



FAO

ONE HEALTH APPLICATION TO MODERNIZE TRADITIONAL FRESH FOOD MARKETS AND STREET FOOD SYSTEMS IN LAO PDR AND NEPAL

December 2024

SDGs:



Countries:

Lao People's Democratic Republic and Nepal

Project Code:

TCP/RAS/3804

FAO Contribution:

USD 468 000

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Implementing Partners

Department of Livestock and Fisheries (DLF), Ministry of Agriculture and Forestry (MAF) in Lao People's Democratic Republic. Department of Food Technology and Quality Control (DFTQC), Ministry of Agriculture and Livestock Development (MOALD) in Nepal.

Beneficiaries

Government officials, market vendors, and consumers.

Country Programming Framework (CPF) Outputs

Lao People's Democratic Republic CPF 2016-2021

Output 1.2: By 2021, seven organizations supported by FAO to design and implement policies and regulatory frameworks for plant and animal health and food safety and quality.

Nepal CPF 2018-2022

Output 1.1: Enhance food security, nutrition, and food safety.



BACKGROUND

Traditional fresh food markets, often referred to as “wet markets,” remain vital food retail hubs across South and Southeast Asia, despite the expansion of modern supermarket chains. These markets maintain their popularity through fresh produce, competitive pricing, and strong community-based relationships between vendors and consumers. Typically operating through mobile carts spread across streets, traditional markets offer diverse products, including fresh poultry, meat, seafood, fruits, vegetables, and ready-to-eat food.

However, these markets face significant challenges in maintaining adequate food safety standards. For instance, vendor hygiene practices can vary considerably based on awareness, knowledge, and access to proper sanitation facilities. Biosecurity concerns can arise from the ineffective separation of different food types, particularly of freshly slaughtered meat from other food products. Limited regulatory measures and awareness of food safety practices further compound these issues.

As these fresh food markets and street food stalls handle diverse food products, a One Health approach is necessary to manage public health and food safety. Current observations highlight insufficient adherence to hygiene and biosecurity regulations, increasing the risk of foodborne disease outbreaks. To address these challenges, the Food and Agriculture Organization of the United Nations (FAO) implemented this project with the Governments of Lao PDR and Nepal to strengthen food safety systems in traditional fresh food markets.

IMPACT

The project strengthened food safety, biosecurity, and risk communication systems in fresh food markets across Lao PDR and Nepal by enhancing national understanding of traditional markets and street food systems. Through capacity building and awareness-raising activities, market stakeholders, including government officials and vendors, gained improved food safety knowledge and practices, thereby contributing to market profitability and the protection of public health.

ACHIEVEMENT OF RESULTS

The project successfully implemented comprehensive food safety initiatives in Lao PDR and Nepal, focusing on market assessments, capacity building, and awareness-raising activities adapted to the local context.

In Lao PDR, the project conducted a situation analysis in close collaboration with the DLF of the MAF and the Food and Drug Department of the Ministry of Health. The assessment identified the needs of eight traditional markets across three major locations: Vientiane, Luang Prabang, and Savannakhet. Using six detailed questionnaires, the survey gathered data from 206 vegetable and fruit vendors, 201 meat and fish vendors, and 400 ready-to-eat food vendors, as well as market operators and district-level officials from relevant government offices, including the Agriculture and Forestry Office, the Public Health Office and Industry and the Commerce Office. The project further built the capacity of 27 technical officials from different ministries and reached over 800 vendors and market stakeholders through eight on-site trainings.





Based on the survey results and subsequent national consultation workshop, the project developed four comprehensive manuals in Laotian, covering essential principles of food safety. Five educational posters focusing on hygiene and biosecurity practices, including proper hand washing, safe food production methods, and safe food distribution measures, were produced and disseminated throughout the eight selected markets. The project also supported part of the consultation process for drafting the 2024-2030 national strategy on enhancing sanitary conditions and food safety in traditional fresh food markets, ensuring alignment with national socioeconomic development objectives. The draft is currently awaiting endorsement.

In Nepal, the project carried out a similar situation analysis of fresh food markets and street food vendors, examining five markets across four strategic locations: Bhaktapur, Pokhara, Chitwan, and Kathmandu. To strengthen institutional capacity, the project produced various training resources, including a basic food safety training manual, a training of trainers (ToT) curriculum on the One Health approach, and a food safety e-learning system. Using the ToT method, the project team successfully prepared 18 government officials (seven female, 11 male) as master trainers, who subsequently trained 181 market and street food vendors (71 women, 110 men) in food safety practices through three on-site workshops in Bhaktapur, Pokhara and Chitwan.

The project further enhanced market operations by providing equipment to improve hygiene and biosecurity measures in selected markets, including air ventilators, water purifiers, waste bins, disposable gloves, and aprons, among other items. To ensure broader public awareness, the project promoted the World Food Safety Day among stakeholders, market vendors, and the general public, in addition to producing communication materials such as food safety messages and videos. The project also developed an e-learning portal on food safety, which will be established within the DFTQC of the MOALD.

IMPLEMENTATION OF WORK PLAN AND BUDGET

The project was implemented in close collaboration with government agencies and relevant stakeholders at both national and local levels, including market management authorities and vendors. While initial project activities faced delays due to COVID-19 restrictions, country activities were completed as planned within the approved budget. However, some activities such as the recruitment of an international expert to guide the drafting of the regional document, or the organization of two national workshops to present the project's results and recommendations were not fully achieved due to delays in country implementation and availabilities of key stakeholders. Furthermore, due to administrative delays in signing the project's agreement, the project began a few months later. A no-cost extension was approved to end the project on 31 December 2023, which allowed to finalization of project activities.

FOLLOW-UP FOR GOVERNMENT ATTENTION

To sustain and expand the project's achievements, it is recommended that both countries implement large-scale national educational campaigns on food safety, hygiene, and biosecurity in traditional markets. In Lao PDR, priority actions could include reinforcing the regulatory framework for traditional fresh food markets to continue improving the management of food safety. It is suggested that the Government encourage collaboration between animal and human sectors to finalize a national strategy for the 2024-2030 period to enhance the effective implementation of food safety measures and ensure sanitary conditions at wet markets.



SUSTAINABILITY

1. Capacity development

The project ensured the sustainability of its activities through targeted capacity development activities. In Lao PDR, the project built technical capacity across several ministries while reaching over 800 market vendors through training and awareness-raising sessions. This multi-stakeholder approach ensures the continuation of improved food safety practices throughout the targeted fresh markets. Through a ToT approach in Nepal, master trainers were equipped with comprehensive knowledge of One Health, food safety fundamentals, and national and international standards. It is expected that these master trainers will continue to educate and support market vendors and other stakeholders.

2. Gender equality

Project activities promoted gender equality by ensuring the balanced participation among men, women, and youth in both countries. This inclusive approach was reflected in training sessions, surveys, and awareness-raising campaigns, providing all stakeholders with knowledge on food safety.

3. Environmental sustainability

The project's focus on proper food handling practices contributes to environmental sustainability by promoting better hygiene and waste disposal practices, thereby reducing environmental contamination.

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

Enhanced market conditions and selling practices contribute to better working conditions for market vendors while ensuring access to safe food for consumers, thereby supporting the right to food and decent work.



5. Technological sustainability

In Nepal, the project developed an e-learning portal on food safety, which will ensure continuous access to training materials and certification opportunities. This certification system is particularly appealing to youth stakeholders who can further disseminate knowledge throughout their communities.

6. Economical sustainability

The project enhanced economic sustainability through multisector collaboration and improved market practices that support vendor income generation. By strengthening food safety practices and market conditions, vendors can better maintain customers with their improved hygiene standards. In Lao PDR, the alignment of the National Strategy for Enhancing Sanitary Conditions and Food Safety in Traditional Markets (2024-2030) with national socioeconomic development goals ensures continued institutional support for market improvements.



ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Improved food safety, biosecurity and risk communication systems of fresh food markets and street food		
Outcome	Enhanced national understanding of the current situation of fresh food markets and street food systems and communication/educational interventions and capacity of the market stakeholders, including the vendors and small and medium enterprises (SMEs) on food safety strengthened and supply chain actors supported to promote safe food market outlets in selected areas		
	Indicator	<ul style="list-style-type: none"> - Two national situation reports and two workshop reports with the list of priority action items for each pilot country. - The market stakeholders increase their awareness and knowledge of food safety and bio safety. - Regional guidance and communicational materials (toolkit) launched. 	
	Baseline	0	
	End Target	<ul style="list-style-type: none"> - 4 - 1 - 2 	
	Comments and follow-up action to be taken	A national situation report was prepared for both Lao PDR and Nepal. Awareness raising activities targeting market vendors were conducted in each country to increase knowledge of food safety and biosafety.	
Output 1	Detailed analysis of a fresh food market and street food systems in selected areas (i.e. at least three-four sites per country) in Lao PDR and Nepal completed		
	Indicators	Target	Achieved
	Two national situation reports (Lao PDR and Nepal).	2	Yes
Baseline	0		
Comments	A national situation report was prepared for both countries. In Lao PDR, the surveys assessed eight markets in Vientiane, Luang Prabang and Savannakhet. In Nepal, the report examined five markets in Bhaktapur, Pokhara, Chitwan, and Kathmandu.		
Activity 1.1	Recruit national consultants for Laos and Nepal each		
	Achieved	Yes	
	Comments	National consultants in Lao PDR and Nepal were recruited to support project implementation.	
Activity 1.2	Organize inception meetings with multistakeholders for Lao PDR and Nepal		
	Achieved	Yes	
	Comments	<p>In Lao PDR, the multistakeholder inception meeting was held on 8 November 2023, to confirm project objectives, outputs, and action plans. It was attended by 78 participants from various sectors of agriculture, public health, industry and commerce, and market management.</p> <p>In Nepal, the inception meeting was on 8 November 2022, in collaboration with the DFTQC.</p>	
Activity 1.3	Decide pilot sites		
	Achieved	Yes	
	Comments	<p>In consultation with government stakeholders, the following pilot sites were selected:</p> <ul style="list-style-type: none"> - Lao PDR: Vientiane Capital (four markets), Luang Prabang (two markets) and Savannakhet (two markets). - Nepal: Bhaktapur (one market), Pokhara (two markets), Chitwan (one market) and Kathmandu (one market). 	
Activity 1.4	Conduct the national situation analysis of local traditional fresh food market		
	Achieved	Yes	
	Comments	A national situation analysis of traditional fresh food markets was conducted in each country at the selected pilot sites.	
Activity 1.5	Validate the pilot sites		
	Achieved	Yes	
	Comments	The pilot sites were validated.	

Activity 1.6	Conduct the training needs assessment and develop training materials		
	Achieved	Yes	
	Comments	<p>In Lao PDR, the needs assessment survey targeted market vendors, managers and consumers, with results integrated into the situation analysis. The team collected data through six specialized questionnaires:</p> <ul style="list-style-type: none"> - Structure and implementation of fresh market sanitary measures; - Needs assessment for market managers; - Fresh market conditions and needs of district management organizations; - Food safety knowledge, attitudes and practices of fruit and vegetable vendors in fresh markets; - Food safety knowledge, attitudes and practices of meat, fish and live animal traders; - Knowledge, attitudes and practices of food vendors, based on the five keys of the World Health Organization (WHO) to safer traditional food markets. <p>Four manuals on food safety were prepared in Laotian:</p> <ul style="list-style-type: none"> - Five keys to safer aquaculture products for public health; - Five keys to growing safer fruits and vegetables; - Five keys to safer food; - Five keys to safer traditional fresh food markets in the Asia-Pacific Region. <p>In Nepal, the training needs assessment was carried out and the training manual was prepared.</p>	
Output 2	Using a One Health approach, stakeholder consultations will be held to confirm the priority action items		
	Indicators	Target	Achieved
Baseline	Relevant workshop reports with the list of priority action items in the recommendation section.	2	Yes
Comments	<p>In Lao PDR, a stakeholder consultation was held on 9-10 November 2023 to review the survey action plan and its methodology.</p> <p>In Nepal, priority items were identified.</p>		
Activity 2.1	Identify the list of priorities		
	Achieved	Yes	
Activity 2.2	Organize meetings/workshops on prioritization		
	Achieved	Yes	
Output 3	A framework document for areas of improvement and regulatory / risk management options developed and a set of communication/education materials focusing on food hygiene, biosecurity, vendor training, and consumer education developed		
	Indicators	Target	Achieved
Baseline	- Two framework documents (Lao PDR and Nepal). - Two sets of communication materials (Lao PDR and Nepal) and one set of standardized communication/training materials elaborated from the national sets.	- 2 - 3	Yes
Comments	<p>Lao PDR:</p> <ul style="list-style-type: none"> - One framework document was prepared. - A set of five posters on food safety for awareness raising were developed and a set of four manuals on food safety in Lao language were prepared. <p>Nepal:</p> <ul style="list-style-type: none"> - One framework document was prepared. - A set of awareness and communication materials and a set of standardized training materials were developed. 		
Activity 3.1	Develop a framework document		
	Achieved	Yes	
Comments	<p>In Lao PDR, the project contributed to developing a draft national strategy for the period of 2024-2030. It provides a framework for enhancing sanitary conditions and food safety in traditional fresh food markets.</p> <p>A framework document was developed in Nepal to strengthen food safety in traditional fresh food markets, which identified areas for improvement and provided options for regulation and risk management.</p>		

Activity 3.2	Recruit designers and translators for educational and communicational materials		
	Achieved	Yes	
	Comments	Educational and communication materials were developed in the local languages.	
Activity 3.3	Develop and finalize training and communication materials with designers and translators		
	Achieved	Yes	
	Comments	Training and communication materials were developed in the local languages.	
Output 4	Training workshops, through a cascade approach, held in each country to train the market stakeholders and supply chain actors to improve good food safety and biosecurity practices in the markets		
	Indicators	Target	Achieved
	At least 20-30 individuals each per market trained.	200 participants in total.	Yes
Baseline	0		
Comments	In Lao PDR, 27 technical officials and 815 beneficiaries from traditional markets were trained. In Nepal, 18 master trainers were equipped through a ToT. These master trainers then built the capacity of and 181 beneficiaries.		
Activity 4.1	Conduct training of government officials and experts as national trainers		
	Achieved	Yes	
	Comments	<p>In Lao PDR, a technical training was held on 14 November 2023 for 27 technical officers from the DLF, the Department of Agriculture (DOA) from MAF, the Food and Drug Department (FDD), the Department of Hygiene and Health Promotion (DOHP), the Bureau of Food and Drug Inspection (BFDI) from MoH and staff from the targeted provincial and district DLF and MAF sections from Vientiane, Savannakhet and Luang Prabang.</p> <p>In Nepal, a ToT was organized for 18 master trainers from MOALD, DFTQC, the Department of Agriculture, the Department of Livestock Services, the Department of Health Services – including local government public health officials from Kathmandu and Chitwan – the Plant Quarantine and Pesticide Management Center, the Center for Agricultural Infrastructure Development and Mechanization Promotion, the Ministry of Land Management, Agriculture and Poverty Alleviation from Gandaki province, the Metropolitan City, Food Technology and Quality Control Division in Chitwan and Pokhara, and the Nepal Agriculture Research Council.</p>	
Activity 4.2	Conduct training workshop on-site of market stakeholders and supply chain actors		
	Achieved	Yes	
	Comments	<p>In Lao PDR, eight on-site training sessions were organized at eight target markets in Vientiane, Luang Prabang and Savannakhet provinces. A total 815 individuals were trained to raise awareness on food safety and biosecurity, while improving consumers' knowledge, attitude and practices related to food hygiene.</p> <p>In Nepal, three on-site training workshops were organized in Bhaktapur, Pokhara and Chitwan. A total 181 individuals were trained.</p> <p>The project also provided equipment to select markets to improve hygiene and biosecurity measures. They include:</p> <ul style="list-style-type: none"> - A one-ton air conditioner (Midea MSAGB-12HRFN1) installed in a market in Pokhara. - One Zebra ZD230 direct thermal barcode printer. - 12 printer paper sticker rolls. - 1 200 packs of disposable gloves (100 pieces per pack). - 700 pack of hair nets and chef hats. - 30 swing lid peddle waste bins. - 700 dustbins in Bagmati. - 700 aprons for vendors. - 18 first Aid kit. - Two water purifiers. - 12 fire extinguishers. - Two electric display boards. - 100 rechargeable automatic water pumps. - 100 stainless steel digital cooking. - Biodegradable Compostable Eco-Friendly Plates (100 pieces). - 200 colored chopping boards. - 11 stainless steel turbo roof air ventilators. 	

Output 5	The market is equipped with sufficient and accurate information on food safety and biosecurity and the stakeholders have access to the information (validated through a survey)		
	Indicators	Target	Achieved
	- The communication materials developed at 1.4 are placed in the target markets. - Survey results show positive scores on the stakeholders' accessibility to the communication materials.	- 2 - 1	Yes
Baseline	0		
Comments	Communication materials developed, produced and shared with the markets.		
Activity 5.1	Print and distribute the educational and communicational materials to the market		
	Achieved	Yes	
Activity 5.2	Ensure the materials are used by market stakeholders		
	Achieved	Yes	
Activity 5.3	Set up measurable indicators to examine the results of educational and communicational materials		
	Achieved	Yes	
Activity 5.3	Comments		
	Measurable indicators were established to examine the results of educational and communication materials.		
Output 6	Regional guidance document with a standardized Intervention programme with lessons learned from the pilot countries developed		
	Indicators	Target	Achieved
	- Regional guidance published - One set of standardized communication/training materials for the region elaborated from the national sets	- 1 - 1	Yes
Baseline	0		
Comments	The project developed a manual on improving fresh food markets in the Asia-Pacific region, incorporating lessons from Lao PDR, Nepal and other countries. The manual, which includes communication materials, has been drafted and will be published following approval from the FAO publications committee.		
Activity 6.1	Develop a national report from Lao PDR and Nepal each		
	Achieved	Yes	
Activity 6.2	Recruit one international expert to develop regional guidance document based on the two-national report		
	Achieved	No	
Activity 6.3	Peer review of the guidance		
	Achieved	Yes	
Activity 6.3	Comments		
	The fresh market manual has been peer reviewed by an external reviewer of the World Farmers Markets Coalition and FAO.		
Output 7	Regional meeting to launch the guidance document (toolkit) and share the result of the pilot projects		
	Indicators	Target	Achieved
	At least 50 participants in each country learn from the experiences and receive the toolkit.	50	Partially
Baseline	0		
Comments	The regional meeting was not held. However, a dedicated session on fresh markets was organized at the Asia-Pacific Regional Symposium on Agrifood Systems Transformation in October 2022 where representatives from the two countries, as well as others, attended.		
Activity 7.1	Two national workshops (one in each country) with at least 50 participants on lessons learned and recommendations for market improvements for policymakers		
	Achieved	Partially	
	Comments	In Lao PDR, a national workshop was organized on 29 February 2024 with 132 participants (30 female participants) from various departments at central and provincial level, including agriculture, public health, and trade and commerce. During the workshop, the survey results and recommendations were presented for market improvement. Several consultations were also conducted with participants on the draft national strategy for enhancing sanitary conditions and food safety in traditional fresh food markets for the period of 2024-2030. A workshop could not be organized in Nepal as government counterparts were unavailable.	
Activity 7.2	Participation in a two-day regional workshop in Bangkok on fresh food markets		
	Achieved	Partially	
Activity 7.2	Comments		
	A dedicated regional workshop on fresh food markets was not organized due to delays in country implementation. However, a session on fresh food markets was held at the Asia-Pacific Regional Symposium on Agrifood Systems Transformation.		

Partnerships and Outreach

For more information, please contact: Reporting@fao.org

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