

# Pond classification

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- **Fish farm** is a set of scientifically planned, designed and constructed ponds for various fish cultural activities.
- **Objectives:-**
  - Breeding
  - Grow-out culture
  - Seed rearing
  - Research and demonstration

- The success of fish culture is mainly depending upon proper planning and construction of pond.
- The design of the fish ponds are very much influenced by the type of pond and system of culture to be practiced in the pond.

# Classification

- ❖ Based on environment (temperature)
  - Warm water
  - Cold water
- ❖ **Based on water salinity**
  - Fresh water
  - Brackish water
  - Marine water
  - Fresh water is defined when the salt content in it is less than 0.5 ppt, brackish water is defined when the salt content in it is in the range of 0.50 – 30 ppt, marine water is defined when the salt content in it is more than 30-35 ppt.

- ) **Water replacement**
- Running
- Stagnant
- **Physiographical zone**
- Inland fish farm
- Coastal fish farm
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- **Kind of materials used for enclosure**
- Plastic tanks
- Cement concrete
- Earthen ponds
- FRP ponds



- **Based on water source**
- Rain fed farm
- Tide fed farm
- Sewage water
- Seepage water
- Ground water
- Spring water
- Municipal/corporation water
- River/canal /dam

- **Based on culture (intensity)**
- Extensive
- Semi – intensive
- Intensive
- Super intensive
- Traditional culture

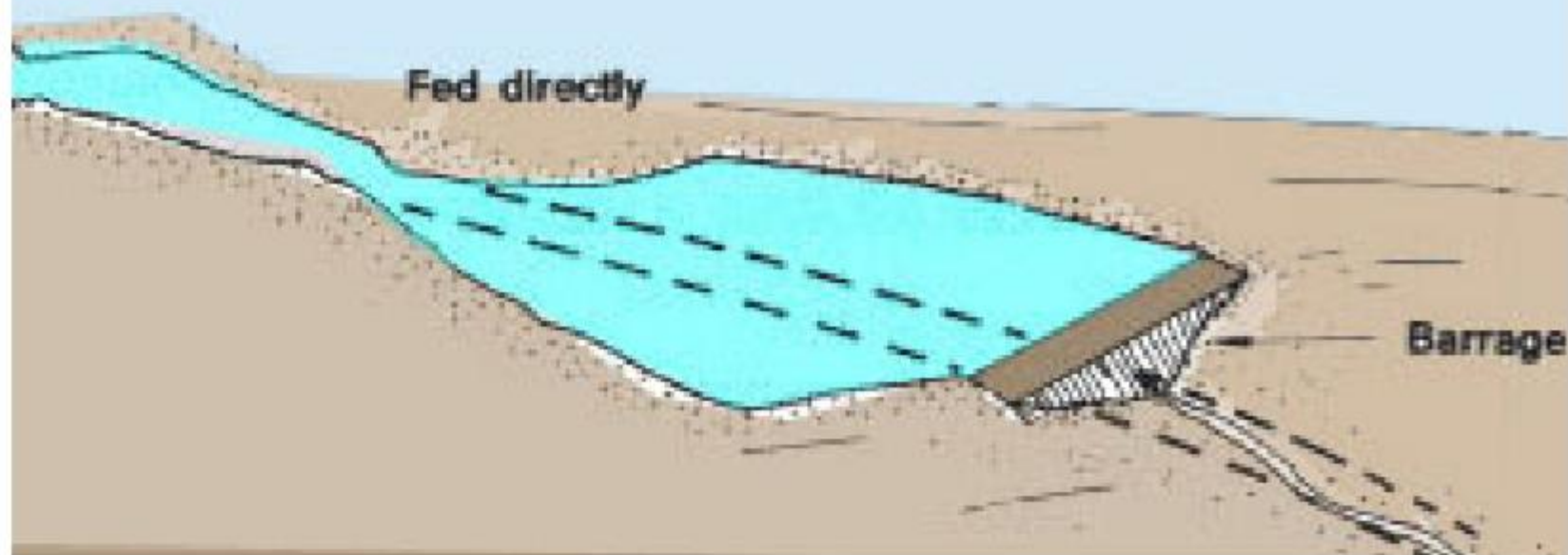
- **Classification of ponds based on construction**
- ***Excavated ponds***: These are the ponds created by excavating a pit across the source of water.
- ***Embankment ponds***: These are the ponds created by constructing a dyke or embankment across the water source

- **Classification of ponds based on water supply**
- **Water can fed directly or indirectly from the source.**
- **Sunken ponds**
- These ponds are not having inlet and outlet structures. These ponds are rain fed ponds
- Water is filled indirectly.
- Most often dug out ponds.
- Undrainable.

- **Barrage ponds**
- **These ponds are usually filled by rainfall or by spring water.** A spring sends the water flowing through a small valley or down a slope into a low place or a spring bubbles form the ground into a natural depression. The pond is formed by collecting water at the base of the valley and in the low places. The number of pond walls to be constructed depends upon the slope of the land and drainage system to be provided.

- Water supply may be direct or indirect.
- Drainable ponds.
- Constructed by erecting dams or embankments.

## Ponds fed from a water body



- **Diversion ponds**
- These ponds are made by bringing water (diverting) from another source like stream or river. Channels are dug to carry the water from the source to the pond.
- Indirect water supply.
- Drainable ponds.
- Made by embankment or cut and fill.



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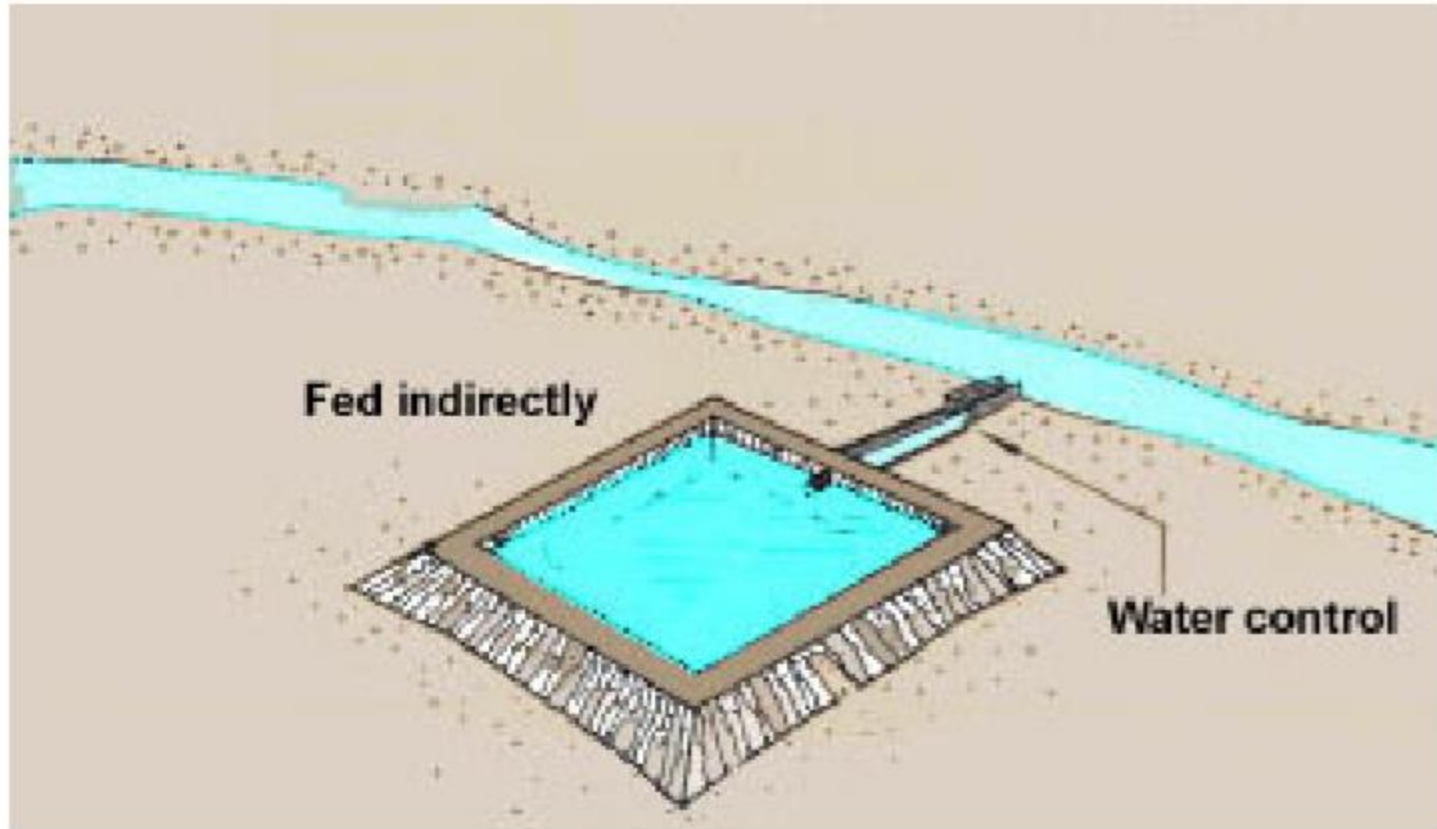
- When a series of diversion ponds is built, they are built in two ways.
- Rosary system
- Parallel system
- Rosary system:-
- These ponds are built one after another in a string. In this system all the ponds drain into each other and must be managed as if they were one pond.

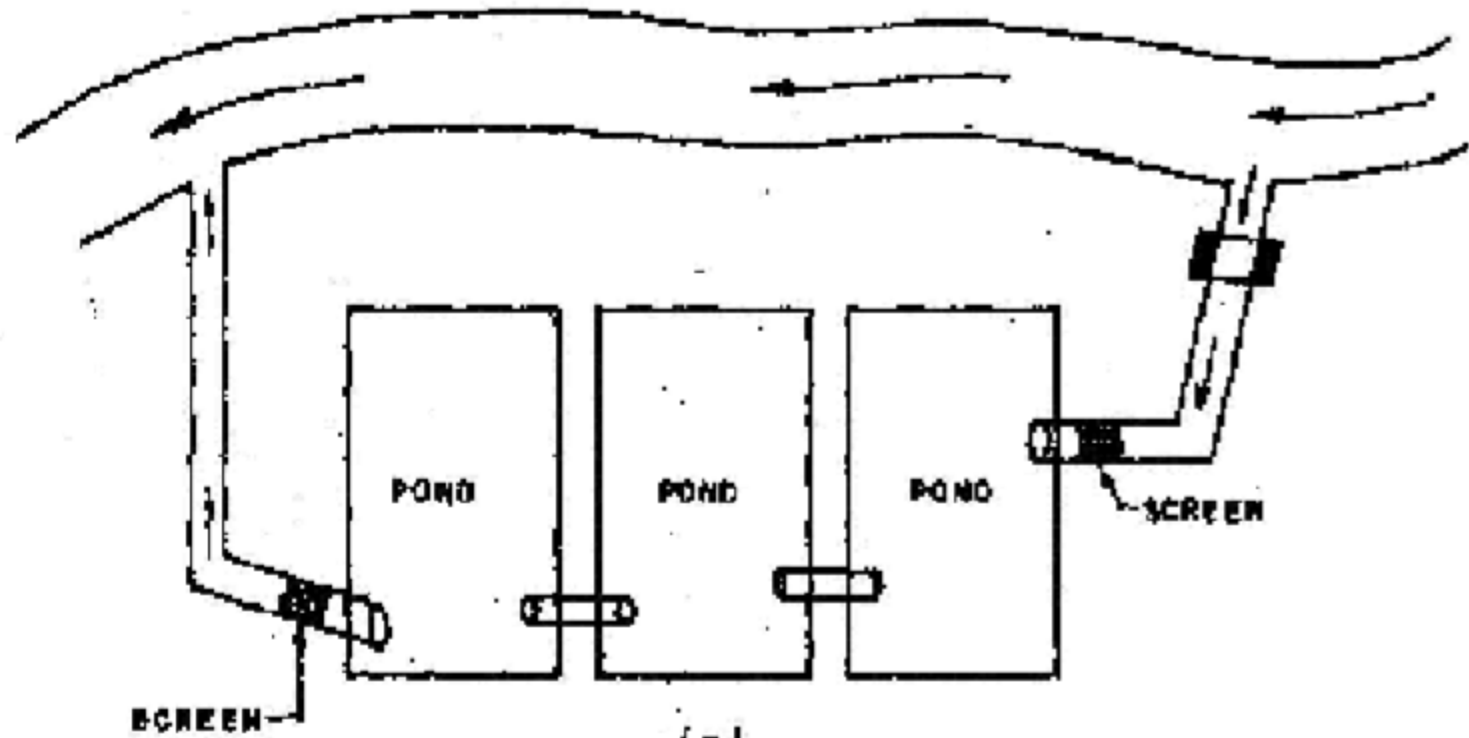
- Therefore if the first pond in the series is full of predators which must be poisoned, all the other ponds in the system have to be harvested and drained before the first pond can be poisoned and drained. It is cheap and easy to build.

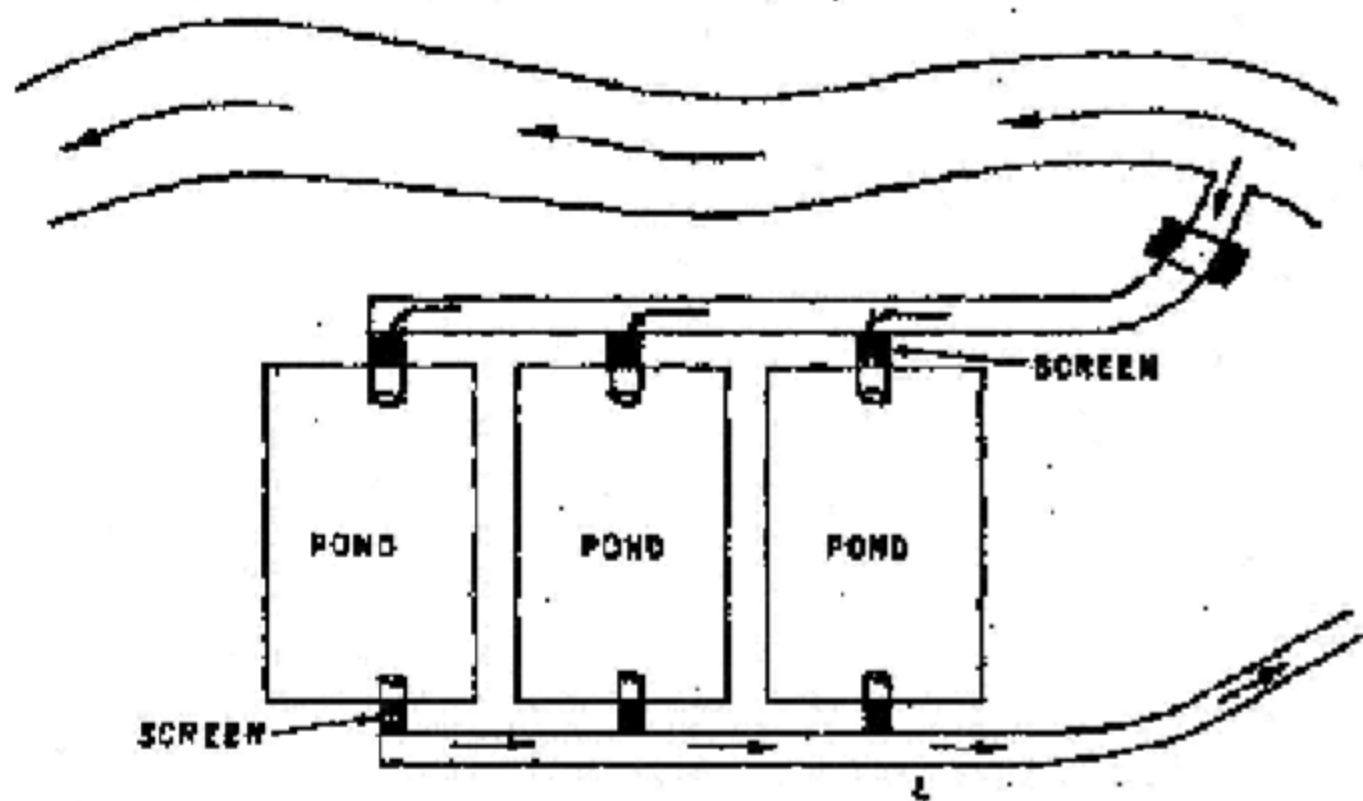
- **Parallel system**

In this system each pond has its own inlet and outlet. Therefore each pond can be managed as separate pond.

- Difficult to construct but easy to manage.







(b)