

## HANDLE HARVESTED FISH

**UNIT CODE:** AQ/OS/AT/CR/05/5/B

### UNIT DESCRIPTION

This unit specifies the competencies required to handle harvested fish. It involves ability to implement fish harvesting food safety plan, clean, preserve and process harvested fish. It involves marketing of the fish products and by-products as well as disposal of wastes from fish processing.

<b>ELEMENT</b> These describe the key outcomes which make up workplace function.	<b>PERFORMANCE CRITERIA</b> These are assessable statements which specify the required level of performance for each of the elements.  <i><b>Bold and italicized terms are elaborated in the Range</b></i>
1. Implement Fish Harvesting Food Safety plan	1.1 Common food safety <b><i>Hazards</i></b> in the fish handling are identified and documented. 1.2 Possible <b><i>sources</i></b> of physical, chemical and microbial contamination in the fish handling are identified based on the hazards 1.3 <b><i>Preventive measures</i></b> for fish handling hazards are applied as per manual of standard operating procedures 1.4 <b><i>Corrective measures</i></b> for fish handling hazards are applied as per manual of standard operating procedures 1.5 Risk is communicated as per policies for internal and external communication
2. Preserve harvested fish	2.1 Fish is preserved as per code of hygiene practice for the handling, processing, storage and the placing on the market of fish and fisheries products 2.2 <b><i>PPEs</i></b> are identified and gathered as per task requirements 2.3 <b><i>Tools, equipment and materials</i></b> are assembled in line with task requirements 2.4 Harvested fish is graded according to size and species as per the target market while observing good hygiene practices

	<p>2.5 Fish is cleaned with potable water to remove all slime and foreign materials</p> <p>2.6 Fish is de-scaled as per target market requirements</p> <p>2.7 Fish is gutted to remove visceral material without rupturing (intact)</p> <p>2.8 Gutted fish is cleaned to remove blood stains and gut remains from stomach cavity</p> <p>2.9 Fish meant for short term preservation is kept in appropriate containers with ice in alternate layers following standard icing procedures</p> <p>2.10 Fish meant for long term storage is smoked, sundried, salted or frozen depending on market preference while observing food hygienic practices and control measures for identified food safety risks</p>
<p>3. Process harvested fish</p>	<p>3.1 Fish for processing is handled, stored, transported and processed according to code of hygiene practice for the handling, processing, storage and the placing on the market of fish and fisheries products</p> <p>3.2 Whole fish is filleted as per target market specifications</p> <p>3.3 Fish mince is prepared out of fish fillets or trimmings using recommended technique</p> <p>3.4 Whole fish, fish fillets or portions are deep fried to a golden-brown color</p> <p>3.5 Fish balls are prepared from fish trimmings or fish mince according to target market specification</p> <p>3.6 Marketable fish by-products are identified, collected and sorted into containers, based on market specifications</p> <p>3.7 Marketable fish by-products are processed based on their form and nature</p> <p>3.8 Packaging tools, equipment and materials are assembled in line with task requirements</p> <p>3.9 Processed fish products and by-products are packaged using material appropriate to type, size and weight of the product or by-product</p> <p>3.10 Packaged product or by-product is labelled according to statutory regulations and target market requirements</p>

	<p>3.11 Packaged products or by-products are stored in designated areas using the FIFO approach</p> <p>3.12 Storage conditions of stored fish products and by-products are monitored regularly</p>
4. Manage waste from fish processing	<p>4.1 Fish processing wastes are collected at every stage and separated according to their physical state.</p> <p>4.2 Collected wastes are handled in a manner to avoid cross contamination and harboring of pests</p> <p>4.3 Solid and liquid wastes are disposed of according to the environmental management and coordination (waste management) regulations.</p>
5. Market fish, fish products and by-products	<p>5.1 Price of fish and fish products is determined based on costs of production, demand and supply and price of alternative products.</p> <p>5.2 Market outlets are identified and contacted</p> <p>5.3 Appropriate mode of transport to market is determined according to product form and quantities, and distance to market</p> <p>5.4 Fish, fish products and by-products are sold at a profit</p> <p>5.5 Product handling is carried out according to hygienic standards set out in KEBS code of hygienic standards for fishery products</p>

## RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
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<p>1. Hazards may include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Pathogenic bacteria <ul style="list-style-type: none"> <li>○ e.g. Salmonella spp.</li> </ul> </li> <li>• Chemical contaminants <ul style="list-style-type: none"> <li>○ e.g. Histamine</li> </ul> </li> <li>• Viruses <ul style="list-style-type: none"> <li>○ e.g. Hepatitis</li> </ul> </li> <li>• Fungi <ul style="list-style-type: none"> <li>○ Moulds</li> </ul> </li> <li>• Foreign matter <ul style="list-style-type: none"> <li>○ Hair</li> <li>○ Jewellery</li> </ul> </li> <li>• Pests</li> </ul>
<p>2. Sources of hazards may include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Personnel hygiene facilities and toilets</li> <li>• Cleaning agents</li> <li>• Fraud</li> <li>• Wash water quality</li> <li>• Equipment and facilities</li> <li>• Lubricants</li> <li>• Wastes</li> </ul>
<p>3. Preventive measures may include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Personal hygiene</li> <li>• Personnel health checks every 6 months</li> <li>• Use of food grade cleaning agents and lubricants</li> <li>• Pest control</li> <li>• Fraud control</li> <li>• Use of potable water</li> <li>• Use of food grade equipment</li> <li>• Proper storage conditions</li> <li>• Maintenance and sanitation of equipment and facilities</li> <li>• Temperature controls (below 4°C)</li> <li>• Plant hygiene</li> <li>• Biosecurity measures</li> <li>• PPEs</li> <li>• Waste management</li> </ul>
<p>4. Corrective measures may include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Disposal of contaminated fish</li> <li>• Sterilization of the fish handling plant</li> </ul>
<p>5. PPEs include but not limited to</p>	<ul style="list-style-type: none"> <li>• Gum boots, head cover, gloves, dust coats, first aid kits, mouth piece, apron</li> </ul>

<p>6. Tools, equipment and materials include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Basins, buckets, hard brush, filleting tables, knives, waste disposal containers, ice box, smoking kiln, solar dryer, drying racks, drying mats or canvass, domestic freezers, ice, salt, frying oil, meat mincer, blender, crockery,</li> </ul>
<p>7. Packaging tools, equipment and materials</p>	<ul style="list-style-type: none"> <li>• Weighing balance, polybags, cartons, gunny bags, ice packs, baskets, cool boxes, sealing tape, labels, pallets, wheel barrow.</li> </ul>

## REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

### Required Skills

The individual needs to demonstrate the following skills:

- Food safety risk assessment
- Use of tools and equipment
- Weighing
- Fish handling
- Fish preservation
- Fish processing
- Packaging
- Record keeping
- Communication
- Basic first aid
- Numeracy

### Required Knowledge

The individual needs to demonstrate knowledge of:

- Food safety Standards (codes of practice for fish and fishery products)
- Regulatory bodies/ Competent authorities
- Hazard Analysis Critical Control Point (HACCP)
- Types of tools, equipment and PPEs
- Fish spoilage
- Fish handling, processing and preservation
- Marketing and market dynamics
- Workplace safety regulations

## EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate:  1.1 Implemented fish harvesting food safety plan 1.2 Graded fish into uniform sizes by species 1.3 Cleaned fish to remove all slime and foreign materials 1.4 Guttled fish to remove all visceral material 1.5 Preserved fish using appropriate method 1.6 Processed fish into various products and by-products 1.7 Packaged and stored fish products in designated areas 1.8 Marketed fish products 1.9 Observed hygienic standards 1.10 Disposed of waste from fish processing
2. Resource Implications	The following resources must be provided:  2.1 Workplace or assessment location 2.2 PPEs 2.3 Tools, materials and equipment 2.4 Writing materials 2.5 Calculator
3. Methods of Assessment	Competency may be assessed through:  3.1 Observation 3.2 Oral presentation 3.3 Oral questioning 3.4 Simulation 3.5 Written tests
4. Context of Assessment	Competency may be assessed on the job, off the job or a combination of these or during industrial attachment. Off the job assessment must be undertaken in a closely simulated workplace environment.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.