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Processing of Namwa Bananas (*Musa sapientum* Linn.) Dried using Greenhouse Solar Dryer and Automatic Control of Supplementary Heat System Huai Nam Rin Royal Project Development Center, Chiang-rai Province, Thailand

Rittichai Assawarachan

Article No. 256713

Technology Transfer for Off-season Mahachanok Mango Production of Nong Bua Fruit Tree and Mango Community Enterprise, Kalasin Province, Thailand

Siraprapa Nilsri and Chaiteera Panpakdee

Article No. 256714

Developing Crispy Jelly Products from Ginger and Pumpkins and Fostering an Innovation Community in Ban So Community, Phayao Province, Thailand

Phitsinee Sathientharadol, Chanapa Duangfai, Jaroon Chaibao and Suleeporn Kamchompoo

Article No. 256715

Enhancing the Value of Blue Crab Chili Paste Products by the Local Fisherwomen Group in Khon Klan Subdistrict, Satun Province, Thailand

Thanapong Wunsaeng, Porntip Seamhan, Kanjana Plongoon, Kanida Kraisanti, Supaluk Kasawapat, Pitoon Thongchim, Nisachon Sakunchannarong and Thaksornthan Kongpim

Article No. 256716

Economic Opportunities for Communities Through Community Based Tourism in Huamuang Subdistrict Community, Mueang Pan, Lampang, Thailand

Kajohnsak Wongwirach, Siraya Janasak, Thanaphon Mookam and Natedao Luanyai

Article No. 256717



Processing of Namwa Bananas (*Musa sapientum* Linn.) Dried using Greenhouse Solar Dryer and Automatic Control of Supplementary Heat System
Huai Nam Rin Royal Project Development Center,
Chiang-rai Province, Thailand

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Abstract

Implementing the pilot reforestation voluntary project for greenhouse gas reduction at the Huai Nam Rin Royal Project Development Center in Wiang Pa Pao District, Chiang Rai Province, Thailand involved the distribution of organic banana shoots to highland farmers to replace corn cultivation. However, the project faced challenges due to the low selling price of Namwa bananas (*Musa sapientum* Linn.) and the high cultivation costs. Farmers were selling bananas in bulk at an average price of only 4.84 baht (around 0.14 USD) per kg, which was insufficient for their livelihood. The problem was originated from a lack of knowledge and innovation for processing bananas to add value and extend the shelf life. To address this, the project developed a greenhouse solar dryer and automatic control of supplementary heat system and conducted a workshop on processing dried bananas according to Thailand Industry Standard-S. After the workshop, 19 farmers established the Community Enterprise Group, Agricultural Product Processing Group Ban Huai Muang-Pong Nam Ron-Muang Noi to produce and sell banana sticks and rolled products. As a result, the selling price of fresh Namwa bananas increased to 8 baht (around 0.23 USD) per kilogram, leading to an average annual income increase of 22,758 baht (around 664 USD) per family, which provided sufficient income for their livelihood. Additionally, farmers have become more attentive to caring for the banana plants, resulting in a higher survival rate. A total of 4,200 banana plants are now thriving across 36 acres, with a survival rate of 58.33%. Processed banana products are additionally developed in the form of banana beverages and expanded to products made from other fruits. The project's success contributes to environmental sustainability, enabling farmers to be self-reliant and recognize the value of sustainable agricultural practices.

Keywords: Chiang Rai province, Banana dried, Solar dryer, Royal Project Foundation, Highland farmer



Technology Transfer for Off-season Mahachanok Mango Production of Nong Bua Fruit Tree and Mango Community Enterprise, Kalasin Province, Thailand

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Abstract

The Nong Bua Fruit Tree and Mango Community Enterprise, located in Nong Kung Si District, Kalasin Province, Thailand is a small farmer group focused on producing mangoes for export as a supplementary income source. However, the group's yield has been consistently lower than demand. To address this issue, we implemented a technology transfer initiative aimed at off-season Mahachanok mango production involving 21 farmers from the community enterprise. The process included four key stages: 1) planning, implementing and receiving knowledge transfer to solve problems by transferring technology for producing out-of-season Mahachanok mangoes, study tour and construction of demonstration plots; 2) bringing knowledge to actual practice in demonstration plots and individual plots; 3) supervising and following up on off-season production of Mahachanok mango in demonstration plots and individual plots; and 4) summarizing lessons learned after practice. As a result of this initiative, the community enterprise members revised their production plans, including pruning in March, altering paclobutrazol application, and adjusting fertilizer schedules. A total of 23.8% of the community enterprise members adopted the new knowledge. The average yield per farmer increased to 50 fruits per tree. The demonstration plot achieved a 60% success rate in off-season Mahachanok mango production, with 3 farmers (14.3% of participants) successfully producing off-season mangoes. Additionally, the initiative strengthened the community enterprise's network of Mahachanok mango producers.

Keywords: Kalasin province, Mahachanok mango, Community enterprise, Off-season fruit, Demonstration plots



Developing Crispy Jelly Products from Ginger and Pumpkins and Fostering an Innovation Community in Ban So Community, Phayao Province, Thailand

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Abstract

Ban So Community, Mae Na Rua Subdistrict, Mueang District, Phayao Province, Thailand is an agricultural community where 70% of the population cultivates ginger and pumpkins as the main economic crops. The community has been affected by the low market prices of ginger and pumpkins due to oversupply and limited income sources. 6 housewives and 3 juveniles participated in a participatory learning process through problem analysis, product development, and distribution, including 1) analysis of the strengths and weaknesses of instant ginger powder and pumpkin crisp; 2) determination of target market groups; 3) specification of new products; 4) experimental production of crispy ginger jelly and crispy pumpkin jelly; 5) determination of size and packaging design; 6) analysis of nutritional information and preservation; 7) pricing determination; 8) market testing; 9) product improvement; 10) trial sales and development of distribution channels and promotion; 11) formulation of sales promotion strategies; 12) product distribution; and 13) becoming 'an innovation community'. This process empowered the housewives to produce crispy ginger jelly and crispy pumpkin jelly as their second job and generate an additional income of 7,990 Baht (around 234 USD) in 3 months. The crispy ginger and pumpkin jellies could increase the value of ginger and pumpkins from 20-30 Baht to 350 Baht (from 0.58-0.88 USD to 10.23 USD) per kilogram. Moreover, the participatory learning process has led to the emergence of 3 community innovators in developing crispy ginger jelly and crispy pumpkin jelly who can further their knowledge of crispy jelly production from Spring Bitter Cucumber and *Clitoria ternatea*. Furthermore, they can transfer production and distribution methods to the juveniles and those who are interested in them, which is a factor in the sustainability of the production and distribution of crispy jelly products in the future.

Keywords: Phayao province, Community product, Innovation community, Crispy jelly, Community innovators



Enhancing the Value of Blue Crab Chili Paste Products by the Local Fisherwomen Group in Khon Klan Subdistrict, Satun Province, Thailand

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Abstract

A group of local female fishermen from the Khon Khlan subdistrict in Satun province, Thailand has been producing and selling Blue Crab Chili Paste under the Rim Lay Shop brand. However, they faced several challenges, including product and packaging issues, setting prices that did not align with consumer needs, and a lack of diversified marketing channels, all of which resulted in low income and profit per unit. To address these problems, this research focused on enhancing the Blue Crab Chili Paste product to add value through the product development and group capacity building processes. In the product development process, the existing production process was studied and the recipe was adjusted to improve the texture. The packaging was upgraded from transparent plastic and glass bottles with screw caps to plastic pots using automated sealing technology. Additionally, a new brand identity, "Rim Lay," was developed to reflect the local community's natural, cultural, and religious identity. New product labels were designed, and a new pricing strategy was implemented. Consumer acceptance of the improved product and packaging was tested, along with production and distribution circuits. In the group capacity building, training workshops enhance the group's knowledge of product branding, label design, brand image development, and distribution channels, both online and offline. The tourism management was also integrated into the project, encouraging community participation and feedback. The results of these development efforts were highly positive. The improved recipe and packaging, along with the new "Rim Lay" branding, were well-received, with 94% of 100 consumers expressing acceptance of the Blue Crab Chili Paste and giving it an overall appreciation score of 4.05 out of 5. This led to a 50% increase in sales and a 2.5 times increase in monthly income. The participatory learning approach and networking efforts empowered the group of local female fishermen to innovate further, adding new marketing channels to support tourism. As a result, the group has officially registered its business as the Rim Lay Khon Khlan Community Enterprise, producing Blue Crab Chili Paste as a community product that meets quality standards. The product is now positioned as a tourism product for the Khon Khlan subdistrict, contributing to the creation of a sustainable circular economy for the community.

Keywords: Satun province, Value added, Group of local fisherwomen, Community product, Blue crab chili paste



Economic Opportunities for Communities Through Community Based Tourism in Huamuang Subdistrict Community, Mueang Pan, Lampang, Thailand

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Abstract

The community of Hua Mueang Subdistrict, Mueang Pan District, Lampang Province of Thailand, is a pilot area for a poverty alleviation model that utilizes community capital. The target group of impoverished individuals in Ban Rai Village, Moo 4, participated in the 5 following stages. The first stage was to analyze the community's spatial context that can promote tourism through self-assessment by the community and setting guidelines for tourism development. Secondly, community resources were linked with economic opportunities and addressing poverty by setting poverty alleviation goals alongside creating economic opportunities within the community, designing areas for development, and creating economic opportunities through tourism. The community capital utilized includes natural capital, such as the Mae Soi River, which has been developed into a tourist attraction with bamboo pavilions and walkways, and social capital, such as the lifestyle of ethnic groups and local people, as well as traditional knowledge of preparing food from the forest and river. The third stage was creating tangible outcomes through local preparedness, raising awareness at the village level, and creating an operational plan. The next stage involved network partners to enhance spatial potential, focusing on developing tourist attractions and local food. Finally, driving activities through community participation included managing community-based tourism, presenting tourist attractions to the public, and creating economic opportunities for the community. As a consequence, the community now offers tourist attractions and activities, such as river tubing at Mae Soi, raising the number of visitors. The community generates income from selling local products, providing services, and employing people to construct bamboo pavilions, prepare food, provide services to tourists, and sell goods within the community. The process has led to economic circulation and opportunity creation within the community, the establishment of tourism management systems, community welfare development, learning promotion, occupational development, and the establishment of a market for community products, effectively addressing poverty through both immediate and sustainable solutions.

Keywords Lampang province, Poverty, Community-based tourism, Operating model for poverty alleviation, Community capital