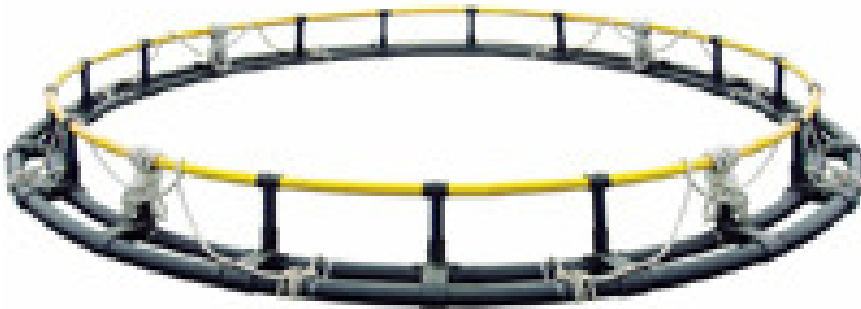


## FISH REARING IN CAGES

Fish farming by growing fish in enclosures called cages is a concept that is catching up. The fingerlings and juveniles are abundantly available in the brackish and estuarine waters. The young fish are caught from these areas and allowed to grow in a floating enclosure such as, cage. Besides the natural feed available in the environment, the fish are also fed with supplementary feeds. The cage provides protection from the predators. As a result, the fish grow rapidly reaching a marketable size of 200-250 grams within 6 months in the tropical waters.

### **Proposal**

Potential market for Cages suitable for fish rearing in marine waters in India is very large. APITCO recommends setting up of unit for manufacturing cages for fish rearing. The emphasis is on providing a turnkey service to entrepreneurs interested in taking up fish rearing in cages.



### **Product mix:**

Cages 20 M Dia	1500 Nos
Cages 10 M Dia	1500 Nos
Net	600000 Sq. M
Feeding systems	3000 Nos
Aeration units	1000 Nos

**Market:**

Indian population of 1.13 billion is growing at 1.6 % per annum and expected to touch 1.4 billion by 2030. It is imperative that the country should start looking at various alternatives to produce enough food for the growing population. One such alternative is to exploit the marine resources.

The volume of marine fish production in India for the year 2004 was estimated to be 2.54 million tons and the figures are set to increase in future due to increasing market demand. Keeping this in mind, Central Marine fisheries Research Institute (CMFRI) is taking steps for development of marine fish culture and had recently launched an experimental project in Vizag. The estimated yield per cage is 2 Tons in six months. If a target of 100000 tons fish production (over a five year period) through cage culture is set, demand for Cages would be 25000 (over five year period)

**Manufacturing Process:**

The cage will have a diameter of 15m-20m depending on the available area for production and is made out of HDPE pipes. It has two circular nets an outer predator net and an inner fish net. The inner fish net will be stocked with fingerlings. The outer predator net is to protect the fingerlings from the attack of the predators of the sea. In addition to this there will be a bird net to protect the fish from birds. Feeding systems, additional floats and aeration systems are provided based on the conditions.

**Specification**

The specification of the sea cage such as depth and diameter will depend on the production area available identified by the entrepreneur.

**Plant & Machinery**

Nylon net manufacturing plant, general engineering work shop machinery suitable for fabrication of feed and aeration systems are required.

**Raw Material**

The raw material required for manufacturing of cage are, HDPE pipes of different sizes, nylon fiber & fasteners.

**Utilities:**

Power is the main utility

**Project Cost:**

An investment of Rs. 100 lakhs may be required to manufacture all the systems for 10 cages per day. Annual turnover of Rs. 600 Lakhs can be expected with a profit of 5 % on turnover.

**Suggested Location**

Costal Belt.

**Entrepreneurs Profile**

The investment required for the project is very low and major portion of the project cost will be working capital. The entrepreneur should be able to provide the entire system and also offer support services for installation and maintenance.

**APITCO's Consultancy**

- Technology tie – up
- Locating financial support