

Training Manual for Street Food Vendors



Bhutan Agriculture and Food Regulatory
Authority (BAFRA)

Ministry of Agriculture and Forests

Foreword

Sections 32 to 41 of the Food Rules and Regulations of Bhutan (2007) requires all people who supervise and/or handle food or food contact surfaces have the knowledge and skills of basic food safety and food hygiene. This training manual has been designed to provide basic knowledge and skills required by food handlers as per the provisions of the above cited legislation.

A food handler is anyone who works in a food business and who either handles food or surfaces that are likely to come in contact with food (e.g. tables, fridges or chopping boards, cutlery, plates). It covers staff who manufacture, process, prepare, serve, deliver, transport or package food in food establishments.

Food safety means making sure that food is safe to eat while food hygiene means keeping the food premises and equipment clean. Ensuring that the food handlers have the right food safety skills and knowledge will not only fulfill the legal requirements, but will also ensure consumer confidence and make food business secure and profitable.

This training manual will also ensure that all food handlers across the country have acquired the required basic skills and knowledge in basic food safety and hygiene. Upon completion of this training, a food handler will be able to understand the requirements of personal health, good hygiene practices, and potential sources of food contamination, temperature control, safe storage practices and sanitation requirements of food premises.

This training manual has been developed by the Bhutan Agriculture and Food Regulatory Authority (BAFRA), Ministry of Agriculture and Forests, Royal Government of Bhutan with technical and financial support from the Food and Agriculture Organization (FAO) of the United Nations.

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Street Foods

According to FAO (2000), *street foods* are defined as ready to eat foods and/or beverages sold by vendors and hawkers especially in the streets and/or other similar places. Street vended foods are foods prepared on the street or prepared at home and consumed on the street without further preparation.

The street food trade is large and complex, providing both an important means of income and an affordable source of nutrition for millions of people. Street foods are also appreciated for their unique flavors, variety available, convenience, and ethnic and nutritional significance.

However, there exist numerous health hazards that accompany consumption of these street vended foods. The main health hazard is microbial contamination of these foods along with the use of low quality raw materials, pesticide residues, use of chemical additives such as preservatives, colors, flavours, etc. Also, street food handlers are mostly uneducated and unaware of the importance of food safety and the need for good food handling practices. They are, very often carriers of pathogens such as *E.coli*, *Salmonella* and *Staphylococcus aureus*, who eventually transfer these food borne hazards to consumers. Therefore, the consumption of street vended food potentially increases the risk of food borne diseases caused by a variety of pathogens.

Training of street food vendors is an effective way to improve the perceptions and practices of the street food handlers in Bhutan. This training manual has been prepared for easy understanding of the reasons for food safety issues and the control measures which can be applied in the street food production and service.

Why do people get sick?

Spoiled foods normally taste and appears unacceptable and no one will consume. In case of spoiled foods, there is economic loss and there will not be any food safety issues.



Figure 1 – Spoiled food

Contaminants

- Contaminants in foods such as broken pieces of glasses, metals, broken tooth picks, plastics, loose metals are all injurious to consumers.
- Check and serve foods to make sure it is safe

Chemical Contamination

- Chemical contamination includes not only pesticides and other natural toxic ones, but also residues of cleaning chemicals in kitchen that can also cause illness.
- Make sure their use is controlled.
- Naturally prepared cleaning chemicals can be an alternative, the use of which is described in this training manual.

Microbial Contamination

- Pathogens can cause food poisoning and food borne diseases (FBDs) and are of major concerns.

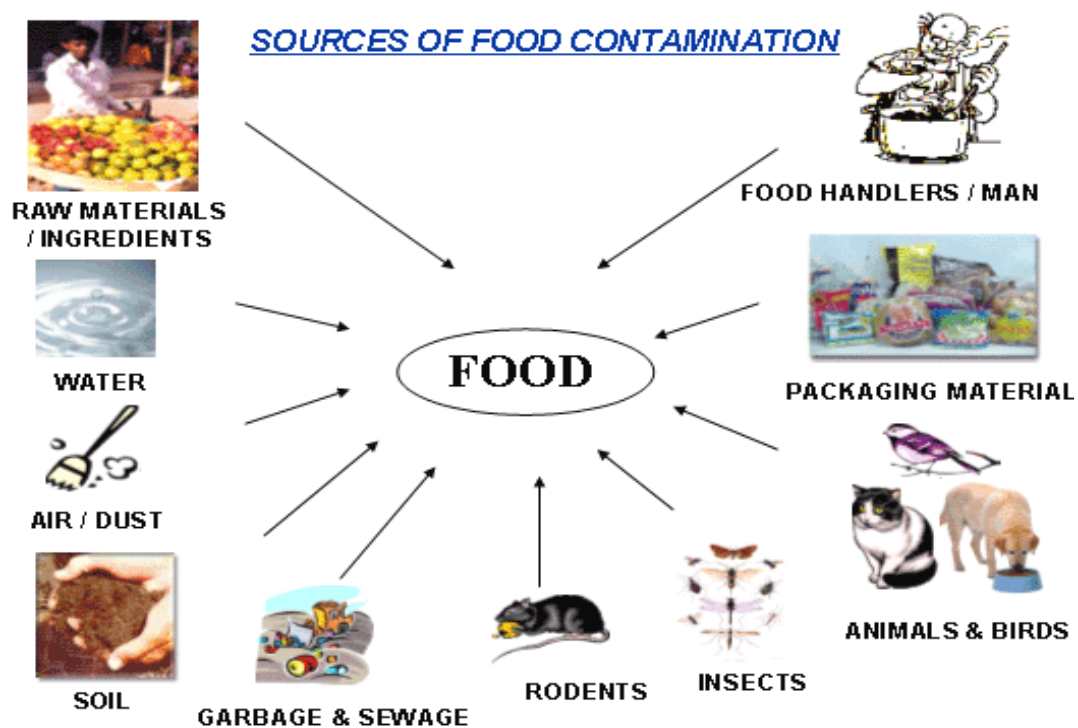


Figure 2 – Sources of food contamination

How to control contamination and serve clean and safe food?

- Food handlers play an important role in keeping food safe from all physical, chemical and biological abuses.
- To ensure that all kinds of food related illnesses are avoided, the food handler should ensure good food hygiene; personal hygiene and environmental hygiene. They shall be trained in Good Hygiene Practices (GHPs) and Good Manufacturing Practices (GMPs). Foods can be vehicles for harbouring harmful living micro organisms called pathogens. Pathogens are disease causing micro organisms which cannot be seen with the naked eye.
- The main sources of contamination are food, equipments, utilities and the food handlers at all stages of processing and handling from raw material selection to service.

How to prevent contamination?

- *Remember 5 Cs : Clean, Cover, Cross Contamination, Cook, Chill.*

Sanitary and hygiene practices to be followed by street vendors including home based food processors.

The place where food is manufactured, processed or handled shall comply with the following requirements:

1. The premises shall be located in a sanitary place free from filthy surroundings. Environmentally unpolluted area shall be selected for the sale of the street vended foods.
2. The place used to manufacture foods shall have adequate space for manufacturing and storage to maintain hygienic environment.
 - Never store chemicals and other non food items along with foods. The same shall be kept separately under control and their use is restricted to the person trained to use the same.

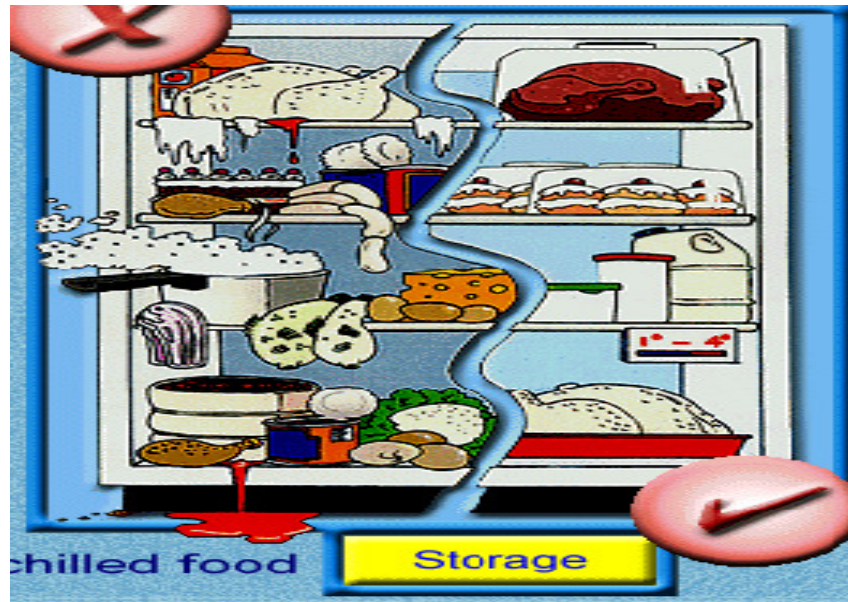


Figure 3 – Improper V/S proper storage practice

3. The premises shall have adequate space to move and shall be well lit with proper ventilation to expel fumes and smell.
4. The floors and ceilings shall be free from flaking paints and must be in good condition, well maintained to facilitate easy cleaning and shall be free from stagnant water and condensation.
5. The floor and the joints of wall to floor shall be cleaned and disinfected with a permitted disinfectant to avoid harbouring of insects and vermins.
6. No chemical shall be used to destroy pests while the work is going on. Instead fly swats or flaps can be used to kill the fly entering inside.
7. Windows, doors and other openings shall be screened in case the flying insects are too many and difficult to control otherwise.
8. Rodent traps shall be used to check the presence of rodents in the manufacturing area and if caught, rodent control with the advice of the regulators shall be initiated.
9. Continuous supply of potable water shall be available; otherwise, storage facility shall be set up.
 - If stored in tanks, regular program shall be practiced to clean and disinfect the water tank or jar.

- The water storage tank or container shall always be kept closed to protect the water from insects, dust and other contaminants.
 - Never use hands to take water.
 - A tap can be fitted to the jar and water shall be taken out through the tap.
 - The tap shall also be cleaned and sanitized at least at the time of start and at the end of business and whenever found dirty.
10. Adequate washing arrangements shall be available with soap or detergent with proper drainage system to the outlet and it shall be made sure that the drainage is not blocked or there is no foul smell coming out of the drainage.
11. Depending on the business, volume and nature of the food manufactured and sold, there shall be facility to wash equipments used and other utilities separately and keep them stored for use.



Figure 4 – Adequate storage of water

12. The washed item shall never come in contact with the used ones and shall be ensured that washed utensils shall never be kept over and above in a heap unless they are dried or wiped moisture free. In case water remains, sliminess will be formed and this may cause contamination of food as well as harbourage of bacteria.



Figure 5 – Washed and unwashed items should be kept separately

13. If wiping clothes are to be used, the same shall be stitched well so that the thread will not come out.
 - The wiping clothes shall be changed every 4 hours, cleaned and disinfected.
 - The clothes shall be protected from external contamination by keeping them in a clean box.
 - Clothes used for different areas including hand drying can be color coded so that misuse can be prevented.
14. No vessel which may cause metallic leaching into the food while preparation or storage shall be used by the food business operators. For example, Aluminium vessel for acidic foods or Copper or Brass vessel without food grade lining.
15. All equipments shall be well cleaned and disinfected, dried and stored on a rack or on a pallet to ensure freedom from growth of mould, fungi and other infestation.
16. There shall be a designated container with lid and lined with garbage bag for the collection of solid waste and refuse.



Figure 6 – Proper waste disposal in waste bins

17. These containers shall be always kept closed and personnel shall make sure that the container is emptied whenever it is full or at the end of the operations and cleaned, disinfected and brought back to the kitchen or outlets.
18. The waste shall not be disposed in open areas and cause problem to the public.
19. There shall be a schedule for cleaning and the person responsible for the manufacture of food shall verify that the cleaning is carried out as per the schedule.
 - No waste or refuse shall be scattered around the manufacturing or sales area.
20. The schedule shall include minimum checking of the entire area as well as the equipments for absolute cleanliness at the start as well as at the end of the operation.
 - If deficiencies are seen, immediate action shall be taken.
 - The food business operator shall remember that they are responsible for keeping the area clean and safe and avoid any sort of potential contamination.

Preparation of household cleaning materials and use

Vinegar

Equal parts of vinegar and water is mixed well. This solution can be used for cleaning of counter tops, tables, gas stoves and floors. It is an also an excellent insect repellent.

Baking powder

Baking powder can be used for removing clogs in the drainage with hot water, cans, kitchen counter, floor, etc.

Sprinkle baking powder on cut lemon surface and use for cleaning utilities to clean and disinfect the surfaces and repel insects.

Sprinkle on surfaces and mop with a wet cloth.

How to make water potable?

1 cup of water (150ml) + 1 tablespoon bleaching powder.

Add 3 drops of the above solution to 1 litre of water. Wait for 10 to 15 minutes. The water will be clean and disinfected.

Bleach for cleaning and disinfection.

½ tablespoon bleaching powder + 1 litre of water, mix well.

Soak fruits and vegetables after washing in this solution for 10 to 15 minutes, when raw vegetables are used for consumption (raw salads).

Cleaning utilities (clothes, scrubbers, brushes, clothes, etc) at the end of cleaning and washing. Dip in the above solution for 15 minutes for disinfection.

The above solution will not cause chemical hazard introduction to the foods prepared and sold.

21. All personnel engaged in the manufacturing, transportation or sale of food shall wear clean dress as well as apron, gloves while serving or handling, and head gears to protect the food from contamination.



Figure 7 – Ideal dress code

22. Personnel with any sort of infection shall not be engaged in food handling. Before being engaged in food business, they shall be examined by a medical practitioner and shall be certified free from any sort of diseases which can be transmitted through food.

They shall be fit to work in food handling.

23. A high degree of personal hygiene shall be practiced by each one while handling food.

- They shall keep nails trimmed without nail polish, clean and wash hands with soap and sanitize before commencing the work and every time they feel hands become dirty and invariably after using toilets.



Figure 8 – Proper hand-washing using soap

- Scratching of any body part or touching hair shall be avoided while handling food.
24. All food handlers shall avoid wearing loose jewellery which may fall in the food and refrain from carrying loose metal parts or coins in their pockets which can accidentally fall into the product and cause a physical hazard to the consumers.
25. Eating, chewing, smoking, spitting and nose blowing shall be prohibited.
- If the food handler feels to sneeze, the same shall be done away from food, covering the mouth and the nose with hand and then wash hands immediately.

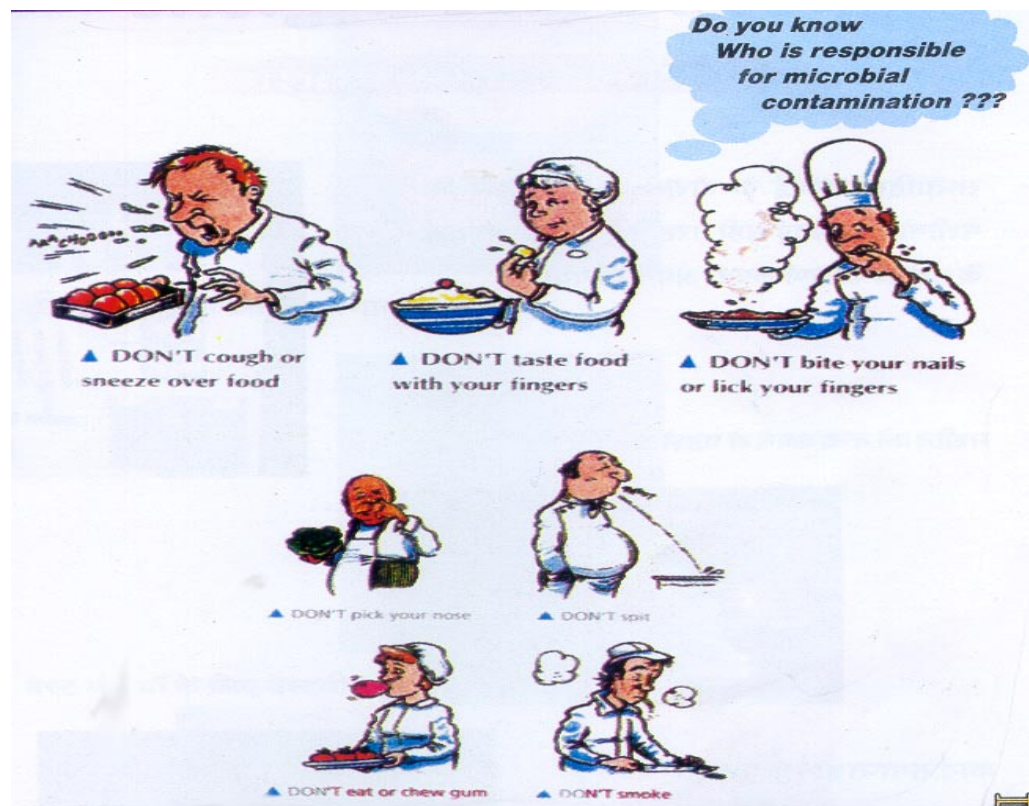


Figure 9 – Unhygienic practices to be avoided

26. All articles of food stored or intended to be sold shall be in covered containers well protected from any contamination and shall be fit for consumption.
27. The vehicles used for transportation of food shall be clean and well maintained.
28. Quantity to be cooked shall be for the day's requirement only so that leftovers can be minimized.
 - Consumables left over after use shall be protected from any contamination and stored well for next day's use.
29. Hot food shall be transported in hot condition in a thermocol container or warmer and sold in hot condition.
 - As far as possible, it shall be ensured that cooked ready to eat food shall be sold within 2 to 3 hours time from the time of cooking, so that food does not remain in temperature danger zone for more than 2 to 3 hours.

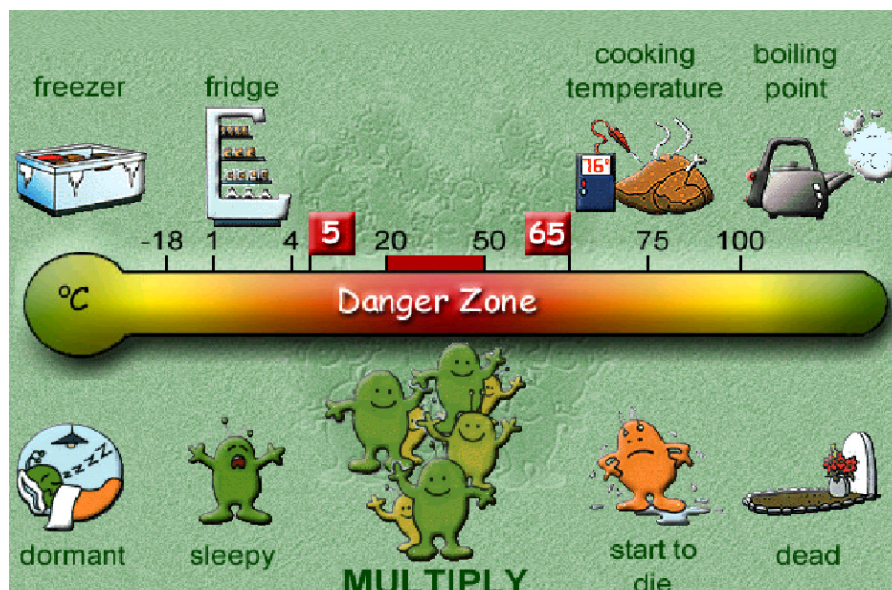


Figure 10 – Temperature danger zone

- If excess is prepared, the same shall be in chilled condition and before serving, the chilled food can be re heated and served to ensure safety.
30. Under no condition, food once re heated shall not be again stored in chiller and reheated again and served.

31. Handling of ready to eat food shall be minimum and as far as possible, handling and serving of cooked foods shall be using tongs.
 - Wearing gloves is never a substitute for keeping hands clean and sanitized as gloves can also get infected from surroundings and cross contaminate the food.
32. It is ideal to use disposable gloves and sanitize them every 2 hours while handling cooked foods or replace with a new one.
33. All left overs shall be disposed after the designated time and never be used for sale or consumption.
34. Rubbish, waste water, open toilet facilities and stray animals shall not be near the area.
35. In case a platform or cart is used, the surface shall be corrosion free and easily cleanable.
 - When not in use, the top shall be covered and protected from insects, pests and pets.
36. Separate waste bins shall be provided by the vendor for the consumers to dispose the remains and the waste after eating.
37. Sale points, tables, benches, boxes, cupboards, glass racks or bags for keeping the serving dishes, cutleries shall all be clean and tidy.
38. Chipped utensils shall not be used as they cannot be adequately cleaned and sanitized.
39. Water for drinking shall be potable and shall be covered and protected. They shall not be kept in filthy area.
40. The used plates shall be wiped off waste using clothes or wipers into the bins provided and cleaned and sanitized.
 - It is strongly recommended to use disposable plates kept hygienically in covered containers or baskets.
41. In case refrigerator is used in street vending facility, the same shall be cleaned and sanitized at least once in a week.
42. The location of the vending unit shall be in a place approved by the authority and not blocking traffic or pedestrians or near unhygienic locations.

Handling of frozen foods



Figure 11 – Frozen foods

- On receipt, keep in frozen condition after labeling with date of receipt and use by date.
- Frozen products shall be completely thawed or melted prior to cooking.
- Thawing shall not contaminate the area or foods processed.
- Refrigerated thawing is the best method, if possible.
- Refrigerated thawing can be done within 12 to 15 hours.
- Water thawing with running water or frequent water changing is also the alternate choice.
- If thawed in water, the frozen materials shall be in a sealed polybag to ensure that the water does not come in direct contact with the product.
- Sufficient time shall be given for thawing. The time and temperature of water shall be under control in case of thawing.
- The water used for thawing shall not spill over to the processed foods.
- Check the material for any spoilage or unusual smell or color change before taking for cooking.
- Once thawed shall be used immediately.
- Re freezing of once thawed material is not allowed.
- The thawed material if left over, the same shall be marinated, refrigerated and used within 24 hours.

Cooking and handling of cooked foods

- Cook foods thoroughly above 75 degree Celsius.
- Meat & poultry should be cooked till colorless without pinkish appearance.
- Gravies should be boiled for at least 2 minutes.
- Cooked products to be cooled, covered and handled with clean spoon only.
- Refrigerate if the cooked food is not consumed within 2 to 3 hours.
- In the refrigerator, place cooked foods covered well and over the raw foods to prevent cross contamination through drips.
- Do not place cooked or ready to eat foods back on the same plate or tray where the raw products came from.
- Carry foods in clean closed containers.
- Designate places for holding cooked foods, and don't place it on the table top.
- Keep in color coded food grade trays.
- The tongs, spoon, etc used for serving cooked food shall not be used for raw foods.
- The hands and the utilities used for handling cooked foods shall be frequently sanitized in chlorine water or food grade sanitizer.
- Never use Dettol or any phenolic compounds for sanitization purpose of food contact surfaces.
- Ice should be handled with utmost care. Do not touch with bare hands.

Dos and Don'ts

- Do not store glasses on top of the food items
- Store all items on shelves or on palettes
- Clean glasses on glass racks should not be placed directly on the floor.
- Don't touch the upper part or inside the clean glass. Hold the base of the glass.
- Hold the neck of the cutleries while handling.
- Wipe glasses and cutleries with clean towel.
- If towel is used, change them every 2 hours.
- Wash / sanitize hands frequently upon need.
- Be aware of temperature control.
- Don't use wooden chopping boards for cutting fruits and vegetables. The knives used for vegetables shall not be used for non vegetables.
- The knives and cutting board shall be color coded.
- It is a criminal offence to sell the food past its expiry date.
- Check for the expiry date of food and beverage items when you receive from the supplier.
- Strictly follow First In First Out (FIFO) system for the better control of the stock where you store food.
- Check the expiry dates of short shelf life food items on a daily basis.
- Clear the stock before expiry, if over destroy.
- All the short shelf-life food items should not be seen anywhere beyond the date of expiry.

Annexure I

Definitions

Food Safety

Assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use.

Food

Any substance, whether processed, partially processed or unprocessed, which is intended for human consumption and includes primary food to the extent defined, genetically modified or engineered food or food containing such ingredients, packaged drinking water, beverages, chewing gum, and any substance, including water used into the food during its manufacture, preparation or treatment but does not include any animal feed, live animals unless they are prepared or processed for placing on the market for human consumption.

Contaminant

Any biological or chemical agent, foreign matter, or other substances not intentionally added to food products that may compromise food safety or suitability.

Contamination

The introduction or occurrence of a contaminant in food or food environment.

Cleaning

Removal of soil, dirt, grease, oil, food residue or other objectionable matter from the food.

Food Handler

Any person who directly handles packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements.

Food Hygiene

All conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain.

Control measure

Any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Inspection

Evaluating for conformity by measuring, observing, testing or gauging the relevant characteristics to assess compliance with specified standards.

Monitoring

The act of conducting a planned sequence of observations or measurements of control parameters to assess whether a Critical Control Parameter is under control

Potable water

Water that is fit for human consumption as prescribed by the World Health Organization.

Pre requisite program (GHPs & GMPs)

Basic conditions and activities necessary to maintain a hygienic environment throughout the food chain, suitable for the production, handling and provision of safe end products to the consumers.

Processing

An operation affecting the wholeness or any other chemical or physical characteristics (heating, salting, dehydration, canning, bottling, pulverising, blending or extraction) of the food.

Sanitize

Adequate treatment of surfaces by a process that is effective in destroying vegetative cells of micro organisms to a safe level.

References

Codex Alimentarius
Food Hygiene –Basic Text
Fourth Edition - 2009

Guidelines for the Design of Control Measures for Street-Vended Foods
(Africa)
CAC/GI 22r – 1997

Code of Hygienic Practice for Precooked and Cooked Foods in Mass Catering
CAC/RCP 39-1993