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## “D.I.Y. Boiler in Thung Bo Paen Style” Innovative Energy Management Model by Process Innovation

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### Abstract

This research aims to 1) evaluate the efficiency of “D.I.Y. Boiler in Thung Bo Paen Style” in comparison with an old-styled steel energy-saving furnace for mushrooms steaming in Ban Thung Bo Paen Community Enterprise Group, Hang Chat district, Lampang province; 2) to disseminate the community wisdom by Participatory Action Research (PAR) process. The process include sharing the innovative design, collecting actual data and adjusting the mechanism of the old-styled steam stove to fit the newly invented the “D.I.Y. Boiler in Thung Bo Paen Style”. The results indicate that the mechanism of steam production against the average efficiency value of the “D.I.Y. Boiler in Thung Bo Paen Style” counts for 8.80% and is equivalent to that in a double pass boiler which is the same type of low-pressure steam stove in the provincial energy project. The replacement of the original stove, a 200-liter tank-style stove, with the “D.I.Y. Boiler in Thung Bo Paen Style”, raises the income by saving firewood cost of 2,910 baht per person per time, or approximately 3 baht per mushroom cube. Considering the overview if members steam the mushroom material three times per month on average, within a year they will earn an additional income of 104,760 baht per person. Also, when applying “D.I.Y. Boiler in Thung Bo Paen Style”, the greenhouse gas emissions are calculated to be reduced by 8,307.68 kgCO<sub>2</sub> per person per year. Thus, a total of 10 members will reduce greenhouse gas emissions by 83 tonCO<sub>2</sub> per year. Last but not least, the community has proposed to form "Sala" group, consisting of community technicians for maintenance and advice in case of problem with the use of “D.I.Y. Boiler in Thung Bo Paen Style”. The group will promote product sustainability and knowledge dissemination to those interested or nearby communities.

**Keywords:** Lampang province, Ban Thung Bo Paen, Steam mushrooms stoves, Local wisdom, Innovative energy management



## Community Participation in Adding Value to Rajamangala Isan Village's Rice Paddy Seeds: Ban Sala, Nakhon Ratchasima Province

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### Abstract

Established in 2012 from the RMUTI's academic outreach service, Rajamangala Isan Village "Ban Sala", has operated to support the local community and farmers. The objectives of this project are to encourage collaboration between RMUTI's scholars and Ban Sala community members in mitigating problems in rice production processes, and increasing rice's added-value and productivity, as well as enhancing the locals' quality of life. The King's Philosophy and business administration theory and concept (i.e., management, marketing, and accounting approach based on the participatory action research model) are integrated for problem-solving process. Project outcomes are measured by productivity, community satisfaction, and life quality of community's members. By conducting the project, the proposed model has reportedly increased Ban Sala community's income, as indicated by the statistical data from 2015 to 2018, showing a total of 540 tons of rice, accounting for an income of 12,020,000 Baht. Moreover, customers' demand for Ban Sala brand's rice paddy seeds is constantly increasing annually. Two ways to reduce farming process problems include 1) increasing productivity, and 2) reducing the process costs by using biological substances to prevent insects, using organic fertilizers, and inventing agricultural machinery suitable for the locals. As a result of this operation, the rice yield increases from 400 kg/rai to 600 - 800 kg/rai. Ban Sala community's members are satisfied with the proposed model which has also enhanced their quality of life. Furthermore, the implementation of this project has also created farmer model for sufficiency economy through community participation, resulting in sustainable community development.

**Keywords:** Nakhon Ratchasima province, Ban Sala, Rajamangala village, Rice paddy seeds, Academic outreach service



## Design and Development of Goat Curry Packaging for Janthima Goat Farm, Phuket Province

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### Abstract

The agencies under Ministry of Science and Technology collaborate with Phuket Rajabhat University to maximize the potential of OTOP entrepreneurs through integrated academic - business cooperation in goat products packaging design and development in Phuket province. The cooperation is based on problems and demand of entrepreneurs. The objectives of the research are to investigate the community problems, look for solutions, and develop and design packaging that can prolong the product shelf life. The outcome is packaging that is suitable for the products in terms of safety, cost, efficiency, and function. Community participation plays a role in identifying product uniqueness and branding. The research employs mixed methods of qualitative and quantitative approaches to create brand identity and develop goat curry packaging of Thalang district, Phuket province. Investigation of problems reveals that “Janthima goat farm” is located in a Muslim community, raising meat goat for distribution with an aim to increase income by selling goat curry during festivals and events. However, its previous packaging does not attract consumers and is not of standard by the lack of product details on the label. Additionally, the packaging tends to result in short shelf life. Therefore, the researchers and the entrepreneur have studied the guideline for the development and identity of brand, trademark, and label and packaging of goat curry that will reflect the identity and happiness of goat raising, from the quality goat meat raising in the caring farm to “Janthima goat farm” curry goat product. The outcome is “Janthima goat farm” package in red brown and viridian PP hard plastic cup that can be pasteurized and keep goat curry at the temperature lower than 4°C. Further tests on the product show that 10-day storing at the accelerated condition under pH of 6.21 - 6.79 leave the product in good condition without contamination. The satisfaction towards the packaging is found at the highest level. Thus, the model has been produced and delivered to the commercial market.

**Keywords:** Phuket province, Janthima goat farm, Brand identity, Goat curry packaging, Pasteurize



## Participatory Development of Textile Products of Ban Phu Thong Community, Sukhothai Province

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### Abstract

This research aims to 1) develop woven products by community participation, and 2) raise the standard of community's products. This research is a combination of qualitative and quantitative approaches. Two steps in developing the textile consist of textile pattern design and transfer of knowledge and skills in the textile production. The sample group is the 10 textile manufacturers in Ban Phu Thong community, Wang Nam Khao sub-district, Ban Dan Lan Hoi district, Sukhothai province. Three developed patterns reflect the community identity. The research findings reveal textile patterns inspired by the local items known to tourists visiting Ban Phu Thong. The emerged patterns that symbolize the local identity are included a mushroom, a 700-year-old teak, and a bat. The textile manufacturers have learned the guidelines in woven pattern design and dyeing techniques. The local manufacturers are able to form a group to establish a learning hub for textiles production to those interested. Additionally, their textile products have now registered upon OTOP Standard.

**Keywords:** Sukhothai province, Ban Phu Thong, Textiles, Community participation, Product development



## Developing the Krajoood Product Business Management of the 151st Infantry Regiment, Fourth Royal Thai Army Housewives Groups

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### Abstract

The efficient business management affects the success of business operations. This research aims to develop the Krajoood product business management of the 151st infantry regiment, fourth royal Thai army housewives' group. The data was collected through group interviews, focus group discussions, and actual involvement in developing the business management of this group with the focus on the participation of group members throughout the entire process of development. They are involved in analyzing their business situation, defining guidelines for business management development and developing business management. The results reveal that this housewives' group has changed in various aspects. 1) Group management aspect: the group has clear plans and management structure. Members of the group increase their business management capabilities and continuously operate their strong business. The group is legally registered for integration by community enterprise and an OTOP manufacturer and operator. Therefore, the government agencies support it by providing new machines, promoting a chance to join trade shows and enhancing the production knowledge of the members. 2) Finance and accounting aspect: the group has more income per month (25,000-30,000 baht) than previous months (10,000-12,000 baht). Besides, group members have correct knowledge and skills in accounting. 3) Production aspect: the group increases its production capacity due to more manpower and efficient machinery. Better productivity of the group members makes them receive community product standards for their products. 4) Marketing aspect: the group produces new products with added value, brand, product story, product detail, and product label. There are more distribution channels than before via fairs, online social media, and marketing mediators. Additionally, this group can establish the workplace to be a learning center for the community which strengthens the relationship and positive attitude of the people towards the military.

**Keywords:** Business management, Army housewife, 151st infantry regiment, Fourth royal Thai army area, Krajoood product



## Living Learning Resources Management of Ban Tha Sab School Group, Yala Province

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### Abstract

The research study aims to propose guidelines for living learning resource management of Ban Tha Sab school group, Muang district, Yala province. The purposive samplings are 42 people, namely students, teachers, library staff and school administrators, from 3 schools including Ban Tha Sab school, Ban Sa Kho school and Ban Li Mud school (Boonchop Sakarin). The implementation of 4 participatory processes consists of 1) analyzing the problems, 2) planning for problem-solving, 3) implementing the plan, and 4) evaluating the processes performed for change. Three activities undertaken to create change include (1) Promoting learning resources in schools by developing Ban Tha Sab school group's living learning resources, (2) Promoting external resources for learning available in Rajabhat Yala University, and (3) Monitoring and evaluating the living learning resources management. The findings indicate that: 1) the newly-arranged library environment as a living learning resource increases the frequency of library visits; 2) the enhancement of living learning activities resources (both internal and external) instills the students' habits for pursuing knowledge; and 3) the potential networking for living learning resources management leads to higher annual budget for library resources. Overall, while the library staff have become more responsible and enthusiastic in providing services, the students have developed reading habits as well as self-confidence, assertiveness and enthusiasm in doing activities both inside and outside the school.

**Keywords:** Yala province, Ban Tha Sab school group, School library, Living learning resource, Library management