TOPIC 12 - OFFICIAL CONTROLS

Subject No 20: Specific problems: food sold on the street

Content

1. Preamble

The interest of this guide is to demonstrate that the sector covering food sold on the street with modest technical means at its disposal, must prove good food hygiene practices.

The collective hygiene requirements remain constantly high regardless of where and under what conditions, however perfunctory.

The resellers and organisers of these collective events are well aware of their liability in this area and it is in their interest and in the interest of the public authorities to see these good practices realised and validated in a common compilation.

This specification has been produced in the form of technical sheets for use by both professionals and control officials.

The guide to good hygiene practices in the roadside preparation and sale of food in Africa, produced within the FAO from an actual evaluation of the situation, is a comprehensive document of all possible scenarios.

This technical specification has been thought up in an attempt to improve the existing situation whilst providing information, even basic education for all players.

2. Introduction

This handbook, intended for anyone involved in preparing meals during open-air activities or selling food on the street, is based on food safety practices and formalises the know-how of this sector. It is designed to assist those involved, as a tool to facilitate setting up a sanitary control plan.

The guide is based on Regulation (EC) No 178/2002 of 28 January 2002 laying down the general principles and requirements of food law and Regulation (EC) No 852/2004 of 29 April 2004 on the hygiene of foodstuffs.

2.1. Scope of the good practices guide

This handbook aims to recommend good food safety practices to ensure the health and safety of food prepared during open-air activities or food sold on the street.

It covers human food where the living facilities, and therefore meal preparation, are unconventional.

2.2. Principles for the development of the handbook

2.2.1. A form adapted to the scope

The regulatory approach makes it mandatory to ensure consumer safety by guaranteeing the harmlessness of foodstuffs. It lays down obligations of result whilst leaving the professionals in each sector involved a certain freedom in how they achieve them. To control the main hazards and risks linked to open-air food effectively, it was decided to establish the sanitary control plan from the observation of practices and the determination of sensitive points, not critical control points (CCP).

The good practices approach does not require permanent monitoring but relevant recording of the surveillance, verification and corrective actions undertaken. It has been adopted as the most suitable for applying the regulations in open-air conditions.

Practical sheets are offered as teaching documents so that the sanitary control plan can be implemented effectively by a personnel that is not necessarily made up of food sector professionals.

2.2.2. A twofold approach

The guide takes is based on a twofold approach:

- ***An educational approach:*** anyone involved in preparing meals or selling food must be totally aware of food hazards and how to prevent them.

They have no specific skills in preparing meals or selling food. The greatest attention must, therefore, be paid to raising their awareness to food safety during their training course. This means that everyone involved acquires the knowledge and individual know-how that are essential for the safety of foods they consume. It is clear that recommendations must be simple and easy to apply so that they can actually be put into practice.

- ***An appropriate approach:*** it is impossible to provide an exhaustive list of situations where open-air catering or food sales are on offer. The prevailing conditions must therefore be taken into account by adapting the raw materials and behaviours.

2.2.3. Specific features of street food sale

The conditions are most commonly specific spaces laid out as a kitchen and sometimes as eating places and sales stalls. The furniture can be camping equipment or built on site using wooden poles, pallets and boards. The food is cooked over a wood fire or on Butagaz stoves.

Water is piped from a nearby building or supplied in jerry cans. The locations and climatic conditions for these meals are as variable as the situations in which they are eaten. This specification does not, therefore, attempt to describe all the possible situations but suggests suitable responses to ensure the safety of food eaten based on elements common to all situations.

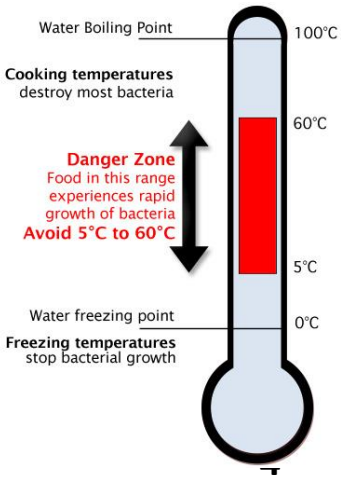
2.3. Summary hazard analysis

Open-air selling and preparation and their related activities induce specific conditions for preparing and consuming meals or selling food.

A number of consequences relating to food safety can be identified. They require special attention from people in preparing meals. The main effect requiring the greatest vigilance is a foodborne illness outbreak*****. The cause is normally contamination of products by an infectious agent and/or the propagation of microorganisms in favourable conditions.

***** A foodborne illness outbreak is defined by the appearance of at least two similar grouped cases with symptoms, normally gastrointestinal, where the cause can be related to a same food origin.

It is mandatory for the doctor or biologist who diagnoses the illness to report it.



One way of controlling foodborne illness outbreaks when serving cooked meals in the open air is to cook the food for a long time provided that the cooking temperature is at least 63°C.

There are four types of hazard: biological (bacteria, parasites, viruses, etc.), chemical (chemical residues, maintenance products, etc.), physical (foreign bodies, packaging debris, etc.) and allergies.

2.3.1. Biological hazard

The biological hazard is the main hazard to be controlled when preparing and consuming meals in the open air. It is encouraged by climatic conditions that sometimes make it difficult to maintain the cold chain, by the rustic character of facilities that make it difficult to prevent miscellaneous pollutions and by poor sanitary facilities. Most microorganisms can be brought by water and special vigilance must be given to this commodity.

Open-air living means greater exposure to contamination by parasites, either through lack of hygiene or by swallowing polluted food from, for example, the picking process or through lack of cleaning.

A break in the cold chain, sensitive products that are not cooked enough (meat products, seafood), cross contamination and raw eggs in the dishes all encourage the propagation and survival of micro-organisms; these should be eliminated by adopting the good hygiene practices adapted to the circumstances. To achieve this, it is essential to inform and train everyone involved whatever their duties.

In terms of viruses (Hepatitis A virus, Norovirus, etc.), hand-washing, water prophylaxis and disinfecting measures recommended to control the bacterial sources can also help to eliminate them.

2.3.2. Chemical hazard

The nature of the chemical hazard in food safety is based essentially on the practice of picking “wild” products. Some mushrooms, berries and plants contain active toxic substances.

Farming can also generate toxic agents that are not eliminated by rainwater alone. Nevertheless, the following hazards should not be ignored: product contaminated before purchase (fruit and vegetables treated with various plant protection products, dairy products with traces of antibiotics); chemically-contaminated water; product contaminated by residues or traces of cleaning products and disinfectants; product contaminated by using non-food-grade equipment (boxes, bottles, jerry cans).

Under all circumstances, the risks should be eliminated by:

- washing fruit and vegetables prior to processing or consumption;
- using drinking water only in the kitchen or selling area (where there is no public drinking water supply, the water should be boiled before use to remove any risk of bacterial contamination);
- rinsing the kitchen equipment after washing;
- not using non-food-grade utensils and containers.

It is also important to watch out for the risks of pollution generated by dioxins. These mainly come from industrial processes but can be produced during natural phenomena like volcanic eruptions, forest fires and the practice of burning plants due to remaining plant health products.

Strong emissions in the air include exhaust gases from motor vehicles circulating or parking in the cooking area. This represents a constant risk.

As many precautions as possible must be taken by protecting the stall with such appropriate measures as shields (glass, Plexiglas) or storage in suitable conditioning.

2.3.3. Physical hazard

Fires, hearths or stoves used to cook food and the kitchen equipment (mainly knives) can be a source of accidents.

Similarly, debris mixed accidentally with the food (plant, glass or crockery debris, jewellery, small stones, metal, insects, etc.) can cause injuries.

It is therefore important to be especially vigilant when preparing meals or selling food.

2.3.4. Allergy hazard

Food allergies are expanding and must be paid very special attention.

The *Codex Alimentarius* has adopted a list of allergens that must be stated on the labels. This list is constantly upgraded. When making purchases, it is important to pay special attention to identifying and signalling clearly on resale the products containing allergens to which the clientele may be susceptible. Care must also be taken during the preparation stages to avoid cross contamination between foods with allergenic potential and non-allergenic foods.

It is obvious that professionals must be made aware of this not insignificant potential risk, mainly due to the risk run by a consumer who is allergic to an ingredient.

However, given the type of preparation normally produced (grills and rice), the allergenic risks are relatively low.

2.4. Summary analysis of sensitive points

The sensitive points for controlling hazards have been identified from practices employed in open-air installations. In this context, the meals are prepared and consumed and the food products intended for resale are processed and stored in conditions that differ hugely from normal. Sensitive points are the stages or specific points in the meal preparation or food product resale process during which the risks identified as needing the introduction of control methods can occur or multiply.

2.4.1. Stages in the process of preparing meals and selling food on the street

The preparation process during open-air activities covers the following stages:

- installation of premises: storage, kitchen, dining room, washing-up area;
- water supply and purchase and transport of raw materials;
- storage of water, food products and equipment;
- meal preparation;
- cleaning and disinfecting premises and equipment, dealing with opened products, leftovers and waste.

2.4.2. Risk contamination, multiplication and development factors

In terms of microbiological hazards, the pathologies are induced by the hazardous germ contaminating the food and multiplying until levels likely to provoke an accident are reached. The risk factors likely to be the source of contamination or multiplication are known.

These are the “5 Ms”: materials (raw materials), milieu (environment), machinery, method and manpower.

- ***Raw materials:*** they bring the germs in initially and can be contaminated upon reception. Cross contaminations with the other constituent parts are also possible.
- ***Environment:*** this covers premises, layouts, facilities, air and water. Unpacked foodstuffs are sensitive to dust, humidity and the cleanliness of premises.
- ***Machinery*****:** the equipment used in contact with the food presents a potential risk of contamination. It can be a passive source of contamination when its nature, design and lack of maintenance allows the germs to take refuge and multiply in it.

- ***Method*:** the manufacturing process must be managed properly to limit contaminations and bacterial development. An inappropriate method can encourage contact between healthy foodstuffs and dirty materials or machinery.

- ***Manpower*:** lack of personal hygiene by the personnel can contaminate products they handle (mainly *Staphylococcus* and *Salmonella*).

2.4.3. Health control plan in the form of practical sheets

A health control plan is prepared from the hazard analysis and sensitive point analysis. This highlights the good hygiene practices to be implemented in open-air selling.

The practical “technical” sheets repeat the sensitive points and hazards highlighted by the milieu, machinery, method and manpower factors.

The practical “product” sheets cover the raw materials.

3. Practical sheets

3.1. Technical sheets

3.1.1. Technical sheet 1 - Installation of storage, kitchen, dining room and washing-up areas

- **Context**

The areas dedicated for preparation (food purchasing, kitchen, dining room and washing-up area) are arranged for a limited period as the hosting period can be between one day and one month. The exposure to any hazards is temporary, but real nevertheless.

These different areas vary tremendously. They can be tents, shelters or simply a delimited area outdoors: for example, for the washing-up area, a place where basins are arranged to wash the dishes.

These areas are normally open to the elements, dust and visits from small wild or domestic animals.

- **Examples of hazards to be controlled:**

  - dust, plant waste;
  - micro-organisms in the soil;
  - chemical pollution: treatment in nearby fields, roadsides, polluted area, dioxin;
  - insects and rodents;
  - parasites brought in by small animals, like *Ascaris lumbricoides*, which are parasites of the human intestine or of carnivorous animals, even small ones, like a cat.

- **Good practices to be introduced**

"Food purchasing" (storage) and "kitchen" (preparation and cooking) areas are installed in priority in the location with the best guarantees of protection against:

  - dust, dirt: installation away from throughways (paths, road, etc.);
  - premises set aside for hygiene (lavatories, showers, etc.);
  - prevailing wind in all the areas;

- climatic hazards like rain, wind and sun: installation in the shade if possible and provision of a tent canvas or tarpaulin;
- harmful pests: dry, ventilated solid shelter or tent that may be closed;
- pets: dogs and cats are banned from the campsite.

➢ **Stipulations**

Food and kitchen equipment are stored in a place that can be closed (tent, shelter, etc.) with an easy-to-clean floor: floor mats, hard floor. The provisions must be closed in containers if small animals cannot be stopped from entering the location. Do not store food on the floor.

It is important for any kitchen equipment stored in containers or boxes to be dried carefully before being enclosed, as humidity is a factor in microbiological development.

The work surfaces are smooth and stable, easy to wash to avoid all cross contamination and high up to prevent contamination by the floor.

Anyone preparing the meal must firstly and regularly wash his hands.

The cleaning area, the “washing-up area”, is clearly separated from the kitchen. It has a system for getting rid of wastewater (soakaway or “greasy waste hole”) far enough from the meal preparation area to prevent accidental contamination of the food by the wastewater.

An installation near a drinking water tap is preferable.

Where no wastewater evacuation system exists, “greasy waste holes” must be dug. Do not let the water stagnate or overflow from the hole. If the hole becomes saturated, dig another one and let the first one dry out before using it again. Greasy water holes must be environmentally-friendly (use of biodegradable products, hole well away from water courses, filtering system).

3.1.2. Technical sheet 2 - Hand washing: system and technique

➢ **Context**

Sanitary facilities are more precarious in open-air conditions than in normal situations. The greatest attention must be paid to personal hygiene, especially hand washing.

- **Examples of hazards to be controlled**

Escherichia coli is a bacterium of the digestive tract of both humans and animals which may be inoffensive or cause infections from mild gastroenteritis to severe disorders known occasionally as “hamburger disease”. The germ is found in the faecal matter, which means that it can be transmitted via the hands if hygiene is unsatisfactory.

Viruses and parasites can also be conveyed by dirty hands.

- **Good practices to be introduced**

Anyone preparing the meal must first wash his hands: a device for this purpose alone is installed in the kitchen (water tap, soap, clean towel changed at every meal or single-use paper towel) and in the washroom. This operation must be repeated every time the hands are dirty (especially after a visit to the lavatory).

To prevent contamination, drinking water only must be used to wash hands wherever possible.

Failing that, boiled water transported to the cooking area in clean, disinfected jerry cans should be used.

- **Examples, practical hints and tricks**

a) How to wash your hands?

- wet the hands and forearms with drinking water;
- use liquid soap preferably;
- rub your hands paying special attention to the palms and fingertips for twenty seconds;
- rinse thoroughly with water;
- dry your hands carefully with a single-use paper towel or a clean towel changed at every meal.

b) When to wash your hands?

- before handling cooked or raw food (meat, fish, plants) and every time the type of food changes;
- before putting on gloves and after taking them off;
- after a visit to the lavatory;
- after any gesture contaminating the hands;

- after touching raw materials (fruit and vegetables, meat, poultry, eggshell, fish, etc.);
- after cleaning surfaces or equipment;
- after handling waste, packaging or boxes;
- after touching the nose, hair or face;
- after coughing, blowing your nose or sneezing;
- after shaking someone's hand or touching an animal.

3.1.3. Technical sheet 3 - Drinking water supply and storage

➢ **Context**

Outdoors living conditions mean that the water supply is a special problem.

The regulations and common sense provide for "anyone offering paid or free water to the general public as human food is required to ensure that this water is fit for consumption...". These provisions apply to all domestic uses, i.e. food, washing hands and dishes and the kitchen, lavatory and laundry.

➢ **Hazards to be controlled**

There are many water-related hazards. Water can be contaminated by pathogenic micro-organisms such as bacteria, parasite organisms, including the protozoa (*Cryptosporidium* and *Giardia*), and viruses and chemicals.

➢ **Good practices to be introduced**

Measures to control the water risk involve:

- only use water from a duly-authorised drinking water resource (public system or conditioned water). Rainwater is not water intended for human consumption and must therefore not be used for drinking, the kitchen, washing up, hand washing and the lavatory;
- only store water in suitable, well-cleaned and regularly disinfected receptacles. These receptacles are reserved exclusively for storing water;
- store the water in conditions that prevent any degradation in its quality (for example, do not store near maintenance products or hydrocarbons, plastics tanks that are permeable to gas; store away from heat and light).

- **Stipulations**

The preferred method wherever possible is to use the water from a public supply.

Where there is no public system, the water can be supplied in jerry cans. A private resource (spring, well, fountain) may potentially be used if it is known to be drinking water.

It is permitted to use springs, wells and fountains accessible to the general public provided they have no inscription or carry an inscription indicating that the water is drinkable.

Water taps available to the general public, which have not undergone a sanitary control or where the water is not drinkable, must carry an inscription indicating clearly that the water is not drinkable and must not be used.

Food-grade jerry cans are stored high up in the shade. The water in the jerry cans is changed every day (no stagnation possible) and the cans are cleaned regularly inside and out and disinfected with chlorinated water.

If the water arrives on site through a pipe, enough water must be run off to empty the length of the pipe before filling the cans. This empties out water that may have stagnated in the heat in the pipe, thereby encouraging bacterial development.

Treating water collected in natural environment or from a private resource using rudimentary solutions (coffee filter, boiling) or disinfecting tablets are forbidden for water offered to the general public.

Using water from springs or a supply that is not certified as drinkable may be envisaged for cleaning vegetables or washing hands, provided that it has been boiled in advanced and transported in clean containers set aside for this purpose.

Under no circumstances can this water be sold or offered to customers.

Advice:

You should have:

- food-grade jerry cans;
- a product for disinfecting the jerry cans: bleach.

Two concentrations of bleach are mainly available on the market:

- Liquid bleach (2.6% of active chlorine), mostly available in 1 or 2 litre bottles and 5 litre jerry cans. It maintains its properties up to three years in the recommended storage and use conditions.

- Bleach concentrate (9.6% of active chlorine) in refill doses of 250 ml to be diluted as possible, in any case within two and half to three months following the date of manufacture written on the packaging and only in an empty ready-to-use bleach bottle.

Precautions for use

Bleach must be kept cool, sheltered from light and sun and out of reach of children in its original container.

Bleach must be diluted in cold water otherwise the toxic gaseous chlorine is released and in even greater quantity as the water gets warmer.

Bleach must always be used by itself. Do not mix it with another product. A chemical reaction could make it less effective or release a toxic gas.

Using bleach to disinfect water jerrycans

Clean the jerry can carefully both inside and out:

- fill the jerry can with a mixture of water and bleach using one glass of bleach (2.6% active chlorine) to 5 litres of water;
- wait at least 15 minutes;
- rinse thoroughly with drinking water;
- do not forget to disinfect the taps with a sponge soaked with the mixture;
- rinse well with drinking water.

3.1.4. Technical sheet 4 - Procurement places and purchase management

➢ **Context**

Foodstuffs and their conditioning are established based on:

- supply conditions;
- transport conditions;
- storage conditions (refrigerator/freezer);
- food preparation conditions;
- number and age of people;
- activities envisaged;

- climatic conditions.

➢ **Stipulations**

Shopping takes place every day, even twice a day if there is no cold storage.

Extreme vigilance is essential when collecting animal products (shellfish, snails, fish, etc.) and local hygiene rules and regulations on taking wild species must be respected.

➢ **Advice**

Always plan stable products that can make up a complete meal in case the initially planned ingredients have to be replaced.

3.1.5. Technical sheet 5 - Storage of foodstuffs at ambient temperature

➢ **Context**

When operating in the open air, the foodstuffs are often stored in locations subject to climatic hazards and exposed to visits from animals.

➢ **Good practices to be introduced**

The foodstuffs are sheltered from the heat and humidity:

- They are never placed on the soil or floor.
- Foodstuffs are protected from small animals.
- Foodstuffs must not be stored in bin bags.

➢ **Stipulations**

The place must be closed. Dry foodstuffs are sheltered in closed containers providing solid, hermetic protection. Fruit and vegetables are placed up high and will be washed before consumption or preparation if that is the case.

The floor in foodstuff storage area must be easy to maintain (may be covered with matting). In case of very heavy rain, draining will be installed around the preparation and storage area.

3.1.6. Technical sheet 6 - Use of insulated containers

- **Context**

Cold storage equipment is unusual in open-air conditions. Insulated containers are therefore widely used, not just for the transport from the place of purchase to the place of preparation, but also for on-site storage until the meal is prepared.

An insulated container keeps the products at a temperature close to their original temperature (hot or cold) for a limited period.

Ice packs restore the cold they have accumulated in advance when being frozen.

- **Good practices to be introduced**

The use of insulated containers requires:

- checking that the containers are in good condition and seal properly before use;
- cleaning them as soon as they are soiled.

The use of ice packs requires:

- regular renewal of packs in the iceboxes;
- sufficient number of packs for this purpose.

- **Stipulations**

It is advisable to purchase professional grade iceboxes which have better insulating efficiency and last longer.

Insulated container efficiency varies according to the container model, how much it is filled with cold foodstuffs (the more cold foodstuffs there is, the longer it will take to heat up) and the outside temperature. Containers without ice packs must be used to protect from overheating refrigerated foodstuffs that are going to be consumed in the half-day following their purchase. These containers must not be placed in full sun.

Ice packs must have spent at least twenty-four hours in a freezer at -18°C before use. The storage time for food chilled in containers using ice packs can be slightly longer, especially when the packs are changed

regularly, but perishable food can in any case only be stored until the day after their purchase.

- **Special cases**

Cool bags are useful for transport between the place of purchase and the place of manufacture, but cannot guarantee keeping sufficiently cool to store foodstuffs for a whole day. The food must be sold or prepared and consumed in the half day after purchase.

3.1.7. Technical sheet 7 - Cold storage of foodstuffs

- **Context**

Open-air living conditions mean that methods of storing food that must be kept at a constant low temperature are not always available.

- **Examples of hazard to be controlled**

Listeria monocytogenes is a pathogenic germ causing listeriosis. It is found naturally in the soil and on plants, likes water and is capable of developing between 0 and 50°C, with the optimum at 30-37°C. *Listeria* survives especially in salt and can continue to develop in the cold, although its growth is slowed. The food most often contaminated is raw milk, cheese, meat, cooked meats and seafood.

- **Good practices to be introduced**

To avoid all cross contamination, the products are isolated from each other within the insulated container (use of boxes or cling film).

Restrict the storage time in insulated containers to prevent temperatures from rising.

The insulated container must be clean.

- **Stipulations**

It is advisable to use products that are stable at ambient temperature when the activities are carried out in a location where low temperature storage is impossible.

It is recommended to respect the storage temperature indicated on the packing of industrial foods and to respect a temperature of 4°C and a maximum of two days for food purchased from tradesmen (butcher, delicatessen, etc.) or cut on fresh counters in super- or hypermarkets.

The insulated container must be:

- checked (operating condition) and cleaned before use;

- cleaned regularly.

3.1.8. Technical sheet 8 - Preparation and storage equipment

➢ **Context**

The meal preparation equipment and its storage methods are domestic equipment. It can be community equipment, especially in terms of frying pans and saucepans.

➢ **Good practices to be introduced**

Any equipment in contact with food must be certified for food use. It is easy to clean and disinfect.

The capacity of the storage and/or cold transport equipment must match the manufacturing capacity.

Cooking utensils and kitchen equipment must be stored away from dust, dirt and bad weather. When stored in such containers as trunks or tin trunks, the kitchen equipment must be totally dry when put away. Small utensils stored in hermetically-sealed boxes must also be dried carefully before closing the box. If the equipment is not totally dry, it is impossible for the water to evaporate, thereby opening the way to microbial growth.

Small kitchen equipment must be stored in food-grade containers that are clearly separate from those containing, or which have contained, detergents or maintenance products.

➢ **Stipulations**

The utensils must be in stainless steel or any other non-oxidising material (plastic, etc.), but not wood.

Use one utensil for each type of foodstuff if possible to avoid cross contamination (change the knife or chopping board, for example).

Let the washing up dry in a place where air circulates and in the sun before putting it away in closed containers.

3.1.9. Technical sheet 9 - Health and hygiene of people preparing meals

➢ **Examples of risks to be controlled**

Staphylococcus aureus is a frequent bacterium. It causes boils, whitlows and wound infections likely to contaminate food when handled. The bacterium produces its toxin during its rapid development in meat, poultry, cooked meats, custard cream, cooked dishes, cheese, fish, etc.

Viruses (norovirus, rotavirus, Hepatitis A virus): these viruses cause gastroenteritis and are basically transmitted by dirty hands.

- **Good practices to be introduced**

People involved in preparing meals must be free of pathologies that may contaminate foodstuffs through infectious germs (e.g. skin wounds, intestinal infections like diarrhoea, nausea or vomiting). These people must not prepare or distribute meals until completely cured.

Dirty hands are the main cause of transmission of pathogenic germs. Careful hand washing must be an automatic gesture for anyone involved in preparing meals, both before and during the process (see technical sheet 2); whenever necessary (especially after visiting the lavatory) and at each change of operation.

Clothing of people involved in the meal suits the activity: clean clothes, rolled-up sleeves and an apron if possible. It is forbidden to wear jewellery. Long hair is tied back. Disposable gloves are provided for anyone with a small hand injury.

- **Stipulations**

Be vigilant to all points mentioned above, more especially on:

- hand washing;
- the state of health of people preparing the meals. Any sore must be treated and protected with a plaster. People with digestive problems must not be involved in preparing meals nor in selling foodstuffs;
- personal hygiene, especially of hands and forearms (washing before any meal preparation and learning how to do it). Take care not to sneeze over or near food;
- the cleanliness of clothes of people preparing the meals.

3.1.10. Technical sheet 10 - Training of people preparing meals

- **Context**

It is therefore extremely important to pay special attention to informing and training personnel in food safety.

- **Good practices to be introduced**

People involved in preparing meals must be made aware of the risks to be controlled and understand the five factors that may appear or increase them: materials, milieu, machinery, method and manpower.

They must acquire simple, appropriate gestures (good hygiene practices) to prevent contaminating food (washing and drying hands, cleaning equipment and the work surface, eliminating waste, serving dishes at the correct temperature, etc.).

They must be capable of conducting the controls required to control hazards (basically visual) and make simple corrections.

3.1.11. Technical sheet 11 - Preparing meals

- **Context**

In most situations, preparing meals is when the good food safety practices must be applied.

- **Good practices to be introduced**

  - Personal hygiene of people preparing the meal.
  - Cleanliness of premises, the work surface and the equipment.
  - Maintaining fresh or frozen products at the correct temperature until cooked or consumed.
  - The surfaces (utensils, dishes, hands) that have been in contact with raw (especially poultrymeat) or dirty (mainly vegetables covered in earth) food must not come into contact with other foods and above all not those intended to be consumed without cooking.
  - All sensitive foods are cooked through.

- **Special cases**

There can be several methods of cooking food: gas stoves, wood fire, etc.

Special attention must be paid when cooking on a wood fire for it is more difficult to cook something through without the outside being burnt. Similarly, products cooked over a wood fire are more likely to be polluted by falling on the ground, for example.

- **Examples, practical hints and tricks**

Cooking over a wood fire: in a wood fire, it is the live embers that cook food through, not the flames. Fires should therefore be prepared that produce abundant, long-lasting embers.

It is important to prepare the fire well in advance to obtain good embers.

Make sure that only wood is used to create the embers and avoid any other fuel like old tyres, plastics or hydrocarbon derivatives, as the fumes are noxious and can harm consumer health through pollution transmitted during cooking.

3.1.12. Technical sheet 12 - Cleaning and disinfecting

- **Context**

Regardless of the working conditions, all premises and equipment must be kept scrupulously clean. Most of the time, this will involve cleaning rather than disinfecting.

Cleaning aims to make everything clean by eliminating micro-organisms and physical and chemical soiling.

Disinfecting aims to destroy harmful micro-organisms contaminating the surfaces.

It must be applied to a clean surface otherwise it may be ineffective. Chlorinated water is the only genuine disinfectant for domestic use.

- **Stipulations**

Use of domestic washing-up products, similar to those found in major retailers. Biodegradable products are stipulated to protect the environment as the wastewater is most frequently evacuated in soakaways.

Maintenance products must follow the manufacturer's instructions when used.

Drying utensils after washing, which is far simpler than disinfecting, is non-polluting and very effective in preventing bacterial development. The utensils can be dried in the sun and in the open air before being stored away from miscellaneous pollutions.

It may be necessary to disinfect surfaces with chlorinated water when they have accidentally remained dirty or wet for a long time. Water cans which are typically the most often wet must be disinfected regularly, taking care, during this operation, to prevent the disinfecting solution from being drunk by someone thinking that the can contains drinking water. Disinfecting must take place on a surface or equipment that has been cleaned.

3.2. Product sheets

3.2.1. Product sheet 1 - Meat and fresh meat products

- **Context**

Meat and meat products are particularly sensitive as shown by the significant number of potential hazards to be controlled. However, most risks linked to the consumption of

meat and meat products are controlled by cooking products through at a temperature above 65°C (meat not pink at its centre).

In open-air conditions, especially over wood fires, the difficulty will lie in controlling the cooking to prevent the meat from being overcooked on the surface and remaining raw inside.

- **Examples of hazards to be controlled**

A bacterium of the normal bacterial microflora of the digestive tract of human beings and most warm-blooded animals, *Escherichia coli* can also cause extra-intestinal (meningitis, urinary infections) or intestinal pathologies. Contamination can be indirectly via products of animal origin and at the top of the list are beef burgers that are not cooked enough and dairy products (raw milk and cheese made from raw milk).

Campylobacter, especially *Campylobacter jejuni,* are particularly widespread bacteria of the digestive tract of human beings and animals. *C. jejuni* is destroyed easily by heat. The most frequently quoted sources of contamination are poultry, meat, crustaceans, raw milk and, in some countries, water.

Clostridium perfringens is a commonplace bacterium of humans and animals. It is found just about everywhere (water, ground, mud, air). It is very heat resistant and is frequently blamed for food poisoning in collective catering. Prepared dishes containing meat are often quoted.

Trichinella is a parasite of the muscular fibre in many animals. It can be avoided by making sure this meat is cooked through.

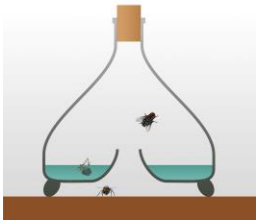
- **Good practices to be introduced**

  - Respect the cold chain from product purchase to preparation.
  - Prepare products in the half day following purchase if it is difficult to keep them cold.
  - Cook meat through (this means that the meat is no longer pink, not even at its centre, at the end of the cooking process; it is considered to be well done).
  - Be especially vigilant (washing hands, cleaning surfaces, etc.) when handling raw meat.
  - Clean the utensils carefully immediately after using them on meat products.

- **Stipulations**

  - Check that products are fresh before preparing them: detection of odours, particular colours, etc. Do not eat the food if in doubt.

- There are two types of meat product: minced or ground meat products like beef burgers, sausages, etc. – these are very sensitive – and cut, more resistant products that should be preferred to minced or ground products.
- Buy pre-packed meat products rather than cut meat products: the packaging is more solid.
- Protect meat on display from flies and other insects and external pollution (protective mesh, flytrap, closed receptacle, etc.).
- Make sure that the meat is “well done” by checking by eye that it is no longer pink in the centre. No rare meat.



3.2.2. Product sheet 2 - Fish and fishery products

➢ **Examples of hazards to be controlled**

Anisakis spp., *Pseudoterranova spp*., roundworm, seal worm, whale worm. Depending on the species and where they are caught, 15% to 100% of seafish carry *Anisakis* larvae, sometimes large quantities of them.

Humans are contaminated by eating raw or insufficiently cooked fish or cephalopods.

Hepatitis A virus: the release of contaminated wastewater into the sea water can contaminate seafood, especially bi-valve shellfish (clams, oysters, cockles and mussels).

➢ **Stipulations**

Make sure that products are fresh before preparing them: detection of odours, particular colours, etc. Do not eat the food if in doubt.

Fish and shellfish should preferably be eaten cooked.

3.2.3. Product sheet 3 - Dried products and preserves

➢ **Context**

Dry products and preserves are the preferable products for open-air situations.

➢ **Examples of hazard to be controlled**

Clostridium botulinum is the bacterium that causes botulism.

C. botulinum is found in the soil and in water as well as in the intestine of many animals. Botulism cases occur after eating poorly sterilised, undercooked or raw foods.

➢ **Good practices to be introduced**

Do not buy tinned goods that are bulging, dented or rusty or products with damaged packaging.

Check the integrity of packaging upon receipt and before use. Throw any product with damaged packaging away.

For preserves in glass jars, throw the contents of the jar away without eating it if it opens without pressure being applied to the rubber seal.

Store the products away from humidity, dirt, dust and harmful pests.

Do not store a product on the floor.

➢ **Stipulations**

Before opening a tin or jar, wipe the top with kitchen towel to avoid soiling the contents.

All tinned goods opened must:

- be used immediately; or
- transferred to a hermetically-sealed food-grade receptacle, stored in the refrigerator and consumed within twenty-four hours; or
- be thrown away.

Close the original packaging again after each use.

Follow the manufacturer's instructions for use; some products must be rinsed before use (acidity in the filler juice).

No consumption or sale of home-made preserves.

3.2.4. Product sheet 4 - Fresh fruit and vegetables

➢ **Context**

Most of the time, fruit and vegetables eaten at an open-air event are purchased from local traders. The risks from consuming fruit and vegetables are sometimes under-estimated. It is as well to remember that it is mandatory to wash them in drinking water before consumption.

➢ **Examples of hazards to be controlled**

Fasciola hepatica is a parasite in the liver of cattle or sheep. Humans are infected by eating watercress that is itself infected by water polluted by animal droppings carrying

the initial form. It is therefore recommended to avoid eating wild watercress, especially if this is growing in livestock areas.

Echinococcus multilocularis is a parasite in the intestine of foxes, but other animals can also be infected (dogs, shrews, etc.). Humans are infected by ingesting food soiled by the droppings of infected animals (strawberries, blueberries, berries, vegetables grown near forests).

Natural toxins: mushrooms and berries are likely to contain natural toxins that may cause severe, even fatal pathologies.

- **Good practices to be introduced**

  - Wash all fruit and vegetables systematically in drinking water or failing that boiled water in a specific bowl (even if being cooked).
  - Remove waste peelings as quickly as possible (source of contamination).
  - Store fruit and vegetables away from other foodstuffs to prevent cross contamination and far away from any chemicals.

- **Stipulations**

  - Peel fruit and vegetables whenever possible: their skin often contains pesticides that are not eliminated by washing.
  - Fruit and vegetables store better removed from their plastic bag, in the shade, in a cool, dry and ventilated location. Damaged or mouldy fruit and vegetable are routinely thrown away.

4. Appendix

Annex 1: Lexicon

Control measures
Actions and activities which may be used to prevent or eliminate a hazard that threatens food safety or to return it to an acceptable level.

Critical control point – CCP
Stage at which a control measure can take place and is essential to prevent or eliminate a hazard threatening food safety or to return it to an acceptable level.

Drinking water
Water compliant with regulations in force on water intended for human consumption.

Food safety
All necessary conditions and measures to ensure food safety at all stages in the food chain. “Food hygiene” is a medical term describing the rational choice of foods (nutrition, diet) and must not be confused with "food safety" as described here.

Food safety (or harmlessness)
Assurance that the foods will not cause any damage to the consumer when prepared and/or consumed in accordance with their intended use.

Foodborne illness outbreak
A foodborne illness outbreak is defined by the appearance of at least two similar grouped cases with symptoms, normally gastrointestinal, where the cause can be related to a same food origin.

Good hygiene practices
Basic conditions and actions needed to maintain a hygienic environment throughout the food supply chain that is suitable for the production, handling and provision of finished products and foods that are safe for human consumption.

Hazard
Biological, chemical, physical or allergic agent found in a food or state of this food that may have a harmful effect on health.

Health control plan
Tool introduced that describes the measures taken to ensure the hygiene and food safety, made up of prerequisites or good hygiene practices and procedures based on the seven HACCP principles and traceability and non-conformity management procedures.

Kitchen
The place designated by the term “kitchen” means in this guide non-conventional arrangements. These meal preparation areas are not kitchens as is generally understood by the term. Their appearance and layout can vary considerably according to the activities, the possibilities offered by the location (open/closed shelter, public water supply, etc.) and climatic conditions. The most common arrangement for the kitchen area is a tent reserved for the food purchasing activities and open-air preparation and cooking areas.

Perishable food
Food whose lack of stability makes it harmful to health or unfit for human consumption.

Perishable foodstuff
Any foodstuff that may become hazardous, mainly due to its microbiological instability, when the storage temperature is not controlled.

Risk
Function of the probability of a harmful effect on health and the severity of this effect resulting from one or more hazards in a food.

Sensitive point
Stage at which a control measure can take place to prevent or eliminate a hazard threatening food safety or to return it to an acceptable level. Unlike the CCP, these control measures are not governed by permanent procedures founded on the HACCP principles but procedures adapted to the current situation, based on a good practice approach.

Wholesomeness of food
Assurance that the foods, when consumed in accordance with their intended use, are acceptable for human consumption.