



DEVELOPING CAPACITY TO REDUCE FOOD LOSS AND WASTE IN THAILAND

Around the world, the food processing industry produces large quantities of food loss and food waste (FLW), with both economic and environmental consequences. Reducing FLW is not, however, a high priority for many micro, small and medium enterprises (MSMEs) in developing countries. MSMEs often do not quantify the food that is lost in their processing and distribution operations, or wasted in retail, and their real impacts on profitability and the environment. Addressing the problem, therefore, necessitates an understanding of where and why food loss (FL) and food waste (FW) occur, sensitizing MSMEs as to the economic value of this FLW, and working with them to identify strategic actions that can help reduce it. In Thailand, MSMEs account for approximately 91 percent of food processing operations. The absence of data on FLW in MSMEs in Thailand warranted a thorough and comprehensive approach to address the issue.

Through this project, FAO aimed to survey the causes of food loss in the processing and distribution operations of MSMEs and food waste of their outputs in retail establishments in Thailand, with a view to understanding the underlying causes of FLW. This evidence base would then serve to inform effective actions to reduce FL in the processing and distribution operations of MSMEs, and FW of the products in retail, across the country.



Sakon Nakhon province, Thailand - Nuttakran Dagawong, President of the Baan Na Lao germinated rice community enterprise committee, during an interview at the Baan Na Lao germinated rice community enterprise in Sakon Nakhon province, northeastern Thailand on November 16, 2022.

WHAT DID THE PROJECT DO?

A survey instrument was developed and 37 staff from three departments of the Ministry of Agriculture and Cooperatives of Thailand trained in its use. They subsequently collected a comprehensive set of qualitative data covering a total of 195 MSMEs in 66 out of 77 provinces, across five processing subsectors in Thailand: animal products, dairy products, fishery products, rice products and snack foods. This enabled the identification of critical loss points in processing and distribution operations and the underlying cause of FW in retail.

The qualitative survey data was used to inform the selection of a group of 25 representative MSMEs, who then received hands-on training in good practices to measure and reduce FL, as well as simple items of equipment to support the reduction of FLW. Additionally, the project's findings informed the development of a draft strategy for FLW reduction in the processing and distribution operations of MSMEs and in the retail of their outputs. A technical manual was also drafted to support further capacity development for MSMEs, and will be made available online in multiple languages.

KEY FACTS

Latest Approved Budget

USD 508 093

Duration

December 2017-November 2022

Resource Partners

Ministry of Agriculture, Forestry and Fisheries (MAFF), Government of Japan

Partners

Ministry of Agriculture and Cooperatives of Thailand, Mahidol University

Beneficiaries

Government of Thailand, food processing enterprises, small-scale farmers and other actors in the food supply chain, consumers

IMPACT

The core group of MSMEs trained, reported reductions in both qualitative and quantitative food loss in processing and distribution operations, resulting in better-quality products with a longer shelf-life. Together with improved product storage, this also contributed to reducing food waste in retail. In the long term, these improvements should continue to help boost economic returns for these businesses. The technical manual will enable similar training to be extended to other MSMEs around the world. The draft national strategy also provides a guide to taking forward the efforts to reduce FLW in MSMEs in Thailand, building on the evidence and institutional capacities developed through this project. Ultimately, this work to reduce FLW stands to improve incomes for food processors and retailers, promote the availability of high-quality local foods for consumers, and contribute to reducing greenhouse gas emissions from landfill.



SUSTAINABLE DEVELOPMENT GOALS

ACTIVITIES

- Designed a survey instrument to collect qualitative data on FL in MSMEs and FW of their outputs in retail in Thailand.
- Trained 37 government staff to conduct surveys, resulting in the collection of qualitative data from 195 MSMEs across the country in five different subsectors.
- Identified critical loss points and their underlying causes in processing and distribution operations, and the underlying cause of FW in retail, and produced a comprehensive report detailing the findings.
- Trained a total of 111 stakeholders through hands-on activities to reduce FL in processing operations and in distribution, and to reduce FW in retail.
- Provided simple technical innovations including thermometers, moisture meters and packaging sealers to 25 MSMEs to support process control, as part of reducing FL, as well as freezers to help improve the storage of perishable products, as part of reducing food waste in retail.
- Developed a technical manual based on project findings and case studies, currently being prepared for publication in seven languages.
- Drafted a national strategy on reducing FLW in MSMEs in processing, distribution and retail in Thailand.



Nong Bua Lam Phu province - Thailand - Dr. Nattapol Tangsuphoom (left) from the Institute of Nutrition at Mahidol University demonstrates the pH meter with preserved fish samples at Baan Huai Bong fish processing group 'One' brand shop in Nong Bua Lam Phu province, northeastern Thailand on November 17, 2022.



15 November 2022, Sakon Nakhon province, Thailand - Grains are inspected by hand for irregularities after the milling stage of the germinated hang rice production process at Baan Na Lao germinated rice community enterprise. Hang rice is a variety of rice specifically grown in this area. Germinated hang rice is pre-soaked, steamed, dried, and then polished before packaging and consumption.



17 November 2022 - Nong Bua Lam Phu province - Thailand - The descaling and cleaning process of fish being prepared for 'pla som' at Baan Huai Bong fish processing group 'One' brand shop in Nong Bua Lam Phu province, northeastern Thailand. Pla som (literal translation: sour fish) is a type of preserved fish commonly eaten in Isan - the northeast region of Thailand. Raw fish is mixed with salt, sugar, garlic, and cooked rice and then left to marinate for several days before cooking and eating.



17 November 2022 - Nong Bua Lam Phu province - Thailand - Freshly cleaned raw fish is mixed with salt, sugar, garlic, and cooked rice, and then left to marinate for several days to make pla som at Baan Huai Bong fish processing group 'One' brand shop in Nong Bua Lam Phu province, northeastern Thailand on November 17, 2022. Pla som (literal translation: sour fish) is a type of preserved fish commonly eaten in Isan - the northeast region of Thailand.



15 November 2022, Sakon Nakhon province, Thailand - The polished rice grains are placed back in to the solar drying house to eliminate any gained moisture from the milling stage during the germinated hang rice production process at Baan Na Lao germinated rice community. Hang rice is a variety of rice specifically grown in this area. Germinated hang rice is pre-soaked, steamed, dried, and then polished before packaging and consumption.

Project Title

Capacity building to reduce avoidable food waste in micro, small and medium food processing enterprises and in retail

Project Code

FAO: GCP/GLO/809/JPN

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