

The Participatory Local Curriculum Development on Crab Bank in the Southern Border Provinces

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Abstract

This study prioritized the development of the local curriculum on the Crab Bank under the research project on participatory management of the crab bank to restore blue swimming crab resources, add more crabs' value, and develop a local curriculum for schools in the southern border provinces of Thailand that recognized the importance of local curriculum and the cost of knowledge about the crab bank to the communities and schools, leading to the development of local curriculum for primary schools in the 3 southern border provinces. This study employed document analysis with participatory action research among higher education institutions, schools, and communities. Three primary schools were selected were in 3 areas consist of Thepha District, Songkhla, and Panare District, Pattani. The findings suggested that the basic knowledge of the crab bank that corresponded to primary school students consisted of 6 key contents: 1) gathering of groups and volunteers for the crab bank, 2) necessary crab bank models and necessary public utility systems, 3) the origin of mother berried crab or crab eggs, 4) crab hatching and nursery, 5) releasing baby crabs into natural water sources, and 6) performance evaluation. The content of the crab bank was consistent with the Social Studies Course's indicators in the Department of Economics and Geography, including the Occupation and Technology Course. Moreover, the local curriculum produced value and space use as well as sustainability in education, community economy, and society. This research display learning vision of the local crab bank curriculum aimed to develop students to understand the importance of the benefits of establishing a crab bank, utilization of fishery resources, and most importantly creating environmental awareness in conserving resources in their local areas along with basic knowledge and skills, the necessary attitude, a focus on learners based on the belief that every human being can learn and develop themselves to their fullest potential.

Keywords: local curriculum, crab bank, crab bank local curriculum, participatory local curriculum, southern border provinces

1. Introduction

The 20-year National Strategy has been developed for Thailand to achieve its vision “Thailand is stable, prosperous, and sustainable, as a developed country based on Sufficiency Economy”. Moreover, Strategy 1 focuses on competitiveness building, and Strategy 5 focuses on environment-friendly growth of the quality of life. The second issue focuses on sustainable growth in the marine economy society. The value enhancement of the marine bio-economy has been an issue that was clearly addressed in the national strategy plan for the country to have (1) national income, expansion of gross domestic product, and income distribution, (2) the

country's productivity in production and labor, (3) investment in research and development, and (4) the country's competitiveness. (Office of the National Economic and Social Development Council, 2018)

The crab bank is a key solution that meets the national strategy for achieving sustainable growth in the marine economic society. To clarify, it can conserve and increase the number of blue swimming crabs in the wild to replace the portion that has been over-exploited by allowing the eggs of the mother blue swimming crabs to hatch before releasing them back into the wild. This operation was conducted in many communities with budget support from public and private sectors, Local Administrative Organizations, and NGOs. In 2018, the Cabinet resolution was to approve the expansion of the Crab Bank to “return blue crabs to the Thai sea” to coastal communities (Hajisamae et al., 2015). The National Research Council of Thailand (NRCT) was the main body along with other agencies to carry out knowledge from research results and previous innovations to expand or conduct additional research to increase the survival rate of blue baby crabs before being released back into the sea, expand the success of the existing crab bank to other communities as appropriate based on the local context and community conditions, restore balance to marine resources, and promote marketing to increase commercial opportunities, leading to income pool and good quality of life for people in the community. (National Research Council of Thailand, 2018)

Prince of Songkla University proceeded with the project “Participatory Management and Promotion of the Crab Bank by Communities in Songkhla, Pattani, and Narathiwat” in Phase 1 and the project “Participatory Management and Promotion of the Crab Bank, Processing and Distribution throughout the Production Chain in Songkhla, Pattani, and Narathiwat” in Phase 2, with budget support from NRCT for fiscal years 2018 and 2019, and they were successful in developing for the creation of the crab banks in the lower southern region, totaling 11 places. During the entire Crab Bank's past operations (March 2019 to July 2021), 30,935 mother berried crabs were brought into the bank, accounting for 23,737,786,640 baby crabs at the Zoea, resulting in an increase in blue crabs in the area as sustainable resources for fishermen who have a career related to blue swimming crabs. (Hisam et al., 2018)

The contents of the research cover the development of mechanisms related to blue swimming crabs from upstream to downstream throughout the crab supply chain to promote the local economy of the community. This includes releasing baby blue swimming crabs into nature, catching the right size blue crab, blue crab processing, and distributing blue crabs. This is in line with the key guidelines for the development of a comprehensive community-level blue swimming crab industry, the utilization of the crab bank as a tourism and community learning resource, and compiling the knowledge related to the operation of the local crab bank to develop a local curriculum for students in schools near the coast. This would be a key way to raise awareness and understand the importance and benefits of establishing the crab bank and how to utilize fishery resources for sustainability. (Hisam et al., 2020).

Local crab bank curriculum for primary schools took place under the research project on participatory management of crab bank to restore blue swimming crab resources, add more crabs' value, and develop local curriculum for schools in the southern border provinces with budget support from NRCT for fiscal year 2022. They recognized the importance of the local curriculum and the cost of knowledge about the crab bank to the

community (Hajisamae, 2010). The local curriculum was created from the problems and needs of educational institutions and communities in accordance with the economic and social conditions in each area, and learning is based on local wisdom, enabling learners to acquire knowledge that responds to their own way of life and being able to apply the knowledge to improve themselves, their families, and their communities. Moreover, learners would be able to adapt themselves to keep up with the changes in the world as a dynamic in many aspects (Ministry of Education of Thailand, 2008). As shown in the vision of the local curriculum, "Depositing Blue Crabs with the Blue Crab Bank," aims to develop students' knowledge, understanding, and skills, as well as the necessary economic knowledge for further education and employment, related to the blue crab bank in Sam Roi Yot District, Prachuap Khiri Khan Province. It also aims to instill in students a love and pride in their local resources and encourage their participation in the conservation of blue crabs in Nong Khao Niao Village, Sam Roi Yot District. (Khongmueang et al., 2025)

The research team views the local crab bank curriculum for primary school students as crucial in laying the foundation for natural resource conservation and sustainable community economic development. Furthermore, it helps students develop pride in and cherish their local resources through learning from real-world environments and problems within their community. Importantly, it's an opportunity for local experts and traditional knowledge to participate in education management, fostering strong cooperation between educational institutions and people in the area. Therefore, the researchers were interested to develop a participatory local curriculum for the crab bank between higher education institutions, schools and communities in the 3 southern border provinces.

2. Research Methodology

The development of a participatory local curriculum on crab bank between higher education institutions, schools, and communities in the 3 southern border provinces employed document analysis with participatory action research between higher education institutions, schools, and communities.

Documents Collection: 1) define the research goals: identify the research topic, problem, and objectives to determine what information you will be gathering. 2) Information retrieval: search from reliable databases. And 3) selection and screening: choose documents that are most relevant to the research topic, up-to-date, and of high quality.

Document Analysis: This is to study basic information for curriculum development. The steps included (1) analyzing the crab bank research report and (2) analyzing the content and learning standards of primary education that were consistent with the crab bank content to create a curriculum.

Action Research: The research process consists of Step 1. Developing research questions: Studying basic information for curriculum development. The steps are as follows: (1) Analyze basic community information by analyzing relevant documents. (2) Analyze basic information together with the community on issues related to blue crab fishing and blue crab banks that will be used to create the curriculum. This is done through group discussions, along with surveying initial knowledge, observation, using mind maps and meta plan techniques. It comprised the process of creating and developing the curriculum, including the research team, university academics, schools, and communities through the interview (3 school principals, 3 teachers, 3 university lecturer, and 3 Local Scholar), focus

group discussion (6 teachers and 6 students), and mind map to choose issues about the crab bank and create a local curriculum according to curriculum components, including principles, goals, structures, descriptions, content scopes, guidelines for organizing learning activities and learning management plans. The interview questionnaire and focus group discussion questions were designed by the researchers and submitted to three experts for quality review. The data analysis for this research uses qualitative data analysis.

Inclusion Criteria: The development of local curriculum for primary schools in 3 areas in Thepha District, Songkhla, and Panare District, Pattani considered 3 key issues: 1) the strength of the crab bank, 2) community participation, and 3) the availability of primary schools and opportunity expansion schools. Crab banks that meet the criteria include Hua Kuean Pak Nam Thepha Crab Bank, Thepha District, Songkhla, Panare Crab Bank, Panare Subdistrict, Panare District, Pattani, and Ban Bang Ma Ruat Crab Bank, Ban Klang Subdistrict, Panare District, Pattani. In addition, for schools that will jointly develop the local curriculum, three key issues were considered: 1) the school's readiness in terms of teacher resources and technology, 2) the school and community's participation, and 3) receiving acceptance and awards for outstanding resources and environment, resulting in 3 schools: Ban Phra Phuttha School, Songkhla Primary Educational Service Area Office 3 (Hua Kuean Pak Nam Thepha Crab Bank), Chaopanya School, the Private Education Commission (Panare Crab Bank) and Ban Bang Maruat School, Pattani Primary Educational Service Area Office 1 (Ban Bang Ma Ruat Crab Bank).

Objective: To develop a participatory local curriculum for the crab bank between higher education institutions, schools and communities in the 3 southern border provinces. Conceptual framework as shown below:

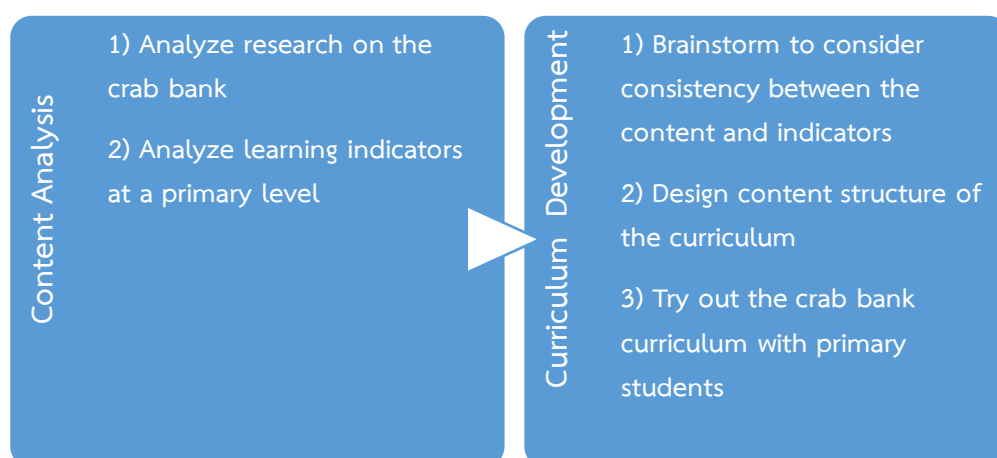


Figure 1 Conceptual Framework

3. Results and Discussion

The results of the study were presented in 2 key issues: 1) results from content analysis of the crab bank research report, 2) indicators of the local crab bank curriculum for social studies and occupation and technology courses, and the discussion of the study were presented at the end of this part as shown below:

3.1 Results from Content Analysis of the Crab Bank Research Report

Basic knowledge of the crab bank consists of 6 key parts: 1) gathering of groups and volunteers for the crab bank, 2) necessary crab bank models and necessary public utility systems, 3) the origin of mother berried crab or crab eggs, 4) crab hatching and nursery, 5) releasing baby crabs into natural water sources, and 6) performance evaluation.

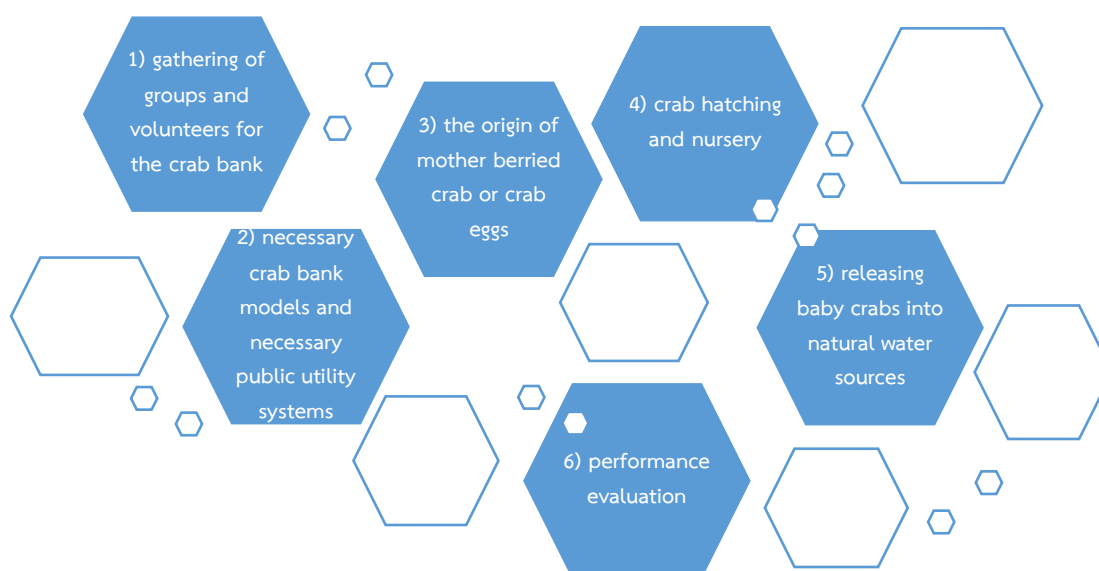


Figure 2 Basic knowledge of the crab bank

According to the figure, details can be described as follows:

1) Gathering of groups and volunteers for the crab bank: This relied on 2 key concepts: 1) emphasis on building community awareness with leading finances and 2) spatial readiness of the target group. In addition, the assessment of the spatial readiness of the target group was conducted by preliminarily surveying the readiness of the area at the same time or close to the community-level discussion forum using the data gained from the discussion with field visits and surveys of existing utilities based on the availability of the spatial readiness, awareness, and participation as well as will regardless of compensation and the participation of other relevant sectors. Moreover, the details of establishing the crab bank consist of two key principles: 1) ease and convenience of operation by local members and 2) readiness to support the volume of mother berried crabs. There are two key systems for running the crab bank: a greenhouse and a water system and a water delivery system for both saltwater and freshwater.

2) Necessary crab bank models and necessary public utility systems: This means bringing mother berried crabs with mature eggs into cages in the sea or water tanks in greenhouses. When the mother crabs remove the eggs from their abdomen, they will be sold. Eggs will hatch into first-stage crabs called Zoea. Then, they were released into the wild. Blue swimming baby crabs rely on natural food and grow into large blue swimming crabs. A summary of the crab bank model is as follows. Blue crabs are bred from eggs outside their shells. This model is suitable for communities with shops that boil or pick blue swimming crab meat for sale. This type of hatchery was operated by bringing the mother blue swimming berried crabs into the greenhouse on the shore, allowing them to lay eggs, and releasing their babies into the wild. This type of crab

bank requires an indoor area for placing the breeding tank to incubate eggs outside the mother crab's shell, a water system, an air system, and various necessary containers, depending on the number of mother crabs and the skills of the operator. Examples of greenhouse crab banks in the lower southern region include the crab bank of Ban Hua Khao Crab Culture Learning Center, Singhanakhon District, Songkhla, and the crab bank of the Panare District Local Fisheries Club, Pattani. These two have been continuously operated as an example for the community and those who are interested inside and outside the community.

3) The origin of mother berried crab or crab eggs: Mother berried crabs or crab eggs come from many sources, depending on the area, crab bank members, communities and other stakeholders or sectors. The source of the mother crab can be summarized as follows: 1) buying mother berried crabs from fishermen, 2) mother berried crabs donated by members of the crab bank group, 3) mother berried crabs donated by fish-selling villagers or those who are not members of the crab bank group, 4) matured egg hatching lending and returning the mother crab to the owners (fishermen/fish selling) to exploit them, such as selling them, 5) asking for crab eggs from commercial fishery groups. In this case, the crab bank only accepts the crab eggs or picks eggs using a soft toothbrush. The crab eggs were then washed and incubated. The donation of the mother crabs to the crab bank must be verifiable in management after the mother crab lays eggs, such as releasing the mother crab back into the sea, selling the mother crab, and using the money to conduct group activities or use it for the public, etc.

4) Crab hatching and nursery: Blue swimming crab life cycle after egg hatching develops into the Zoea stage, Megalopa stage, Young crabs, and Adults. When crabs are 3-5 months old, they can breed and lay eggs respectively. The Zoea stage (Zoea 1-Zoea 4) takes 11-15 days. The Megalopa stage takes 4-5 days to Crab 1, which begins to find food on the surface of the soil. Spider crab takes about 4 days (at salinity of 20-25 ppt) to molt into Crab 2 stage. Mother crabs that are not yet ready to lay eggs (Yellow, orange-yellow or brown egg-laying mother crabs) were raised in a clean container and fed (with fresh fish meat, fresh squid, fresh mussels, snapper) 1-2 times a day at an amount of 5% of body weight, taking 2-4 days. When the mother crab's eggs turned gray-black, mother crabs were separated into spawning and hatching tanks for one in each tank. Hatching and nursing blue swimming baby crabs included preparing materials and equipment, divided into 3 groups: 1) a breeding tank (white, black, or opaque) along with equipment for moving the mother berried crabs, namely a 12-volt aerator, battery, air stone with a tube, 2) water quality monitor, namely salinity meter, thermometer, precision balance, and water quality test kit (alkalinity, acidity, and ammonia, etc.), 3) equipment for preparing live food and for use in hatchery and nursery processes, such as swings for mother crabs, swings for filtering rotifers, swings for baby crabs, glasses for baby crabs, and 50-liter hatching tanks, phytoplankton culture tank, rotifer tank or 1,000-liter artemia hatch tank (or according to the amount of live food to be produced), hose, air stone, water pump, air pump, fertilizer, chemical disinfectant (such as povidone-iodine). The equipment must be washed with dishwashing liquid mixed with povidone-iodine of 10-15 mL/1,000 liters of water and dried to prevent germs before use. For blue swimming crab egg hatching and management, hatching can be done by putting one mother crab into a 40-60-liter tank each, adding water to a height of 30 cm (or 25 liters), allowing air to pass through 1 air stone of medium strength. Crabs lay eggs and hatch them naturally. A round, flat, or conical bottom tank should be used. The first two types of tanks are suitable for mother crabs to lay their own eggs. The conical bottom tank is suitable for crab eggs collected using a soft toothbrush. Egg incubation requires air to increase oxygen and prevent eggs from gathering at the bottom of the tank. At this stage, the mother crab can be weighed and measured, and find the fecundity of the mother

crab by randomly selecting 5-10% of crab eggs by weight or randomly calculating the number of eggs per volume of water in the incubation tank. In the case of the mother crab laying the eggs by themselves, after cleaning and resting the mother crabs, the rubber bands that bind the legs were cut and they were released into the hatchery tank. Then, the lid was closed tightly to leave the mother crabs unbothered. Egg laying should be checked every 6-8 hours. The black mother berried crabs (2 black spots on the egg) took 1-2 days to hatch. The brown mother berried crabs took 3-4 days. The orange mother berried crabs took 4-5 days, and the yellow mother berried crabs took 7-9 days. For the nursery for baby crabs after hatching, after the mother crabs laid eggs, baby crabs develop into different stages, namely the hatching stage (Zoea1-4), the megalopa stage (M), and the young crab, resulting in small baby crabs (Crab7), taking about 19-20 days. When Zoea was detected, a small amount of chlorella and rotifers were filled to feed the crabs. The air should be properly adjusted. Then, 1-5 liters of chlorella inoculum were filled (depending on the concentration) to obtain a density of 1×10^5 cells/ml (or clear light green color) and rotifer inoculum to a density of 5-10 units/ml. In the Zoea stage, they were fed 2 times a day, and sediment was sucked up 1 time a day with enough food and changing water every 2 days. Density and survival rate should be counted daily for proper food management.

5) Releasing baby crabs into natural water sources: Releasing babies at the Zoea stage should be done at natural hiding places, such as seagrass to increase the chance of survival rate from being hunted by fry and small fish or offshore with suitable salinity with lesser predators. Moving baby crabs should use appropriate containers, such as buckets or plastic bags, etc. For long distances, plastic bags should be used with compressed oxygen like moving aquatic larvae. Lessons learned from the crab bank of Ban Hua Khao Daeng (Fish Selling Sap Anan) and the Ban Panare Crab. The release of baby crabs at the Zoea stage and the production of young crabs can be concluded as follows: 1) The release of baby crabs at the Zoea stage is easy and convenient for the villagers, possibly causing more baby crabs to survive in the wild than the release of young crabs. 2) The release of baby crabs must not be complicated in practice. Zoea crabs should be released during the day with the optimum water temperature of 28-32°C or close to the hatchery water temperature. Young crabs should be released at night as the water temperature drops, and juvenile crabs have a better time and opportunity to hide from predators than during the day. 3) Baby crabs are released to the coastline. 4) For a short distance, buckets with handles should be used as they facilitate moving from the hatchery to the release area. Releasing crabs from the bucket shouldn't open the water valve as it can cause a lot of physical pressure on crabs. 5) Villagers are not suitable for producing young crabs for release into water sources as the nursery requires high skills and production costs. This is not in line with the way of fishermen struggling to support themselves and their household members. In addition, young crabs have a high rate of cannibalism during the nursery, leading to fewer crabs left alive. 6) The crab release area should be a coastal area with abundant natural food sources, especially plankton. This would help more crabs survive. Water depth should not exceed 10 meters with water temperature of 28-32 °C and salinity of 25-30 ppt. 7) The activity of releasing baby blue swimming crabs should be done with creating a refuge for aquatic animals as well as the establishment of no-catch areas or aquatic animal conservation areas. This is a concrete measure to help the released crabs have more refuge.

6) Performance evaluation: 1. Work performance was evaluated according to indicators regarding group activities. Indicators used included the number of mother crabs entering the bank, the number of baby crabs released, crab bank learning activities, meetings or discussions, and others 2. Evaluation of aquatic animal resources/productivity was initially conducted to see if crab bank activities have a positive impact on the resource or affect the income of local fishermen or not. The evaluation guidelines are

summarized as follows: resource evaluation by observing the behavior and population of crabs in the target area at various times as appropriate: (1) After releasing the baby crabs for 2 months, baby crabs were found about the size of a one-baht coin by using light or a 2 cm net to catch them. (2) After releasing the baby crabs for 3 months, try catching them by setting up traps or sinking nets. (3) After releasing the baby crabs for 4 months, try catching them using a sinking net. crabs. (4) Nests or hiding devices were installed. 3. Evaluation was conducted using questionnaires to assess the amount of catch and income of group members.

3.2 Indicators of the Local Crab Bank Curriculum for Social Studies and Occupation and Technology Courses

The key contents of the crab bank are consistent with the indicators of lesson 3: economics in Social Studies and lesson 5 of geography in Occupation and Technology (Department of non-formal education, 2000) as shown in the following details:

Economics: Production, distribution, consumption of goods and services, effective management of limited resources, living life in balance, and the application of Sufficiency Economy to everyday life. It consists of lesson 3 Economics: Standard Sor.3.1 is to understand and manage resources in the production and consumption of limited resources efficiently and cost-effectively as well as understanding the principles of sufficiency economy for living with balance and standards Sor.3.2 is to understand economic systems and institutions, economic relations, and the need for economic cooperation in the global society.

Geography: The characteristics of the physical world, physical characteristics, resources and climate in Thailand and different regions of the world, using maps and geographic tools, the relationship of things in natural system, human relations with the natural environment and man-made things, presentation of geospatial data, and environmental preservation for sustainable development. It consists of lesson 5 Geography: Standard Sor.5.1 is to understand characteristics of the physical world and the relations of things affecting each other in the natural system, to use maps and geographic tools in searching, analyzing, summarizing, and using geospatial information effectively and Standard Sor.5.2 is to understand the interaction between humans and the physical environment that contributes to cultural creation, awareness, and participation in conservation, resources and environment for sustainable development.

Occupation department: Aim to develop learners holistically to gain knowledge and ability in working and to follow guidelines for careers and further education efficiently. The key contents are as follows: Living a life and family is about working in daily life and helping oneself, family, and society with a sufficiency economy to save the environment, focus on practicality, leading to confidence and pride in the achievements of the work to discover their own abilities, aptitudes, and interests. Occupation is related to skills necessary for the profession with the importance of morality, ethics, and a good attitude toward a career using appropriate technology as well as the value of an honest career and guidelines for careers. It consists of lesson 1 Living a Life and Family: Standard Ngor 1.1 is to understand work with creativity, work process skills, management skills, problem-solving skills, collaboration and knowledge-seeking skills, morality and work habits, and awareness of the use of energy and resources, and environment for living and family. And lesson 2 Occupation: Standard Ngor 2.1 is to understand and achieve the necessary skills, experience, and guidelines for careers and to use technology to develop your career with morals and a good attitude towards your career.

3.3 Discussion

Research findings found that the local curriculum should encourage the community to participate in the development of their own curriculum so that students can benefit from learning in their own local areas as a link between study and real life and work as well as fostering students to have love and commitment to their local areas along with the promotion of local wisdom in education. This is consistent with the research on "a participatory action research for developing of local curriculum in networks' schools of developed-professional teacher, Faculty of Education, Rajabhat Maha Sarakham University" discovering that the development of local curriculum was useful and met the needs of learners, teachers, parents and communities with practical skills and desirable characteristics to achieve the objectives. (Koetchatturat, 2019)

Another key finding showed that creating crab bank volunteers or group members under two main concepts: 1) focusing on creating leading financial community awareness and 2) spatial readiness of the target group was consistent with the research on a sustainability development creation of crabs banking Laem Phak Bia, Ban Laem, Phetchaburi Province" finding that the operations of the crab bank were not as successful as they should have been since the villagers still lacked public awareness in the community and the support from public and private sectors to provide support in various areas, causing villagers in the community to have no incentive to participate in crab bank activities. Hence, the community needs to find guidelines and gather pleasing people who want to join the activity and are ready to cooperate in solving problems and conserve blue swimming crabs and fisheries resources that are about to be extinct so that people in the community will understand the problem and change their attitude, leading to better daily practices. Since the more blue crabs they leave at the crab bank, the quantity of blue swimming crabs in the sea will increase with abundance and sustainability. (Thiammueang, et al., 2012)

Moreover, the research on the distribution of knowledge from relevant research to support crab bank project in order to enhance blue swimming crab stock in Nakhon Si Thammarat and Surat Thani provinces also reflected that the crab bank could utilize and manage sustainable seas and coasts' resources for the blue swimming crab resources to be restored. (Sawasdee, 2017) This includes improving guidelines for the effective management of marine resources, covering all dimensions of development to gain sustainability of the Thai seas in the future in line with the sustainable development goal 14 in conserving and sustainably utilizing the oceans, seas, and marine resources. The increased number of blue swimming crabs in the Thai seas is beneficial to fishermen to achieve a sustainable career for consumption by local fishermen in line with the sustainable development goal 2 to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture like the sustainable development goal 1 to end all poverty since the crab bank project could reduce unemployment, increase income, and solve poverty problems. The goal 8 promotes continuous economic growth in comprehensive and sustainable manners with productive employment and decent work for all people, including fishermen and export industry entrepreneurs. The number of blue crabs is sufficient to meet the market demand, generate income from exports, and reduce the cost of importing crabs and the goal 10 reduces inequality in many dimensions, namely economic and social aspects to boost opportunities for equality in life, enhance the quality of life and solve inequality problems in a concrete manner.

4. Conclusions and Recommendation

This research display the components of the Local Crab Bank Curriculum as shown: **Local Curriculum Characteristics:** 1) The curriculum should respond to various problems to develop a quality of life appropriate to gender and age with a balance in knowledge, thought, and skills as a learning process that allows students

to practice skills that can be applied to other situations appropriately. 2) The curriculum should encourage local people to participate in developing their own curriculum so that students can benefit from learning in their own local area as a link between study and real life and work as well as fostering students to have love and commitment to their local areas along with the promotion of local wisdom in education. 3) The curriculum should be consistent with real life and focus on integrated learning regardless of separated learning process. The students are the ones who organize the learning process by themselves. Teachers give advice and facilitate learning, leading to thinking, doing, and being able to solve various problems. 4) The curriculum should be developed constantly based on the changing situation. 5) The curriculum should encourage students to be citizens with quality in society in terms of morality, ethics, and upkeep of a democratic society, environmental protection, believing in wisdom and the local culture of the community and of the country. **Learning Vision:** The local crab bank curriculum aimed to develop students to understand the importance of the benefits of establishing a crab bank, utilization of fishery resources, and most importantly creating environmental awareness in conserving resources in their local areas along with basic knowledge and skills, the necessary attitude, a focus on learners based on the belief that every human being can learn and develop themselves to their fullest potential. And **Academic purposes:** 1) To equip students with knowledge and understanding of crab bank as a resource in their local areas, 2) to make students aware of the importance of establishing a crab bank as well as utilizing fishing resources and the value of the environment in their local areas, 3) to allow students to apply knowledge to establish a crab bank with Courses on Occupation, Science, Social Studies, and Economy at the local level for their daily lives, 4) to make the community see the importance and cooperate in establishing a crab bank, support local wisdom by the village scholars in organizing learning activities to meet local needs as well as creating a balance in conserving Pattani Bay's blue swimming crabs to make them more abundant.

The limitations of this study are: 1) The research period was limited to one year, so the design of the research process ended at the point of obtaining the local curriculum document; it did not include the design of the steps for implementation the study with students in primary schools.

Research findings lead to interesting suggestions as follows:

1) Children and youth learn content related to the crab bank through local curricula designed jointly by higher education institutions, schools, and communities, resulting in pride in their own local areas and hometowns. Therefore, local curriculum should be developed in other subjects, such as local history, local wisdom, and local Mayu dialect.

2) Some contents related to the crab bank are quite challenging for primary school students. However, there is content suitable for learning at the secondary level. Therefore, the crab bank curriculum should be developed for secondary school students for the benefit of secondary schools in the three southern border provinces, including both Islamic public and private schools.

3) Higher education institutions may conduct the project with schools and communities to establish the crab bank in the form of integrating learning with other learning subjects except for Social Studies in Economics and Occupation and Technology in Geography, such as Science or English for mutual benefits among students and people in the community. In addition, learning activities outside the classroom are designed and developed, such as camps, field trips, folk tales, and Anasyid songs.

4) For future studies should explore other important local curriculum topics in the area, such as agriculture, medicinal plants and fishing, and could also develop crab bank local curriculum for secondary school students in the southern border provinces.

5. Acknowledgement

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