

**Project on Adding Value to Waste Resources from Long-Tail Fishing Boats in Ban Laem Community, Tha Sala District, Nakhon Si Thammarat Province, to Help Locals Solve Waste Problems from Long-Tail Fishing Sustainably**

The project was led by a team of faculty members from the Bachelor of Business Administration and Finance in the Digital Era, School of Accountancy and Finance, Walailak University. The team included Suchart Chansamran, Assistant Professor Nalinee Tinnam, and Assistant Professor Dr. Pornpen Thipyana.

Before launching the project, the faculty and students from the Innovation and Organizational Development course conducted a comprehensive survey of the Ban Laem community to identify its primary challenges. They found that this community predominantly engages in fishing and homestay tourism, with around 40 long-tail fishing boats and 20 homestay businesses. The community's tourism activities include learning about the local lifestyle, experiencing a mud spa, engaging in mangrove planting, witnessing tie-dye demonstrations, and participating in community bike tours.

Faculty members visited the area several additional times to collect data. Discussions with local leaders, including Mr. Thaksin Minman, revealed that the main issue faced by the community was the management of waste generated from the long-tail fishing boats, such as rotten or dead fish, shells caught in nets, and other unusable marine plants. These discarded wastes were causing environmental problems, including unpleasant odors, attracting flies, and negatively impacting public spaces, which, in turn, affected the local quality of life and tourist impressions. Finding a solution to this waste management problem was crucial for the community's well-being and the sustainability of their tourism industry.

The community of Ban Laem expressed a clear need for sustainable waste management solutions. The faculty and local residents agreed on the idea of transforming the discarded fishing waste into value-added products, which would generate additional income for the community and help reduce environmental problems. However, the community currently lacks the necessary knowledge and technical skills to effectively implement this initiative. Both parties concurred that

the university should arrange for experts to conduct comprehensive training programs for the local residents. The goal of these training sessions would be to raise awareness about the inherent value of discarded resources and equip the locals with the knowledge and techniques required to turn these waste materials into valuable, marketable products. This project reflects the university's commitment to extending its reach beyond campus through education outreach activities that benefit the community.

The faculty organized an engaging workshop on making bio-fermented juice from fishing waste under the project at Ban Laem Homestay on August 24, 2024. The workshop was led by Mr. Tawee Khaorueang, the experienced president of the Boonprasith Agricultural Community Enterprise in Tha Som Subdistrict, Hua Sai District, Nakhon Si Thammarat. He shared his extensive knowledge and expertise in organic farming, producing planting soil, and making high-quality bio-fermented juice.

The workshop emphasized the inherent value and potential of discarded resources, such as fish and crabs, which are often considered waste but can be transformed into valuable products in other areas. The comprehensive training session included tailored lectures designed to meet the community's specific needs. These lectures covered various aspects of bringing a product to market, including product packaging, branding, pricing, distribution channels, and profit and loss calculation. The session also included practical demonstrations of the bio-fermented juice production process. The participants were excited to learn that the estimated value of producing 10 liters of bio-fermented juice, which can be sold for 600 THB per liter, is approximately 6,000 THB. Additionally, further processing with coconut water at a ratio of 1:30, resulting in a total of 310 liters of bio-fermented juice, which can be sold at 139 THB per liter, generating about 43,090 THB, with raw material costs under 500 THB. This information sparked the community's enthusiasm, as they began envisioning the possibilities of turning their fishing waste into a sustainable source of income. The participants recognized that by transforming these discarded resources into valuable products, they could not only improve their economic situation but also contribute to environmental sustainability by reducing waste and its associated problems in their community.

The workshop included participation from Ban Laem community members and six high school students from Thasalaprasitsuksa School who were on a community visit, part of an ad-hoc program they developed. They expressed interest in the workshop, seeing the benefits of bio-fermented juice production in their own community and planning to try making it themselves at home.

Following the project monitoring after the practical workshop, the team found that fishermen have become more proactive in producing bio-fermented liquid. They have been actively collecting fish scraps, shells, and other organic materials from their long-tail fishing activities to use as raw materials for the fermentation process. Additionally, community members without their own long-tail fishing boats have been requesting fish scraps from the fishermen to create their own bio-fermented liquid. The demonstration batch of bio-fermented liquid showed satisfactory fermentation results; observations of the fermentation tank revealed good decomposition, with no foul odors or insects present, indicating effective management of the formerly discarded fish scraps and organic waste that had previously caused odor and fly issues in the community. This proactive involvement from both fishermen and other community members suggests a growing understanding and enthusiasm for transforming waste into value-added products, a key goal of the project.

Furthermore, the team discussed future collaboration plans with community leader, focusing on involving students from the Bachelor of Business Administration and Finance in the Digital Era, School of Accountancy and Finance, Walailak University, to help develop the community's bio-fermented liquid products and other goods. The aim is to enhance product development, marketing, and distribution channels, thereby generating sustainable income and addressing environmental issues within the community. This collaboration will provide valuable hands-on experience for the university students, , Business Incubation Subject, allowing them to apply their business expertise to support the local community's efforts in transforming waste into valuable products and fostering long-term economic and environmental sustainability.

The Project on Adding Value to Waste Resources from the Long-tail Fishing Boat Occupation in Ban Laem Community aligns with the Sustainable Development Goals (SDGs),

specifically Goal 4: Quality Education, which aims to promote inclusive and equitable education. It addresses Target 4.3, which focuses on enhancing lifelong learning, with Indicator 4.3.4 highlighting the implementation of education outreach activities beyond the university. The project is funded by the School of Accounting and Finance and is managed under the supervision of the Center for Academic Service, Walailak University.