dong-krang-noin Sub-district, Kastewisai District, Roi-et Province. In former time, he grew rice on chemical fertilizer. However, he had more debt since he lost his money in buying the fertilizer. Then he used the principle in explosion from inside, and searched for real leader in community who could be the model, and could develop the stimulation for villagers to do their own household account. Besides they explored their revenue-expenditure and figured how to decrease their expenditure by stopping using the chemical fertilizer, but turned to use the animal waste fertilizer instead of chemical fertilizer. It was not only to decrease their expenditure but also to obtain increasing profit per rai which could motivate them to have energy in searching for self-reliant technique. They had better quality of life as well as self-reliance. There was an empirical evidence that many agriculturists had sufficient

living. They could adjust themselves quickly and decreased their debt. They were able to gradually develop their revenue, and did the model agriculturist account. It led to the trend in making the organic agriculture and sustainable agriculture. There was the association in extending the body of knowledge into processing the agricultural product to get additional value in collaborative cost by using the Sufficiency Economy Philosophy in Area-based to help the poor in rural area. According to the study of current situation and problem of leader in learning source or learning center, there was no sufficient systematic administration and management for learning center on worthwhile utilization. In addition, the individual learning center or wisdom was the Tacit Knowledge by focusing on agricultural work; 1) the agriculture combining, 2) the rice seed growing, 3) the herb growing, 4) the rubber tree planting, and 6) the animal raising. It consisted of ready situation for learning activity management, but there was lacking components of sufficiency economy learning center, and the body of knowledge into Explicit Knowledge appropriately. It was rare opportunity in studying and learning the body of knowledge relevantly to various lifestyles as well as local situation. Leu-panya (2012) stated the collaboration by network alliance in body of knowledge from Research Unit for development of community strength as well as knowledge management. Department of Educational Administration, Faculty of Education, Northeastern University, claimed that learning by doing was successful in satisfied level. The Sufficiency Economic Learning Center of Manolai S., local philosopher, was interested in developing the agriculturist's potentiality which the target group was from the university, participated in being trainers as well as collaborative learning to help people who used to get poverty problem by single plant growing in order to allow them having increased revenue and decreased debt. Furthermore, it could solve the problem of their health from too much chemical use for growing. Recently, the villagers were able to be self-reliant. They intended to live on the basis of sufficiency continuously and sustainably in the long period of time. Therefore, the knowledge management into knowledge package of leader in learning source or self-reliant learning center should be established as the program for leader on self-reliant learning center which affecting learning by doing as major guidelines of the Research and Development appropriately in local situation as Human Potential Development as the model.

### Research Questions

1. What are the situation, problem, and need occurred before providing knowledge management of Leaders of Self-Reliant Learning Center based on Sufficiency Economy Philosophy in each community?
2. What the Knowledge Management Program for Leaders in Self-Reliant Learning Center based on Sufficiency Economy Philosophy in each community should be?
3. What are the effects of using the knowledge management program for Leaders in Self-Reliant Learning Center based on Sufficiency Economy Philosophy in each community?
4. What are the indicators of Self-Reliant Learning Center based on Sufficiency Economy Philosophy in each community should be?

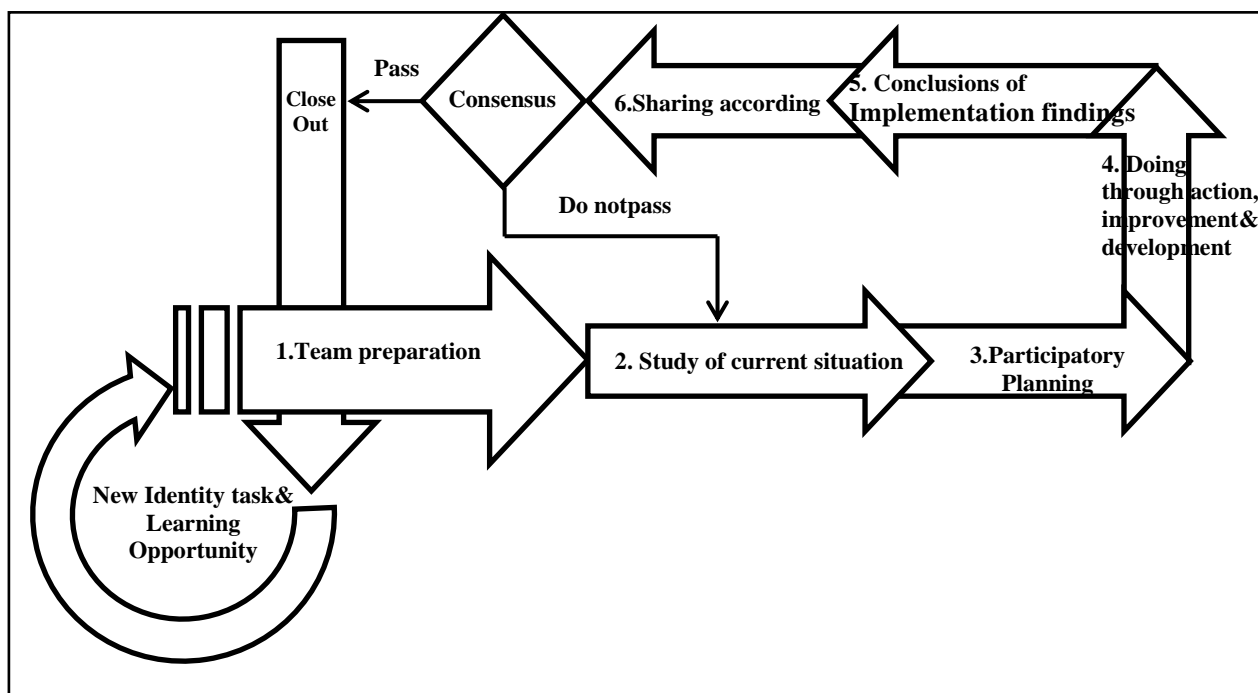
### Research Objectives

1. To study the current situation, problem, and need on the Self-reliant Leaders by using Workshop, and Problem Tree techniques.
2. To construct and develop the Knowledge Management Program for Self-reliant Leaders based on Sufficiency Economy Philosophy.
3. To study the effects of using Knowledge Management Program for leader of Self-Reliant Learning Center based on Sufficiency Economy Philosophy.
4. To evaluate the indicators before and after using the Knowledge Management Program for leader of Self-Reliant Learning Center based on Sufficiency Economy Philosophy.

### Conceptual Framework

The researcher studied, analyzed, and synthesized the body of Marquardt, Michael's (1999) stated learning organization in conceptual framework that the learning of organization was learning by doing as the whole process sharing as powerful program which the small group of people solved real problem occurring in their work together. In the meanwhile, learning was focused on 6 major factors in the learning model; 1) problem, 2) group establishment, 3) questioning and reflection process, 4) planning to real doing, 5) agreement on indicators as well as learning from team practice, and 6) facilitators. In addition, the researcher also analyzed and synthesized the learning model by practicing as the new approach of learning through application of learning by our natural surround. It was a small group learning in household level or community level of people who shared their opinion in general topics. This group was called learning by doing. They worked for problem solving on the issue to accomplish the same goal. The meeting of reflection was held to know the progress, to solve the problems or negotiations to find a good way in the future. Learning by doing in this study consisted of 6 steps including: 1) the identification of challenging opportunity to learn, 2) the participatory planning, 3) the

real learning, 4) the conclusion and recording, 5) the reflection, and 6) the sharing in learning as shown in Figure 1:



**Figure 1.** Action Learning Model Chantarasombat C. (2011)

### Research Methodology

The research methodology was the research and development which focusing on Action Learning in implementation area of 3 communities of implementation area; 1) Wangjan Community, Naka Sub-district, Wapi Pathum District, MahaSarakhmProvince, 2) Nongwang Community, and Kambonwiengchai Community, Nongwieng Sub-district, Banpeau District, Udon Thani Province, and 3) Koomkam Community, Nongplapak Sub-district, Srichiengmasi District, Nongkhai Province.

The target group were 26 farmer families working in their farm and garden. The volunteer from (1) 10 families from Wangjan Community, (2) 10 families from Nongwang Community, and Kambonwiengchai Community, and 6 families from Koomkam Community. They volunteered to participate the project by developing the learning center which were considered from modeled family.

This research was emphasized on the action learning process which could be implemented from the training schedule for 3 nights, 4 days with totally of 32 hours, 19 sub-programs focusing on knowledge and comprehension skill, actions skill, feeling, thinking, and awareness of one's potential development on Sufficiency Economy Philosophy. After training, they had to learn by practicing to be the leaders of Self-Reliant Learning Center implemented to the Life Quality Development Plan, Reflection, and Sharing among household members for 4-6 months. The training based on program for leaders of Self-Reliant Learning Center was implemented as follows: 1) 12 volunteers from Khoabuekuy Community, Hlao Sub-district, Kosumpisai District, MahaSarakhm Province, developed by providing the workshop during 26-29 February 2019 at the Sufficiency Economy Learning Center of SawangManolai, 2) 20 volunteers from Wangyai Community, Wangyai Sub-district, Wangyai District, KhonKaen Province, provided during 17-20 January 2019 at the Sufficiency Economy Learning Center of Mr. SawangManolai, and 20 volunteers who developed during 21-24 March 2019 at the Sufficiency Economy Learning Center of Mr. SuthatUpoltean.

### Research Implementation Phases

1. The mechanism of project implementation was prepared. The areas were surveyed. The target group was arranged. The field study on fish raising and moving forest into house, was studied for increasing the green areas for growing *Melientea Suavis Pierre* (PhakWaanPah), was developed meeting schedule and program for leader of self-reliant learning center based on Sufficiency Economy Philosophy.

2. The meeting was held for informing and making comprehension of the target group and developing the collaboration in the project implementation by outlining the leader of self-reliant learning center based on Sufficiency Economy Philosophy.

3. The workshop was arranged by using the Tree Model in establishing the plan for developing the quality of life, and the Handbook of leader of self-reliant learning center. The research instruments included training based on process, and the Handbook of Workshop Technique, the Tree Model in reviewing the establishment of Quality of Life in family level.

4. The workshop for situation analysis and goal setting of leaders of self-reliant learning center was held. The Participatory Plan was established in aligned with the leaders' potential development according to the specified schedule of 3 nights and 4 days by using the Handbook which classified into 3 groups. Group 1, the Wangyai Community and Khoabuekuy Community, included 15 persons. Group 2, Wangyai Community, included 7 persons. Group 3, Nongkukad Community, included 10 persons.

5. The promotion and support were performed for the target group to follow and implement plan of learning activity management by the modeled which classified into 8 households in Khoabuekuy Community, 7 households in Wyaiaang Community.

6. The seminar was held for following up the developmental progress, and reflecting the development of target group two times.

7. The power enhancement meeting was held for enhancing the level of knowledge and deciphering the lessons in effective knowledge management. The conclusion of the report shown work plan presentation and activity for improving in community level or Sub-district level.

### Research Instruments

There were 2 types of research instruments used in this research; 1) the instrument for work development including: (1) the training schedule for 3 nights, 4 days which was adapted from the training schedule of seminar by 3 local philosophers: KoonpoPratoompaChantee, Koonpor Soi-sa-klang Pai, and KoonpoManolaiSawang, (2) the Handbook for developing Knowledge Management for Leaders on Self-reliant Learning Center on Sufficiency Economy Philosophy, adapted from the administration and management program, and the scholar development for transferring the knowledge of Village and City Community Fund, and guidelines for learning the Sufficient Economy Philosophy of Sukotai-dharma-tirach University which it's Propriety, Feasibility and Utility checked by the experts rated at the highest level, and the accuracy was at a high level, 2) the instruments for data collection including: (1) the achievement test with item difficulty between .55-.81, item discrimination between .24-.81, and reliability values of total issue = 0.86, (2) the behavioral evaluation form adapted from Chantarasombat C. (2013.), (3) the After Action Record (AAR), adapted from Chantarasombat C. (2007), and (4) the questionnaire of Satisfaction in Seminar Training of Knowledge Management Program for Leaders of Self-reliant Learning Center by using the t-test cutting point, the item discrimination values were ranged between 2.30-7.00, The Reliability value of total issue was = 0.93, and (5) The Indicator of Success in Knowledge Management Program Self-reliant Development adapted from Chantarasombat C., and Singkeaw T., (2012), which the Item Discrimination values were ranged between 0.13-0.74, and the Reliability value of total issue was = 0.97.

### Data Analysis

1. The situation, problem, and need of leaders were analyzed by using the workshop of Problem Tree based on the specified research area as target group through the Frequency and Percentage.

2. The seminar for developing potentiality of learning center leaders, one's knowledge and comprehension were evaluated by the Test. One's action skill was evaluated by using the Behavioral Evaluation Form. The learning center leaders' indicators of success were evaluated by 73 sub-indicators. The satisfaction on training was evaluated by using the questionnaire through the calculation of the mean, standard deviation, t-test (Dependent), and the effectiveness index.

3. The qualitative data were analyzed by using the After-Action Review (AAR) for reflecting the individual work implementation as group work implementation.

### Research Findings

1. The results of situation, problem, and need before providing the knowledge management for self-reliant learning center leader based on Sufficiency Economy Philosophy in target group of 2 communities shown 1) the leaders of self-reliant learning center from Khoabuekuy Community, Hloa Sub-district, Kosumpisai District, MahaSarakam province and from 2) Wangyai Community, Wangyai Sub-district, Wangyai district, KhonKaen province could be classified as follows: 1) combined agriculture, 2) rice seed growing, 3) herb growing, 4) rubber tree growing, 5) tree growing, 6) beef cattle raising, 7) fish raising, 8) Melientha Suavis Pierre (PhakWaanPha) growing, 9) lemon growing, and 10) bio-organic fertilizer production for providing the learning activity management. However, there was no systematic administration and management for the learning center leaders in learning by doing worthwhile. In addition, the individual learning center or wisdom was the Tacit Knowledge still lacked of appropriate factor of learning center as Sufficiency Economy Philosophy as the construction of knowledge management, and deciphering of knowledge in Explicit Knowledge can be able to learn variously further. According to visiting and interviewing the leader of learning

center of Sufficiency Economy, the strong points and weak points, problem, and obstacles of Self-reliant Leaders on Sufficiency Economy Philosophy were found as follow;

1.1 The strong points were 1) they own their area, 2) their labor were local people, 3) they had various techniques in farming, 4) they had confidence in making decision on action or doing, 5) they didn't use chemical substance in farming, and used the organic substance instead, except the rubber tree which they used chemical substance in some areas.

1.2 The weak points of Self-reliant Leaders on Sufficiency Economy Philosophy were 1) the leaders did not have plans in solving their debt problem, 2) they didn't collect data in revenue-expenditure continuously, 3) the scenery of learning center wasn't perfect, for instance, there was no restroom, no seat for visitors, 4) there were no factor indicators of self-reliant learning center on Sufficiency Economy Philosophy, 5) there was no intellectual knowledge as skill, and awareness of self-reliant in using bio-organic fertilizer for reducing one's expenditure, and 6) there were no sustainable readiness and supporter for knowledge management on the type of self-reliant learning center leaders on Sufficiency Economy Philosophy.

1.3 There was the need for developing the self-potentiality in order to have learning source as learning center for self-reliant according as guideline models of local scholars, and the field study of guidelines for Sufficiency Economy leading to self-reliance led to learning by doing, reducing one's expenditure, increasing one's revenue, and removing one's debt in the future.

2. The construction and development of knowledge management program for leaders of self-reliant learning center based on Sufficiency Economy Philosophy were as follows:

2.1 The researcher used the approach of leaders of self-reliant learning center of Nanoka and Takeuchi' (1995). Jennex (2005) defines knowledge management as the practice of selectively applying knowledge from previous experiences in decision making for current and future decision-making activities with the express purpose of improving the organization's effectiveness. Jennex and Zakharova (2005) viewed a knowledge management system, KMS, model as that system created to facilitate the capture, storage, retrieval, transfer, and reuse of knowledge. Sary, Chantarasombat and Sirisuthi (2011) viewed a knowledge management system, is composing data, information, and knowledge. Alavi and Leidner (1998) claimed knowledge management systems, KMS, viewed information systems that have evolved from the need to enable systematic organizational learning and memory by facilitating the coding and sharing of knowledge across organizational entities that previously may have had little occasion for interacting. For example, an understanding of the effective development and implementation of KMS requires a foundation in several rich research literatures including: organizational learning, the sociology of knowledge, and the resource-based theory. Moreover, Chantarasombat C. (2007, 2009 and 2010) mentioned knowledge is a tool of creating added value, intellectual properties and competitive capability through 5 principles such as; morality, intelligence, right economic, right state, and strong society. Alavi and Leidner (2001) viewed that knowledge management involves distinct but interdependent processes of knowledge creation, knowledge storage and retrieval, knowledge transfer and knowledge application. Wiig (1993) stated that knowledge by the insights, understanding, and practical knows how the will all possess is the fundamental resources allowing us to function intellectually. Panich (2008) and Chantarasombat (2010) concluded the Knowledge Management in leaders of self-reliant learning center as follows: the knowledge construction, the knowledge classification, the knowledge storage, the knowledge application, the knowledge sharing, and the promotion of knowledge for being the conceptual framework in implementation by leaders of self-reliant learning center.

2.2 The researcher used the conceptual framework in constructing and developing the knowledge management program for leaders of self-reliant learning center based on Sufficiency Economy Philosophy from 3 local philosophers who were in the Northeast region as follows:

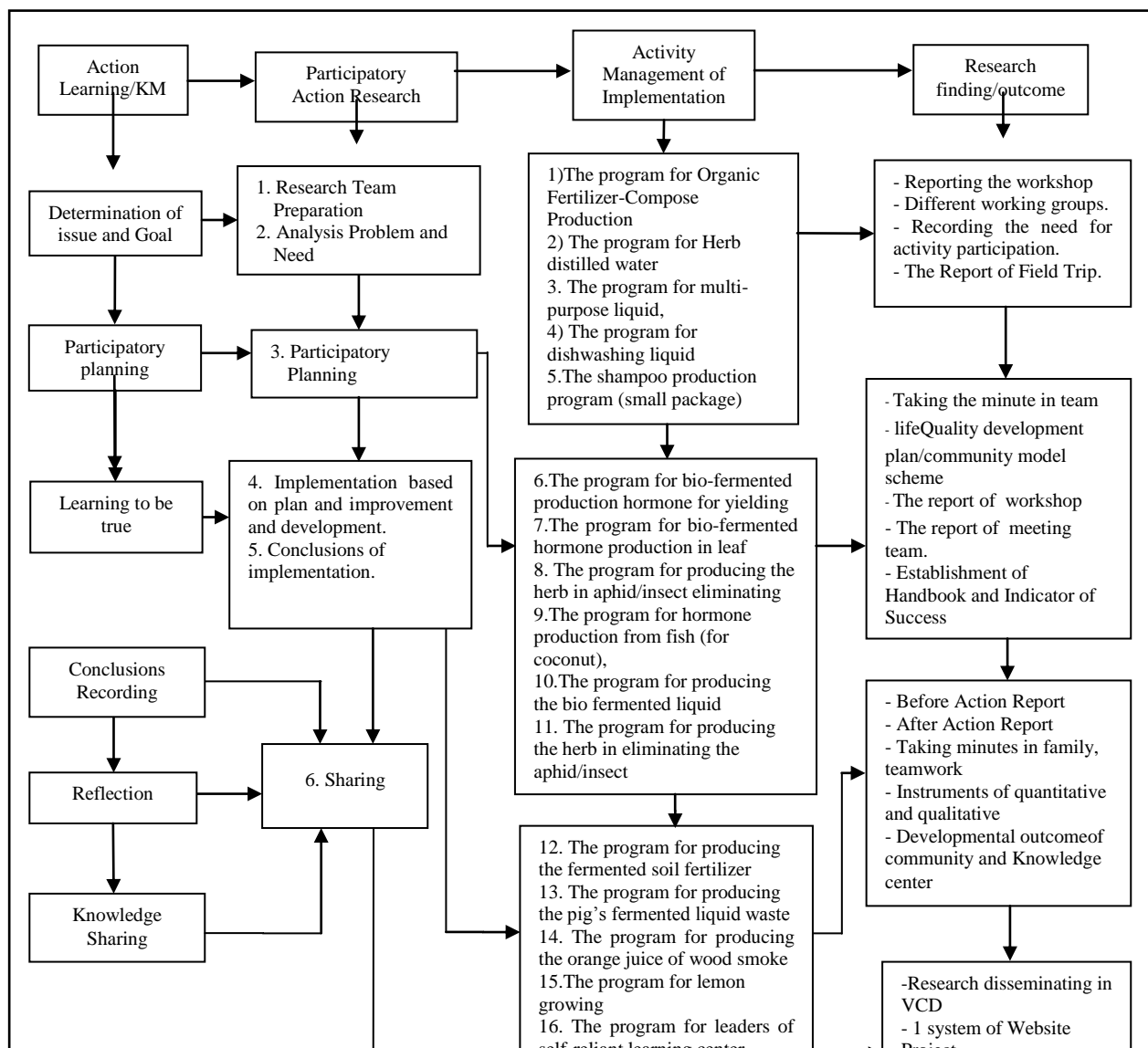
2.2.1 Pratoompa (2018) offered 7 approaches for developing the leaders of Sufficiency Economy Learning Center as follows: 1) the training/field study, 2) the changed approach, 3) the crisis changing into opportunity, 4) the usage of virtue for living, 5) the team building/collaborative planning, 6) the work practice, and 7) the collaborative conclusion, improvement, and development.

2.2.2 Manolai (2018) had the approach for developing the leaders of Community Learning Center for reducing the poverty. The factors for developing the Knowledge Management Program of Community Learning Center were as follows: 1) the study and analysis of community problem and living, 2) brainstorming and searching for guidelines in solving the problem of community, 3) searching for effective role model, 4) the usage of Knowledge Management Process on Sufficiency Economy Philosophy, and 5) the establishment of occupational group in community for developing the guidelines of Sufficiency Economy Philosophy.

2.2.3 Suthat (2018) had 9 approaches for developing the leaders of Sufficiency Economy Learning Center as follows: 1) collaborative planning, 2) the practice, 3) the study from nature, 4) closing leaked hole (reducing one's expenditure), 5) the negotiation and sharing, 6) the trying out, 7) the conclusion, 8) the network construction, and 9) the virtue.

2.3 The conceptual framework of leaders for Self-Reliant Leaders, and program construction for leaders of self-reliant learning center based on Sufficiency Economy Philosophy from 3 local philosophers was the Tentative Conceptual Model which included 18 sub-programs with 3 nights 4 days (32 hours). The Knowledge Management Program consisted of the knowledge sector including: the knowledge management, the leadership, and the sufficiency economy. The practice sector consisted of Life Quality Plan, Household Account, the Compost Production, Fish Food Production by using the Red Maliophaga, growing Melientha Suavis Pierre, and Learning Center Management, and the Affective Part including the Feeling, Interest, and Application. 18 sub-programs were as follows: 1) the program for Organic Fertilizer-Compose Production, 2) the program for Herb distilled water, 3) the program for multi-purpose liquid, 4) the program for dishwashing liquid, 5) the shampoo production program (small package), 6) the program for bio-fermented production hormone for yielding, 7) the program for bio-fermented hormone production in leaf, 8) the program for producing the herb in aphid/insect eliminating, 9) the program for hormone production from fish (for coconut), 10) the program for producing the bio fermented liquid, 11) the program for producing the herb in eliminating the aphid/insect, 12) the program for producing the fermented soil fertilizer (growing soil), 13) the program for producing the pig's fermented liquid waste, 14) the program for producing the orange juice of wood smoke, 15) the program for lemon growing, 16) the program for leaders of self-reliant learning center, 17) the program for surveying the revenue-expenditure and household account, and 18) the program for life quality development.

3. The results of usage Tentative Conceptual Model and the Handbook of development for leaders investigated by 5 experts found that: 1) the Tentative Conceptual Model for Leaders of Self-reliant Learning Center consisted of Propriety, Feasibility, and Utility at the highest level. In addition, its accuracy was at a high level of propriety. It included 2 major factors as follows: 1) the program with theoretical approach on construction of knowledge and comprehension for leaders of self-reliant learning center, with 3 sub-programs, and 2) learning by doing or practice as well as real practice, concluded into body of knowledge, be able to have field study, revision, and reflection the learning performance from practice for another 1 sub-program as the program for growing Phak Waan Pha with 16 sub-programs, the target group's need was added into total of 22 sub-programs, 2) the Handbook of development for leaders of Self-reliant Learning Center consisted of Propriety, Feasibility, and Utility at the highest level. In addition, its accuracy was at a high level of propriety. The conclusion shown below;



**Figure 2:** Model Development of Knowledge Management Program for Leaders of Self-reliance by Sufficiency Economy Philosophy (Chantarasombat, 2014)

4. The results of trying out the program were found that there were programs with theoretical approach, and the Handbook of development for Leaders of Self-reliant Learning Center, and potential development for leaders of self-reliant learning center focusing on construction of knowledge and comprehension, and learning by doing, trying out the real practice, the program efficiency for leader of self-reliant learning center on Sufficiency Economy Philosophy, and feeling on the developed training as follows:

4.1 The Leader of Self-reliant Learning Center, developed their own potentiality including both knowledge and comprehension, and the efficiency of process toward the efficiency of outcome at 85.56/81.59. Furthermore, the Effectiveness Index of leaders of self-reliant learning center was at 0.6854.

4.2 The Leader of Self-reliant Learning Center, had satisfaction on workshop on the management, practice skill, application, training place, in overall, at a high level.

4.3 The implementation of evaluating indicators of success for Leader of Self-reliant Learning Center, in the decrease of expenditure and increase of revenue, social development and each family hygiene had significant differences between after and before the implementation at .01 level.

## Discussions

1. According to the study of situation of target group of learning centers in 3 communities, the leaders of self-reliant center from 1) Khoabuekuy Community, Hloa Sub-district, Kosumpisai District, Maharakham Province and 2) Wangyai Community, Wangyai Sub-district, Wangyai District, Khon Kaen Province could be classified as follows: 1) combined agriculture, 2) rice seed growing, 3) herb growing, 4) rubber tree growing, 5) tree growing, 6) beef cattle raising, 7) fish raising, 8) Melientha Suavis Pierre growing, 9) lemon growing, and 10) bio-organic fertilizer production which led to decrease expenditure as well as increase of revenue on Sufficiency Economy Philosophy with 10 leaders for self-reliant learning center on constructing the knowledge package. Related to Leu-panya (2012) studied the situation in learning center of Sufficiency Economy Philosophy of 2 villages at Moo 8 Khoabuekuy consisted of 2 learning centers, and the learning center of Sufficiency Economy in combining agriculture with 7 learning centers as follow; 1) combined agriculture, 2) rice seed growing, 3) herb growing, 4) rubber tree growing, 5) tree growing, 6) beef cattle raising, 7) fish raising which was ready for providing the learning activity management. However, there was no systematic management of administration and management. As a result, the self-reliant learning center wasn't utilized in Education appropriately. There was still a lack of factors for developing the learning center in scenery and services. Besides, there was no restroom or toilet, and implementation for developing the learning source in school for providing the school surrounding as knowledge-based for students to study. The implementation findings caused the participants to obtain knowledge and comprehension, competency in developing the learning source. In addition, the research findings of Wootikrai Kampang (2014) found that the situation of learning source in Koo-kamsing Sub-district, Kasetwisai District, Roi-ed Province, consisted of 6 learning sources; 1) the local silk, 2) the new theory agriculture, 3) the local wisdom museum, 4) the village literary, 5) Cambodian ancient place, and 6) Don-poo-ta. These places were prepared for providing the learning source. However, there was no systematic administration and management. Consequently, the learning source wasn't utilized in Education appropriately. The learning sources were lacked of factors in developing the learning source in scenery and services. There was no restroom or toilet, learning source as person or wisdom, Tacit Knowledge, the deciphering of knowledge in Explicit Knowledge. The evaluation from 5 experts, shown the construction and development of Knowledge Management Program for Leader of Self-Reliant Learning Center on Sufficiency Economy Philosophy that it consisted of Propriety, Feasibility, and Utility at the highest level.

The research participants implemented in providing the learning activity management from real practice until they obtained appropriate knowledge leading to participation on interested issues with 19 sub-programs and in 3 nights and 4 days (total of 32 hours). The programs could be classified as follows: 1) the program of producing the organic fertilizer-fermented fertilizer, 2) the program of producing the herb distilled water, 3) the program of producing the multi-purpose liquid, 4) the program of producing the dishwashing liquid, 5) the program of producing the shampoo (small package), 6) the program of producing the fermented hormone for increasing the yielding, 7) the program of producing the fermented hormone for increasing the leaf and root (original extract formula), 8) the program of producing the herb eliminating the aphid/insect, 9) the

program of producing the hormone from fish (for coconut), 11) the program of producing the herb in eliminating insect, 12) the program of producing the soil extract (growing soil), 13) the program of producing the pig's fermented liquid waste, 14) the program of producing the orange juice of wood smoke, 15) the program of lemon growing, 16) the program of leader of self-reliant learning center, 18) the program of developing the quality of life, and 19) the program of growing *MelienthaSuavis* Pierre. This was related to the program for development for leader on self-reliant learning center of Mr. ChanteePratoompa (2012) whose approach was to develop the leader of self-reliant learning center in 7 issues as follow; 1) the training/field trip study, 2) the approach changing, 3) the change of crisis into opportunity, 4) the use of ethics principle for one's living, 5) the team building/collaborative planning, 6) the work practice, and 7) the collaborative conclusion, improvement, and development. Moreover, Soi-saklang( 2012) developed the leader of self-reliant learning center in 7 issues as follow: 1) the collaborative planning, 2) the practice or doing, 3) the learning from nature, 4) the close of leaked hole (reduce the expenditure), 5) the negotiation and sharing, 6) the trying out, 7) the conclusion, 8) the network construction, and 9) the virtue. Besides, His Majesty the King BhimipolAdulyadech (The Office of Special Board for Collaboration in Royal Initiation Project, 2007.) claimed the initiation included to be love, be united, the individual and group of person had to know that when they want to implement any thing, they had to know all factors, problem, and how to solve the problem. They had to love, consider the practice for solving that problem. In addition, the unity to be practice should consider that we couldn't do by ourselves. We had to collaborate in organization or group in order to have power to solve the problem successfully. AsWasee P. (2012.) stated that the individual's learning wasn't sufficient for accomplishing that issue because the other persons as well as related institutions didn't learn. The collaborative learning was the only thing for success.

2. The findings in trying out the program through workshop for leader of self-reliant learning center on Sufficiency Economy Philosophy shown the program of the theoretical approach focusing on the knowledge, comprehension, learning by doing, real practice on efficiency of developed program which had the efficiency of outcome at 86.59/80.75. Moreover, the Effectiveness Index of leader in self-reliant learning center was relevant to Chantarasombat (2008), the lesson plan in aligned with student-centered practice in 501803 Educational Management for Local Management had the efficiency of outcome at 80.79. Furthermore, the overall Effectiveness Index was 0.5742 which indicated that the students increased knowledge 57.42% relating to the findings of Chantarasombat C. (2009) which stated that the efficiency of outcome was 80.76/92.99. In addition, the overall Effectiveness Index was 0.6745 which showed the knowledge management for leader on self-reliant learning center obtained more knowledge for 67.45% which was related to Smith (2001) that the efficient teaching preparation was the important part of good teaching by using the inquiry learning level as an instrument which leading to key goal for lesson plan writing consisting 2 phases; phase 1 comprised the lesson plan writing, and phase 2 comprised the teaching on preparing lesson plan by the inquiry learning activity management.

3. The knowledge management for leader on self-reliant learning center had satisfaction on workshop, at a high level. It might be because the leader of self-reliant learning center, wanted to learn by doing in order to be the leader of knowledge management program for increasing the level of knowledge as well as expanding the findings for those who were interested in this issue. They were persistent and dedicated in the workshop until they had knowledge, comprehension and application. The scholars had knowledge and competency. The training place was appropriate at the highest level. The implementation was successful in every step. The certificate was provided to assure the quality. Although the programs were spent for 3 nights and 4 days (32 hours), they learned and were skillful with real practice. They studied from field study as well as field practice. They learned community lifestyle and directed experience, they knew how to develop their analytical thinking, synthetic thinking and knowledge by themselves and were able to apply their knowledge in work practice as well as daily life. This related to Chantarasombat C. (2008) that the students had satisfaction in teaching and teaching media at a high level. The student-centered instructional management included the nearby content. The students added their opinion that the instructors were friendly and paid attention in students' learning well. The instructors encouraged students, explained the content clearly, presented new knowledge, provided various learning managements by integration and being flexible in instruction. Consequently, students learned happily and cheerfully. They always participated in instructional activity, learned by real practice leading to the skillfulness, went for field study and field practice, learned the community lifestyle and obtained direct experience and knew how to develop their analytical thinking and synthetic thinking process. They could construct the knowledge by themselves and were able to apply their knowledge in their work practice as well as daily life. As a result, they had satisfaction in the teaching performance in Educational Management for Local Development at the highest level which relevant to the study of Chantarasombat (2009) that shown the students who enrolled in the subject of "Educational Management for Local Development" focusing on students' real practice had the satisfaction at the highest level. This meant the program could enhance understanding attitude, and skills of learning management. Moreover, a pilot project had indicators, retention in learning after studying 2 weeks of secondary teachers in the development on self-learning module of entitled "Doctoral Program Learning Module on

Developing Leading Secondary School Teacher in Creative Thinking for enhancement of Students' Learning Activities in Thailand (Chantarasombat&Sombatsakulkit, 2021, p.138-149)and Chantarasombat&Agsonsua (2021) in participatory action research. Consequently, the same studying of entitled "KM, PAR, sufficiency Economy Philosophy, and Growing PhakWaanPah for Self-reliance it, an analysis of the nutrient testing results from large and small leafy wild vegetables in the amount of 200 g / bag were examined on August 28, 2020 to September 23, 2020, found that they were antioxidant vegetables, nourishing the body with the macronutrients calcium at 6,185 mg / kg, phosphorus at 1,235 mg / kg and vitamin A at 247.23 mg / kg. Furthermore, the Northeastern University Blackout tea innovation for double-high quality could show healthy teeth and could cure the allergy(<http://www.centallaphthai.com/TRKK63/13602/23 SEPTEMBER 2020>).

## Recommendations

### 1. Recommendations for work development

1.1 The program for developing the leaders of self-reliant based on Sufficiency Economy Philosophy, with 32 hours, consisted of 19 sub-programs. It was associated with the workshop and learning by doing with local philosophers, and the knowledgeable persons as leaders of self-reliant center which adjusted by increasing or decreasing the activity according to the leaders of self-reliant center.

1.2 The participants should study, learn, and participate in recommended activities from the Handbook of Workshop for leaders of self-reliant center based on Sufficiency Economy Philosophy developed,

### 2. Recommendations for future research

2.1 The Participatory Action Research should be conducted with former target community in order to show its development in both household level and group level by following up and reflection continuously.

2.2 The target group community should be promoted and supported to learn the implementation for reducing the expenditure, increasing the revenue, and withdrawing the debt by collaborating from both public sector organization, and private sector organization such as the Hloa Sub-district Administrative Organization, Kosumpisai District, MahaSarakhm Province, by providing the continuous project.

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#### Author Information

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**Parote Boriboon**

Northeastern University, Thailand

**Chalard Chantarasombat**

Faculty of Education, Northeastern University, Thailand

**Adul Pimthong**

Faculty of Education, Northeastern University, Thailand