

การยกระดับผลิตภัณฑ์ชุมชนด้วยแนวคิดเศรษฐกิจหมุนเวียน
ของกลุ่มวิสาหกิจชุมชนบ้านนาดี - สร้างบง อำเภอกุมภวาปี จังหวัดอุดรธานี
ENHANCING COMMUNITY PRODUCTS THROUGH THE CIRCULAR ECONOMY CONCEPT OF
THE BAN NA DI - SANG BONG COMMUNITY ENTERPRISE GROUP,

KUMPHAWAPI DISTRICT, UDON THANI PROVINCE

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บทคัดย่อ

งานวิจัยเรื่องการยกระดับผลิตภัณฑ์ชุมชนด้วยแนวคิดเศรษฐกิจหมุนเวียนของกลุ่มวิสาหกิจชุมชนบ้านนาดี - สร้างบง อำเภอกุมภวาปี จังหวัดอุดรธานี มีวัตถุประสงค์เพื่อยกระดับผลิตภัณฑ์ชุมชนด้วยแนวคิดเศรษฐกิจหมุนเวียนของกลุ่มวิสาหกิจชุมชนบ้านนาดี - สร้างบง อำเภอกุมภวาปี จังหวัดอุดรธานี มีประชากรและกลุ่มตัวอย่าง ได้แก่ ผู้ใหญ่บ้าน ประธาน รองประธาน และสมาชิกกลุ่มวิสาหกิจชุมชน บ้านนาดี - สร้างบง จำนวน 30 คน ด้วยวิธีการเลือกแบบเฉพาะเจาะจง เครื่องมือที่ใช้ ได้แก่ การประชุมกลุ่มย่อย การอบรมเชิงปฏิบัติการ ผลการวิจัย พบว่า กลุ่มวิสาหกิจชุมชนบ้านนาดี - สร้างบงมีศักยภาพในการพัฒนาเนื่องจากสมาชิกในชุมชนมีความรู้ ความสามารถ มีความสามัคคี มีความพร้อมในการจัดกิจกรรมภายในชุมชน ชุมชนมีความอุดมสมบูรณ์ กลุ่มวิสาหกิจชุมชนร่วมกันหาทางแก้ไขปัญหาด้านสิ่งแวดล้อมโดยยึดตามแนวคิดเศรษฐกิจหมุนเวียน โดยคำนึงถึงหลักการสร้างสมดุลระหว่างการเติบโตทางเศรษฐกิจกับความยั่งยืนของฐานทรัพยากรธรรมชาติ และสามารถนำไปใช้ให้เกิดประโยชน์แก่ชุมชน ได้โครงการเพื่อให้ความรู้แก่กลุ่มสมาชิก จำนวน 2 โครงการได้แก่ โครงการพัฒนาผลิตภัณฑ์น้ำยาล้างผักและผลไม้โดยใช้สารธรรมชาติและโครงการอาหารว่างจากวัตถุดิบในท้องถิ่นสำหรับต้อนรับนักท่องเที่ยว ส่งผลให้กลุ่มสมาชิกมีรายได้เพิ่มมากขึ้น ช่วยเสริมสร้างความเป็นอยู่และคุณภาพชีวิตที่ดียิ่งขึ้น

คำสำคัญ: การยกระดับ, ผลิตภัณฑ์ชุมชน, เศรษฐกิจหมุนเวียน

ABSTRACT

This research aimed to enhance community products through the circular economy concept of the Ban Na Di-Sang Bong Community Enterprise Group in Kumphawapi District, Udon Thani Province. The population and sample consisted of 30 participants, including the village head, chairperson, vice-chairperson, and members of the Ban Na Di-Sang Bong Community Enterprise Group, selected through purposive sampling. The research instruments included small-group meetings and workshops. The findings showed that the Ban Na Di-Sang Bong Community Enterprise

Group had strong potential for development because its members possessed knowledge and skills, demonstrated unity, and were ready to organize activities within the community. The community was also rich in resources. The group collaboratively sought solutions based on the circular economy concept, emphasizing a balance between economic growth and the sustainability of the natural resource base, and applying this concept for the benefit of the community. Two projects were developed to provide knowledge to the group members: a project on developing a natural vegetable and fruit washing liquid, and a project on producing snacks from local ingredients for welcoming tourists. As a result, the members earned higher incomes, which helped improve their well-being and quality of life.

Keywords: Value Added Creation, Tourism, Circular Economy

Background and Significance

Community enterprises serve as a foundational element of Thailand's domestic economy. They are formed through the collective efforts of local residents engaging in various activities rooted in indigenous wisdom and long-standing cultural capital. These enterprises aim to generate value-added products or services that reflect the unique identity of each community. Emphasizing self-reliance, they minimize dependence on external entities by utilizing local resources and primarily engaging local labor. Their operations are guided by the philosophy of sufficiency economy. As of 2022, Thailand had a total of 2,727,186 microenterprises, accounting for 85.17% of all enterprises nationwide and contributing 449.046 billion baht, or 2.6% of the national gross domestic product (GDP). The northeastern region of Thailand hosted the largest number of community enterprises, totaling 42,004 or 51.38% of the national total (Office of Trade Policy and Strategy, 2025). Despite their significant role in national development, community enterprises often face operational challenges such as limited knowledge in management and accounting, lack of marketing expertise, inadequate access to diverse modern marketing channels, and inconsistent governmental support. These issues have led many community enterprises to suspend or cease operations.

To realize the national vision of “a secure, prosperous, and sustainable Thailand” and to achieve developed nation status through the sufficiency economy philosophy, the National Strategy (2018–2037) includes a core strategy focused on enhancing opportunity and social equality. This strategy aims to restructure the grassroots economy, aligning agricultural development with the capacity of farmers, local resources, and community context. It encourages self-managed agricultural systems and mechanisms that drive grassroots economic development by enabling access to resources, promoting the production and processing of uniquely local goods, and integrating service management connected to community assets (Office of the National Economic and Social Development Council, 2025). This aligns with the

principles of the green economy, which emphasize environmental sustainability through two main dimensions: (1) sustainable consumption, supported by conducive infrastructure and service systems; and (2) sustainable production, focusing on environmentally friendly raw materials. The goal is to promote quality-driven growth that balances economic value creation with participatory development and equitable resource circulation within society. Effective integration of these dimensions contributes to income generation, improved quality of life, and reduced social inequality (Peeradao Madadam et al., 2024).

The Ban Na Di – Sang Bong Community Enterprise Group, located in Phasuk Sub-district, Kumphawapi District, Udon Thani Province, has organized into four subgroups focused on producing goods for both local and external markets: the pesticide-free vegetable group, broom-making group, traditional Thai dessert (Thong Pub) group, and dishwashing liquid group. Field studies and cost-return analyses revealed that the pesticide-free vegetable group had the highest return on investment (ROI), followed by the broom-making, dessert, and dishwashing liquid groups.

In collaboration with community members, the researchers assessed and proposed development strategies prioritizing the high-ROI vegetable group, while identifying interventions to address the challenges faced by the low-ROI dishwashing liquid group. These efforts were carried out through participatory workshops aimed at elevating the operations of the enterprise groups.

The primary objective of this research is to enhance community products through the application of circular economy principles within the Ban Na Di – Sang Bong Community Enterprise Group. The findings are expected to provide members with knowledge on the circular economy, enable the development of innovative community products, reduce production costs, promote environmentally friendly practices, generate employment, increase incomes, and ultimately improve the quality of life within the community.

Research Objective

To enhance community products through the application of the circular economy concept within the Ban Na Di - Sang Bong Community Enterprise Group, Kumphawapi District, Udon Thani Province.

Review of Literature

Circular Economy Concept

The circular economy (CE) aims primarily to reduce environmental impacts while fostering economic and social sustainability. Its core principles include sustainable design, minimizing resource consumption in production processes, and maximizing the reuse and recycling of materials. The concept also emphasizes waste and pollution reduction by optimizing each step

in the production cycle, thereby promoting efficient resource utilization, such as reuse and repurposing (Wipavee Waleepitakdej et al., 2023).

Application of the Circular Economy in Community Enterprises

Applying the circular economy in community enterprises helps reduce operational costs, resulting in higher returns for the community. It fosters sustainable development and contributes to economic, cultural, and environmental balance within the community. Key principles for integrating circular economy systems into community enterprises (Wiyada Manson et al., 2023) include: Designing environmentally friendly products; Adopting a “zero waste” concept; Producing diverse product types to support the zero-waste model; Expanding the business model from merely selling to also include repair and refurbishment services to prolong product life; Increasing the use of renewable energy in production; and Encouraging community participation through waste separation and enabling community enterprises to purchase recyclable waste as raw materials (Lertlak Jaroensombat, 2021).

Enhancing Community Products through Circular Economy

Enhancing community products through the circular economy empowers community enterprise groups to increase product value and promote sustainability. Key approaches include designing sustainable products, using natural or recyclable materials, and incorporating locally available or waste materials to reduce costs and environmental impacts. For example, using recycled plastic bottles or fabric scraps to create new items can significantly increase product value. Moreover, building community capacity through education and skill development is essential. Training programs that offer both theoretical knowledge and practical experience are instrumental in this regard. As stated by Phra Khru Vichan Wisutto and Phakdee Phosingh (2022), a robust national economy must be grounded in strong community-based economies. Income generation within communities effectively reduces poverty and social inequality by encouraging participatory development.

Thus, enhancing community products through the circular economy in the Ban Na Di - Sang Bong Community Enterprise Group involves analyzing production costs and returns to guide investment decisions and adopting circular strategies to improve local products. These initiatives are expected to reduce production costs, increase product value, and promote long-term sustainability within the community.

Research Methodology

To enhance community products through the application of the circular economy concept within the Ban Na Di - Sang Bong Community Enterprise Group, Kumphawapi District, Udon Thani Province. Emphasizes the use of Participatory Action Research (PAR). This approach focuses on active involvement of the target group throughout all stages, including planning, problem exploration, experimentation, development, and evaluation. The process fosters collective learning to upgrade the community products of the enterprise group. The study was conducted from October 1, 2024, to March 20, 2025, with the following operational procedures. The methodology includes the following components:

Scope of the Study

This research adopts a participatory action research (PAR) approach, focusing on enhancing the community products of the Ban Na Di - Sang Bong Community Enterprise Group through collaborative and inclusive methods.

Population and Key Informants

The study involved a purposive sample of 30 stakeholders, including the village head, group leaders, vice leaders, and members of the community enterprise group.

Research Instruments

1) One focus group discussion to identify strategies for enhancing community products through the circular economy.

2) Two practical training workshops aimed at building capacity and promoting circular practices.

Data Collection Procedures

Step 1: Review and analyze academic literature related to product development, community enterprise models, and circular economy concepts.

Step 2: Analyze existing research on cost and return analyses of the Ban Na Di - Sang Bong community enterprise group to develop enhancement strategies.

Step 3: Conduct focus group discussions with community leaders and members to exchange ideas and collaboratively design community product improvement strategies.

Step 4: Organize hands-on training workshops for community enterprise members to acquire both theoretical understanding and practical experience, enhancing their skills in local product development.

Data Analysis

Content analysis was employed to examine academic literature and prior research on circular economy principles and value-added strategies for community enterprise products. Additionally, cost-return data and results from focus group discussions were analyzed. Data triangulation was achieved through document review, interviews, and focus group validation to ensure accuracy and reliability of the findings.

Research Findings

The enhancement of community products through the circular economy concept in the Ban Na Di - Sang Bong Community Enterprise Group, Kumphawapi District, Udon Thani Province, was grounded in strong community collaboration. The group initially consisted of ten subgroups producing goods for local and external consumers. However, the COVID-19 pandemic and intensified market competition led several subgroups to cease operations. Focus group meeting was held on October 14, 2024, from 9:00 AM to 12:00 PM at the Ban Na Di – Sang Bong Community Enterprise venue, attended by 20 members. The objective was to facilitate knowledge sharing and jointly formulate strategies for enhancing community products. This collaborative process also aimed to foster product value addition through participatory engagement. Two key training workshops were subsequently proposed:

1) Workshop on Developing a Natural Fruit and Vegetable Wash Conducted on December 6, 2024, with 30 participants. The workshop focused on low-cost, chemical-free production using 100% natural ingredients. Ingredients included bio-fermented liquid, Plantacare 2000 (a mild cleanser), boiled water, and optional color or fragrance. The resulting product is safe and eco-friendly. Usage: 1 mL of solution per 2 liters of water, with a 10-minute soak followed by a rinse.



Picture 1 Workshop on Developing a Natural Fruit and Vegetable Wash

2) Workshop on Developing Local Snacks for Tourists Held on March 5, 2025, with 30 participants. Participants learned to make two traditional Thai desserts: Young Coconut Jelly with Coconut Milk (50 pieces): Key ingredients included agar powder, young coconut juice and meat, coconut cream, sugar, salt, rice flour, pandan leaves, and water. Layered Dessert (Khanom Chan): Made with rice flour, tapioca flour, arrowroot flour, coconut milk (both thick and thin), pandan juice, and jasmine-scented water. The mixture was layered with alternating colors and steamed in sequence. These hands-on experiences enhanced members' technical skills while promoting creative reuse of local resources.



Picture 2 Workshop on Developing Local Snacks for Tourists

Discussion

The Ban Na Di – Sang Bong Community Enterprise Group possesses significant potential for development due to members' knowledge, unity, and readiness to engage in community initiatives. The area is agriculturally rich and situated near the Red Lotus Sea, a prominent tourist attraction in Udon Thani Province. This proximity offers opportunities to expand the community enterprise into tourism-related ventures. The findings align with Sutheen Aonubon (2024), who emphasizes the need for community enterprises to enhance product value through local wisdom and resource development, guided by circular economy principles and

grassroots economic empowerment. The group's awareness of production costs enabled strategic decision-making for sustainable operations, including resource reuse and waste reduction. This is consistent with the research by Tassanee Nakasenee and Thanakorn Sodsai (2023), which highlights the importance of transforming traditional products into environmentally conscious innovations that uplift agricultural communities.

The enhancement of community products in the Ban Na Di - Sang Bong Community Enterprise was achieved through the circular economy framework, promoting resource efficiency, local identity, and active participation from all stakeholders. The two implemented workshops had significant outcomes: The natural fruit and vegetable wash not only reduced chemical contamination but also helped eliminate parasitic eggs, thereby improving public health and well-being. The local snack development project added value to indigenous ingredients and created new income sources by offering hospitality products for tourists. These efforts support Nopparat Chaiyachana's (2024) assertion that integrating cultural capital with BCG (Bio-Circular-Green Economy) strategies enhances product quality, community resilience, and market potential. Likewise, Suchila Talamphai In-Inunchot and Phongsawat Ratchajan (2024) the development and further enhancement of community products relies on utilizing technology rooted in local wisdom for product development, as well as innovating sustainable value-added processing. The outcomes of these projects encourage participation from all groups within the community—such as the elderly, the unemployed, and youth—who can collaboratively propose initiatives that benefit the community. This approach reduces waste by maximizing the use of locally available raw materials, generates additional income for households or occupational groups, and preserves local wisdom through the processing of indigenous materials. Ultimately, it fosters sustainability and strengthens the community as a whole.

Conclusion and Recommendations

Members of the community enterprise group have become aware of the importance of the circular economy concept in the group's operations, recognizing its impact on the economic system and the community environment. The researchers and the community enterprise group organized two practical training workshops, emphasizing sustainability, cost reduction, and minimizing environmental impacts to add value to products and increase the group's income.

Practical Recommendations for Relevant Agencies and Utilization

1. Develop and Distribute Practical Manuals : Create a manual titled “Safe Vegetable Wash Solution from Local Herbs” for distribution to Subdistrict Administrative Organizations (SAO)/district agricultural offices, or develop snack menu sets with cost/profit/selling points information for municipalities to promote community-based tourism.

2. Design Diverse Media Formats : Produce various media such as infographics, short video clips, and tutorials, or provide QR codes so interested individuals can download production formulas and operational manuals from the project's website.

3. Build Collaborative Networks : Establish partnerships to extend the circular economy concept by collaborating with farmers, entrepreneurs, and local shops to bring the circular economy system to life. Work together to make the community a model for others, serving as a prototype for expansion to other communities.

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