

Knowledge Transfer on Community Environmental Management for Value Added in Creative Economy to Sustainable Development

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Abstract

This research study focuses on the knowledge transfer of community environmental management to enhance value added in the creative economy, leading to sustainable development. The research adopts an integrated research approach, combining scientific experimentation with participatory action research involving community engagement. The study was conducted in Sawai Chik Subdistrict, Mueang District, Buriram Province. The research process consisted of three stages: 1) research preparation, 2) research implementation, and 3) project implementation and research findings summary. The research findings revealed an environmental management model in a community guava orchard that added value through high-energy fuel production, organic fertilizer development and production, and agricultural surface coating production, following the principles of waste-free management. These initiatives were generated through collaborative brainstorming and analysis among community members, with a focus on the benefits for farmers based on their needs. As a result of the completed research, the community witnessed the emergence of 30 new community researchers, including village leaders and government officials in the area, representing the research team from Buriram Rajabhat University. These representatives serve as prototypes and facilitate knowledge transfer through the simple practical application of technology to local residents in 20 villages. Additionally, this community becomes a leading example for other organizations to study and learn from in terms of community environmental management for sustainable livelihood development.

Keywords: Knowledge Transfer, Community Environmental Management, Creative Economy, Sustainable Development

Introduction

The development of a country in the past has emphasized economic growth as a crucial factor. This approach has led to Thailand's success in economic development. However, focusing solely on economic development has given rise to various challenges, including the growing disparity between urban and rural areas, urban overcrowding, inadequate public utilities, public health issues, environmental problems, etc. In particular, environmental issues have directly contributed to public health problems among the population. Therefore, addressing environmental problems and implementing preventive measures are important and should be given top priority. Government agencies, which play a central role in societal development, are well aware of these challenges. As evident, the government has allocated significant budgets to address these issues. However, despite these efforts, the aforementioned problems have not decreased. On the contrary, they have become more complex, leading to the emergence of additional problems and widespread impacts in various other

areas.

Buriram province is considered an intriguing destination in the eyes of outsiders due to its unique blend of rural lifestyle and simplicity. It is well-known for its historical tourist attractions, namely the Phanom Rung Historical Park and Prasat Muang Tam, which are enormous ancient stone sanctuaries built according to the beliefs of Hinduism. Furthermore, Buriram has gained global recognition as a modern sports hub, particularly in the field of international motorcycle racing. Thailand was selected to host the MotoGP World Championship for the first time in 2018, and Buriram emerged as a new distinctive image, especially for sports enthusiasts and those who appreciate competition and speed. In addition to being a center for Khmer cultural and historical tourism and a world-class sports city, Buriram province has also developed its economy based on the production of safe agricultural products. The unique agricultural practices that are well known among the people in Buriram Province are found in the community of Sawai Chik Subdistrict, which is a community within

the Mueang District that still retains its natural essence, making it a subdistrict with distinctive cultural characteristics of Khmer heritage. The elderly in the village commonly wear shoulder sashes, woven with silk threads in both plain and floral patterns. The community boasts notable cultural traditions, such as the Sandonta tradition and Mamuad dance ritual, along with various Khmer beliefs. Importantly, Sawai Chik is an ancient village with a history of over 236 years. Furthermore, the area is rich in diverse natural resources and environments, including the important water sources of Talat brook, Saya brook, and Ta Saeng brook, which play a significant role for the subdistrict in terms of consumption and agriculture. Currently, there is a shift towards cultivating new economically viable crops in the region, replacing rice farming due to its declining prices. Crops such as passion fruit, rose apple, and Kimju guava are being cultivated to align with the development policies of Buriram province, which aims to transform into a sports and tourism city as well as focus on producing safe agricultural products.

Nong Prue Noi Village, Village No. 9, Sawai Chik Subdistrict, Mueang District, Buriram Province, is one of the twenty villages located within the subdistrict. It is known for its extensive cultivation of Kimju guava. According to the research conducted by the researchers, the village has approximately 200 rai of guava plantations, with a current yield of 120 rai. The total production for the entire village is approximately 20 tons per month, which provides a good source of income for the community. The wholesale price of Kimju guava is 25 baht per kilogram, and each harvest season takes about two months. The production costs include water, packaging bags, and fertilizers for nurturing the guava trees. The sale of the produce involves both middlemen, who come to the orchard to collect and sell the guava at the local market. Apart from selling the harvested guava, there is also the sale of guava grafting. The initial information about Kimju guava from the community's resources provides insight into the direction of community economic development. This is considered a key factor in fostering creative economic development, which is an important approach to Thailand's economic development. The concept of the creative economy is integrated into the 12th National Economic and Social Development Plan, which aims to effectively achieve this concept by promoting its implementation in areas ready for significant transformation. The principle is centered around people as the focal point to develop the country towards a balanced dimension of economic, social, natural resource, and environmental sustainability. The management of community resources gives utmost importance to the people who rely on these resources for the well-being of the community. Community resources encompass the various

elements present within the community and can be broadly categorized into three major components: 1) biological community resources, including humans, animals, plants, and small-sized living organisms, 2) physical community resources, consisting of natural resources such as land, water, minerals, forests, energy, air, and sunlight, and 3) constructed community resources, including buildings, historical sites, art, cultural heritage, traditions, customs, group local wisdom, and various community organizations. Managing community resources involves establishing relationships regarding the utilization of resources among community members and asserting community rights in managing natural resources. It also involves safeguarding the resource base from external threats or changes that may disrupt the community's way of life. The care and preservation of community resources primarily depend on the community itself, as it has the ability to access and benefit from these resources. While establishing guidelines that align with the local way of life, wisdom, and community context enhances the effectiveness of resource conservation and management, it also requires collaboration from various parties to enable the community to successfully engage in community resource management.

Efficient community environmental management is considered a crucial factor for sustainable national development. In the past, the country's development focused primarily on economic growth, neglecting comprehensive planning for natural resources and the environment. This has resulted in Thailand facing challenges of natural resource depletion and various forms of pollution at alarming levels (Department of Pollution Control, 2015). Therefore, in this study, the emphasis is placed on environmental management in the Kimju guava orchard, which is a community resource of Nong Prue Noi Village, Village No. 9, Sawai Chik Subdistrict, Mueang District, Buriram Province. The approach aims to transfer knowledge from the university to the community in a holistic manner, contributing to the development of products and the enhancement of value in a creative and sustainable economy while maintaining the uniqueness of local culture. Simultaneously, it also seeks to generate employment and income and improve the overall quality of life for the people in the area collectively.

Methodology

The objective of the research study was to develop an environmental management model based on community resources to enhance economic value. This was achieved by transferring knowledge from the university to the community through simple technological practices, which were derived from the concept of community participation by various groups within the community. The research process

consisted of the following steps:

Stage 1: The Pre-Research Phase

1. The process of identifying population groups and selecting sample groups consisted of three parties, namely:

- (1) The target population was 270 individual farmers in Nong Prue Noi Village, Village No. 9, Sawai Chik Subdistrict, Mueang District, Buriram Province (823 residents in total, consisting of 411 males and 412 females). The sample size was determined using the formula by Yamane (1973, as cited in Chantarasuwan & Buathuan, 1993, p. 43).
- (2) The community researchers, including community leaders from a total of 20 villages and government officials in Sawai Chik Sub district Administrative Organization, Muang District, Buriram Province, were purposefully selected, totaling 50 individuals.
- (3) The research team consisted of faculty members and students from Buriram Rajabhat University, totaling 10 individuals.

2. The development of research tools for this study was carried out by the research team themselves. The research tools played a crucial role as the researchers needed to collect and analyze data independently. Consequently, the research team prepared several components before commencing data collection. These components comprised a conceptual framework, theories, data collection skills, equipment for capturing photographs and recording papers, as well as various materials utilized in group activities. Additionally, physical strength, motivation, and budget planning were also considered. The research team implemented the following steps in creating research tools:

- (1) Non-participatory observation was a research tool used for data collection in the initial phase of the study. The village area was surveyed, including the village's environment, way of life, population size, and management issues related to the guava orchards. Participatory observation, on the other hand, was a research tool used for observing various activities, such as expressing opinions on environmental management in the guava orchards within the community. In addition, in-depth interviews were conducted with farmers, using open-ended questions to explore their perspectives on guava orchard management, ultimately leading to a comprehensive understanding of the underlying issues and problems.
- (2) The generation of knowledge regarding community environmental management and the application of community-based resources to enhance creative economic value was achieved through data obtained from observation and interviews conducted with the target group,

which consisted of 270 guava farmers within the study area. The research team utilized this data for analysis and explored study guidelines to implement effective management strategies for guava orchards in the area, aligning with the project's principles of research.

- (3) The community research team embarked on creating a participatory process for managing the environmental conditions in the community guava orchards. The research team carried out the development of a knowledge transfer framework to establish a participatory process for managing the environmental conditions in the community guava orchards. This process involved two main steps:

3.1 Group preparation phase: The research team prepared by sending invitation letters to the community researchers, inviting them to participate in a meeting, coordinating responses from the community research team, and arranging a meeting venue at the meeting hall of the Sawai Chik Subdistrict Administrative Organization.

3.2 Workshop phase: The primary objective of this phase was to study the structure of the participatory process for managing the environmental conditions in the community guava orchards and to ensure that the operational activities were conducted efficiently. The workshop phase involved the following steps:

3.2.1 The process began with registration and surveying the number of participants attending the meeting to plan and determine the size of the activity groups. The project leader introduced the research team, explained the objectives of the operation, verbally provided information, and showcased photographs of the current situation and problems in managing the environmental conditions in the community guava orchards. The purpose was to raise awareness among the participants regarding the issues and challenges.

3.2.2 The group bonding activity involved dividing the participants into smaller groups, and it started with self-introductions within each group to break the ice and dissolve individual behaviors, aiming to establish strong relationships within the group. A group facilitator explained the selection criteria for appointing group leaders, including one group leader, two assistant leaders, and one secretary. The group members collectively named their groups and assigned meanings to the names.

3.2.3 The planning/program activities involved group collaboration to brainstorm, analyze, and address environmental issues within the area. This was achieved through the development of project plans/activities for managing the environmental conditions in the community guava orchards. These plans encompassed

principles, rationale, objectives, aims, budget allocation, implementation timeline, and expected outcomes.

Stage 2: Research Phase

In this research, the research team followed the following steps for data collection:

1. A letter requesting cooperation was prepared and submitted to the president of the Sawai Chik Subdistrict Administrative Organization, Mueang District, Buriram Province, with the purpose of issuing an invitation letter. The letter purposefully targeted key individuals or groups involved in the expansion of the participatory process, including sub-district leaders or village leaders and government officials in the area, totaling 50 individuals. After receiving confirmation and acceptance from the sample group, they participated in the workshop meetings with a total of 30 participants to develop a participatory management framework for environmental conditions in the community guava orchards.
2. The workshop took place at the conference hall of the Sawai Chik Subdistrict Administrative Organization because it was a well-equipped venue with the necessary materials and equipment for the meeting. In addition, it served as a central location that facilitated convenient transportation for the participants attending the meeting.
3. A consultation meeting was conducted to discuss the management of the environmental conditions in the community's guava orchard area and to disseminate technology on applying community-based resources to enhance the value of the creative economy in various forms. The meeting, which lasted for one day, aimed to allow the participating groups to collectively consider suitable models for managing the environmental conditions in the community's guava orchard area.
4. The coordination and preparation process for the workshop to transfer knowledge to the sample group took a duration of 30 days. The planned activities were as follows:
 - (1) The research team presented a proposal derived from a brainstorming session involving 30 community researchers that determined a model for managing the environmental conditions in the community guava orchard using a project

format. The proposal was analyzed to identify implementation methods and presentation guidelines for problem-solving, which took place at the Environmental Science Laboratory, Faculty of Science, Buriram Rajabhat University.

- (2) A workshop was conducted to present the knowledge acquired after conducting scientific research at the meeting hall of the Sawai Chik Subdistrict Administrative Organization to a sample group of 30 community researchers for one day.

Stage 3: Following the project plans and making research conclusions

1. The qualitative data analysis was conducted simultaneously with each data collection process. It involved analyzing community contextual data, social data, as well as concrete data or observed phenomena. Thus, this analysis was consistently coupled with field data collection on every occasion. The accuracy and reliability of the data were verified through interviews and observations, then analyzed to identify the correlations between causes and effects for each issue. In the participatory action research data analysis, the research team and participants collaborated in analyzing the data at every stage, from creating visual representations and defining activities to planning and carrying out the work. In addition, the research findings were evaluated to assess the project's success, measured by overall satisfaction with the project among the 30 participants who were community researchers. Furthermore, future predictions were made. The knowledge gained from this participatory action meeting was disseminated to interested residents and the public, both within and outside the area.
2. Quantitative analysis involved processing data using statistical methods such as statistics, percentages, and means.

Results

1. The results of the survey and data collection on basic information

The study on the general data of the current status of environmental management in the community guava orchards of Nong Prue Noi Village, Village No. 9, Sawai Chik Subdistrict, Mueang District, Buriram Province, yielded the following results:



Figure 1. Field Data Collection from Interviews and On-Site Surveys

From interviews with 270 farmers engaged in guava cultivation in the target area, data were analyzed quantitatively and qualitatively. Factors affecting environmental management practices within the guava orchards were assessed, including on-site surveys. It was found that the local community desired knowledge related to their occupation to implement cost-reduction practices, such as using renewable energy sources for household needs, producing organic fertilizers as an alternative to chemical fertilizers, and generating additional

income from self-produced agricultural products. The community sought to learn from successful models and acquire knowledge on sustainable economic practices to reduce expenses and increase income. Based on this data, the research team informed the participants about the identified needs and proposed a total of 15 activities, prioritized from highest to lowest demand. A summary of the proposed activities is presented in Table 1.

Table 1. Number and Percentage of Development Activity Needs (n = 30)

Topic	Content	Number	Percentage
1	Production of biomass for renewable energy	25	83.33
2	Production of organic fertilizers	22	73.33
3	Extension of shelf life of agricultural products	20	66.67
4	Production of household consumer goods	18	60.00
5	Occupation promotion of the village fund group	15	50.00
6	Non-toxic organic agriculture	12	40.00
7	The front yard landscaping	11	36.67
8	Integrated farming systems	10	33.33
9	Cricket farming	9	30.00
10	Golden apple snail farming	8	26.67
11	Cattle farming	7	23.33
12	Native chicken farming	6	20.00
13	Catfish farming	5	16.67
14	Mushroom cultivation	2	6.67
15	Sericulture and product design	2	6.67

Table 1 is a summary of the results obtained from inviting the willing participation of 30 households in Nong Prue Noi Village, Village No. 9, Sawai Chik Subdistrict, Mueang District, Buriram Province. The research team utilized the results from the needs assessment meeting as a framework for development in accordance with the community's needs. The needs were prioritized and ranked in descending order, comprising a total of 15 items. Among these, the three most urgent priorities were the production of biomass for renewable energy, the production of organic fertilizers, and extending the shelf life of agricultural produce. Based on these reasons, the research team formulated research work guidelines to generate knowledge on environmental management in the community guava orchards that aligned with the local community's needs. Moreover, the research focused on the application and dissemination of technology by applying community-based resources to enhance creative economic value through participatory action research (PAR). This approach involved a sample group of 30 individuals, selected through the purposive sampling method from the leaders of all 20 villages in Sawai Chik Subdistrict, Mueang District, Buriram Province, to empower the participants as community researchers for expanding knowledge within their own communities in the subsequent stages.

2. The results of the community leadership meeting organization

The community leadership meeting was conducted with village leaders and government officials from the Sawai Chik Subdistrict Administration Organization to analyze the current status of environmental management in the community guava orchards. The main knowledge gained from the survey and data collection activities involving 270 relevant farmers in the area was used as a focal point for studying and finding solutions for collaborative orchard management in the community. The meeting took place on October 15–16, 2022, at the meeting hall of the Sawai Chik Subdistrict Administration Organization, with a selected sample group consisting of 30 village leaders and government officials of the Sawai Chik Subdistrict Administration Organization. The meeting yielded important outcomes as follows:

1. General information about the sample group of 30 participants was gathered. The study revealed that the average age was 51.25 years old. Regarding educational qualifications, the majority of participants had completed their education up to the fourth grade of primary school. This was followed by those who had

completed the sixth grade of primary school and the sixth grade of secondary school. As for the main occupations, the majority of participants were engaged in farming and growing Kimju guava, accounting for 80% of the group. The next

most common occupation was being a housewife, while the majority did not have secondary occupations.



Figure 2. Community Leadership Meeting with 30 Participants to Find Directions for Managing the Environmental Conditions in the Community Guava Orchard in the Form of Activities and Projects

2. A pattern of managing environmental conditions in the community guava orchards was established through a project aimed at adding value to agricultural waste from guava production in the community. This was achieved by using it as a material for producing compressed charcoal briquettes from guava branches and leaves that meet the criteria of the Thai Community Products Standards for charcoal briquettes (TCPS No. 238/2547). These briquettes could be used as fuel for cooking in households. Additionally, organic fertilizer was developed and produced from discarded guava fruits. The organic fertilizer was of high quality, considering its physical properties and the sufficient amounts of essential nutrients such as nitrogen, phosphorus, and potassium that met the organic fertilizer standards (Department of Agriculture, 2005). Furthermore, the project included activities to produce natural surface coatings for guava fruits, including jelly-based coatings from aloe vera, coatings from *Cyclea barbata* leaves, and coatings from green okra fruits, to extend the shelf life of the fruits. The project was developed through internal group activities that involved brainstorming, analysis, and problem-solving to address the issues of environmental management in the community guava orchards. The project focused on meeting the needs of the local residents who directly benefited from the project and ensuring that they received immediate benefits as the main priority.
3. Collaboration between community groups and government agencies was achieved, resulting in reduced gaps in working together and fostering a sense of being a part of the community's participation in the development of their residential area.

3. The results of transferring environmental management technology based on community resources to increase the household economic value of Kimju guava growers in Village No. 9,

Nong Prue Noi Village, Sawai Chik Subdistrict, Mueang District, Buri Ram Province, in the form of knowledge transfer from the university to the community

The research team proposed a project to increase the value of agricultural waste from guava production in the community. This included producing high-energy fuels based on a zero-waste management concept, developing and producing high-quality organic fertilizers from agricultural waste materials from community-based resources, aiming to create environmentally friendly products, and producing agricultural surface coatings to extend the shelf life and enhance community value commercially based on community resources. An analysis was conducted to find a method of implementation and a presentation guideline for a group of 30 community researchers at the Environmental Science Laboratory, Faculty of Science, Buriram Rajabhat University. The analysis revealed three possible projects based on the results of experimental tests conducted in the laboratory, as follows:

1. The production of compressed charcoal briquettes from leftover branches of guava met the criteria set by the Thai Community Products Standards for charcoal briquettes (TCPS No. 238/2547). These briquettes could be used as fuel for cooking in households because they had a high proximate analysis index, close to 1. They had low moisture content, high density, and a carbon content that was close to the standards for community charcoal briquette products, with a high calorific value of 6,054 kilocalories per kilogram.
2. Organic fertilizer obtained from discarded guava fruits, rain tree leaves, cow dung, and rice husk in a ratio of 3:1:4:2 was a suitable high-quality organic fertilizer. Furthermore, it possessed physical properties, pH balance, electrical conductivity, as well as adequate levels of primary nutrients such as nitrogen, phosphorus,

and potassium, which met the standards for organic fertilizers (Department of Agriculture, 2005).

3. The surface coatings for Kimju guava fruits that were produced under the research project consisted of the following components: jelly coating derived from aloe vera leaves, coating derived from *Cyclea barbata* leaves, and coating derived from green okra fruits. All experimental sets showed the potential to develop and produce fruit surface coatings. Furthermore, significant statistical differences were observed between each experimental set and the untreated control set that did not undergo coating. In addition, when considering the overall quality

evaluation of the coatings, it was observed that the coating derived from *Cyclea barbata* leaves exhibited a comparable quality to the control set coated with 1.5% chitosan solution. In other words, there was no statistically significant difference ($p \geq 0.05$) between these two experimental sets, indicating that *Cyclea barbata* leaves were the most suitable for producing high-quality surface coatings for Kimju guava fruits. This was followed by the coating extracted from aloe vera, a combination of aloe vera, *Cyclea barbata* leaf, and green okra fruit extracts, and finally, green okra fruit extract.



Figure 3. The Products from the Community Environmental Management Knowledge Transfer Project Aimed at Enhancing Value in Creative Economic to Sustainable Development (Compressed Charcoal Briquettes, Organic Fertilizers, and Guava Surface Coatings for Extending Shelf Life)

4. The results of the participatory workshop through the transfer of environmental management technology based on community resources to increase the household economic value of Kimju guava growers in Village No. 9, Nong Prue Noi Village, Sawai Chik Subdistrict, Mueang District, Buri Ram Province

The promotion and transfer of knowledge and technology from the aforementioned research work to the network were conducted through workshop sessions for a target group of 30 farmers, along with environmental science students acting as mentor researchers. The research team further developed the aforementioned concepts in the laboratory, resulting in methods and guidelines for the dissemination and expansion of knowledge to a selected group that became representatives of the research team as community researchers. The purpose was to transfer knowledge to interested local residents or individuals in the community. A participatory workshop meeting was held on January 15, 2023, for a total of one session. This collaborative operational meeting resulted in significant outputs and outcomes, as follows:

1. The projects were presented through a participatory workshop meeting, including the project on high-energy fuel production based on a zero-waste management concept, the project on the development and production of high-quality organic fertilizers from agricultural waste

materials from community-based resources, aiming to create environmentally friendly products, and the project on the production of agricultural surface coatings to extend shelf life and enhance community value commercially based on community resources. From the sample group of 30 participants, it was found that they had relatively limited experience attending training sessions, with only 37.78%. Furthermore, their experience in production and utilization across all three activities was also low, at only 16.67%. After the workshop, a comprehensive satisfaction survey was conducted, revealing that they were most satisfied with the facilitators and the training process, specifically in terms of providing guidance, answering questions effectively, the facilitators' ability to transfer knowledge, the appropriateness of training materials, and the use of suitable and understandable language. In terms of the venue, food, duration, knowledge, and understanding, the participants expressed high levels of satisfaction. Through the application of the knowledge gained from the training, farmers were able to utilize the knowledge gained from the training to a great extent in their profession. The highest level of utilization was applying the knowledge to benefit their occupation, followed by the ability to disseminate and share knowledge with neighbors. Additionally, they had confidence and

were able to apply the acquired knowledge, respectively. When the overall evaluation of the workshop was conducted, the participants expressed the highest level of satisfaction, rated at 4.55. The highest level of satisfaction was also observed in the application of knowledge in their profession or income generation, which was also rated at 4.55. Furthermore, it was mentioned that the project was feasible for further development and integration as a supplementary profession, aligning with the lifestyle of the local villagers, who primarily engage in agricultural occupations. Moreover, it could be easily implemented within households without the use of chemicals in the production process. It also presented a new approach to addressing agricultural waste management by producing simple and potentially profitable products such as compressed charcoal fuel and organic fertilizers. As for the project on guava surface coating production, the majority of participants in the sample group expressed that it was an interesting project and had the potential to enhance the value of fresh guava by applying natural extracts as safe edible coatings. Based on the future prediction study findings, the knowledge acquired from this participatory workshop will be disseminated to interested local residents and the general public. It was

found that 100% of the participants, out of a sample group of 30 individuals, intended to further share the knowledge gained with their communities and the public.

2. The development of new researchers in the form of community researchers emerged, including 15 village heads/representatives from various villages within the area of the Sawai Chik Subdistrict Administrative Organization and 4 government officials (3 public health station officers, 3 village health volunteers, 3 teachers, 1 subdistrict deputy head, and 1 subdistrict head secretary). In total, there were 30 individuals who understood and appreciated the value of participatory research in advancing the missions of both the government and the community.
3. Buriram Rajabhat University pursued the mission of research under the philosophy of being a truly community-oriented university for local development. This included the transfer of knowledge generated through scientific studies conducted in laboratory settings to the community. Additionally, the research team was trained to possess scientific process skills coupled with the ability to transfer knowledge through participatory action research (PAR) activities.



Figure 4. Participatory Workshops through Project Activities

5. The impacts obtained from the creative products under the plan of the application of community resources, aiming to enhance creative economic value under environmental management in the community of Mueang District, Buriram Province

1. Social Impact: The community members increased their collaboration in community activities, opening up opportunities for participation and engagement, which made Nong Prue Noi Village a community of learning where residents continuously studied and engaged in activities. It also became a resilient community, where every decision was carefully planned to assess the potential impacts on the community. Furthermore, the relationships among the members of the group were strong and supportive, fostering mutual assistance and exchange. People in the community transformed

their way of life by prioritizing environmental management within the community, resulting in positive effects on the well-being of the residents. Moreover, the community became an exemplary model in environmental management, attracting interest from other communities and organizations for future study and observation.

2. Economic Impact: The benefits of cost reduction in guava orchard management were approximately 2,610,000 baht per year, which included: 1) reduction in pruning and disposal costs for guava branches, amounting to 12,000 baht per year. 2) reduction in chemical fertilizer expenses for guava tree cultivation in the orchard, totaling 50,000 baht per year. 3) reduction in chemical coating expenses for guava fruits, amounting to 25,000 baht per year. Additionally, there were benefits from selling creative products. Members were able to generate additional income from producing and

selling creative products in households, amounting to approximately 2,000 baht per month and totaling 240,000 baht per year. In total, this amounted to 720,000 baht per year (based on 30 exemplary households).

- 3. Environmental Impact:** The environment in the community improved as a result of transitioning from chemical agriculture to organic farming, which led to better soil quality and the absence of chemical contaminants in the water. Additionally, the community possessed sustainable and resilient natural resources. There were community learning models for comprehensive community environmental management as well as a promotion of resources related to natural and environmental capital, social capital, and cultural capital aimed at strengthening and balancing the community. As a result, the residents in the area had stable incomes and enjoyed a peaceful and prosperous society. The well-being of individuals in the community was characterized by good physical and mental health.

Discussion

Based on the results of this research study, important findings and lessons have been discovered for the process of transferring knowledge from the university to the community through the application of community-based resources, aiming to enhance creative economic value under environmental management in the community of Mueang District, Buriram Province, as follows:

1. The fact that the research team conducted research in the areas of the Sawai Chik Subdistrict Administrative Organization is akin to creating a turning point in community development. It combines knowledge and academic principles with community participation, which serves as the foundation for development. This process allows for the analysis of issues, problems, and potential solutions through research, aiming to generate new knowledge or appropriate research methodologies that meet the needs of the local community. It contributes to improving the quality of life in various aspects of the community and facilitates the expansion and transfer of innovation to other communities.
2. The research conducted for the development of the area by the research team from Buriram University has created acceptance and a positive perception among professors, students, and the institution as a whole. It has also provided a framework for reducing the gap between different groups of individuals, leading to increased trust and willingness among local residents to seek advice from government agencies and educational institutions to a greater extent.

3. Sustainability for the knowledge transfer process from the university to the community is achieved by utilizing simple and participatory technological practices within the areas of the Sawai Chik Subdistrict Community Administrative Organization. The first factor relies on 30 community researchers, purposefully selected from community leaders, who are considered personal factors that can mobilize the masses to listen and follow, as they are trusted and held in high regard by the villagers. The second factor is the ongoing role of the Buriram Rajabhat University research team as long-term consultants and mentors to instill academic confidence within the community. Lastly, the third factor involves supporting the budget for implementation and community development, including organizing simple and practical technology-based meetings, which can be in traditional formats or may be modified according to market trends and consumer demands.

Value creation from local knowledge to generate economic added value is a concept that emphasizes the development of income built upon local wisdom, culture, traditions, and beliefs and transforms them into locally accepted and standardized products. This process is supported and facilitated by both government and private sector organizations that incorporate modern knowledge and management techniques to connect community products with markets. The goal is to promote and support local development processes in order to create self-reliant and resilient communities. In addition, active community participation is crucial in generating occupations and income by harnessing local wisdom resources and developing them into high-quality and unique products and services that align with market demand, the local culture, and the way of life. Therefore, it is essential that unique products or distinctive goods originate from the community's specific needs.

Recommendations

The knowledge transfer on community environmental management for value added in the creative economy to sustainable development is a reflection of a phenomenon in a particular society. The research team believes that in-depth studies can be conducted on various related topics, such as the developmental process of the formation of Kimju guava growers, the impact of Kimju guava on the community's way of life, agricultural tourism with Kimju guava, and the production of community goods with Kimju guava. Furthermore, it is recommended to carry out practical research focused on developing and implementing plans for community environmental management with active community participation. Additionally, it is important to study and expand on these findings to

foster collaborative networks, starting at the community level and extending to organizations and various agencies. This approach will ensure that community environmental management becomes systematic, well-regulated, and capable of progressing in a positive direction through the cooperation of diverse professional groups in the future.

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