

PEN CULTURE

- Resistant to rot, corrosion and unfavourable weather conditions.
- Resistant to cuts by crabs and other animals.
- Relatively cheap, easy to handle and transfer.

Species used for culture

Generally, the fish species which are herbivores or detritivores, fast-growing and tolerant to salinity changes in coastal areas are preferred. Milkfish, Mugil sp., Tilapia and Pearlspar are highly suitable fish species for mono or polyculture. The stocking density of fish or shellfish for pens may range from 10-100 individuals/m².

Advantages:

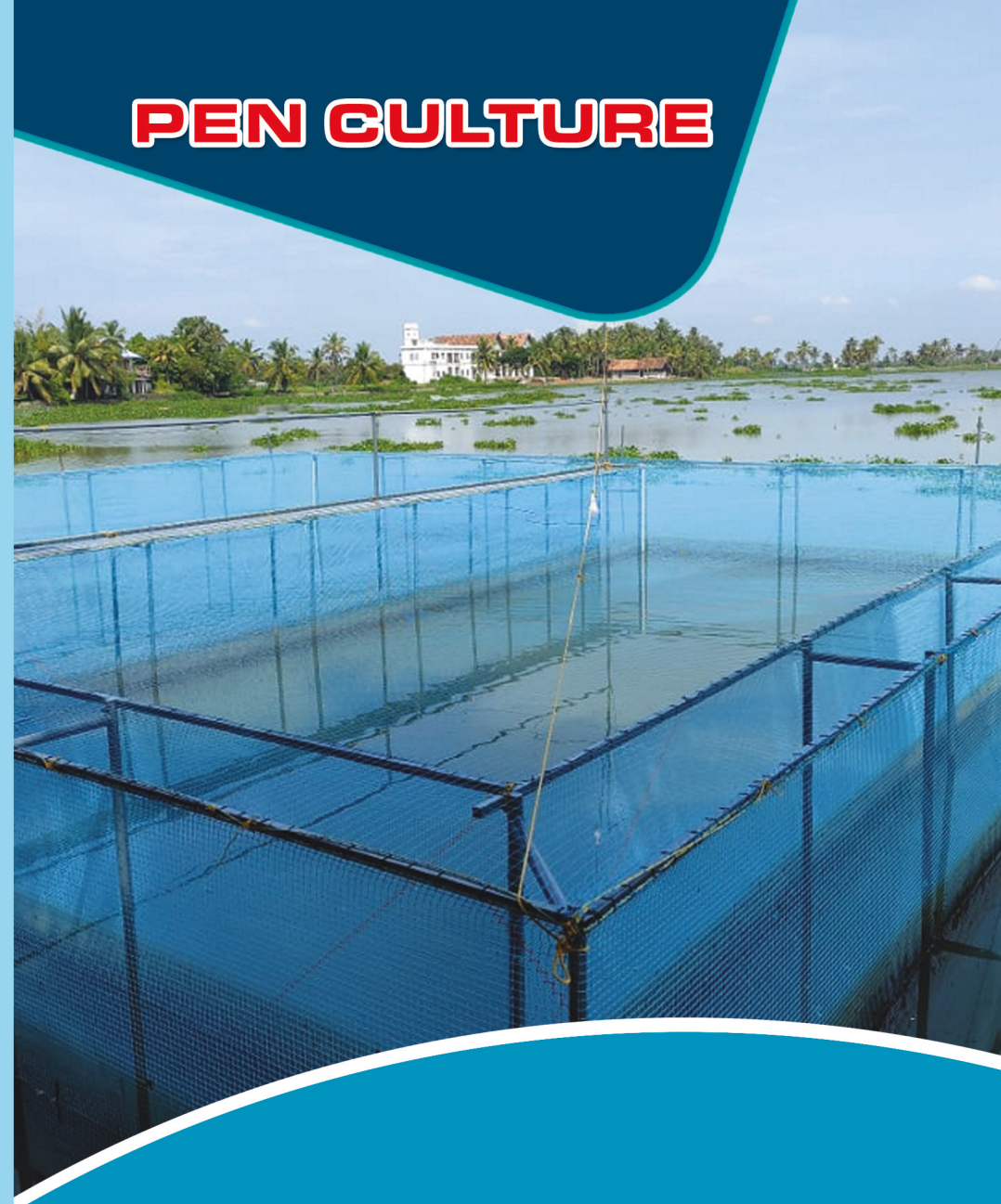
- Intensive utilization of available space.
- Suitability for culturing many varied species.
- Ease of harvest.
- Flexibility of size.
- Construction costs will be cheaper than that of the cages.
- Availability of natural food and exchange of materials with the bottom.

Disadvantages

- Pen culture may not be suitable for all fish species.
- Pens are largely restricted to lentic water bodies.
- The fish stocked in the pens reveal less percentage of recovery.
- Pen culture may be adversely affected by the occasional abundance of red tide.

Conclusion

Compared with other aquaculture systems, pen fish culture involves the use of simple technologies. The environment in the fish pen is characterized by the free exchange of water with the enclosing water body and high dissolved oxygen concentration. The market demand and the availability of seeds greatly influence the selection of candidate species for pen culture. It generates employment opportunities for the coastal fisherfolk.



Prepared by: **Vipinkumar V. P., Reshma Gills, Boby Ignatius, Rajesh N., Nisha E. Joshua, Shilta M. T., Athira P. V., Sary P. S., Binitha K. V., Ambrose T. V., Smitha R. X., 2023.**

Guided by: **Dr. A. Gopalakrishna, Director, ICAR-CMFRI**
Dr. Syam Viswanath, Director, KFRW, Expert Member of DST

Design : **Ambros T. V.**

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ICAR-CENTRAL MARINE FISHERIES RESEARCH INSTITUTE (CMFRI)

P.B. No. 1603, Ernakulam North P.O., Kochi - 682 018
Kerala, India



Pen Culture

Pen culture is defined as the raising of fish in a volume of water enclosed on all sides except the bottom, permitting the free circulation of water at least from one side. The bottom of the water body forms the bottom of the pen. This system can be considered a hybrid between pond culture and cage culture. They are usually constructed along the shallow regions of potential water bodies including the banks of the lakes as well as reservoirs.

The shape of the pen may be square, rectangular, oval, elongated or horse shoe-shaped depending on the nature of shore, land and water depth.

Types of pens:

There are three kinds of pens.

1. Completely isolated enclosures surrounded by a net structure in the middle of a bay with no foreshore.
2. Shore or lake enclosure with a portion of the foreshore extending into deep water surrounded by a net structure.
3. Bay or lake enclosure with an embankment provided with sluices or net structure only at the entrance.

Site selection

It is the most important step in the construction of a pen culture system. The major criteria for the site selection are

- Sheltered weed-free shallow water bodies are the ideal locations for installing pens.
- Water depth 0.5-2.0 m
- Current speed of more than 40 cm/sec should be avoided; 10-20 cm /sec is desirable to maintain good water quality and to prevent fish from spending too much energy for swimming.
- Good soil and water quality are to be maintained. The area should be free from pollution.
- The areas with too much silt and decomposed organic matter should be avoided. Too much organic matter lowers the water quality.
- Adequate water circulation is needed.

Pen materials and construction

The fencing screen should have the following features

- Mesh size of the screen material must be small enough to retain fish fry or fingerlings.
- Sturdy enough to withstand the stretching tension, current, wind and wave action.

