
**Fish semi processing/preprocessing/ and
selling market Hygiene and Environmental
Health requirements**

Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Sanitation, Hygiene and Health Related Service (TC 205) and published by the Ethiopian Standards Agency (ESA).

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Fish semi processing/preprocessing/ and selling market Hygiene and Environmental Health requirements

1. Scope

This Ethiopian standard specifies the hygiene and environmental health requirements in the preparation, processing, packaging, storage, distribution, service, transportation, and sales of pre and semi processed fish. This standard is applied for all new and preexisting fish semi processing and sale shop.

2. Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ES ISO 22000: 2018, food safety management system – requirements for any organization in food chain.

ES 588:2001, hazard analysis critical control point (HACCP) systems and guidelines for its application.

3. Terms and definition

3.1.

Fishsell shop

An establishment that provides services to restaurants, hotels, and consumers after processing by partially acquiring raw or processed fish from both licensed government and private suppliers.

3.2.

Environmental health

Public health concerned with monitoring or mitigating those factors in the environment that affect human health and disease.

3.3.

Hygiene

Conditions or practices conducive to maintaining health and preventing disease, especially through cleanliness.

3.4

Solid waste

Any waste that comes from residential, commercial, factory and industrial areas and can pollute the environment.

3.5.**Food**

Any substance, whether processed, semi-processed or raw, which is intended for human Consumption, and includes drinks, chewing gum and any substance which has been used in Manufacture, preparation or treatment of "food" but does not include cosmetics or tobacco or Substances used only as drugs.

3.6.**Food establishment**

Any building or area in which food is handled and the surroundings under the control of the same Management.

3.7.**Contamination of food**

The occurrence of any substance not intentionally added to the food, which is present in such food as a result of the production, manufacture, processing, preparation, treatment, packaging, transport or Holding of such food or because of environmental contaminants.

The term shall include insect, Fragments, rodent hairs and other extraneous matter.

3.8.**Cleaning**

Removal of soil, food residues, dirt, grease, or other objectionable matter.

3.9.**Food grade material**

Materials that are free from hazardous substances to human health and may permitted to meet food.

3.10.**Ready-to-eat**

Products that are intended to be consumed without any further treatment.

3.11.**Personal protective equipment**

Special equipment or clothing to protect from harm against safety hazards.

3.12.**Approved water supply**

Source of water that has been inspected and approved by the competent authority for human consumption.

3.13.**Safe water**

Water that is free from physical, chemical, and/or biological substances in concentrations that could cause illness or injury to consumers.

3.14.

Water quality

The chemical, physical, and biological characteristics of water in respect to suitability for human consumption.

3.15.

Treated water

Water that has undergone through processes such as flocculation, coagulation, sedimentation, filtration and disinfection.

3.16.

Potable water

Water that is safe and suitable for human consumption.

3.17.

Drinking water

Potable water intended for human consumption.

4. Requirement

4.1. General requirements

- 4.1.1. All staff shall be trained and certified by recognized body for their intended field of work.
- 4.1.2. A training program shall be designed, implemented and periodically reviewed by management to improve staff competence, according to the identified needs.
- 4.1.3. All staff is responsible for the quality of customer service in related with hygiene and environmental health.
- 4.1.4. Premises shall have hand washing facilities that are located where they can be easily accessed;
- 4.1.5. The premises shall be equipped with sufficient number of appliances so that at all times, the temperature, and humidity may be maintained at a level to provide comfortable and healthy condition.
- 4.1.6. Premises shall have a lighting system that provides natural or artificial light for the activities conducted.
- 4.1.7. Floors Walls and ceilings shall be designed and constructed in a way that is appropriate for the activities conducted on the food premises.
- 4.1.8. The management shall responsible for the pest control and prevention system at the premises.
- 4.1.9. The Establishment shall provide the adaptation of the workplace if it employs a person with any kind of disability.
- 4.1.10. The buildings, facilities, and equipment shall pose no risks to customer or staff.

4.2. Specific requirements

4.2.1. Environmental conditions of the fish sale

- 4.2.1.1. Shall be independent of any other business entity or non-residential entity.
- 4.2.1.2. Shall not be exposed to floods, swamps and landslides.
- 4.2.1.3. Shall not be exposed to insects, rodents, solid waste, bad odors, chemicals, or any toxic substances that may contaminate food and endanger human health and safety.
- 4.2.1.4. It shall be within 50 meters of any service provider or manufacturer that does not comply with the service and poses a risk of contamination.
- 4.2.1.5. Shall be available of electricity, water, and roads.

4.3. Type of establishments

- 4.3.1. Fish sell and partial processing of fish shall be meeting the following requirements:

4.4. Requirements of the sales room

- 4.4.1. The floor shall be clean, unbroken, and easy to clean.
- 4.4.2. The walls shall not be cracked and should be made of ceramic up to 1.5 meters height above the floor.
- 4.4.3. The establishment shall have a ceiling painted with white color that can easily clean.
- 4.4.4. The room shall have an area 9m² (3m x 3m).
- 4.4.5. It shall be separate from the rest of the unit.
- 4.4.6. No other activities shall be performed in the sales room.
- 4.4.7. The room shall be odorless and clean.
- 4.4.8. It should be free of insects and rodents.
- 4.4.9. It shall be free of sewage and solid waste.
- 4.4.10. There shall be ventilation in sales room.
- 4.4.11. There shall be light to provide service.
- 4.4.12. There shall be an alternative power generator when electric power is off.

4.5. Reception and preparation department / partially prepared

- 4.5.1. The establishment shall have a flytrap.
- 4.5.2. There shall be a solid waste container that can open by foot that have pedal.
- 4.5.3. The sewer shall connect with approved septic tank or an authorized government sewerage system.
- 4.5.4. There shall be a thermometer to measure temperature.
- 4.5.5. The temperature shall be below -18 degrees Celsius when fish received.
- 4.5.6. Temperature of refrigeration shall be monitored twice a day and reading shall be recorded.
- 4.5.7. Workers who involved in partial preparation of fish shall be wear white gowns.
- 4.5.8. There shall be no odor when receiving products.

4.6. Fish washing and cutting

- 4.6.1. Hot and cold tap water shall be provided for washing.
- 4.6.2. There shall be a three-hole stainless steel sink for washing purposes.
- 4.6.3. Washed fish shall be having a plate suitable for food to drain water.
- 4.6.4. A suitable aluminum or plastic cutting board shall be provided.
- 4.6.5. Knives and other tools used for cutting and preparing fish should be in a drawer with a lid free of rust and other contaminants.

4.7. Fish wrapping material

- 4.7.1. Fish packaging material shall be made of plastic, translucent, non-volatile and not allow contamination by germs.
- 4.7.2. The containers, including packaging material, shall be made of substances that are safe and suitable for their intended use.
- 4.7.3. They shall not impart any toxic substance or undesirable odor or flavor to fish.
- 4.7.4. Prepared fish description (date of manufacturing, site, name, and address of the manufacturer) shall be clear and visible stated on pack.
- 4.7.5. It shall be ensure that the product meets ES 2832:2013 standards at the time of delivery

4.8. Refrigeration

- 4.8.1. Other than fish, nothing shall be allowed kept in the freezer.
- 4.8.2. Cooked and raw fish shall be placed in a separate refrigerator apart to 2 meters between the two coolers.
- 4.8.3. Refrigerator shall contains fish products up to three fourth ($\frac{3}{4}$) of its volume.
- 4.8.4. Refrigeration shall have a thermometer that it measures less than 4 °c.
- 4.8.5. Fresh fish shall be stored at chilling temperature.
- 4.8.6. Frozen fish shall be maintained at a temperature of -18⁰c or lower (EAS)

4.9. Transportation

- 4.9.1. Fish products shall be transported in a clean, washable, sealed container and approved vehicle.
- 4.9.2. The transportation temperature for fish transport services should be -18 degrees Celsius and below

5. Premises requirements

Design and construction of food premises shall:

- 5.1. Shall be appropriate for the activities for which the premises are used;
- 5.2. Shall have natural or mechanical ventilation to effectively remove fumes, smoke, steam and vapors.
- 5.3. Shall have a lighting system that provides natural or artificial light for the activities conducted
- 5.4. Shall provide adequate space for the activities to be conducted on the food premises and for the fixtures, fittings and equipment used for those activities;
- 5.5. Shall permit the premises to be effectively cleaned and, if necessary, sanitized; and disinfect.

6. Water supply

- 6.1. Premises shall have supply of water provided with tap line for any of the activities conducted.
- 6.2. Potable water shall be use for all activities conducted.
- 6.3. Water distribution lines installed by the firm shall completely be free of unnecessary leaks.
- 6.4. Water reservoirs shall be made of plastic or fiberglass;
- 6.5. Reservoir tank shall be able to hold for two days when there is water shortage.
- 6.6. Reservoir shall be cleaned every three months and treated with chemicals that are suit for the purpose.
- 6.7. Information indicating the cleaning process of water reservoir tanker shall be available from the past three years.
- 6.8. Water from storage tanker shall inspected at least twice a year by an authorized government body. Information stating this shall maintained by the organization for three years.
- 6.9. The sample of water to be tested must be from the following areas of use: from inlet to the organization, storage tank, dishwashing sink, bathroom, hand washing sink, kitchen, etc.

7. Toilet room

- 7.1.1. The floor and walls of the room should be made of a building material that can be washed, cleaned, waterproof, and soft.
- 7.1.2. The toilet must be at least 10 meters away from the organization's premises.
- 7.1.3. The room shall be clean.
- 7.1.4. In the toilets; floor, walls and seats or around it, shall be free from liquid and solid waste.
- 7.1.5. It shall be free of bad odors.
- 7.1.6. The door of the room shall be easy to open and close from the inside.
- 7.1.7. There shall be flasher with water for feces drainage.
- 7.1.8. The room shall get light.
- 7.1.9. The toilet should have a temporary dust bin with a cover that can be opened and closed on foot. (made of rust-resistant materials, easy to move, easy to clean and unable to drain or drain).
- 7.1.10. There shall be wall-fitted functional sink with water flow at least three meters from toilet.
- 7.1.11. There shall be solid or liquid soap for hand washing.
- 7.1.12. The toilet shall be open to the customer throughout the service.
- 7.1.13. There shall be a manhole in the toilet after the drain is out of the toilet.

8. Waste management

8.1. Solid waste management

- 8.1.1. There shall be a temporary storage container with a lid that can be opened and closed on foot and comparable to the amount of waste generated. (made of rust-resistant materials, easy to move, easy to clean, and leak proof)
- 8.1.2. Solid Waste generated shall be segregate, collected and generally controlled as per ES xxx
- 8.1.3. Each solid waste container shall be identified indicating the type of waste and shall be duly closed.
- 8.1.4. The waste bags shall be removed whenever necessary and once a day (e.g. external collector, waste room).
- 8.1.5. Solid waste collection area shall be kept clean and free from pests, insects and predator.
- 8.1.6. Garbage bins shall be located at different places in the organization.
- 8.1.7. The organization shall collect and dispose solid waste by type and characteristics (perishable and non-perishable).
- 8.1.8. When the garbage bins $\frac{3}{4}$ volume is filled, it shall be disposed into the general collection pool.
- 8.1.9. There shall be final dry waste collection site within the organization's premises (protected from animal and human contact and within 10 meters of the main work area).
- 8.1.10. There shall be transportation means of the garbage collected from each workroom to the final solid waste collection point.
- 8.1.11. The final (general) solid waste collection site shall have a container that can be opened and closed (made of rust-resistant materials, easy to move and clean, leak proof).
- 8.1.12. The final (general) solid waste collection site shall be different for different types of waste.
- 8.1.13. The final collected waste shall be disposed of in a manner adjusted and authorized by the relevant body.

8.2. Liquid waste management

- 8.2.1. Liquid Waste generated shall be managed as per ES xxx
- 8.2.2. There shall be a plan for liquid waste disposal.
- 8.2.3. Liquid waste shall be dispose in septic tank or with the system of municipal liquid waste disposal line.
- 8.2.4. Any sewage from organization (dish and hand washing and sinks, bathroom, laundry room, toilet, etc.) Shall be connected to an approved sewer line.
- 8.2.5. If the septic tank is used by the organization to collect sewage, it shall pump half a meter before it is filled;
- 8.2.6. No sewage shall discharge into the rainwater drainage line.

- 8.2.7. Sewage disposal information shall be available and provided when requested by the concerned body. (Whether it is connected to an approved sewer line or accumulated sewage, etc.).

9. Bathroom

- 9.1.1. The height of bathroom shall at least be 2.4 meters.
- 9.1.2. The area shall have area at least 1.2x1.2 meter squares.
- 9.1.3. Shall have a fresh air vent 20 centimeters below the ceiling and open down at 45°.
- 9.1.4. The floor shall not accumulates any water on its slab and be clean and tidy.
- 9.1.5. Shall be separate from the restroom.
- 9.1.6. Door shall be easy to open and close from inside.
- 9.1.7. Safety slippers shall be made of plastic.
- 9.1.8. Single bathroom shall serve for 20 employees and isolated for men and women.
- 9.1.9. There shall be cloth hanger in the room.
- 9.1.10. The sewer line shall be connected to an approved sewer line or septic tank (septic tank shall be designed for this purpose, fully covered and shall be constructed of a material that does not leak in or out).

10. Services, facilities, and requirements for/of employees

10.1. personal hygiene

- 10.1.1. They shall be clean, have clean hands and trimmed fingernails; hair shall be clean and covered and long hair should be tied back;
- 10.1.2. They shall wash their hands before start working and after each break;
- 10.1.3. They shall not be wear rings, earrings or piercings, bracelets or watches. When it is not possible to temporarily remove these items shall be protected by a food grade plaster;
- 10.1.4. Other staffs who occasionally enter into kitchen shall wear protective clothing.
- 10.1.5. Clean protective clothing, e.g. apron or overall should be worn where appropriate. This is particularly advisable in businesses serving widely.
- 10.1.6. Protective clothing shall not be worn outside of the work place.
- 10.1.7. Shall Keep hair clean and neat and where appropriate, wear hats/hair nets which effectively contain the hair.
- 10.1.8. Shall cover cuts, sores, or grazes with a colored waterproof dressing.
- 10.1.9. Smoking, chewing gum, and finger painting, shall not allowed during preparing fish.
- 10.1.10. Catering staff should not wear earrings, bracelets, watches and bracelets at work;
- 10.1.11. Hair shall be covered completely during working period.

- 10.1.12. Every employee shall have his or her fingernails trimmed from time to time.
- 10.1.13. No earrings, bracelets, watches, or bracelets shall be worn before work.
- 10.1.14. Every worker shall cover his or her hair during work with hats that can completely cover his or her hair.

10.2. **Employee health condition**

- 10.2.1. Before starting work, employees must make sure they are free of infectious diseases.
- 10.2.2. Employees are required to have a health check-up every three months.
- 10.2.3. If an employee becomes ill during work with any infectious disease, such as diarrhea, fever, vomiting, he, or she shall not be allowed to work until care from infection.
- 10.2.4. Employees should receive health care training especially on basic food handling and safety, dietary characteristics, food borne illness, and so on.

10.3. **Workers rest & dining room**

- 10.3.1. The establishment shall be provided rest & dining room.
- 10.3.2. There shall be a locker for a worker independently.

10.4. **Additional Training program**

- 10.4.1. The training program shall meet the following requirements:
- 10.4.2. After recruitment of the new member of staff, a training or orientation period shall be provided
Training, such as environmental good practices, hygiene and safety issues;
- 10.4.3. Other emergency training (e.g. what to do in an emergency, evacuation plan) and basic life support (BLS) or first aid training shall be included
- 10.4.4. All staff shall be trained according to their role in the ice cream establishment.
Training shall include,
 - a. Duties and responsibilities of the staff according to their role ;
 - b. Customer satisfaction;
 - c. Emergency situation and response;
 - d. Safety of the foods and beverages;
 - e. Non-conformity in any service according to the duties of the staff.

11. **Safety requirements**

- 11.1. The management is responsible for ensuring that the proper safety measures are defined and put in place.

These shall include the management and provision of;

- 11.2. risk and accident prevention;
- 11.3. White uniform clothes (double), hair cover, mouth and nose mask (depending on the job), safety shoes, gloves (special and change), plastic wrap
- 11.4. safety of people, assets, buildings and facilities;
- 11.5. Fire protection, and management of emergencies.
- 11.6. Safety measures of all devices and equipment used in different areas of semi preparation and selling service especially the electrical devices and equipment; drainage systems and installations (e.g. outlets, electrical dividers) shall be implemented.
- 11.7. Equipment (e.g. regular and emergency lighting, switches, power sources, tap fixtures) shall operate correctly, be safe and have no noticeable damage
- 11.8. Safety equipment shall be duly signposted and shall be operative, visible, and accessible.
- 11.9. Shall have updated and valid certificates/records of legal inspections when applicable.

12. Fire extinguisher and first aid kit

12.1. Fire extinguisher

- 12.1.1. There shall be fire extinguisher not less than 2 kilogram by weight and filled with carbon dioxide.
- 12.1.2. Fire extinguishers shall be placed in a clear and user-friendly manner in the serving room, warehouse, staff dining room, and at important place of the building.
- 12.1.3. The fire extinguisher shall be renewed annually
- 12.1.4. Employees of the organization shall receive training on the use of fire extinguisher.

11.1. First aid kit

- 11.1.1. There shall be sufficient first aid kit according to the size of the organization and the number of employees in it.
- 11.1.2. It shall be placed in a clear, user-friendly manner and where necessary.

12. Health Safety in terms of pest control

- 12.1. A pest control plan shall be defined and documented by qualified staff (internal or subcontracted), according to the needs and facilities of the ice cream preparation and selling services.
- 12.2. Treatment records as well as a copy of the authorization and sanitary registration of the products used shall be retained.
- 12.3. There shall be no pests, insects, and predators in the organization.
- 12.4. The organization shall ensure the absence of pests, insects, and predators and ensure its controlling mechanism.
- 12.5. The organization shall provide professional based pest, insect, and insect repellent service at least twice a year.

Organization and Objectives

The Ethiopian Standards Agency (ESA) is the national standards body of Ethiopia established in 2010 based on regulation No. 193/2010. ESA is established due to the restructuring of Quality and Standards Authority of Ethiopia (QSAE) which was established in 1998.

ESA's objectives are:-

- ❖ Develop Ethiopian standards and establish a system that enable to check whether goods and services are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes. Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed from our website.

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