



Manual on hygienic ice production for the small-scale fisheries sector in Timor-Leste

Module 1

Introduction to basic hygiene working principles for the small-scale fisheries sector

Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)

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Introduction

The objective of this series of manuals is to provide basic information on how to ensure food safety in small-scale fisheries.

Correct personal hygiene practices and hygienic production processes are equally important to ensure proper catch handling techniques for small-scale fisheries. In other words, everyone and everything that comes into contact with the aquatic catch must be regularly sanitized and disinfected to prevent any chemical or biological hazards to the aquatic catch. This document provides basic, but vital information on how to properly perform these activities and lists the resources needed to do so. Following the principles in this manual will ensure the production of safe marine aquatic products for consumers.

Concepts

The concept of hygienic behavior consists of simple, easily applicable actions that individual fishers and the people who handle the catch must adopt. These principles apply to both, **PEOPLE** who directly handle the catch and **EQUIPMENT** that will come into direct contact with the aquatic catch, at any point during the entire cold and supply chain. The basic hygiene concepts covered in this manual include:

- Basic personal hygiene rules for people handling the catch along the supply chain, from capture or harvest to consumption, including personal hygiene and dress codes.
- Production hygiene, which lists the things that come into contact with the aquatic catch along the supply chain from capture or harvest to consumption. All these objects must be regularly cleaned to avoid contamination of the aquatic catch.

AT SEA

- The personal cleanliness and the clothing of the fisher;
- The cleanliness of the fishing gear, catch storage facilities and the vessel in general;
- The ice used for establishing the cold chain and to preserve the aquatic catch; and,
- The cleanliness of any water which comes into contact with the aquatic catch.

ASHORE

- The personal cleanliness and the clothing of all the people on land, who have contact with the ice used for catch preservation;
- The personal cleanliness and the clothing of all other people who have contact with the catch;

- All the equipment, machinery, containers and compartments, which will come into contact with the ice and the aquatic catch, including during ice production, through capture or harvest, landing, and all stages thereafter until consumption by the end user. All the listed items must be regularly cleaned as a part of production hygiene.

Basic personal hygiene rules to be observed

- Any person who has an open wound(s), ulcer(s), boil(s) etc., must not be allowed to make direct contact with the ice or the aquatic catch.
- Any person who suffers from a contagious disease, must not be allowed to come into contact with the ice or the aquatic catch.
- All staff should have regular health check-ups to ensure they are free of contagious diseases and parasites.
- If a medical clinic advises that medical treatment is required, seek this promptly to avoid contagious disease and/or parasite spread.
- Before starting a fishing trip or aquatic handling work, ensure personal hygiene, by showering or bathing using soap, before dressing in clean work clothing.
- After visits to the toilet ALWAYS wash your hands thoroughly with soap, rinse with clean water and dry your hands with a clean towel.
- Keep your hair cut short or keep long hair under a cap or hairnet to prevent hairs dropping onto the aquatic catch.
- If men have beards, the beard should be trimmed short or covered using a clean face mask.
- Before handling any aquatic products remove wristwatches, necklaces, rings or other jewelry. This will reduce accident risk and the potential for physical and bio-hazards contaminating the aquatic product.
- Fingernails should be trimmed short and kept clean.

Hygiene behavior rules

In the direct presence of any ice and catch, intended for safe, human consumption, **DO NOT**:

- Spit;
- Cough;
- Eat or drink;
- Pick your nose;
- Pick your teeth;
- Clean your ears;
- Scratch your hair, beard, or crotch;
- Touch the catch unnecessarily;
- Place the catch or ice directly on the floor or the ground;

- Break ice by dropping it onto the floor etc. Instead use a dedicated ice crushing machine or tool such as a hammer placed inside a clean bag or something similar.

If any person fails to follow the above hygiene rules, they should immediately be told to do so, to prevent accidental contamination of the aquatic catch.

Basic production hygiene

Basic production hygiene consists of keeping **ALL** surfaces, items and objects that will come into direct contact with the aquatic product along the supply chain, clean and regularly disinfected to avoid contamination. The supply chain starts at the time of capture or harvest of the aquatic product and ends when the consumer eats the product. Therefore this task is the joint responsibility of fishers, and all the people who off load, process, transport, sell and eventually cook the aquatic product.

Each stage in the supply chain should be listed and a log book should be kept of what is cleaned and when.

When the catch is properly handled by people following basic hygiene and proper catch handling techniques, the length of time that the aquatic product can be safely consumed is significantly increased.

Things to do

- Keep the fishing boat, storage areas, containers, fishing gear, knives etc., clean at all times.
- Use appropriate national standard procedures like 'Saude' to check the water quality at the handling facility every three months during the dry season and every month during the rainy season, to avoid the risk of contamination with water unfit for human consumption.
- Keep the handling facility clean, disinfect and clean tables, balances, doors, handles etc., before and after each working session or shift.
- Clean and disinfect all **ICE** and **CATCH** storage boxes or containers before and after each use and filling.
- Clean and disinfect all water tanks every three months.
- Keep a log book or written register of fishing vessel cleaning and the landing site/processing infra-structure and machinery. Record the date, time and the name of the person who conducts the cleaning and the name or brand of any detergents and disinfectants used and their concentration.

Sequence

The flow diagram below illustrates the steps to be taken by fishers and people at landing sites, processing and transportation facilities.

OBSERVANCE OF PERSONAL HYGIENE
Each person, who handles the aquatic catch, should have a regular health check-up to ensure that they are not carriers of contagious diseases or parasites. Before handling the aquatic catch all people should observe the basic hygiene rules i.e. a thorough shower or wash with soap and

dress in clean clothes; short hair, beards and nails; face masks and hair nets to be worn; all jewelry removed; and wash hands thoroughly with soap and water after going to the toilet.



OBSERVANCE OF HYGIENIC BEHAVIOR

Always use proper fish handling techniques starting with using clean, disinfected equipment, using clean potable water for ice making and equipment cleaning, and observe hygienic behavior at all stages in the aquatic product supply chain, when directly handling the catch.



OBSERVANCE OF PRODUCTION HYGIENE

By performing production hygiene both at sea during fishing and ashore before and after a trip, the risk of chemical contamination and spoilage caused by bacterial growth is greatly reduced.

Key elements in basic hygiene

Basic personal hygiene

Keep your body clean and dress in clean clothing before starting work or fishing. Immediately after going to the toilet always wash and disinfect your hands. Be aware of your personal appearance and keep your fingernails and hair well trimmed. Wear clean face masks and hair nets.

Basic production hygiene

Conduct thorough, regular cleaning of all equipment, utensils, the fishing boat and its equipment, ice production equipment and storage, fish conservation boxes, tables, balances etc., to prevent bacterial build up. Cleaning and disinfection should be done just before and immediately after handling and processing activities. Keep a record of all chemicals and disinfectants used.

Cleaning equipment

Cleaning equipment is very simple and only requires buckets, brushes, potable water, water hoses, detergents and disinfectants.

Documentation

It is recommended to keep a written register /record of the cleaning and disinfection made of components mentioned in point 2 above.

Illustrations

The illustrations below, accompany the above basic steps and show good and bad examples of applied hygiene and handling practices.

ILLUSTRATIONS