

ENVIRONMENTAL HYGIENE IN FISH PROCESSING PLANTS

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INTRODUCTION

- ▶ Sea food is supplementing the agricultural products in human life, because of its nutritive value.
- ▶ Inview of this, env.hygiene is necessary to prevent the food from contamination and spoilage from environmental factors such as microbes, effluents from industries and sewage from households.
- ▶ Hence environmental hygiene has great role in making the food suitable for consumption.



REASONS FOR ENVIRONMENTAL CONTAMINATION

- ▶ Large quantities of wastewater is generated through activities such as fish unloading, equipment cleaning and transportation. This waste water is discharged into local water bodies. These effluents are toxic to fish and other aquatic organisms.
- ▶ Organic pollutants, salts, oil, grease, ammonia, cleaning agents like chlorine bleaches, surfactants.
- ▶ Solid wastes including skin, viscera, fish heads, bones.
- ▶ Liquid wastes like blood, water, brine from drained storage tanks and water discharges from washing and cleaning.



METHODS OF CONTROL

- ▶ Heat or ionizing radiation can be used to kill the decomposing bacteria.
- ▶ Heat is applied by cooking or by microwave heating to pasteurize or sterilize fish products. This is followed by refrigeration and packaging in metal cans.
- ▶ Chemical control: Microbial growth and proliferation can be inhibited by adding antimicrobials, acids like acetic acid, lactic acid to the fish products.
- ▶ Other preservatives include nitrites, sulphites, benzoates.
- ▶ Disposal of solid wastes generated during collection, transport, storage, handling, processing are done as per govt. regulations.

METHODS OF CONTROL

- ▶ Many countries dispose liquid wastes through municipal sewages or directly into water bodies. The receiving water body should be able to degrade the organic and inorganic wastes in a way that does not damage the aquatic ecosystem.
- ▶ Refrigerants used in fish processing plants are either ozone depleting chemicals(CFCS) or ammonia. Release of these compounds would result in damage to the local and global environment.



Major Functions of MPEDA

- ▶ The Marine Products Export Development Authority (MPEDA), Kochi, Kerala was set up by an act of Parliament during 1972. The erstwhile Marine Products Export Promotion Council established by the Government of India in September 1961 was converged in to MPEDA on 24th August 1972. MPEDA is given the mandate to promote the marine products industry with special reference to exports from the country.
- ▶ To carry out inspection of marine products, its raw material, fixing standards and specifications, training, regulating as well as to take all necessary steps for maintaining the quality of seafood that are marketed overseas.
- ▶ Impart trainings to fishermen, fish processing workers, aquaculture farmers and other stake holders in the respective fields related to fisheries; promotion of modernization of fishing harbours.

Food Safety and Standards Authority of India (FSSAI)

- ▶ Food Safety and Standards Authority of India (FSSAI): Ensuring food quality The Food Safety and Standards Authority of India (FSSAI) was established under the Food Safety and Standards Act, 2006 as a statutory body for laying down science-based standards for articles of food and regulating manufacturing, processing, distribution, sale and import of food so as to ensure safe and wholesome food for human consumption. Various central acts including the erstwhile Prevention of Food Adulteration Act (1954) were merged under this act. Ministry of Health & Family Welfare, Government of India is the governing Ministry of FSSAI. It has the main Headquarters in Delhi.
- ▶ The FSSAI is responsible for maintaining the food quality & security in India. FSSAI role in food quality is crucial for food security.

National Reference Laboratory for Fish and Fish Products

- ▶ ICAR-CIFT: National Reference Laboratory for Fish and Fish Products ICAR-Central Institute of Fisheries Technology, Cochin has been conferred with a status of –National Reference Laboratory (NRL) for Fish and Fish Products by Food Safety and Standards Authority of India (FSSAI), Ministry of Health and Family Welfare, Govt. of India.
- ▶ Food Safety and Standards Authority of India has created a network of 232 laboratories to fulfil its mandate on food testing and analysis. The network comprises of 142 accredited primary food-testing laboratories from both government and private sphere, 72 state food testing laboratories and 18 referral laboratories of which two are under the direct control of FSSAI. FSSAI's role in food quality is important for smooth functioning. As a resultant of this, every customer receives an equal level of assurance of food safety.