การจัดการความรู้ป่าชุมชนโดยชุมชนเพื่อสุขภาวะชุมชนตามแนวทางการพัฒนาที่ยั่งยืน: กรณีศึกษาบ้านควนยูง ตำบลขุนทะเล อำเภอเมืองสุราษฎร์ธานี จังหวัดสุราษฎร์ธานี

Community Forest Management for Community Well-being Following Sustainable Development Guidelines: A Case Study of Ban Khuan Yung, Khun Thale Sub-district, Mueang Surat Thani District, Surat Thani Province

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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์ 1) เพื่อศึกษาบริบทของป่าชุมชนเพื่อนำความรู้ที่ได้มาจัดการอย่างเป็นระบบ 2) เพื่อสำรวจพันธุ์ไม้และสมุนไพรสำคัญตลอดจนสร้างฐานข้อมูลด้านสุขภาวะ 3) เพื่อเพิ่มการตระหนักรู้และส่งเสริม

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การมีส่วนร่วมของชุมชนในการอนุรักษ์และพัฒนาป่าชุมชนเพื่อสุขภาวะที่ดี และ 4) เพื่อถอดบทเรียนจากอดีต ปัจจุบัน และแนวทางการพัฒนาป่าชุมชนใน อนาคต การศึกษานี้ใช้วิธีการวิจัยแบบผสมผสาน เน้นที่การวิจัยเชิงคุณภาพและ การวิจัยเชิงปฏิบัติการเพื่อสร้างชุมชนแห่งการเรียนรู้ กลุ่มเป้าหมายหลักและ หน่วยวิเคราะห์ ได้แก่ พันธุ์ไม้และสมุนไพร แกนนำชาวบ้าน คณะกรรมการ ป่าชุมชน นักเรียนและนักศึกษาที่สมัครใจเข้าร่วมโครงการ เก็บรวบรวมข้อมูล พ.ศ.2563-2564 ด้วยวิธีการสำรวจภาคสนาม การประกวดเรียงความ การสัมภาษณ์ การสนทนากลุ่ม เครื่องมือที่ใช้เก็บรวบรวมข้อมูล ได้แก่ แบบบันทึกพันธุ์ไม้และ สมุนไพร อากาศยานไร้คนขับ (โดรน) แบบบันทึกคะแนนการประกวดเรียง ความ และแบบสัมภาษณ์กึ่งโครงสร้าง จากนั้นนำข้อมูลที่ได้ไปวิเคราะห์เชิง เนื้อหาสำหรับข้อมูลเชิงคุณภาพและใช้สถิติเชิงพรรณนาในการวิเคราะห์ข้อมูล จากฐานข้อมูลบนแพลตฟอร์มออนไลน์ทางเฟสบุ๊ค

   ผลการศึกษาพบว่า 1) ป่าชุมชนแห่งนี้มีความอุดมสมบูรณ์ตั้งอยู่ใจ กลางเมือง นิคมสร้างตนเองขุนทะเลเป็นผู้ถือครองกรรมสิทธิ์ในที่ดิน ช่วง พ.ศ.2553 มีการบุกรุกป่าจากนายทุนเพื่อปลูกปาล์มน้ำมันแต่ชาวบ้านคัดค้าน ไว้ได้ 2) พบพันธุ์ไม้ จำนวน 37 ชนิด สมุนไพรกว่า 100 ชนิด ซึ่งผลผลิตจาก งานวิจัยนี้มีการจัดทำฐานข้อมูลออนไลน์เผยแพร่ทางเฟสบุ๊คและหนังสือ 3) ชาวบ้านและเยาวชนในพื้นที่มีความตระหนักและมีจิตสำนึกหวงแหนผืนป่า ตลอดจนมีส่วนร่วมในการทำกิจกรรมต่างๆ โดยการสะท้อนคิดว่าผืนป่าแห่งนี้ ทำให้พวกเขามีคุณภาพชีวิตที่ดีทั้งด้าน กาย จิต สังคม และปัญญา สอดคล้อง กับการพัฒนาที่ยั่งยืนด้านสุขภาวะและการสร้างความร่วมมือกับภาคส่วนต่างๆ และ 4) พบว่าผืนป่ามีการเปลี่ยนแปลงและพัฒนาอย่างต่อเนื่องตั้งแต่อดีตจนถึง ปัจจุบัน ทั้งนี้ แนวทางการพัฒนาป่าชุมชนในอนาคต ได้แก่ การจัดตั้งตลาด ประชารัฐและการพัฒนาเป็นศูนย์การเรียนรู้การท่องเที่ยวเชิงนิเวศต่อไป

คำสำคัญ: การจัดการความรู้, ป่าชุมชน, สุขภาวะ, บ้านควนยูง, ความยั่งยืน

Abstract

The objectives of this research are as follows: 1) to systematically study the context of community forests and manage the knowledge obtained, 2) to survey significant plant and herbal species and create a health and well-being database, 3) to increase awareness and promote community participation in the conservation and development of community forests for better health, and 4) to extract lessons from the past, present, and future development directions of community forests. This study employs a mixed-methods research approach, focusing on qualitative research and action research to establish a learning community. The primary targets and units of analysis include plant and herbal species, village leaders, community forest committee members, and voluntary students. Data were collected from 2020 to 2021 through field surveys, essay contests, interviews, and group discussions. Data collection tools included plant and herbal species recording forms, unmanned aerial vehicles (drones), essay contest score recording forms, and semi-structured interviews. The collected data were then subjected to content analysis for qualitative data and descriptive statistics for data analysis from the online database on the Facebook platform.

The study results indicated the following: 1) The community forest is fertile and located in the city center, with the Khun Thale Self-Reliant Community holding land ownership. In 2010, there was an encroachment by investors to plant oil palms, but the villagers successfully opposed it. 2) A total of 37 plant species and over 100 herbal species were found. The research output included the creation of an online database published on Facebook and a book. 3) Residents and youth in the area exhibit a strong awareness and sense of responsibility to protect the forest. They participate in

various activities, reflecting on how this forest area contributes to their quality of life in physical, mental, social, and intellectual dimensions. This engagement aligns with sustainable development principles in health and fosters cooperation with various sectors. 4) It has been observed that the forest has undergone continuous change and development from the past to the present. Future community forest development guidelines include the establishment of a public market and the development of a learning center for ecotourism.

Keywords: Knowledge management, Community forest, Well-being, Ban Khuan Yung, Sustainability

Introduction

The forest, symbolizing an allegiance to water, witnessed the King's initiative in constructing a reservoir and fostering the creation of more forested areas. As a result, people across the nation have heightened their awareness of the significance of forests. This has been exemplified by communal efforts in various activities aimed at preserving and restoring forests within their localities.

The Thai Forest Situation Report 2017-2018, accessible on the Sueb Nakasathien Foundation website (5 September 2018), was jointly produced by the Royal Forest Department and the Faculty of Forestry at Kasetsart University, utilizing translated satellite imagery. According to the report, Thailand's forest coverage remained at 31.58% in 2017, consistent with the 2016 figures. Over the past five years, the forest area has exhibited relative stability at around 31%, despite reductions in some regions. This contrasts with the escalating population trend, which has led to increased resource utilization,

particularly in housing construction and subsistence farming, resulting in heightened encroachment on forested areas. This, in turn, has increased the demand for and supply of wood across various sectors, such as paper, furniture, energy, and industry. Analyzing forest areas across regions and provinces, only two regions boasted forest coverage exceeding 50: the northern region (64.21%) and the western region (59.06%).

Conversely, the southern region had the third- highest forest coverage in the country (24. 02%) , while the northeast region exhibited the lowest at 14.94%. There has been a collective appeal for the government to institute a "community forest" policy, reflecting the genuine needs of the local community and adhering to the principle of bottom- up management. Despite taking more than two decades for villagers to advocate for community forests, the government eventually endorsed the draft Community Forest Act, B.E. 2021, on May 22, 2018. This legislative development, driven by the Ministry of Natural Resources and Environment, aims to protect and revitalize forests, guided by the principle of "Assisting people to coexist with and collectively manage forest areas." It is perceived as a positive solution contributing to the sustainable conservation of forest resources and the augmentation of green spaces in the country. Community forests have been established in Thailand for over 30 years, as mentioned by Somying Soontornwong in the article "Community Forest and Thai Society" (RECOFTC, 2012). The article also incorporates insights from Somsak Sukwong, a scholar at the Faculty of Forestry, Kasetsart University, and a pioneer in Thai community forestry. He defines community forests as activities where rural communities manage tree and forest resources to benefit both the family and the community economically, while preserving the ecosystem through active participation in planting,

managing, protecting, and profiting from the forests within a sustainable management framework (RECOFTC, 2012). Southern community forests include those in watersheds, mountaintops, peat forests, and mangrove forests. At the family level, there is a blending of forest care with gardening, exemplified by the Somrom plantation—a traditional rubber plantation integrated with the forest, employing a four-layered agricultural approach.

From the crisis situation, forests have decreased, and government policy now supports the establishment of official community forests in all areas to increase and conserve Thailand's forests, which are worryingly decreasing in number, coupled with changes in the world's climate. Forests, in addition to addressing these four factors, also serve as the lungs of the world, helping to clean the air so living things can get oxygen to continue living. Surat Thani Province, the largest province in the southern region, is subject to expectations from all sectors regarding forest management, so that communities can both benefit from and conserve them simultaneously. Additionally, there are policies and measures to support villagers and the private sector in planting forests to sell carbon credits to help mitigate the global crisis.

For this reason, this research study was initiated to promote government policy and seriously advance community forest management in Surat Thani Province. This research study is considered a pilot study to serve as a model and guideline for promoting and supporting community forest management by communities for sustainable community health. The researchers and working group chose to study the Ban Kuan Yung community forest as the study area because it has an interesting history. In the past, villagers united to protect this forest from capitalists who tried to convert the forest area into palm oil plantations. However, local villagers and the media have successfully preserved this forest for future generations.

In this context, the Ban Kuan Yung Community Forest is categorized as a swamp forest (RECOFTC, 2012). The research team at Prince of Songkla University, Surat Thani Campus, undertook a four-year research initiative (2018-2021) aligned with the university's strategy, as announced on March 22, 2019. Prince of Songkla University is one of the nine national research universities in Thailand, emphasizing the paramount importance of research. Within the context of this research project, the university focused on addressing community needs by integrating modern tools and methods in the digital age for natural resource management. Additionally, the project aimed to foster collaboration with communities within the framework of mission relations. The essay refers to a site named "Ban Kuan Yung Community Forest," subject to further in- depth examination by researchers. Thus, the genesis of the research project titled "Community Forest Management for Community Well-being Following Sustainable Development Guidelines: A Case Study of Ban Khuan Yung, Khun Thale Sub-district, Mueang Surat Thani District, Surat Thani Province" aims primarily to benefit the Ban Kuan Yung community, specifically by establishing a comprehensive database of plant varieties and implementing a systematic knowledge management process within a database created by researchers and technology and innovation experts.

Research Objectives

1. To study the context of the Khun Thale forest to apply the acquired knowledge systematically and manage it effectively.

2. To investigate plants and herbs to create a comprehensive health database for the Khun Thale forest and disseminate this information to the public.

3. To raise awareness and encourage community participation in the conservation and development of the Khun Thale Well-Being Forest

4. To utilize lessons learned from past and present forest health studies to explore the development of a sustainable learning center in the future.

Concepts and Theories

The concept of "community forest," as outlined by Prime Minister General Prayut Chan-o-cha in his address to the National Legislative Assembly under Section 9, centers on maintaining resource stability and achieving a balance between conservation and sustainable use. Under his leadership, the government propelled the draft Community Forest Act through the Ministry of Natural Resources and Environment. This initiative aligns with the Surat Thani Provincial Development Plan (2018-2021), aiming to expand the forested area. Thailand's inaugural community forest, recognized as the "Ban Thung Yao Community Forest" in Sri Bua Ban Subdistrict, Mueang District, Lamphun Province, boasts a rich historical legacy, safeguarding the forest as a cultural asset for the community and commemorating its centennial on December 26-27, 2015.

The Researchers conducted a study on related research and theoretical concepts and found that no existing theoretical framework specifically aligns with this particular research. Consequently, they extracted relevant variables and connected them with concepts in public administration, particularly regarding knowledge management, organization, and management. They then consulted with experts in the relevant fields, which led to the development of the PSU-KFC-OWL model. This model has been applied to community forest

research, which the researchers has been studying from the first to the current, and found it to be highly appropriate for analysis.

P = People, Participation, Policy, Planning S = Sustainability, Sufficiency Economy, Self-realized of community U = Understanding of University K = Knowledge Management (KM) F = Forest (Community Forest) C = Community Engagement O = Organization W = Wisdom (Local Wisdom)	For Pratumtip Thongcharoen's (2020) management principles of PSU-KFC-OWL, essential variables pertinent to the management of the community forest project were extracted. These nine key elements align with Public Administration concepts, particularly policy, planning, people, participation, organization, and knowledge management. They are intricately linked to significant frameworks like the Sustainable Development Goals (SDGs), the focal point of this study.

Additionally, concepts tied to communities and localities, such as community engagement, self-realized community, local wisdom, and community learning under relevant laws like the Community Forest Act of 2019, were explored. The researcher systematically integrated this wealth of knowledge into a knowledge management process, facilitating the practical application of insights with efficiency and effectiveness. The collaborative efforts and mutual understanding between community members and university researchers played a pivotal role, fostering development in alignment with the Sufficiency Economy Philosophy (Chaipattana Foundation, n.d.) and sustainable development.

Knowledge represents the crystallization of information that experts in the relevant field have meticulously filtered and verified,

rendering it dependable and suitable for academic referencing. It spans diverse domains and can be categorized into two forms: explicit knowledge and tacit knowledge. Tacit knowledge may constitute as much as 80%, while explicit knowledge might only comprise 20% (National Science and Technology Development Agency, 2020). Exploring the genesis of knowledge involves tracing a general process from data to information, and ultimately evolving into knowledge. Knowledge Management (KM) entails the implementation of processes and techniques that, in fields like public administration, facilitate practical application. The incorporation of computer technology, statistics, and various operating systems can systematically manage knowledge, ensuring its effective and efficient utilization.

Engagement Thailand defines "university engagement" in four dimensions: 1) thinking together and acting as partners (partnership), 2) ensuring mutual benefits for all involved parties (mutual benefit), 3) utilizing knowledge and co-learning (scholarship), and 4) having a measurable impact on society (social impact). This definition aligns with the work of Cohen and Uphoff (1981), who proposed four participation factors: involvement in decision-making, participation in practice, sharing benefits, and evaluating projects.

Well-being has long been a topic of discussion, gaining increased attention with advancements in medicine. However, it is noteworthy that in Thailand, the prominence of this concept has surged notably over the past decade (2013-2023). The leading proponent and supporter of well-being in the country is the Thai Health Promotion Foundation. According to their 2019 statement, they assert, 'Cognitive well-being is an important foundation for developing other aspects of well-being' (Thai Health Promotion Foundation, 2019). Prof. Dr. Prawet Wasi stands out as one of the

pioneering figures who introduced the concept of well-being in Thailand. He articulated well-being into four key dimensions: physical, mental, social, and intellectual. Subsequently, numerous scholars have referenced and extensively researched this issue, recognizing its significance due to the universal impact of health on individuals of all genders, ages, and social classes. The shared objective remains to ensure the well-being of all members of society, contributing to the betterment of both the community and the nation.

Under the Sustainable Development Goals (SDGs) set by the United Nations, numerous countries are cooperating on an action plan that includes 17 development goals. These goals encompass a range of issues such as livelihoods, food, natural resources (both land and sea), energy, climate and environmental change, justice, and human rights. There is a network of partners across every sector, with leading countries striving to implement missions to achieve all 17 goals by 2030 (United Nations in Thailand, n.d.). In Thailand, significant advancements have been made, yet the country still faces large and complex structural problems, including inequality and poverty. The latter is characterized by a concentration of wealth in a few groups while the poor are dispersed across every region. Thus, achieving all 17 goals within the next 7 years is a formidable challenge for Thailand. Nonetheless, efforts are underway to lay a foundation for sustainable development right down to the local level through 'SDGs Localization.' This approach focuses on the development of five main pillars, or the 5Ps: People, Planet, Prosperity, Peace, and Partnerships (Centre for SDG Research and Support: SDG Move, 2022). Currently, the Asia-Pacific region is one of the areas where many countries are far from achieving all 17

targets, due in part to the pandemic crisis, political instability, and deep-rooted inequality. Governments worldwide recognize that policy development, when done in a top-down manner, is often limited to academic circles and fails to address local problems, hindering the achievement of international goals.

To counter this, the SDG Localization project aims to drive the Sustainable Development Goals at the local level in Thailand through a collaboration between the Thai government, the United Nations Development Program (UNDP), the Office of the National Economic and Social Development Council, the Ministry of Interior, and the European Union. This partnership supports and participates in the action to integrate SDG goals into provincial development plans through 'SDGs Localization.' The Ministry of Interior has taken steps to align the development plans of all 76 provinces with the SDGs, with 15 pilot provinces including Chiang Rai, Chiang Mai, Mae Hong Son, Tak, Udon Thani, Ubon Ratchathani, Nakhon Ratchasima, Bangkok, Phetchaburi, Surat Thani, Phuket, Songkhla, Pattani, Yala, and Narathiwat. The SDG Localization project enhances the sustainability efforts of all sectors by collecting data (SDG Survey) and creating a data set for each province (SDG Profile), which is then used to formulate provincial plans that thoroughly address the needs of all demographic groups (Office of the National Economic and Social Development Council, n.d.).

Key challenges and obstacles to SDG-aligned development in Thailand include: 1) Environmental issues arising from decades of development that have not sufficiently accounted for the costs of maintaining the environment alongside sustainable growth; 2) The problem of inadequate coordination and integration among various sectors, with different entities thinking and acting in isolation, leading

to redundant work and wasted budgets; and 3) Structural issues, deficiencies in basic utilities and services, lack of decentralization, corruption, and the need to strengthen community engagement. By shifting the distribution of power from a top-down to a bottom-up approach and increasing youth involvement, Thailand can hope to make further developmental strides (The Standard, 2023).

The foundational concept guiding this research study is Knowledge Management (KM), which aligns consistently with principles of management within the realm of Organization and Management, particularly in modern organizations in public administration. Vicharn Panich succinctly characterizes knowledge management as a tool that simultaneously achieves at least four goals: 1) attaining work objectives, 2) realizing human development objectives, 3) accomplishing organizational development goals towards becoming a learning organization, and 4) fostering a sense of community and mutual care in the workplace. This encompasses the concept of community forests, which, during the research period, was in its initial stages with the formulation of the Community Forest Act. Subsequently, the study's results are analyzed in conjunction with the concept of well-being by Prawet Wasi, integrating the Sustainable Development Goals (SDGs) by the United Nations and the PSU-KFC-OWL management principles by Pratumtip Thongcharoen, along with related research.

Research Methodologies

The research scope encompasses three aspects:

1) Content Scope: The research comprises four main content areas: community forests, knowledge management, community well-being, and community participation in Moo 4, Kuan Yung Village. It is

conducted under the collaborative framework of Prince of Songkla University.

2) Time Scope: This research project spans one year, starting on May 1, 2019, and ending on April 30, 2020.

3) Location Scope: The research is conducted in Moo 4, Kuan Yung Village, Khun Thale Subdistrict, Mueang District, Surat Thani Province, which is approximately 15 kilometers from Prince of Songkla University's Surat Thani Campus.

The research adopts a mixed-methods approach with an emphasis on qualitative research and Community Action Research (CAR), following the Community Action Research model by African universities (see Figure 1).

Figure 1
Community Action Research Model
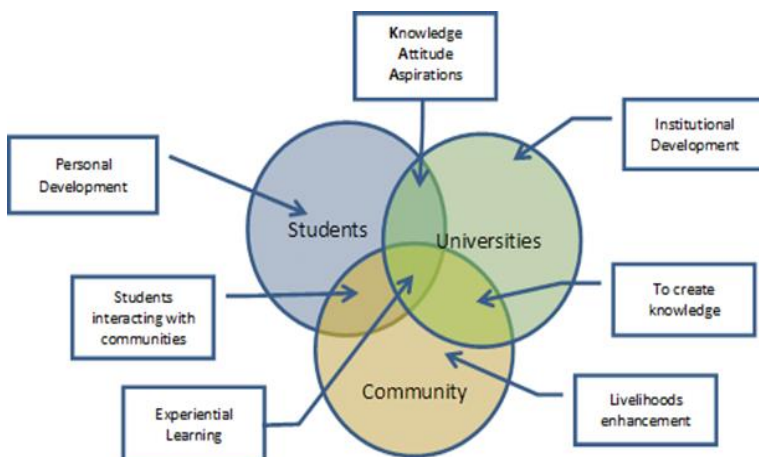
Source: The RUFORUM Community Action Research Programme: A programme to link African universities to communities and agribusiness-Scientific Figure on ResearchGate. *from* https://www.researchgate.net/figure/The-Community-Action-Research-Framework_fig1_324656059.

In mixed methods research, there is a distinct emphasis on qualitative approaches, particularly on Community Action Research, complemented by survey research and document analysis. The designated unit of analysis is the Ban Kuan Yung Community Forest in the Khun Thale Subdistrict, Mueang District, Surat Thani Province. Various research tools were employed, including a focus group recording form, a plant and herbal observation form, and an in-depth interview form.

Figure 2

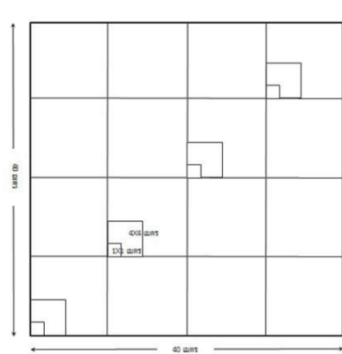*The sample plot used for data collection was 40 x 40 meters in size*

Figure 2. Shows that the sample plot used for data collection measured 40 x 40 meters. Data collection methods were diverse, involving in-depth interviews with key informants for the first objective, the use of observation methods, and the conducting of plant species surveys with experts from the Royal Forest Department. Additionally, information about significant herbs and plants was gathered from local herbalists.

The third objective involved organizing an essay competition for students in the area and holding group discussions with village leaders. Data for the last objective were collected using simple statistics from an automated system on the Facebook page, which compiled statistics on general page visits through database systems. The entire research process was subject to an evaluation of the research proposal by a committee of three experts nominated by

the agency. The research tools were assessed for quality by three experts in public administration. Upon completion, the research, along with the reports, was evaluated by three experts for confidence and reliability before dissemination. All aspects of this research received ethical approval from the Health Science Human Research Ethics Committee of Prince of Songkla University, with the project code HSc-HREC-62-28-1-1.

Research Results

The results of this research study can be presented according to the four objectives as follows:

Objective 1: To study the context of the Khun Thale forest to apply the acquired knowledge systematically and manage it effectively. Upon visiting the area to gather information about the context of the community forest, the researchers and working group have summarized the key findings as follows:

Figures 3-5

Conditions of the Ban Kuan Yung community forest (Khun Thale Well-Being Forest)

The forest has traditionally served as the primary source of food for the villagers, with benefits shared among the community. Additionally, the forest functions as a nature classroom for children in the community, particularly at Ban Kuan Yung School and Patcharakittiyapa School. Institutions such as the Asia Pacific Community Forestry Training Center and Kasetsart University continue to utilize this community forest, recognizing it as a vital research source. Ms. Wipada Wasin highlighted that despite previous plant species surveys, the data collection lacked systematicity, hindering its full academic potential. Villagers express the need for Knowledge Management (KM) to organize these databases systematically for enhanced usability in academic endeavors. The summary is as follows:

- Notably, a natural forest is situated in the heart of the city (a rarity in Thailand).
- Location: Village No. 4, Ban Khuan Yung, Khun Thale Subdistrict, Mueang District, Surat Thani Province, covering an area of 52 rai (44 rai of forest, 8 rai of pond).
- Land ownership belongs to the Khun Thale Self-Help Settlement.
- The Khun Thale Forest Health Committee comprises 11 members, with Mr. Anucha Wichaidit as the chairman
- It received recognition as the first runner-up in the Community Health Project creative work under the Sufficiency Economy Philosophy in 2016.
- Among the 37 identified plant species, the top five most commonly found are plank, lard, striped, bamboo, and black.
- Over 100 types of herbs (refer to the book "Khun Thale Well-Being Forest" by Pratumtip Thongcharoen et al., 2020).

- Significance of the Shanti-Maitri Temple.
- Local government organization: Khun Thale Subdistrict Municipality.
- Affiliated associations include the Surat Thani Provincial Women's Volunteer Association, the Elderly Club, the Ban Tha U Health Lovers Club, etc.
- Recreational areas include Bueng Khun Thale Lake.
- Development guidelines for the pond area in the forest include the Pracharath Market, landscape improvement, the creation of walking paths for health enthusiasts, and the establishment of a community forest in accordance with the 2019 Act.

Objective 2: To investigate plants and herbs to create a comprehensive health database for the Khun Thale forest and disseminate this information to the public. To achieve this objective, researchers and their team designed activities that included surveying plant species in Khun Thale Forest, which was conducted by the staff of Community Forestry Promotion Center No. 12 (Surat Thani), and conducting a survey of medicinal herbs by Mr. Pipit Phonphet, a local expert on herbs and traditional massage. The activities also encompassed group discussion sessions (focus groups). The details are as follows:

A study of the plants in Khun Thale Forest revealed a total of 37 species. The Shannon-Wiener Index (H') indicated a moderate level of plant species diversity. Further analysis identified eleven species of plants duplicated in plots 1, as presented in Table 1. The top five most common plant species are presented in Table 2.

Table 1

Analysis identified eleven species of duplicate plants in plots 1

Types	Num (plants)	Pi	ln(pi)	pi ln pi
Manmoo (มันหมู)	16	0.1270	-2.0637	-0.2621
Klai (กลาย)	27	0.2143	-1.5404	-0.3301
Dam (ดำ)	16	0.1270	-2.0637	-0.2621
Plao (เปล้า)	14	0.1111	-2.1972	-0.2441
Tungfah (ทุ้งฟ้า)	9	0.0714	-2.6391	-0.1885
Mahad (มะหาด)	5	0.0397	-3.2268	-0.1280
Plong (พลอง)	6	0.0476	-3.0445	-0.1450
Kratonpa (กระท้อนป่า)	3	0.0238	-3.7377	-0.0890
Mapring (มะปริง)	4	0.0317	-3.4500	-0.1095
Kanoonpa (ขนุนป่า)	1	0.0079	-4.8363	-0.0384
Painae (ไผ่แนะ)	3	0.0238	-3.7377	-0.0890
Krabok (กระบก)	3	0.0238	-3.7377	-0.0890
Tung (ทัง)	1	0.0079	-4.8363	-0.0384
Rak (รัก)	2	0.0159	-4.1431	-0.0658
Yomhorm (ยมหอม)	1	0.0079	-4.8363	-0.0384
Aud (อวด)	2	0.0159	-4.1431	-0.0658
Sattaban (สัตตบรรณ)	2	0.0159	-4.1431	-0.0658
Non (นน)	2	0.0159	-4.1431	-0.0658
Porkrajao (ปอกระเจา)	1	0.0079	-4.8363	-0.0384
Romkao (ร่มเข้า)	1	0.0079	-4.8363	-0.0384
Jigkao (จิกเขา)	1	0.0079	-4.8363	-0.0384

Types	Num (plants)	Pi	ln(pi)	pi ln pi
Korbnang (กอบนาง)	1	0.0079	-4.8363	-0.0384
Si-siert (สีเสียด)	1	0.0079	-4.8363	-0.0384
Taomouy (เถาเมื้อย)	1	0.0079	-4.8363	-0.0384
Taowan (เถาวัลย์)	1	0.0079	-4.8363	-0.0384
Obchuy (อบเชย)	1	0.0079	-4.8363	-0.0384
Yorpa (ยอป่า)	1	0.0079	-4.8363	-0.0384
Total	126	1	-106.0464	-2.6600
			H	2.6600

Table 2

Top five species most commonly found in the Well-Being Community Forest

No.	Types	Num (plants)	Scientific Names	Species Name
1	Plong (พลอง)	56	Antidesma neurocarpum Miq.	STILAGINACEAE
2	Monmoo (มันหมู)	28	Platea latifolia Bl.	ICACINACEAE
3	Klai (กลาย)	27	Gigantochloa ligulata Gamble.	GRAMINEAE
4	Pai Nae (ไผ่แนะ)	26	Mitrephora keithii Rild.	ANNONACEAE
5	Dam (ดำ)	19	Diospyros brandisiana Kurz.	EBENACEAE

The results of this analysis can be immediately utilized without incurring additional costs. A summary of the study's results on plants and herbs in the Khun Thale Health Forest has been compiled into a book, and a database on the health of Khun Thale Forest has been developed for systematic dissemination to the public, as illustrated in Figure 6. Additionally, researchers have closely monitored the characteristics of the Facebook page database created since the project's inception. It has efficiently reached the target group, and the system on Facebook has facilitated the collection of detailed statistics and quantitative analysis, as depicted in Figure 7.

Figure 6

Khun Thale Forest Well-Being Book

Figure 7

Facebook Page "Knowledge Management of Ban Kuan Yung Community Forest for Sustainable Community Health

Objective 3: To raise awareness and encourage community participation in the conservation and development of the Khun Thale Well- Being Forest. The researchers focused on creating awareness and promoting the participation of all involved parties, including public and private agencies, educational institutions, and the general public, with a special emphasis on community involvement. Researchers and project working groups served as advisors and facilitators, coordinating various parties for project creation and creative activities:

1. Essay Contest Project: "The Healthy Forest of Khun Thale that I Know." Researchers initiated an essay competition project on the topic "The Healthy Forest and Sea that I Know" from May to August 2019. Six schools in the Khun Thale Subdistrict participated, submitting a total of 19 essays. The essays were evaluated by six experts, and the winners received prize money and certificates.

Figure 8

Receiving a Certificate on August 19, 2019, at Prince of Songkla University, Surat Thani Campus.

2. Meeting to Establish the (Draft) Khun Thale Forest Health Committee. A meeting was organized with the leaders of the Khun Thale Forest Health Conservation Group on October 15, 2019, resulting in a draft list of 12 members for the Khun Thale Forest Health Committee. The names of the committee members were approved at the village's monthly meeting, allowing the committee to continue its mission of protecting and restoring the forest.

3. Group Discussion Activities to Prepare a Draft Khun Thale Forest Health Development Plan 2020. A focus group discussion was held on November 29, 2019, involving the Khun Thale Forest Health Committee, government officials, academics, and villagers. The draft Khun Thale Healthy Forest Development Plan 2020 was approved and reported to the village meeting for acknowledgment by the Khun Thale Self-Help Settlement and Khun Thale Subdistrict Municipality.

Figure 9

Meeting to establish a draft of the Khun Thale Forest Health Committee

Figure 10

Monthly village meeting agenda for the certification of the Khun Thale Forest Health Committee.

4. Activities Leading the Khun Thale Forest Health Committee to Visit the Volunteer Herb Garden. The committee visited Mr. Pipit Phonphet's volunteer herb garden. Mr. Phonphet, a 76-year-old local philosopher of herbal wisdom, guided the exploration of plants and herbs in the forest in February, 2020.

Figures 11-13

Activities to visit the volunteer herb garden, meet Mr. Pipit Phonphet, and explore the forest's plants and herbs.

5. Participation of the General Public and Facebook Page Visitors. Since the beginning of the research project in May 2019 until April 2020, nearly 270 people visited the Facebook page between October and November 2019. Statistics show more than 1,800 page visits in February 2020.

Figures 14-15

Statistics on visitors to the Facebook page (minimum-maximum).
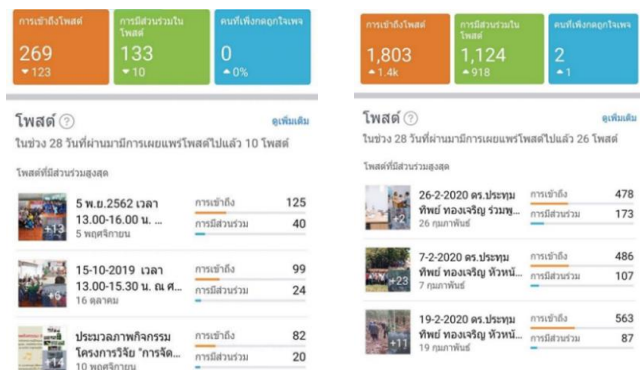
After engaging in all five research project activities, villagers and youth display heightened awareness of the forest's significance. They share knowledge, utilizing the forest for sustenance, medicine, and shelter. It also serves as a communal recreational space, vital for the Ban Khuan Yung village's well-being. This holistic approach, aligned with Sustainable Development Goal 3, promotes physical, social, mental, and intellectual wellness. Additionally, the project fosters collaboration, adhering to Sustainable Development Goal 17, by involving diverse sectors and individuals. Continual community-led and externally supported initiatives are crucial for sustaining environmental awareness and engagement. Effective leadership, particularly from community heads and forest committees, is essential for nurturing conservation consciousness and enhancing community involvement. Consistent organization of such endeavors, tailored to local contexts, ensures their effectiveness and relevance.

Thus, ongoing projects are vital for fostering community consciousness and participation in environmental conservation efforts.

Objective 4: To utilize lessons learned from past and present forest health studies to explore the development of a sustainable learning center in the future.

For the final objective, the researchers and the working group categorized lesson transcripts into three dimensions: past, present, and future. Creative works emerged from these lessons, with southern artists following the news of the research project, composing lyrics and melodies, and singing songs about the project. The study results from the lessons learned are as follows:

1) Lessons Learned from the Past:

The researchers and working groups focused on managing risks related to the physical, mental, social, and economic well- being of volunteers or communities. They prepared for potential conflicts or opposition from community forest invaders. Lessons from the past include:

1. 1 Conflict over land in the Khun Thale Forest area around 2010, primarily between capitalists and villagers who opposed the use of forest land for alternative energy crops. The conflict was resolved without violence, and the villagers successfully retained control of the land.

1. 2 Current conflicts are deemed minimal, mainly at the individual level, and are controlled by group laws and social rules. There is no significant impact on the research project or volunteers.

1.3 Conflicts outside the community, particularly with the owner agency (Khun Thale Self- Help Settlement) , are almost nonexistent due to changes in leadership.

1.4 The research project focuses on creative academic activities, fostering cooperation and understanding among all parties. Villagers, communities, and leaders actively participate in project activities.

2) Current Lessons Learned:

Following the resolution of conflict situations, various activities have continuously strengthened relationships among the involved parties, acting as a shield against potential conflicts. These activities include reforestation, Loi Krathong celebrations, forest visits for students, public health herb studies, and collaborations with educational institutions and research agencies.

2.1 Villagers, communities, and various sectors actively engage in these activities, acting as a means of cooperation and conflict reduction.

2.2 Issues identified in the Khun Thale Forest area include the lack of ownership by villagers, inconvenient routes for traveling within the forest, and the need to protect the forest's honor status. Proposed solutions include presenting the Ban Kuan Yung community forest story to the Bureau of the Royal Household to be under the care of Her Royal Highness Princess Maha Chakri Sirindhorn.

2.3 Concrete outputs from the research project include a well-being forest book, a Facebook page, a poster, two awards (at the faculty and university levels), collaboration on SDG goal 17 with over 10 organizations, and more than 40 individuals involved in the project, as well as the preparation of two research articles.

3) To extract lessons from the past, present, and future development directions of community forests:

3.1 Establish collaboration with various agencies and sectors to enhance the landscape around Khun Thale Forest, fostering community well-being. Initiatives should include creating walking paths, treadmills, and cycling routes for exercise, as well as organizing public activities like the Pracharath market, which is integral to the Khun Thale Self-Help Settlement development plan. Initiate cooperation with the Khun Thale Subdistrict Municipality.

3.2 Advocate for the establishment of the Khun Thale Forest Health Committee in partnership with village leaders from the Khun Thale subdistrict. Secure approval from the Khun Thale Self-Help Settlement, the landowners in the forest area, to integrate the Khun Thale healthy forest into the community forest management system as per the Community Forest Act of 2019. This involves a forest area of 52 rai adjacent to the Khun Thale Self-Help Settlement. The status will be withdrawn upon mission completion within six years.

3.3 Introduce a new nameplate. Originally, the sign in front of the forest area read "Chaloem Phrakiat Ban Khuan Yung Community Forest." Following the Khun Thale Healthy Forest Committee meeting on November 29, 2019, it was decided to rename it "Khun Thale Healthy Forest" to align with principles. Given that the Khun Thale Self-Help Settlement owns the land and the community does not officially possess it under the Community Forest Act of 2019, a new nameplate reading "Khun Thale Healthy Forest" should be created for consistency and clarity among community members and relevant stakeholders.

3. 4 Facilitate regular monthly meetings and annual operational plans for the Khun Thale Forest Health Committee. Collaborate with relevant agencies and sectors to execute creative projects and activities, encompassing both yearly obligations and special missions for the ongoing development of Khun Thale's healthy forest. Particularly, integrate "fire prevention drill activities" into the annual plan to engage villagers and relevant agencies in monitoring, preventing, and preparing for potential emergency situations in the future.

Discussion

In this section, researchers and their colleagues leverage information from the preceding section to discuss the study's results in alignment with the objectives. The content is analyzed and synthesized based on the research concept. Here are the details:

The study's results are framed within the "PSU-KFC-OWL" model, developed specifically by the researchers for studying community forests. This model emerged from government policies aimed at promoting and clarifying laws related to community forests, culminating in the enactment of the Community Forest Act, 2020. The central principle of this model is the strong awareness and commitment of community members of all ages to conserve the forest for future generations. This commitment is reflected in their active participation in various activities, including creative projects organized by the research initiative.

The community forest provides the four basic necessities (food, clothing, shelter, and medicine) to the community, particularly offering shade, relaxation, carbon dioxide absorption, and oxygen production. This aligns with the government's carbon credit policy,

which emphasizes the importance of addressing global climate change. The Community Forest Committee, initially formed informally, has now been formally established and recognized through the structured participatory research process. This formalization grants the committee full authority and responsibility to manage the forest, with widespread acceptance from the community. The committee conducts continuous planning and meetings to align its mission with government policies and the actual needs of the community. True sustainability belongs to the community, is created by the community, and is fundamentally for the benefit of the community.

The aforementioned actions of the community align with the mission of the university for society, which Prince of Songkla University has consistently recognized and prioritized. Adhering to its vision of being "A Leading University for Sustainable Development," the researchers and their team have driven the community forest research under this vision. The research has identified three key values: public policy value, community value, and academic value. These values are analyzed and synthesized as follows:

Policy Values: This research aligns with national policy, as articulated in the Community Forest Act B.E. 2019 (Ministry of Natural Resources and Environment, 2020), published in the Royal Gazette on May 29, 2019. It also supports the initiative to increase the forest area in Surat Thani Province, as outlined in the Surat Thani Province Development Plan (2018-2021). Additionally, this project, focusing on "Medicinal Plants," aligns with the National Master Plan Policy and the Herbal City Development Project, designating Surat Thani as one of four herbal cities in the country (Surat Thani, Sakon Nakhon, Chiang Rai, Prachinburi) (National News Bureau of Thailand, 2017). The project aims to enhance Thailand's economic competitiveness

in the ASEAN region and create additional value, with a vision of "Thai herbs for health security and sustainability of the Thai economy" (National Nanotechnology Center, 2017).

The discourse began with an exploration of "Community Forests," highlighting governmental endorsement under the Community Forest Act. The Ministry of Natural Resources and Environment is responsible for its implementation. Central to this Act is the facilitation of flexible community forest management, promoting the establishment of community forests. This initiative aligns with the policy directives of Prime Minister Gen. Prayuth Chan-o-cha, as enunciated in the National Constitution, Article 9, which advocates for a balance between resource conservation and sustainable utilization. Although currently in draft status, its forthcoming promulgation in the Royal Gazette is anticipated.

This investigation addresses the augmentation of forested areas in Surat Thani Province, aiming to elevate its forested area from 18% to 24%, in accordance with the national Herbal Development Plan and the Herbal City project. Surat Thani's ambition to emerge as a leading herbal city in Thailand, enhancing economic competitiveness within the ASEAN region, is underscored, targeting a 1:1 value addition under the vision "Thai herbs for health security and sustainable Thai economic development" (Hfocus News, October 26, 2016). The discourse on community forests has spanned over 30 years, culminating in the recent passage of the Community Forest Act in 2019, with ongoing legislative developments. This presents a valuable opportunity to establish community forests as protected areas driven by the community. As highlighted in the principles and rationale, "community forests" have garnered governmental attention in the implementation of the

Community Forest Act by the Ministry of Natural Resources and Environment. The essence of the Act lies in its specific laws, providing flexibility in managing community forests and facilitating their expansion, aligning with the goal of achieving 40 percent forest cover, as outlined by Prime Minister Gen. Prayuth Chan-o-cha in a statement to the National Legislative Assembly. Section 9 of the Act emphasizes maintaining the stability of the resource base and achieving a balance between conservation and sustainable use.

Moreover, the project exemplifies the principle of mission relations, demonstrating Prince of Songkla University's commitment to community engagement and sustainable development through collaborative research initiatives. The current trend in research on community forests revolves around integration with the BCG Model, a comprehensive economic development approach focusing on concurrently developing three economies: the "Bio-economy," aiming to create added value from biological resources in connection with the circular economy; the "Circular Economy," emphasizing resource utilization for maximum value and prolonged use; and the "Green Economy," centering on economic development while considering the sustainability of resources and the environment (National Science and Technology Development Agency, 2020). Specifically, the BCG model emphasizes the well-being of people, economic development, tourism, and a high quality of life.

Community and Area Values: This research establishes a connection with the community in Khun Thale Sub-district, proximate to Prince of Songkla University, aligning with the university's mission to foster collaboration for sustainable community well-being. It aims to augment value for the Ban Kuan

Yung community forest through youth and villager engagement in forest preservation and commercial enhancement of forest resources. This embodies collective strength and collaborative efforts, promoting sustainable community development in harmony with the United Nations' Sustainable Development Goals. The outcomes benefit stakeholders in three aspects: firstly, significantly benefiting the Kuan Yung Village community by establishing a knowledge database for plant species crucial for the community forest, created by researchers and technology experts; secondly, serving as a learning resource for nearby schools and supporting eco-tourism in Kuan Yung Village; and lastly, exploring sustainable development strategies for the long-term learning center of the Kuan Yung Village community forest.

This research project was conducted in collaboration with various sectors, including Khun Talay Subdistrict Municipality, Khun Talay Self-Supporting Community, and the Forest Resource Management Office 11 (Surat Thani). These organizations contributed to and supported the systematic knowledge management in this community forest. Previously, studies were conducted in a fragmented manner, with each unit managing operations independently. However, this research coordinated and integrated knowledge from various sectors to ensure consistency and practical application, aligning with theoretical concepts of knowledge management in public administration studies.

To raise awareness and encourage community participation in the conservation and development of the Khun Thale Well-Being Forest, ample studies on knowledge management of community forestry exist. From 1999 to 2016, 45 research studies addressed various issues related to community forests, likely influenced by the promulgation of the Community Forest Act. Notably, three studies

closely align with the objectives of this project, focusing on the target area (Baan Khuan Yung) and addressing the issue of knowledge management, which forms the core of this research project. This underscores the importance of further education in "Community Forest Knowledge Management."

Academic Value: This research applies principles of Public Administration, focusing on Knowledge Management and community forest management, integral to research studies. Integration with related subjects enables students to engage in outdoor learning in the Ban Kuan Yung community forest, serving as a secondary classroom. In Public Administration, "Best Practice" and "Knowledge Management" issues are prominent, especially regarding database systems and cooperative networks, aligning with the digital age's knowledge evolution. Knowledge Management, essential in the Organization and Management category, involves systematic information and knowledge management processes, facilitating information dissemination (Anas Isah CLN & Nura Ibrahim, 2023). Outcomes, including online databases and handbooks, enhance teaching methodologies, fostering conservation awareness.

This research follows knowledge management guidelines, beginning with studying community forest contexts, important plant species and herbs, database preparation, community forest conservation awareness, and planning for the future. Systematic data collection, verification, and documentation ensure clarity and efficiency, aligning with principles of good governance, fundamental in Public Administration.

This research is aligned with sustainable development principles set by the United Nations and is linked to two main aspects:

1) Health (SDG3): Rembowski emphasizes collaboration not only at the community level but also globally, aligning with other SDGs. Linking to SDG 14 - Land Resources: The forest, rich in natural resources and herbs, provides food for the community, addressing SDG 1 (poverty eradication) and SDG 2 (zero hunger). It also serves as a wildlife habitat and facilitates learning about medicinal herbs, contributing to various dimensions, including economic and social aspects, notably SDG 3 (good health and well-being). This aligns with well-being principles (physical, mental, social, and intellectual) by Prawet Wasi (2005).

2) Building networks of cooperation with various sectors (SDG17): Initially, village leaders devised strategies to protect the forest from capitalist encroachments, preserving it as a community forest. Efforts are ongoing to formalize it under the 2019 Act. Challenges arise due to land ownership by the Khun Thale Self-Help Settlement, necessitating collaboration with villagers and government agencies, aligning with SDG 17 principles for cooperative efforts, as indicated in the study "Goal 17-Partnerships for the Goals" by John Rembowski (2020).

Regarding other UN sustainable development goals, an analysis by the researchers and the working group found limited connection with Khun Thale Forest management. As the area develops into an ecotourism destination and learning center, certain goals may become more relevant. Notably, SDG 13 on Climate Change aligns with the study on "Climate Change and Future Generations," suggesting global population control as a means for true sustainability, consistent with SDG 13 (Tipmontree & Thongchareon, 2018). Additionally, the analysis of health principles connects to "carbon credit," aligning with SDG 13's aim to empower

communities for environmental preservation in response to climate change impacts. This underscores the importance of community involvement in sustainable development, a commitment upheld by Chulalongkorn University (n.d.). Thailand has achieved a global milestone in carbon credit trading from community wet waste.

Conclusion

Forests serve as critical natural resources, playing a pivotal role in watershed management. Countries allocate support and promote the cultivation of fertile forest areas in proportion to their landmass and population to reap both direct and indirect benefits. In Thailand, a significant stride in this direction was made with the enactment of the Community Forest Act in May 2019, a culmination of nearly three decades of advocacy by villagers. This legislation aims to safeguard community forests, granting communities the opportunity to actively manage these invaluable resources. The focal point of this research lies in the concept of 'community forest by the community, for the community.'

The outcomes of this project yield three distinct benefits for stakeholders. Firstly, the Ban Kuan Yung community gains substantial advantages, particularly through the creation of a meticulously designed database of plant species-the primary assets of community forests. The Knowledge Management process, orchestrated by researchers and technology and innovation experts, enhances resource management within the community. Secondly, the research findings serve as a valuable educational resource for schools in the vicinity, contributing to environmental awareness and supporting eco-tourism initiatives in both the Ban Kuan Yung community and neighboring areas. Lastly, the study's results lay

the groundwork for the realization of the final objective: the development of the Ban Kuan Yung community forest into a sustainable learning center. This expansion aligns with the broader objective of fostering community development through education and environmental conservation.

Building upon this research, the researchers and the working group have embarked on a subsequent study focusing on Knowledge Management of model community forests for community health in Surat Thani Province. This ongoing study, spanning 2021- 2022, encompasses three districts: Phanom, Ban Na San, and Phra Saeng. Readers are encouraged to follow the outcomes of this research in the forthcoming article by Pratumtip Thongcharoen et al., to be published in 2023.

Recommendations Derived from the Research:

1) Research recommends enhancing the well-being of the Khun Thale Forest community through collaboration with local agencies, including Khun Thale Subdistrict Municipality, Khun Thale Self-Help Settlement, Forest Resource Management Office No. 11 Surat Thani, educational institutions, and the private sector. Efforts should include developing walking paths, treadmills, cycling routes, and organizing public activities such as the Pracharath market. Forming the Khun Thale Forest Health Committee with village leaders is advised. This initiative aims to integrate Khun Thale Healthy Forest into the community forest management system under the Community Forest Act of 2019. Rebranding to "Khun Thale Healthy Forest" is recommended for consistency.

2) Regular monthly meetings and annual operational planning for the Khun Thale Forest Health Committee are crucial. Collaboration with relevant agencies for executing creative projects, like " fire

prevention drill activities," should be included in annual plans to prepare for emergencies. Further research should focus on identifying local and scientific names of tree species in Khun Thale Forest, documenting their coordinates for efficient monitoring. Supporting projects and activities by Prince of Songkla University and related agencies is recommended, along with endorsing the "Khun Thale Forest Conservation Market" for selling local products, incorporating folk games, and facilitating academic discussions on marine forest health. Engaging students and all sectors is vital for enhancing quality of life and fostering a sustainable community.

Recommendations for Future Research:

1) Advocate for additional research projects aimed at identifying the local and scientific names of tree species within the Khun Thale Forest. This should include precise documentation of coordinates for these species, facilitating efficient monitoring, maintenance, and surveillance against intrusion and destruction.

2) Support projects by Prince of Songkla University and relevant agencies, fostering collaboration with the Khun Thale Forest Health Committee. For example, endorse the "Khun Thale Forest Conservation Market" near Village No. 4, Khun Thale Subdistrict, Surat Thani Province. Mr. Suthipong Pandee, Assistant Village Headman and Committee Secretary, suggests stalls selling local products and food. Include folk games and an academic forum on marine forest health. Encourage student activities for broad participation, enhancing quality of life and fostering a sustainable community.

Acknowledgements

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