

Surendranath College

Part III: SEM-6/DSE2. Fish and Fisheries

ZOOA-DSE (B)-6-2-TH

Unit-4: Aquaculture



Preservation & Processing of Harvested Fish:

- The final phase in the fish farming cycle is the harvest and possible sale of the fish when most of the fish are big enough to be eaten or sold, harvesting can start (usually after 5 to 6 months).
- Harvest only the amount that can be eaten or sold within one day.
- To begin with, start emptying the pond a few hours before dawn while it is still cool.

- There are two ways to harvest fish:
 1. Either takes out all the fish in the pond at the same time.
 2. Selectively cull fish from the pond throughout the whole year in the latter method, usually the larger fish are taken out and the smaller fish are left in the pond to keep growing.
- It is, of course, possible to combine these two methods by taking out large fish as required and finally removing all the remaining fish at once there are different kinds of nets for harvesting the fish from the pond.
- The method used for continuous selective culling is to hang a net in a pond. A gillnet is often used in this method of harvesting.
- The fish trying to swim through the net get caught up behind their gills, hence the name.
- All fish smaller and larger will not be caught- those fish smaller than the mesh is able to swim through, while those which are too large to push their heads through the mesh as far as their gills are not trapped.
- In this way it is possible to harvest fish throughout the year without having to drain water from the pond or seriously disturb the remaining fish.

- When all the fish in the pond are to be harvested at the same time, the water level should be lowered slowly to ensure that all the fish are caught.
- Make sure that the fish are harvested in good condition by avoiding any damage to their skin and try to harvest quickly so the fish stay fresh.

Post-harvest Management:

Causes of spoilage of the harvested fish:

1. Fresh fish spoils very quickly.
2. In the tropics, fish spoils within 12 hours after being harvested. This is due to the high ambient temperature that is ideal for bacterial growth to prevent contamination of the fish, proper hygiene must be ensured.
3. Contamination can come from people, soil, dust, sewage, surface water, manure, or spoiled foods.
4. Poorly cleaned equipment, domestic animals, pets, vermin or un-hygienically slaughtered animals can also be the cause.

Prevention & Processing of the harvested fish:

- To prevent spoilage of the harvested fish, either the bacteria present in them must be killed, or their growth must be suppressed.
- Different methods exist to suppress bacterial growth:

1. Salting:

- This is an inexpensive method when salt is cheap, as no electricity is necessary and storage can be at room temperature.
- Fish quality and nutritional value are reasonable after salting.
- Storage life is long.



2. Drying:

- It is also an inexpensive method as no electricity is required and little equipment is needed.
- Dry and/or airtight storage is required.
- Quality and nutritional value are reasonable if storage is good.



3. Smoking:

- It is inexpensive.
- Little equipment and energy needed.
- Fuel must be available.

- Quality and nutritional value are reasonable.



4. Fermentation:

- This method is often inexpensive,
- The fish taste and odour are radically changed.
- Storage life varies depending on the product.
- Nutritional value is often high.



5. Canning:

- This is a fairly expensive method.
- It is labour intensive and requires plenty of energy, water and equipment, such as tins or jars with lids, sterilizers and canning machines.
- Packaging is expensive.
- Storage is easy and possible for long periods (below 25°C or 77°F).



6. Cooling and freezing:

- This is a very expensive method because it involves high use of energy and large investments in equipment.
- Quality and nutritional value of the product are good.
- Storage life is long.

The purpose of freezing and chilling

- to lower the temperature and thus slow down spoilage so much that when the product is thawed after cold storage it is virtually indistinguishable from fresh fish.

