



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Safe Food, Fair Food for Cambodia Project

HANDBOOK

5 KEYS TO RETAILERS

FOR SAFER PORK IN TRADITIONAL MARKETS IN CAMBODIA



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UF IFAS
UNIVERSITY OF FLORIDA

**5 KEYS TO RETAILERS FOR
SAFER PORK IN TRADITIONAL
MARKETS IN CAMBODIA
HANDBOOK**

Safe Food, Fair Food for Cambodia Project

Phnom Penh, February 2020

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ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

ASF	Animal source food
FBD	Food borne diseases
ILRI	International Livestock Research Institute
LDC	Livestock Development for Community Livelihood
LSIL	Livestock System Innovation Lab
NAHPRI	National Animal Health and Production Research Institute
SFFF Cambodia	Safe Food, Fair Food for Cambodia project
USAID	United States Agency for International Development

INTRODUCTION AND PURPOSE

Project background

Cambodia has a rich tradition of tasty and nutritious foods. Animal source foods (ASF) are an important part of the cuisine with pork, fish, and poultry products widely consumed. In recent years, development in Cambodia is accompanied by urbanization, rapid increases in demand for livestock products and, consequently, rapid changes in supply chains, which become longer, more complex, and less transparent.

With the overall aim of reducing the burden of foodborne diseases in informal, emerging formal, and niche markets and targeting small and medium scale producers, we propose two major research areas to tackle the above-mentioned issues: i) to generate evidence on the health and economic burden of foodborne diseases (FBD) in ASF value chains important to the poor and women, and ii) to pilot a market-based approach to improving food safety that builds on successfully implemented projects in Africa and India. Our focus is market-based, light-touch interventions that are sustainable and scalable, changing practice through capacity building and incentives, and provision of an enabling policy environment.

Safe Food, Fair Food for Cambodia (SFFF Cambodia) project is a three-year (September 2017-July 2020) sub-award under the Feed the Future Innovation Lab for Livestock Systems. The sub-award project is led by the International Livestock Research Institute (ILRI) in partnership with the National Animal Health and Production Research Institute (NAPPRI), the Livestock Development for Community Livelihood (LDC), and Emory University, USA.

Purpose and audience of this handbook

A recent market assessment by SFFF Cambodia project conducted from October 2018 to August 2019 in 25 provinces of Cambodia shows a high level of biological contamination on pork with *Salmonella* (43%) and *Staphylococcus aureus* (31%). Cross contamination in traditional markets is one of the leading causes to unsafe pork. Our research also unveils that poor hygiene practices are key contributors to cross contamination. Thus, the safety of pork can be improved by retailers following several simple and low-cost hygiene practices.

The purpose of this handbook is to support national food safety authorities and food chain stakeholders in promoting good practices among retailers at traditional markets of Cambodia. The target audience are national food safety authorities, managers, policy-makers and retailers.

Format and how to use the handbook

There are five good practices designed for pork retailers mentioned in this handbook. Each key message is accompanied with detailed explanation and real-life pictures for 'how-to-do' illustration.

We use green bars for pictures of recommended practices, and orange bars for pictures of un-recommended ones.

This handbook is originally used as training materials for a training of trainers (ToT) course of SFFF Cambodia that is organized February 2020 in Phnom Penh. Later on, it can be used as a guideline for rolling out training if any.

GLOSSARY

Contamination: Introduction or presence of a contaminant (foreign body that can jeopardize safety or sanitary quality) in a food environment

Disinfection: Disinfection is a process that is designed to kill actively growing and vegetative microbial microorganisms to a certain level in an environment to a level not compromising food safety.

Foodborne disease: A disease transmitted through ingested food and may be caused by microbial pathogens, parasites, chemical contaminants and biotoxins.

Food hygiene: Aggregation of conditions and measures needed to ensure the safety and sanitary quality of products at all stages of the food chain and therefore the protection of the health of the consumers

Food safety: Reasonable certainty that no harm will result from intended uses under the anticipated conditions of consumption (OECD 1993).

Hazard: A biological, chemical or physical agent in food with the potential to cause an adverse health effect. Bacteria, virus, parasite are microbial hazards in food.

Risk: The likelihood of occurrence of harm resulting from a given exposure to a hazard.



5 KEYS TO RETAILERS

FOR SAFER PORK IN TRADITIONAL MARKETS IN CAMBODIA



KEY 1:

DON'T CROSS CONTAMINATE

- ➔ Retailers should separate raw pork, intestines, and cooked food.
- ➔ Retailers should use trays to separate different types of meats.



Use stainless steel or plastic tray for separation.

Re-arranging the shop selling place separating intestines and pork.



Figure 1.1: Good practices



Figure 1.2: Bad practices



Placing intestines, pork and ready to eat pork next to each other can cause cross-contamination

KEY 2:

BE CLEAN

- ➔ Retailers should clean stall/table surface, hands, and equipment frequently with a bucket of water, clean clothes, soap or detergent, and disposable clothes for drying.
- ➔ Retailers should clean hands, stall/table surface and equipment before opening and after closing the shop, and during the sale when touching dirty materials (toilet, bin, money, etc...)



- Regular cleaning of cutting boards, knives and hands reduces cross-contamination of meat with Salmonella.
- Regular cleaning with water and detergent/soap will reduce reliable germs.



Figure 2.1: Good practices



Figure 2.2: Bad practices



Scratching of cutting board with knife will not reduce bacteria, in contrast, dust from cutting board maybe carried bacteria to steak to pork.



Dirty equipment, working clothes and hands harbor bacteria and lead to cross contamination of meat.

Dirty retail look also unattractive for customers.



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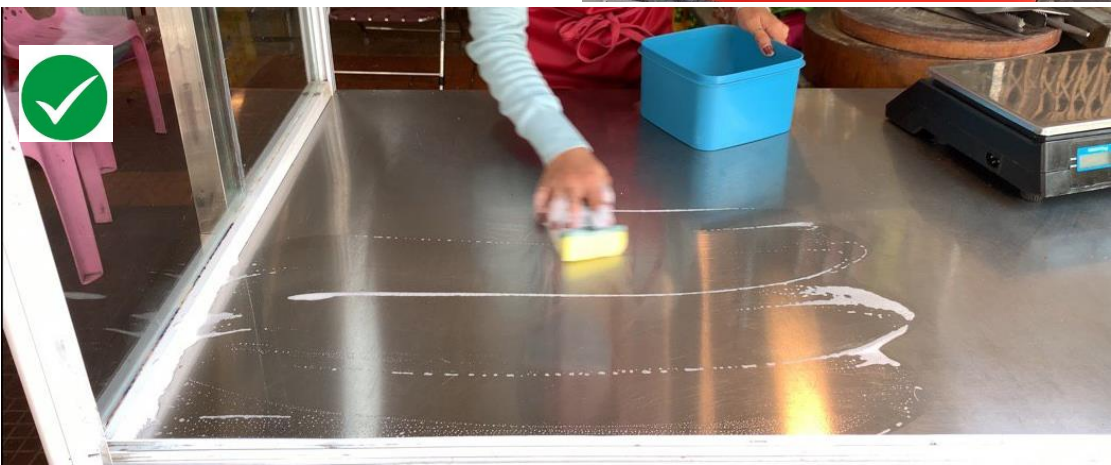
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Dirty equipment, working clothes and hands harbor bacteria and lead to cross contamination of meat.
Dirty retail look also unattractive for customers.

KEY 3:

USE 'EASY TO CLEAN' MATERIALS FOR TABLE SURFACE

- Use materials that have an easy to clean surface
- Plastic, granite, and/or stainless steel are good choice for this purpose



Easy to clean surfaces can be low cost and locally made.



Figure 3.1: Good practices



Figure 3.2: Bad practices



Difficult to clean surfaces (e.g. cardboard, bamboo) can harbor bacteria grow

KEY 4: BE RECOGNIZED

- Retailers should be recognized by consumers by the improved hygiene practices.
- Incentive-based solutions, for example, increased consumer's trust, and/or rewards and increased volume of sold pork are key.

Retailers enabled to signal their good practice to consumers through banners, posters, apron or awards.



Be recognised by authority



Put branding of the shop and practice good hygiene

KEY 5:

BE TRAINED

- Retailers should be trained on knowledge, attitude, and practices on food safety and good hygiene practices.
- Local veterinarians and market managers are trainers



Participating in place training



Participating in place training