

# Five Keys for Safer Traditional Food Markets

RISK MITIGATION IN TRADITIONAL FOOD MARKETS IN THE ASIA-PACIFIC REGION





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## Five keys for safer traditional food markets: risk mitigation in traditional food markets in the Asia-Pacific Region

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# Preface

Traditional food markets play an important economic, cultural and social role and are sources of livelihood for millions of people in urban and rural areas. Furthermore, they provide access to safe, healthy, nutritious and culturally appropriate food, and they promote health and prevent diseases, especially among the most vulnerable groups. Traditional food markets are common in the Asia Pacific region and play a very strategic role for food security.

Aiming to improve the vital spaces that traditional food markets represent, the World Health Organization (WHO) published a *Guide to Healthy Food Markets* as an approach to promote food safety and related environmental health issues as early as 2001, with pilot projects implemented in all WHO regions. More recently, WHO, together with other international organizations, has published guidance recommending several actions with the aim of making traditional markets safer as part of the emergency response to coronavirus disease 2019 (COVID-19).

In September 2021, WHO included public health risks associated with traditional food markets (document EB150/26) as a theme in the agenda of the 150th session of its Executive Board, aligned with the WHO Global Food Safety Strategy and the One Health initiative. Subsequently, the Executive Board requested the implementation of such measures at the global level (decision EB150(9)).

WHO is calling on Member States and their appropriate authorities to strengthen their regulatory basis to improve hygiene and sanitation standards in traditional food markets. These actions can reduce the risks of transmission and spread of zoonotic, foodborne and emerging infectious diseases because traditional food markets are often associated as a precursor environment. Such conditions can present food safety and occupational health risks to which risk mitigation measures should be applied.

From a regional perspective, this document is also in line with the thematic priority of “health security, including antimicrobial resistance” outlined in *For the Future: Towards the Healthiest and Safest Region*, a vision for WHO work with Member States and partners in the Western Pacific. It is also aligned with the multisectoral approach, including zoonoses, of the biregional *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies*, known as APSED III. It further directly contributes to the implementation of the *Regional Framework for Action on Food Safety in the Western Pacific* and to the *Framework for Action on Food Safety in the WHO South-East Asia Region*.



# 1. Objectives of this manual

In alignment with the global needs recently highlighted at the World Health Assembly, this document proposes five key actions to be implemented in traditional food markets to mitigate the risks for public health as a guide for market managers.

The purpose of this manual is to provide practical guidance on the implementation of the five keys for safer food markets. It aims to support market managers in tackling public health risks associated with food safety, zoonoses and infectious respiratory diseases in traditional food markets, including the human-to-human transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19.

This document was based on the general principles of the five keys for safer food (See Annex 1) (1) and adapts the five keys to safer food in healthy food markets. (2)

Traditional food market managers and local food safety regulators have the responsibility to initiate the transformation process of traditional food markets into safer and healthier places.

**This manual is aimed at all those who are responsible for managing a food market by:**

- **Proposing practical risk mitigation measures** based on the five keys for safer markets.
- **Enhancing risk communications and community engagement strategies** aimed at the whole market community – including management teams, market staff and the public – to support the application of specific measures that take into consideration local contexts.

The guidance may also apply to local authorities, vendors, food handlers and consumers.

## 2. Introduction



### 2.1 General aspects of traditional food markets

Traditional food markets differ widely from country to country and among different regions. This variation depends on the local culture, socioeconomic conditions, food varieties and dietary preferences. Traditional food markets are common in many parts of the world, most notably in Asia and the Pacific. These markets represent public spaces that gather a good number of goods and people.

**“Traditional food market”** is the term used throughout this document to refer to different types of markets descriptions, including: wet markets, informal markets and farmers’ markets that sell foods of animal origin/non-animal origin/dried goods and where live animals are sometimes housed and slaughtered on site. (3)

Traditional food markets are the main source of essential daily fresh foods, such as vegetables, fruits, dairy products, spices, baked goods, fresh meat, fish and other seafood – the foundation for health. Consumer preference for fresh food, as an affordable and convenient source of ingredients required for local cuisine, has been a key factor in the popularity and survival of traditional food markets. As per cultural traditions, preparation methods that have been passed down for generations are applied, being part of the cultural context of the communities.

**“Wet markets”** refer to the wet floors resulting from the melting of ice used to ensure the freshness of seafood and by stall holders who routinely clean their stalls by spraying them with water. Usually, they are divided into a “wet” section where fresh produce, meat, fish and live animals are sold, and a “dry” section where goods such as spices, rice, dried noodles, dried seafood and beans are offered. (4) Wet markets may also be called “fresh food markets” and “good food markets” when referring to markets consisting of numerous competing vendors primarily selling fruits and vegetables. (5) They are defined as markets with municipal ownership and operation. (6)

Traditional food markets play a strategic role in urban food security and are the preferred places for fresh and affordable food, with people carrying out economic transactions and sociocultural interactions. Most vendor booths in traditional food markets are operated as a family business. Traditional food markets face tough competition from supermarkets and hypermarkets. In terms of logistics, consumers often visit nearby markets to save time and transport costs, with fresh food items sold in small units that are affordable to all. Food vendors often adopt customer-friendly practices to cultivate loyalty, such as providing extra portions at no charge or facilitating credit.

Culturally, traditional food markets also serve as a platform for bargaining, allowing a direct trade between a seller and a buyer, and creating opportunities for feedback towards improvements. They are also important as privileged spaces for social communication and exchange in local communities. Special attention needs to be given to vulnerable populations and women who are strongly dependent on traditional food markets as a source of food, livelihood and subsistence.

Traditional food markets are an important component in supporting sustainable food consumption, (7) thus contributing to healthy food systems by providing a source of fresh and healthy food to communities while offering a livelihood for all the food producers and vendors in the area.

The establishment of safe and healthy traditional food markets helps market communities and local authorities contribute to the Sustainable Development Goals (SDG) (8) shown below.

**Fig. 1.** United Nations 2030 Agenda for Sustainable Development and associated SDGs to the thematic area of traditional food markets




*Source: United Nations 2030 Agenda for Sustainable Development (SDG). [Internet]. 2015.*

**2**  
ZERO  
HUNGER




**TARGET 2.3:** “By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment”.

**3**  
GOOD HEALTH  
AND WELL-BEING




**TARGET 3.D:** “Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks”.

**5** GENDER  
EQUALITY



**TARGET 5.5:** “Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life”.

**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



**TARGET 12.1:** “Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries”.

The number of traditional food markets in the region has been decreasing in past decades due to various factors, including recurrent threats of emerging zoonoses. Because of modernization of the food delivery system, traditional food markets have transformed into vibrant sociocultural spots that preserve traditional knowledge of culinary culture, food display and preservation practices. When not managed properly, they can be unsafe environments that pose serious health risks. The congregation of humans and animals, poor hygiene conditions and the proximity of foods of animal and plant origin can create favourable conditions for the spread of diseases and entry points for foreign matter and contaminants.

Improving biosafety measures such as access to clean water, sanitation and hygiene services, promoting a food safety culture – and new science-based good practices to prevent disease outbreaks, persistence and possible transmission of emerging zoonoses in food markets – are some of the critical factors for achieving healthy traditional food markets.

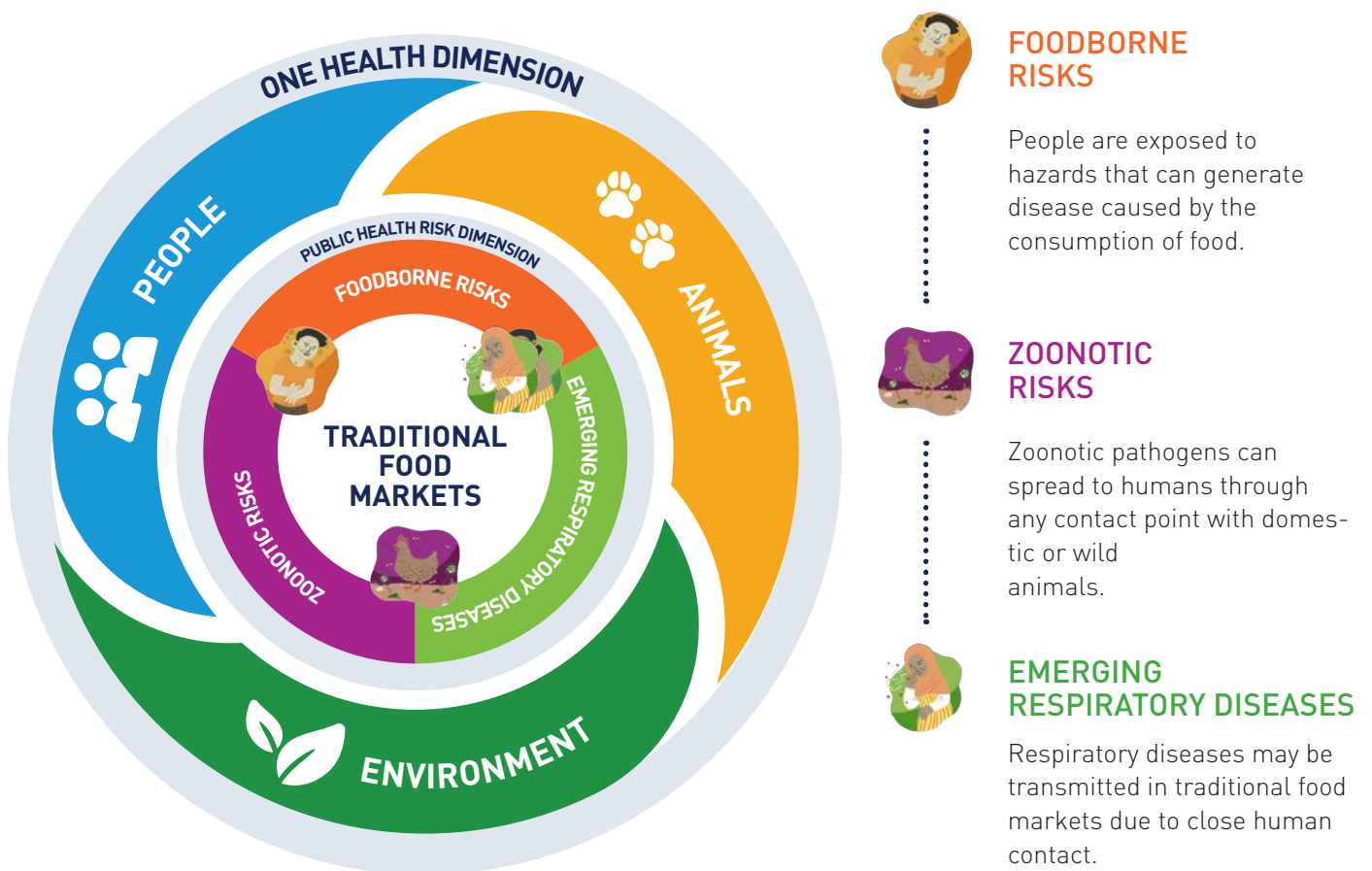
## 2.2 Public health risks associated with traditional food markets

Traditional food markets, when not managed properly, can be unsafe environments that pose health risks related with food safety and zoonoses threats. Food markets also potentially serve as amplification settings for the human-to-human transmission of COVID-19 if appropriate measures are not in place. Under these conditions, Traditional food markets can thus pose significant threats to the health of food handlers, vendors, consumers, and the community.

Aside from the shortage of legal and institutional requirements to guarantee food safety and mitigate others public health risks, traditional food markets need to overcome other challenges that are frequently encountered. Often, the poor hygiene conditions of traditional food markets represent a major threat to food safety and enhance the manifestation and outbreaks of zoonosis. Drawbacks related to deficient market infrastructure, poor access and provision of basic sanitation service and inadequate cleaning are the main obstacles to maintaining food safety along the supply chain and reducing the risks of zoonoses.

The improvement of good hygiene practices and sanitation in traditional food markets are intended to reduce the risk of disease transmission from food, animals, and person to person. (3) The management of these public health risks associated with traditional food markets must be developed under a One Health approach, considering that the health of people is closely linked and inter-dependent on the health of animals and plants and the wider environment. Fig. 2 shows a general conceptual graphic representation of the three public health risks associated with the traditional food markets addressed in this manual and their relationship with the health of people, animals and the environment.

**Fig. 2.** Public health risks associated with the traditional food markets



**Source:** World Health Organization. 2022.



### 2.2.1 FOODBORNE RISKS

Foodborne diseases are transmitted through contaminated food products.

Food can become contaminated at any point along the food chain—during production, processing, distribution, or preparation, such as during meat dressing, food handling, mixing offal with meat and keeping meat for a long period at ambient temperature. Also, a sick food handler or vendor can contaminate food products and transform them into a source of infection.

Even though many traditional food markets are subject to food safety inspection and supervision and have corresponding sanitary regulations in place, enforcement of good practices is often a challenge. Food inspectors are not always adequately trained to hold businesses accountable and to ensure compliance to protect consumers' health. Inspection protocols and traceability systems, especially for meat products, are often weak or non-existent, thus not allowing the establishment and use of health certificates.

As many traditional food markets are in disaster-prone areas, the risk of flooding due to heavy rainfall – recently more frequent and more intense due to climate breakdown – can cause severe damage to infrastructure, with overflow from sewerage systems posing grave food safety risks.

Aspects related to food contact surfaces, handling hygiene, cross-contamination and temperature need to be addressed in traditional food markets to minimize the risks related to food consumption. (9)

## 2.2.2 ZOOBOTIC RISKS

The presence of animals (domestic and/or wildlife) in traditional food markets represent a threat to public health if not well managed. A zoonosis is an infectious disease that has jumped from a non-human animal to humans. Zoonotic pathogens can spread to humans through direct contact to infected animals or through food, water or the environment.

In order to prevent and control zoonotic diseases in traditional food markets, there are public health interventions and biosafety measures that need to be in place, such as: disease and animal surveillance, introduction of rest days, all-in and all-out systems, partial or full closure of markets (e.g. in markets it helped prevent and control the spread and transmission of zoonotic avian influenza).



Risks to public health may increase when the sale and slaughter of live animals for food, especially wildlife, take place in open market areas with access to the public. When live animals are kept in cages or pens, and/or slaughtered and dressed in open market areas, these areas become contaminated with bodily fluids, faeces and other waste. The lack of hygiene practices in such situations increases the primary risk of transmission of pathogens to workers and customers, potentially resulting in spillover of pathogens to other animals and humans in the market. The lack of separation between animal species and the lack of efficient hygiene practice are factors that add to the high risk of zoonotic diseases in such settings.

Traditionally, most wet markets do not trade in wild or exotic animals in the Asia Pacific region. Several countries have banned the trade of wildlife altogether, a trend boosted by the COVID-19 pandemic for similar bans to become universal in traditional food markets.

Zoonotic disease prevention can be achieved with an enhanced and standardized surveillance and control system comprising quarantine, production and processing, and storage and transportation of animals.





### 2.2.3 EMERGING RESPIRATORY DISEASES

According to WHO, “it is highly unlikely that people can contract COVID-19 from food or food packaging. COVID-19 is a respiratory illness, and the primary transmission route is through person-to-person contact and through direct contact with respiratory droplets generated when an infected person coughs or sneezes”. *(10)* Respiratory diseases, such as seasonal influenza and SARS-like infections, may be transmitted in traditional food markets due to close human contact given the small spaces with a high density of people.

COVID-19, for example, is transmitted primarily during close contact among people through respiratory droplets and aerosols generated when a person infected with COVID-19 speaks, coughs, sneezes, shouts and sings. *(11)*

By implementing basic hygienic principles to improve food safety, a healthy traditional food market can also focus on reducing the risks of spreading diseases such as COVID-19. Food markets also need to respond to the need for infection prevention and control (physical distancing, wearing face masks and frequent handwashing), and the need for biosafety requirements to prevent the spread of emerging zoonoses.

During epidemics and pandemics, regaining consumer trust and confidence is critical to ensure business continuation, notably for the sale of livestock and/or poultry products. Safer and healthier food markets limit closures and facilitate the reopening and normal operation of the markets.

# 3. Five keys for safer markets:

## Risk mitigation measures in traditional food markets in the Asia-Pacific region

The five keys for safer markets presented here were prepared taking into consideration the most important health risks in traditional food markets in Asia and the Pacific (See Annex 2). They are five basic measures to mitigate the risks in traditional food markets and were adapted from the Five Keys to Safer Food Manual. (1)

**Fig. 3.** Five keys for safer food markets



Source: World Health Organization. 2022.

KEY



# Keep clean

Maintain good personal hygiene habits and effective disinfection of market facilities.

# Key 1: Keep clean



Maintain good personal hygiene habits and effective disinfection of market facilities.

## Why this is important

While most germs do not cause disease, some dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, wiping cloths, utensils and especially cutting boards – and the slightest contact can transfer them to food and animals and/or humans and, consequently, can cause foodborne diseases or influence the transmission of infectious diseases from animals to humans or humans to humans.

Keeping the food market clean and making sure all vendors and food handlers follow proper hygiene practices will reduce the level of contamination and thus will reduce the incidence and transmission of diseases.

To reduce the level of contaminants in the market, a complete closure to perform a deep cleaning and disinfection needs to be implemented at least every two weeks; this is called a “rest day”.

## Key aspects

- ✓ Personal hygiene practices
- ✓ Respiratory etiquette
- ✓ Adequate facilities
- ✓ Proper cleaning and disinfection of facilities and food contact surfaces
- ✓ Access to safe and sufficient water
- ✓ Solid and liquid waste management (12)
- ✓ Rest day for deep cleaning and disinfection (13,14)



**Let's act!**

## A. PERSONAL HYGIENE PRACTICES



### WHAT TO DO?

- ✓ Wash hands with soap and water, or apply alcohol-based handrub products (see Annex 4, 5 and 6)
- ✓ Do it before handling food, after using the toilet, after handling raw food and after touching money.
- ✓ Wear proper personal protective equipment such as a mask, apron and gloves, where necessary.
- ✓ Cover mouth and nose with hands or a bent elbow when sneezing or coughing, then clean hands afterwards.

### HOW TO DO IT?

- Encourage food handlers and sellers wash their hands thoroughly with water and soap (at least for one minute) or alcohol-based handrub (at least for 30 seconds).
- Provide a continual clean water supply in enough quantity and quality, either through a piped system or through water storage containers.
- Provide hand hygiene stations with running water, soap or alcohol-based handrub, and proper sinks.
- Strategically place hand hygiene devices in a way that they are accessible.
- Have a local authority regularly monitor the quality of the water supplied.
- Change personal protective equipment regularly during the business day to keep them clean.
- Train food stall operators to follow personal hygiene practices and respiratory etiquette.
- Place informative posters in the market area to remind sellers and customers to follow respiratory etiquette.

## B. SURFACES AND EQUIPMENT DISINFECTION

---



### WHAT TO DO?

- ✓ Wash and disinfect surfaces and equipment regularly, especially those that are regularly touched.
- ✓ Regularly clean the sanitary facilities.

### HOW TO DO IT?

- Frequently clean all surfaces in direct contact with food with water and soap and sanitize them with proper products such as alcohol, chlorine or others that are available.
- Clean high-contact surfaces frequently.
- Provide sufficient and clean sanitary facilities with equal access to men and women and people with disabilities. Sanitary facilities should be available for market workers and for clients.
- Provide all the sanitary facilities of the market with sufficient ventilation; always be clean and always have water and personal hygiene supplies.
- Regularly clean the sanitary facilities and monitor for hygiene. A simple and easy way to understand cleaning procedures and schedules should be available.
- Monitor and make clearly visible a signed record of cleaning of the sanitary facilities.

## C. ORGANIZE A REST DAY



### WHAT TO DO?

- ✓ Organize a rest day at least twice a month to allow a thorough cleaning and disinfection of the market.

### HOW TO DO IT?

- Close the market at least every two weeks for deep cleaning and disinfection of all areas, equipment and utensils.
- Establish a cleaning and disinfection protocol, including the products to be used and the method of cleaning.
- Check the application of cleaning procedures.
- Implement a daily cleaning protocol to keep food market installations clean and organized.

## D. PROPER WASTE DISPOSAL

---



### WHAT TO DO?

- ✓ Properly manage solid and liquid waste.
- ✓ Ensure that the market has an internal differentiated solid waste collection system with storage areas for each type of waste and that there is an optimal system for transporting and disposing of solid waste.

### HOW TO DO IT?

- Provide a trash bin with lid and frequently send the trash to the nearest dump site.
- Place waste containers in all the stalls, in good condition, with plastic lids.
- Establish a daily waste management protocol, including the removal of all waste from the market.
- Ensure the market has a functioning system for liquid discharges, including grease separation traps that serve each vendor booth and the setting collectively.
- Ensure the drainage and effluent disposal systems are built to prevent contamination of food, drinking water and other water sources.





# KEY 2

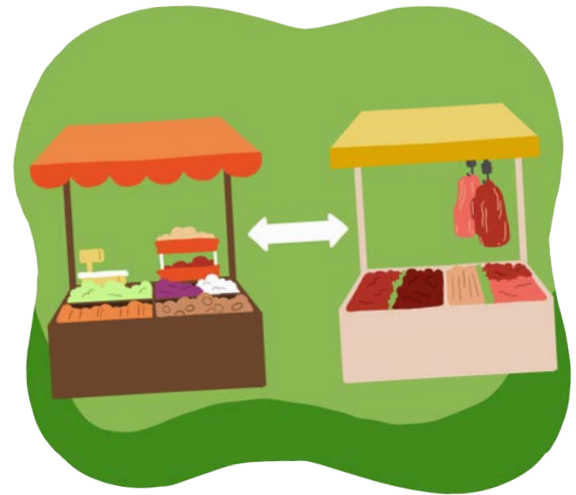


## **Avoid contamination**

Avoid contamination and  
reduce risks of disease  
transmission.

## Key 2: Avoid contamination

Avoid contamination and reduce risks of disease transmission.



### ! Why this is important

Food contamination occurs when a contaminant is introduced or generated in food. One form of food contamination is the cross-contamination which is caused when a food contaminated with pathogens or chemical or physical hazards can pass the contamination on to safe foods.

Traditional food markets are places that gather humans, different species of animals and a variety of food in the same facility, which can allow the transmission and spillover of infectious diseases.

### 🔑 Key aspects

- ✓ Physical segregation of different activities and products
- ✓ Avoid cross-contamination

 **Let's act!**

## A. APPLY A ZONING SYSTEM TO AVOID CROSS-CONTAMINATION



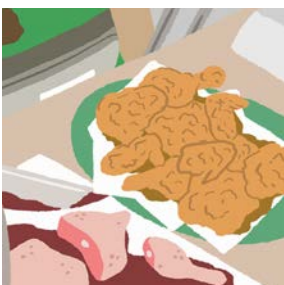
### WHAT TO DO?

- ✓ Separate market areas by category.

### HOW TO DO IT?

- Apply a zoning system. Have separate areas for stalls selling raw food (raw meat, fish and poultry) from vegetables, dry food and those for ready-to-eat foods.
- Don't sell live animals in food markets. Set a different space or market to sell live animals.

## B. AVOID CONTACT AMONG RAW AND READY-TO-EAT FOODS



### WHAT TO DO?

- ✓ Manipulate, store and display food products in ways that avoid contact among raw foods and with ready-to-eat foods.

### HOW TO DO IT?

- Use separate equipment and utensils, such as knives and cutting boards, for raw foods.
- Store and display in separate containers or places raw foods from ready-to-eat foods.



# KEY 3



## Keep food products safe

Provide safe and suitable food products for consumption.

## Key 3: Keep food products safe



Provide safe and suitable food products for consumption in the markets.

### Why this is important

Foodborne illness can be severe or fatal or otherwise have a negative impact on human health. There are also economic impacts to those involved.

Traditional food markets have a fundamental role in a community's food supply and occupy a strategic role in the food chain. Traditional food markets that do not apply basic hygiene measures contribute to human exposure to food contaminants.

Mitigation measures for food safety risks in traditional food markets need to be applied to reduce the risk of foodborne disease transmission.

### Key aspects

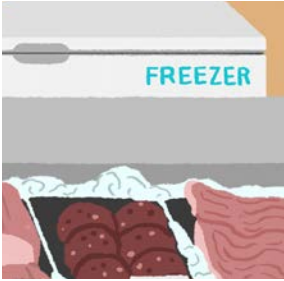
- ✓ Follow these five rules for safe food:
  1. Keep clean
  2. Separate raw and cooked food
  3. Cook thoroughly
  4. Keep food at safe temperatures
  5. Use safe water and raw materials.
- ✓ Trade only safe food products.



Let's act!

## A. SAFE STORAGE TEMPERATURES

---



### WHAT TO DO?

- ✓ Freeze or refrigerate raw meat, seafood and poultry.

### HOW TO DO IT?

- If freezing and refrigerating are not possible, cool raw meat, seafood and poultry with ice made from tap or treated water.

## B. STORE DRY FOOD PRODUCTS PROPERLY

---



### WHAT TO DO?

- ✓ Store dry food products in a cool and dry environment to avoid dampness and direct sunlight.

### HOW TO DO IT?

- Use containers with a lid.
- Protect dry products from moisture and environmental contaminants. Store this type of food in a cool and dry place.



## C. TRADE ONLY IN SAFE FOOD PRODUCTS



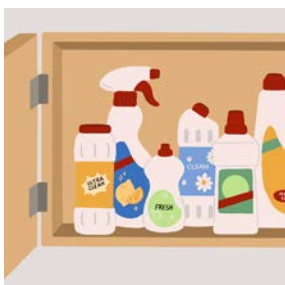
### WHAT TO DO?

- ✓ Trade only safe food products, those received from reliable suppliers and within their shelf life, with processed foods having clear labels and intact packaging.

### HOW TO DO IT?

- ❑ Ensure the food products that are marketed meet the minimum requirements for food safety, freshness and suitability. This implies: that the products offered have been handled in a hygienic way; that they do not show an obvious deterioration in their appearance; and that the label and packaging of packaged products must be in proper condition, respecting the expiration dates.

## D. STORE HAZARDOUS CHEMICALS AWAY FROM FOOD



### WHAT TO DO?

- ✓ Store chemicals in designated areas away from food, ingredients, packaging and food contact surfaces.

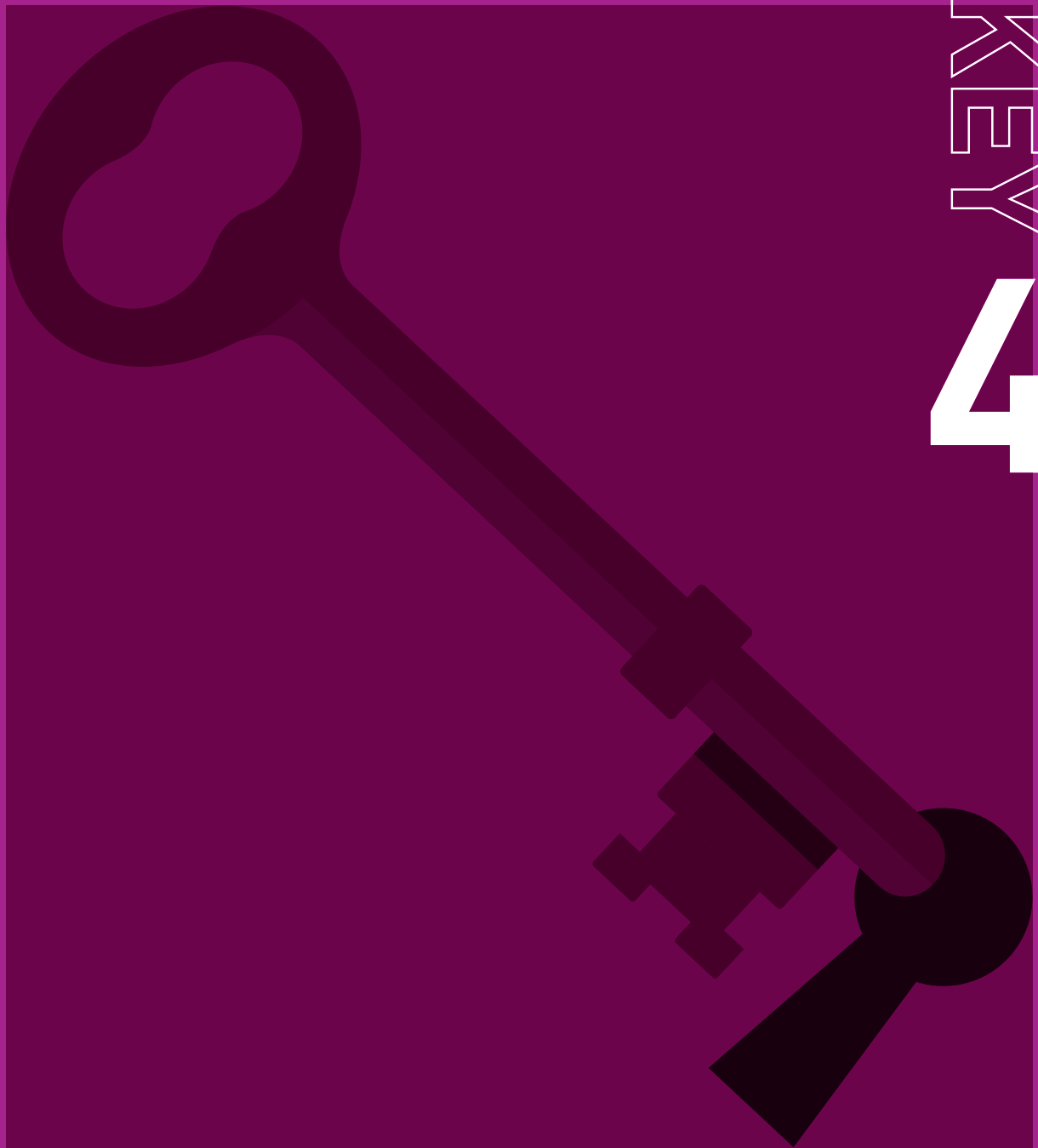
### HOW TO DO IT?

- ❑ Make it standard practice for staff, after maintenance, to properly clean and remove all chemical residues from food contact surfaces.
- ❑ Avoid using empty chemical containers to store food. Check expiration dates of all products.
- ❑ Store chemical products used for cleaning and disinfection in areas or containers separate from food.



KEY

4



# Reduce contact with animals

Reduce zoonotic  
disease risks.

# Key 4: Reduce contact with animals

Reduce zoonotic disease risks.



## ! Why this is important

Significant problems can arise when markets allow the sale and slaughter of live animals, especially wildlife, that cannot be properly assessed for potential risks in areas open to the public. When wild animals are kept in cages or pens, slaughtered, and dressed in open market areas, these areas become contaminated with bodily fluids, faeces and other waste, increasing the risk of transmission of pathogens to workers and customers, and potentially resulting in spillover of pathogens to other animals in a market. Such environments provide the opportunity for animal viruses, including coronaviruses, to amplify themselves and transmit to new hosts, including humans.

The presence of live animals in food markets can allow the spread and spillover of zoonotic pathogens to market sellers and clients. (15) Live animals should be traded in different markets separate from foods.

Pests (e.g. some birds, rodents, insects) pose a threat to the safety and suitability of food and also they can spread zoonotic pathogens. Pest infestations can occur when favourable conditions exist for the development of these animals. Proper implementation of pest control programs can minimize the likelihood of infestation, without posing a threat to the safety or suitability of food.

## 🔑 Key aspects

- ✓ Safest option: restrict the trade of live wild and domestic animals in traditional food markets (see Annex 7).
- ✓ Do not mix animal species in the same area (e.g. chickens separated from pigs).
- ✓ Only trade in authorized healthy animals (vaccinated, certified, etc.).
- ✓ Animal health and hygienic manipulation.
- ✓ Implement pest control programmes.

## Let's act!

### A. TRADE ANIMALS APPROVED BY AUTHORITIES



#### WHAT TO DO?

- ✓ Trade only animals approved by authorities and ensure that adequate risk assessment is in place.

#### HOW TO DO IT?

- Only animals approved by the proper authorities should be marketed.
- Reduce the trade of wild and endangered animals.
- Live animals should be traded in specific live-animal markets separate from food markets.

### B. DIVISION OF MARKET AREAS INTO SEPARATE ZONES



#### WHAT TO DO?

- ✓ Divide the areas of the market according to the activity and species of animals.

#### HOW TO DO IT?

- Properly separate areas where live animals are traded.
- Strictly and clearly separate the spaces for delivery and reception of live animals, cage storing, slaughtering, carcass dressing, cleaning of cages and selling of animal products.

## C. SEPARATE ANIMALS BY SPECIES

---



### WHAT TO DO?

- ✓ Keep different species separate in live-animal markets.

### HOW TO DO IT?

- ❑ Avoid mixing animals of different species in live-animal markets.

## D. ANIMAL HEALTH AND HYGIENIC MANIPULATION

---



### WHAT TO DO?

- ✓ Make sure that the live animals traded are healthy. They must be stored in a hygienic way with consideration of the animal's welfare.

### HOW TO DO IT?

- ❑ Do not keep or slaughter live animals in food stalls. Slaughtering and the primary processing of animals (especially poultry) should be centralized in slaughterhouses authorized by the competent authority by market supervision (external to the market).
- ❑ Provide a dedicated slaughtering facility for the food-producing animals outside the market area.
- ❑ Make sure that the live animals traded are healthy.
- ❑ Keep animals in a hygienic way and with animal welfare measures in place.

## E. HUMAN CONTACT WITH LIVE ANIMALS

---



### WHAT TO DO?

- ✓ Reduce human contact with live animals.

### HOW TO DO IT?

- Reduce as much as possible the contact of customers with live animals by maintaining safe distances.
- Protect sellers with masks and train them to practice hygienic measures to reduce the risk from zoonoses.

## F. PEST CONTROL

---



### WHAT TO DO?

- ✓ Implement a pest control programme in the market.

### HOW TO DO IT?

- Prepare a pest control management programme and implement it in the market.
- Regularly monitor the presence of pests.





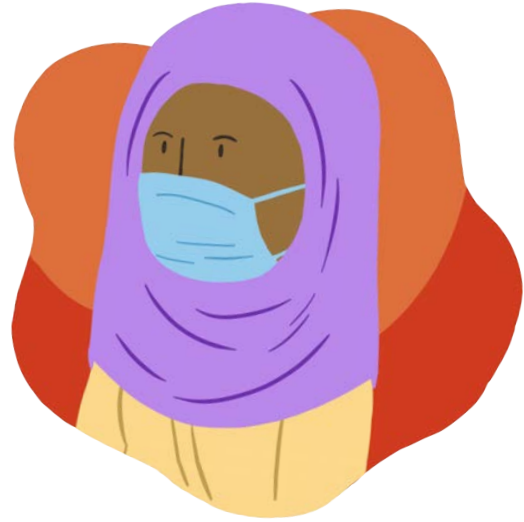


KEY  
5

# Stay safe, protect yourself

Prevent human-to-human  
transmission of respiratory  
infectious diseases.

# Key 5: Stay safe, protect yourself.



Prevent human-to-human transmission of respiratory infectious diseases.

## Why this is important

The risk of transmission of respiratory infectious diseases among humans is higher in closed settings with close contact and poor ventilation. Traditional food markets can offer all these components and serve as amplification settings for these diseases.

Follow local guidelines on public health and social measures, adopt and impose protective measures such as mask wearing, physical distancing, limiting headcounts to avoid crowding, to reduce the risk of transmission of respiratory infectious diseases, including COVID-19.

## Key aspects

- ✓ Take measures to lower risk of respiratory infectious diseases transmission:
  - ✓ Physical distancing
  - ✓ Mask wearing
  - ✓ Hand hygiene
  - ✓ Covering coughs and sneezes
  - ✓ Keeping indoors spaces well-ventilated
- ✓ Stay at home if you are feeling sick and follow the official local guidance.

 **Let's act!**

## A. ENSURING A SAFE DISTANCE

---



### WHAT TO DO?

- ✓ Maintain at least one metre between yourself and others and avoid crowds.

### HOW TO DO IT?

- ❑ Organize queues and physical distancing among customers with markings on the floor.
- ❑ Establish an organized one-way flow for customer movements in the market to ensure physical distancing.

## B. WEARING A MASK

---



### WHAT TO DO?

- ✓ Make wearing a mask a normal part of being around other people.

### HOW TO DO IT?

- ❑ Protect yourself and others by correctly wearing a mask (covering mouth and nose).
- ❑ Encourage others to wear a mask correctly, together with other Public Health and Social Measures (PHSM).
- ❑ Keep yourself up-to-date with local authority requirements for the use of masks and other personal protective equipment.

## C. WELL-VENTILATED SPACES

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### WHAT TO AVOID

- ✓ Keeping indoor spaces of the market well-ventilated.

### HOW TO DO IT?

- ❑ Ensure natural ventilation to allow air movement (open windows and doors to allow proper ventilation).
- ❑ If it is not possible to apply the basic recommendations for natural ventilation or if mechanical ventilation is used, follow the current WHO recommendations to improve and ensure good indoor ventilation. *(16)*



## 4. The essentials: what comes together with the five keys

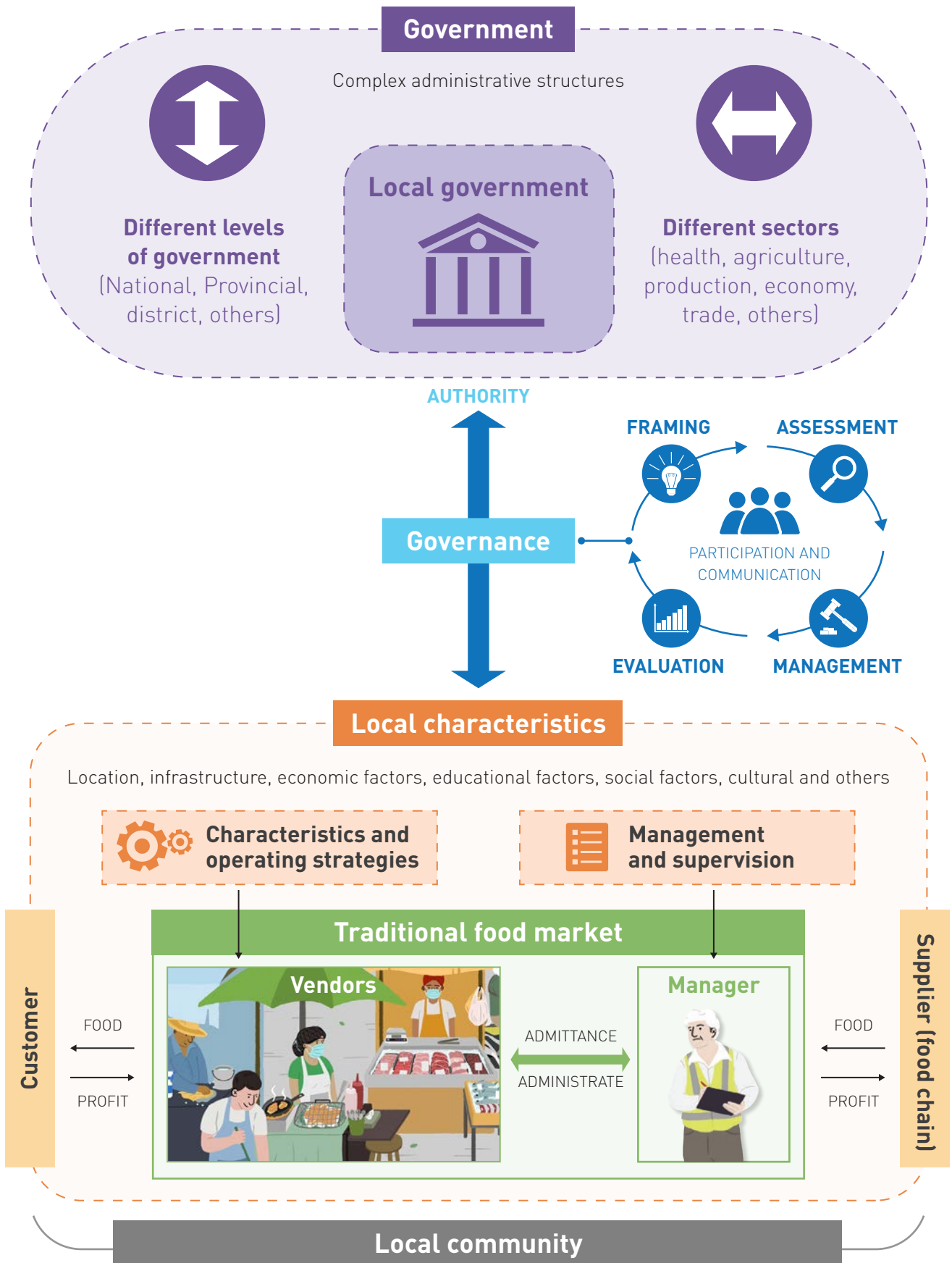
To ensure the effectiveness and maintenance of the five keys of implementation, there are some aspects that need to be in place.

### 4.1 Regulations and public health policies

Regulations and public health policies are key to sustaining measures to improve traditional food markets. In the region, specific legislation related to traditional food markets is at subnational or local levels. National and local authorities need to work together in a coordinated way and under a multisectoral approach that addresses all the areas related to traditional food markets. For example, there is a need for clear regulations that take into consideration aspects related to wildlife trade (live or products), slaughtering of animals in markets, traceability of the products, and national and local responsibilities.

Fig. 4 shows a general conceptual framework that describes the main elements that could have an implication in the development and application of regulations and public health policies for Traditional Food Markets.

Fig. 4. General conceptual framework of regulations and public health policies applied to Traditional Food Markets



Source: World Health Organization. 2022. Developed based on Dreyer and Renn, 2009 [17]; Qi et al., 2019 [18]; Barnett and Fournié, 2021. [19]

## 4.2 Risk communication and community engagement

The overarching goals of risk communication and community engagement (RCCE) are to build trust and mitigate adverse effects by ensuring informed decision-making and encouraging positive behaviour change among target populations. This high-level, “grounds-up” approach supports decision-making that informs and supports national and subnational policy-making and aims to ensure that sufficient human and financial resources are available to implement RCCE initiatives at the local level where they are needed most.

People and communities are the target populations for this approach and must be at the centre of all responses to outbreaks and health emergencies. Including target communities in decision-making and policy implementation ensures that interventions are context specific and that communities feel ownership of the policy and its intended outcomes.

Forging and strengthening partnerships is crucial in implementing RCCE interventions to create safe and healthy food markets. Strategic partnerships among the various stakeholders – including different levels of government, food producers and vendors, consumers and relevant community-level organizations – are essential to identifying existing barriers to creating healthy environments and to ensure coordinated action for sustainable change.

Furthermore, communication about food safety and traditional food markets needs to go beyond the general public. It should also include food producers, vendors, and officials in health, safety and urban planning. Traditionally, communication about food safety risks is aimed at “what” people should do versus helping them to understand “why”, which empowers them to make their own risk decisions and build trust.



### 4.3 Training

Among the challenges faced by traditional food market managers is a lack of opportunity to develop skills and capacities among the market staff. The knowledge about basic issues of food safety — such as hygiene practices in food handling and food preparation, efficient food storage, proper waste management and other topics — needs to be constantly reinforced through training and communication strategies.

It is important that the diverse groups within the food market communities, notably the food handlers and vendors, receive adequate information that allow them to make decisions based on risks identified.

Managers from traditional food markets need to ensure that a robust capacity-building programme (including hands-on training) is in place, offering market staff opportunities to improve their knowledge in key areas related to food safety, zoonoses and infectious disease prevention.

In terms of public health, training for market managers also needs to consider the health referral systems that need to be activated when an incident happens in their markets, for example if someone becomes sick in the market, what should be done or who should be contacted.

Local authorities also should consider the needs for training food inspectors regarding specific topics related to traditional food markets, including relevant legislation/regulations, and their roles and responsibilities as food market managers.

Traditional food market communities can thus potentially improve their efficiency and service by integrating equity into the various processes from food purchase to consumer service. Market managers can design and implement a capacity-building programme based on the expressed needs of market workers and of key issues to fulfil the requirements of a healthy and safe traditional food market.



## 5. Final Considerations

A healthy and safe traditional food market is a distinction that can be achieved through implementing measures based on risks identified in the market. Each market will have its own context and risks to be reduced. Traditional food market managers and local authorities are key to identifying the priorities and the proper measures to be implemented, tailoring them to local contexts.

Additional measures, such as political support from responsible agencies regarding enforcement of public policies related to traditional food markets, are an asset. Government bodies and other stakeholders can also provide support, such as training programmes and awareness campaigns, to promote safe traditional food market concepts, budget allocation, proper governance.

The involvement and integration of all stakeholders will guarantee a high degree of ownership and commitment to implementing the measures needed, achieving a safer place for the entire food market community.



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# Glossary

<b>Cleaning</b>	The physical removal, with the use of detergent or water by mechanical action ( <i>e.g.</i> , friction, scrubbing), of dust, soil residue, food residue, dirt, grease, excretions, microorganisms and other foreign material that can be sources of contamination. Cleaning physically removes rather than kills microorganisms. Cleaning is always the first step in the environmental cleaning process.
<b>Cleaning and disinfection program</b>	A set of activities that contribute to food safety by maintaining the physical facilities of an establishment in good hygienic and sanitary conditions.
<b>Contaminant</b>	In terms of health, any physical, chemical or biological agent present in food that may compromise its safety.
<b>Cross-contamination</b>	The transfer of potential risks, directly or indirectly, from a source of contamination to food by means of equipment, utensils, work surfaces, cleaning materials, air currents, hands or clothing, or moving materials or food from a dirty area to a clean area.
<b>Disinfection</b>	A physical or chemical process that kills or inactivates pathogens such as bacteria, viruses and protozoa, and prevents their growth on inert objects. Disinfection occurs after the cleaning step.
<b>Food hygiene</b>	All conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain.
<b>Food safety</b>	Assurance that food will not cause adverse health effects to the consumer when it is prepared and/or eaten according to its intended use.
<b>Foodborne illness</b>	Any disease of an infectious or toxic nature caused by the consumption of food.
<b>Good hygiene practices</b>	Fundamental measures and conditions applied at any step within the food chain to provide safe and suitable food.

**Pest control** The preventive and corrective measures, natural or artificial, that result in the prevention, repression, containment, destruction, or exclusion of pests (insects, birds, rodents and other animals) applied in a responsible way towards the environment and human health.

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**Risk** The probability of a hazard occurring. It is the result of the interaction of physically defined hazards with the properties of the exposed systems (such as social vulnerability). Risk = hazard x exposure x vulnerability.

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**Safety temperatures** Temperatures that inhibit microbial growth or eliminate the presence of pathogenic microorganisms in food. Their range must be below 5 °C (cooling and freezing) and above 60 °C (boiling, cooking, baking, etc.). The principle of the application of safety temperatures consists of keeping cold foods always cold and hot foods always hot.


---

**Toxic substances** A chemical substance capable of causing damage to a biological system, altering a function or leading to death, under certain exposure conditions.

# Annexes

## Annex 1. Five keys for safer food

# Five keys to safer food




### Keep clean

- ✓ Wash your hands before handling food and often during food preparation
- ✓ Wash your hands after going to the toilet
- ✓ Wash and sanitize all surfaces and equipment used for food preparation
- ✓ Protect kitchen areas and food from insects, pests and other animals

**Why?**

While most microorganisms do not cause disease, dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, wiping cloths and utensils, especially cutting boards and the slightest contact can transfer them to food and cause foodborne diseases.

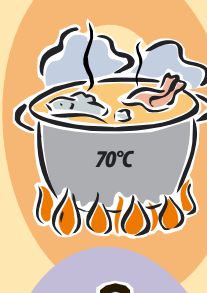


### Separate raw and cooked

- ✓ Separate raw meat, poultry and seafood from other foods
- ✓ Use separate equipment and utensils such as knives and cutting boards for handling raw foods
- ✓ Store food in containers to avoid contact between raw and prepared foods

**Why?**

Raw food, especially meat, poultry and seafood, and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.

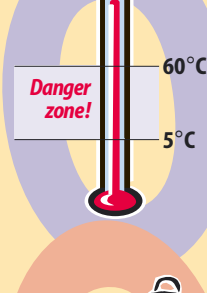


### Cook thoroughly

- ✓ Cook food thoroughly, especially meat, poultry, eggs and seafood
- ✓ Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer
- ✓ Reheat cooked food thoroughly

**Why?**

Proper cooking kills almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70°C can help ensure it is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat and whole poultry.




### Keep food at safe temperatures

- ✓ Do not leave cooked food at room temperature for more than 2 hours
- ✓ Refrigerate promptly all cooked and perishable food (preferably below 5°C)
- ✓ Keep cooked food piping hot (more than 60°C) prior to serving
- ✓ Do not store food too long even in the refrigerator
- ✓ Do not thaw frozen food at room temperature

**Why?**

Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C or above 60°C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5°C.



### Use safe water and raw materials

- ✓ Use safe water or treat it to make it safe
- ✓ Select fresh and wholesome foods
- ✓ Choose foods processed for safety, such as pasteurized milk
- ✓ Wash fruits and vegetables, especially if eaten raw
- ✓ Do not use food beyond its expiry date

**Why?**

Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce the risk.

**Food Safety**  
World Health Organization

## Knowledge = Prevention

WHO/SDE/PHE/FOS/01.1  
Distribution: General  
Original: English

**Source:** Five keys to safer food manual.

Cinq Clefs Pour Aliments Plus Sûrs Man. World Health Organization, 2006.

## Annex 2. Five keys for safer traditional food markets

# FIVE KEYS FOR safer traditional food markets

- 

1.

Keep clean

Maintain good personal hygiene habits and effective disinfection of market facilities.
- 

2.

Avoid contamination

Avoid contamination and reduce risks of disease transmission.
- 

3.

Keep food products safe

Provide safe and suitable food products for consumption.
- 

4.

Reduce contact with animals

Reduce zoonotic disease risks.
- 

5.

Stay safe, protect yourself

Prevent human-to-human transmission of respiratory infectious diseases.

#SaferFood

World Health Organization

Source: World Health Organization. 2022.

## Annex 2.1. Key 1: Keep clean

**FIVE KEYS FOR**  
**safer traditional food markets**

# 1. KEEP CLEAN

Maintain good personal hygiene habits and effective disinfection of market facilities.



- ✓ Wash hands or apply alcohol-based handrub products.
- ✓ Cover mouth and nose when sneezing or coughing, then wash hands afterwards.
- ✓ Wear proper personal protective equipment such as a mask, apron and gloves, where necessary.
- ✓ Wash and disinfect surfaces and equipment regularly. Organize a rest day for deep cleaning and disinfection.
- ✓ Properly manage waste.

#SaferFood



World Health Organization

Source: World Health Organization. 2022.

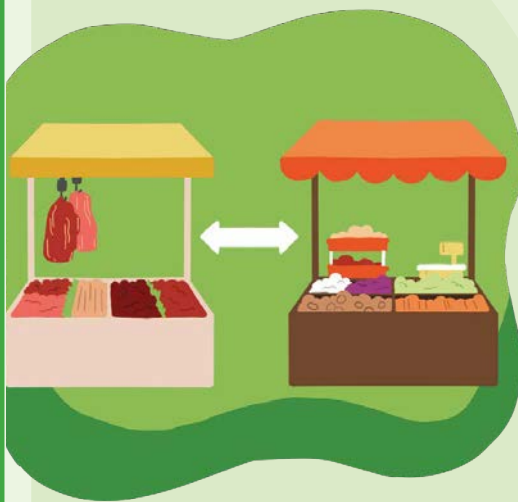


## Annex 2.2. Key 2: Avoid contamination

# FIVE KEYS FOR safer traditional food markets

## AVOID 2. CONTAMINATION

Avoid contamination and reduce risks of disease transmission.



- ✓ Separate market areas by category.
- ✓ Manipulate, store and display food products in ways that avoid contact between raw and ready-to-eat foods.

#SaferFood



Source: World Health Organization. 2022.

## Annex 2.3. Key 3: Keep food products safe

# FIVE KEYS FOR safer traditional food markets

## KEEP FOOD 3. PRODUCTS SAFE

Provide safe and suitable food products for consumption.



- ✓ Follow the rules on Five Keys for Safe Food.
- ✓ Freeze or refrigerate raw meat, seafood and poultry.
- ✓ Store dry food products in a cool and dry environment.
- ✓ Trade only in safe food products received from reliable suppliers and within their shelf life.
- ✓ Store hazardous chemicals away from food.

#SaferFood

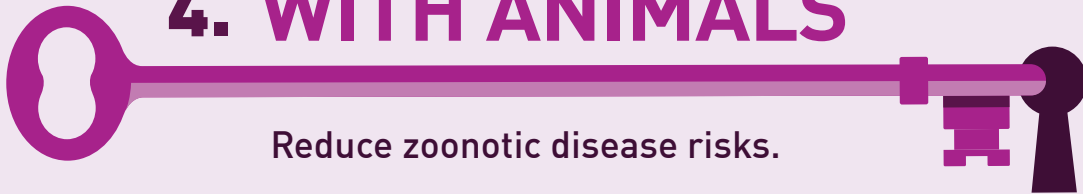


Source: World Health Organization. 2022.

## Annex 2.4. Key 4: Reduce contact with animals

# FIVE KEYS FOR safer traditional food markets

## REDUCE CONTACT 4. WITH ANIMALS



Reduce zoonotic disease risks.



- ✓ Trade only in animals approved by authorities and ensure that adequate risk assessment is in place.
- ✓ Divide the areas of the market according to the activity and species of animals.
- ✓ Keep different species separate in live-animal markets.
- ✓ Make sure that live animals traded are healthy.
- ✓ Reduce human contact with live animals.
- ✓ Implement pest-control programmes.

#SaferFood



Source: World Health Organization, 2022.

## Annex 2.5. Key 5: Stay safe, protect yourself

**FIVE KEYS FOR**  
**safer traditional food markets**

**STAY SAFE,**  
**5. PROTECT YOURSELF**

Prevent human-to-human transmission of respiratory infectious diseases.



- ✓ Maintain at least one metre between yourself and others, and avoid crowds.
- ✓ Wear a mask properly.
- ✓ Keep indoor spaces well ventilated.
- ✓ Stay at home if you are feeling sick and follow the official local guidance.

#SaferFood



World Health Organization

Source: World Health Organization. 2022.

## Annex 3. Five keys for safer traditional food markets checklist

Key 1: Keep clean		Implementation Status			
		Not Implemented	Being implemented	Implemented	
<b>1.1 Personal hygiene practices</b>					
1.1.1	Encourage food handlers and sellers wash their hands thoroughly with water and soap (at least for one minute) or alcohol-based handrub (at least for 30 seconds).				
1.1.2	Provide a continual clean water supply in enough quantity and quality, either through a piped system or through water storage containers.				
1.1.3	Provide hand hygiene stations with running water, soap or alcohol-based handrub, and proper sinks.				
1.1.4	Strategically place hand hygiene devices in a way that they are accessible.				
1.1.5	Have a local authority regularly monitor the quality of the water supplied.				
1.1.6	Train food stall operators to follow personal hygiene practices and respiratory etiquette.				
1.1.7	Place informative posters in the market area to remind sellers and customers to follow respiratory etiquette.				
<b>1.2 Surfaces and equipment disinfection</b>					
1.2.1	Frequently clean all surfaces in direct contact with food with water and soap and sanitize them with proper products such as alcohol, chlorine or others that are available.				
1.2.2	Clean high-contact surfaces frequently.				
1.2.3	Provide sufficient and clean sanitary facilities with equal access to men and women and people with disabilities. Sanitary facilities should be available for market workers and for clients.				
1.2.4	Provide all the sanitary facilities of the market with sufficient ventilation; always be clean and always have water and personal hygiene supplies.				

	Implementation Status			Comments
	Not Implemented	Being implemented	Implemented	
<b>Key 1: Keep clean</b>				
1.2.5 Regularly clean the sanitary facilities and monitor for hygiene. A simple and easy way to understand cleaning procedures and schedules should be available.				
1.2.6 Monitored and make clearly visible a signed record of cleaning of the sanitary facilities.				
<b>1.3 Organize a rest day</b>				
1.3.1 Close the market at least every two weeks for deep cleaning and disinfection of all areas, equipment and utensils				
1.3.2 Establish a cleaning and disinfection protocol, including the products to be used and the method of cleaning.				
1.3.3 Check the application of cleaning procedures				
1.3.4 Implement a daily cleaning protocol to keep food market installations clean and organized.				
<b>1.4 Proper waste disposal</b>				
1.4.1 Provide a trash bin with lid and frequently send the trash to the nearest dump site.				
1.4.2 Place waste containers in all the stalls, in good condition, with plastic lids.				
1.4.3 Establish a daily waste management protocol.				
1.4.4 Ensure the market has a functioning system for liquid discharges, including grease separation traps that serve each vendor booth and the setting collectively.				
1.4.5 Remove all waste from the market every day.				
1.4.6 Ensure the drainage and effluent disposal systems are built to prevent contamination of food, drinking water and other water sources.				
<b>TOTAL</b>				

Key 2: Avoid contamination	Implementation Status			Comments
	Not Implemented	Being implemented	Implemented	
<b>2.1 Apply a zoning system to avoid cross-contamination</b>				
2.1.1	Apply a zoning system. Have separate areas for stalls selling raw food (raw meat, fish and poultry) from vegetables, delivery of food and those for ready-to-eat foods.			
2.1.2	Don't sell live animals in food markets. Set a different space or market to sell live animals.			
<b>2.2 Avoid contact among raw and ready-to-eat foods</b>				
2.2.1	Use separate equipment and utensils, such as knives and cutting boards, for raw foods.			
2.2.2	Store and display in separate containers or places raw foods from ready-to-eat foods.			
<b>TOTAL</b>				

Key 3: Keep food products safe	Implementation Status			Comments
	Not Implemented	Being implemented	Implemented	
<b>3.1 Safe storage temperatures</b>				
3.1.1	If freezing and refrigerating are not possible, cool raw meat, seafood and poultry with ice made from tap or treated water.			
<b>3.2 Store dry products properly</b>				
3.2.1	Use containers with a lid.			
3.2.2	Protect dry products from moisture and environmental contaminants. Store this type of food in a cool and dry place.			
<b>3.3 Trade only in safe food products</b>				
3.3.1	Ensure the food products that are marketed meet the minimum requirements for food safety, freshness and suitability. This implies: that the products offered have been handled in a hygienic way; that they do not show an obvious deterioration in their appearance; and that the label and packaging of packaged products must be in proper condition, respecting the expiration dates.			

<b>Key 3: Keep food products safe</b>		Implementation Status			Comments
		Not Implemented	Being implemented	Implemented	
<b>3.4 Store hazardous chemicals away from food</b>					
3.4.1	Make it standard practice for staff, after maintenance, to properly clean and remove all chemical residues from food contact surfaces.				
3.4.2	Avoid using empty chemical containers to store food. Check expiration dates of all products.				
3.4.3	Store chemical products used for cleaning and disinfection in areas or containers separate from food.				
<b>TOTAL</b>					

<b>Key 4: Reduce contact with animals</b>		Implementation Status			Comments
		Not Implemented	Being implemented	Implemented	
<b>4.1 Safest option</b>					
4.1.1	Apply a zoning system. Have separate areas for stalls selling raw food (raw meat, fish and poultry) from vegetables, dry food and those for ready-to-eat foods.				
4.1.2	Don't sell live animals in food markets. Set a different space or market to sell live animals.				
<b>4.2 Avoid contact among raw and ready-to-eat foods</b>					
4.2.1	Use separate equipment and utensils, such as knives and cutting boards, for raw foods.				
4.2.2	Store and display in separate containers or places raw foods from ready-to-eat foods.				
<b>4.3 Separate animals by species</b>					
4.3.1	Avoid mixing animals of different species in live-animal markets.				



**Key 4: Reduce contact with animals**

	Implementation Status			Comments
	Not Implemented	Being implemented	Implemented	
<b>4.4 Animal health and hygienic manipulation</b>				
4.4.1	Do not keep or slaughter live animals in food stalls. Slaughtering and the primary processing of animals (especially poultry) should be centralized in slaughterhouses authorized by the competent authority by market supervision (external to the market).			
4.4.2	Provide a dedicated slaughtering facility for the food-producing animals outside the market area.			
4.4.3	Make sure that the live animals traded are healthy.			
4.4.4	Keep animals in a hygienic way and with animal welfare measures in place			
<b>4.5 Human contact with live animals</b>				
4.5.1	Reduce as much as possible the contact of customers with live animals by maintaining safe distances.			
4.5.2	Protect sellers with masks and train them to practice hygienic measures to reduce the risk from zoonoses.			
<b>4.6 Pest control</b>				
4.6.1	Prepare a pest control management programme and implement it in the market.			
4.6.2	Regularly monitor the presence of pests.			
<b>TOTAL</b>				

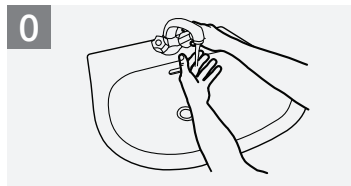
<b>Key 5: Stay safe, protect yourself</b>		Implementation Status			Comments
		Not Implemented	Being implemented	Implemented	
<b>5.1 Ensuring a safe distance</b>					
5.1.1	Organize queues and physical distancing among customers with markings on the floor.				
5.1.2	Establish an organized one-way flow for customer movements in the market to ensure physical distancing.				
<b>5.2 Wearing a mask</b>					
5.2.1	Protect yourself and others by correctly wearing a mask (covering mouth and nose).				
5.2.2	Encourage others to wear a mask correctly, together with other Public Health and Social Measures (PHSM),				
5.2.3	Keep yourself up-to-date with local authority requirements for the use of masks and other personal protective equipment.				
<b>5.3 Wearing a mask</b>					
5.3.1	Ensure natural ventilation to allow air movement (open windows and doors to allow proper ventilation).				
5.3.2	If it is not possible to apply the basic recommendations for natural ventilation or if mechanical ventilation is used, follow the current WHO recommendations to improve and ensure good indoor ventilation.				
<b>TOTAL</b>					

## Annex 4. How to handwash

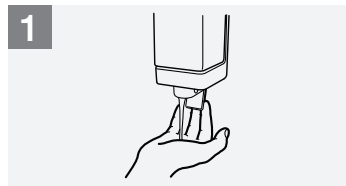
# How to Handwash

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

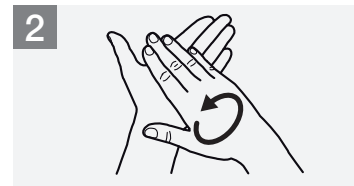
 Duration of the entire procedure: 40–60 seconds



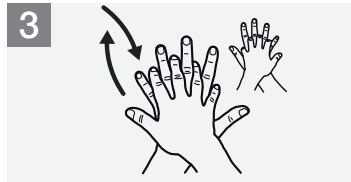
0 Wet hands with water



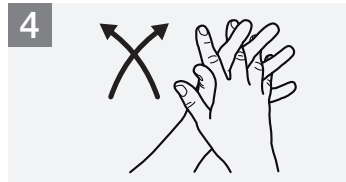
1 Apply enough soap to cover all hand surfaces



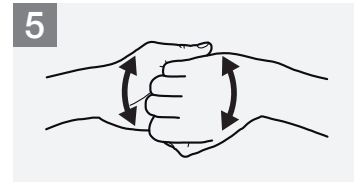
2 Rub hands palm to palm



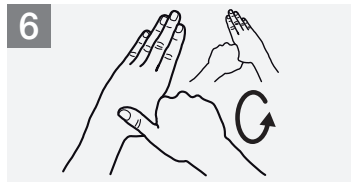
3 Right palm over left dorsum with interlaced fingers and vice versa



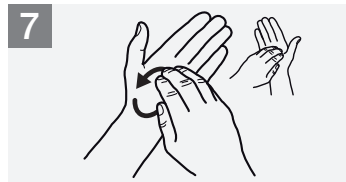
4 Palm to palm with fingers interlaced



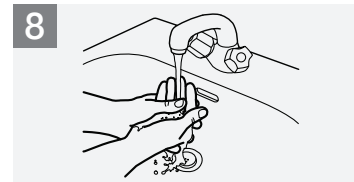
5 Backs of fingers to opposing palms with fingers interlocked



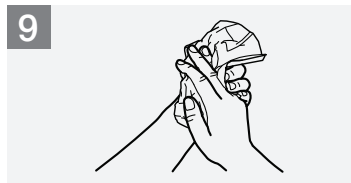
6 Rotational rubbing of left thumb clasped in right palm and vice versa



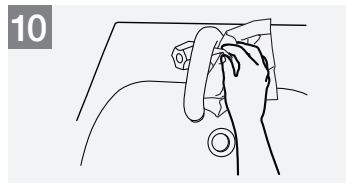
7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa



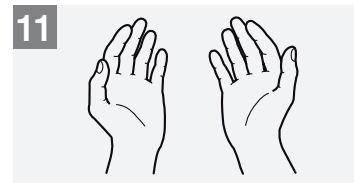
8 Rinse hands with water



9 Dry hands thoroughly with a single use towel



10 Use towel to turn off faucet



11 Your hands are now safe.



World Health Organization

Five keys for Safer Traditional Food Markets

#SaferFood

Adapted from WHO Guidelines on Hand Hygiene in Health Care. First Global Patient Safety Challenge Clean Care is Safer Care, 2009. WHO is not responsible for the content or accuracy of this adaptation

Source: "How to Handwash". World Health Organization, 2009.

## Annex 5. How to handrub

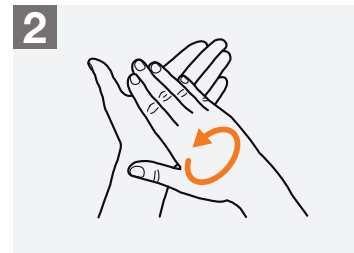
# How to Handrub

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

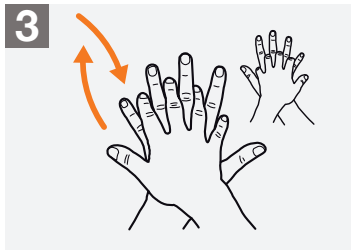
 Duration of the entire procedure: 20–30 seconds



1a Apply a palmful of the product in a cupped hand, covering all surfaces



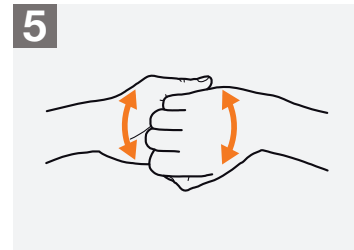
2 Rub hands palm to palm



3 Right palm over left dorsum with interlaced fingers and vice versa



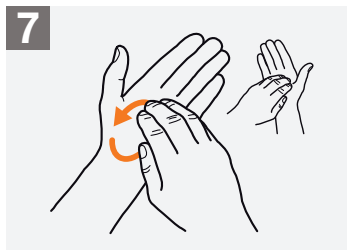
4 Palm to palm with fingers interlaced



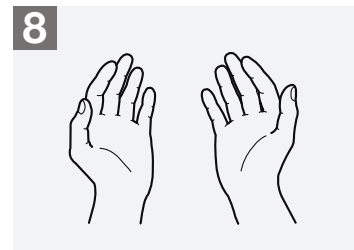
5 Backs of fingers to opposing palms with fingers interlocked



6 Rotational rubbing of left thumb clasped in right palm and vice versa



7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa



8 Once dry, your hands are safe.



World Health Organization

Five keys for Safer Traditional Food Markets



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Source: "How to Handrub". World Health Organization, 2009.

# Annex 6. No soap? No running water? Handwashing is still possible.

## No soap? No running water? Handwashing is still possible

It's always best to wash your hands with soap and water for at least 20 seconds – but if you don't have access to running water and soap, these are alternatives.

<h3>WATER</h3> <p>Clean water is best, but if you need to save it for drinking, then you can use:</p> <ul style="list-style-type: none"> <li> drained rice water</li> <li> Clean river or sea water</li> <li> laundry or dish water</li> <li> water from boiled vegetables</li> </ul>	<h3>ALTERNATIVES to soap</h3> <p>Lots of local materials are safe to use:</p> <ul style="list-style-type: none"> <li> coffee grounds</li> <li> ash</li> <li> salt</li> <li> sand</li> <li> coconut husk</li> <li> bark, leaves, berries</li> </ul>	<h3>RUBBING</h3> <p>To clean your hands, you must rub them together with water and soap or an alternative to soap.</p> 
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### STEPS FOR HANDWASHING

-  Wet hands with water
-  Rub hands together with soap or other material (20 secs)
-  Rinse hands with water
-  Dry hands with a clean, dry cloth (towels/sheets/old clothes). Wash the cloth frequently.

**Source:** No soap? No running water? Handwashing is still possible. World Health Organization Regional Office for the Western Pacific, 2020.



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