Q. 9.3. Give on outline idea of pisciculture and induced breeding in fishes.

Write an essay on pisciculture. *(Meerut 1989)*

Give an account of pisciculture in India. Mention zoological and common names of important Indian food fishes. *(Rohilkhand 1991)*

Some food fishes, especially the carps, are cultured in ponds or tanks or in special breeding grounds near the river banks. Fish farms are prepared for large scale fish farming. The fish farms are built of a chain of ponds or tanks fed by running water. It includes four types of tanks: hatchery, rearing tank and stocking tank.

1. Hatchery–It is a shallow pond 10 × 5 to 8 ft and about 2 ft deep. The spawn (i.e. egg)and newly hatched larvae collected from puddles and potholes of rivers are kept here for about 18 to 24 hours.

2. Nursery tank–It is 50 × to 30 ft deep and rectangular in shape which gets submerged during rainy season because of overflowing of river.

3. Rearing tank–It is 50 × 50 × 10 ft The fish fry about an inch long is transferred to this tank and is kept for 4–6 months.

4. Stocking tank–It is the main tank where young fish are stocked till ready for marketing. It is very large, covering about half an acre and 6' to 10' deep.

Fish Breeding

1. Preparation of tanks–Tanks are drained and cleaned every year about 30 days before commencement of breeding season to remove unwanted weeds and aquatic animals. The tanks are then filled with clean water. Organic manure such as cowdung or dilute sewage water is added to this water to provide nutrients needed for the growth of plankton. The planktons are eaten by the fish.

Another alternative is to raise the rice crop and leave the straw of the plants in the ground. When steeped in water, the straw decomposes, aquatic vegetation spring up and algae growth occurs in abundance leading to the appearance of protozoans, crustaceans, worms and snails.

2. Collection of spawn–The major carps, *Labeo, Catla, Cirrhina* etc. do not breed in confined water. These lay their eggs in shallow waters of submerged lands adjoining the river sides.

Fig. 9.3. Spawning grounds or breeding grounds of carps in rivers.

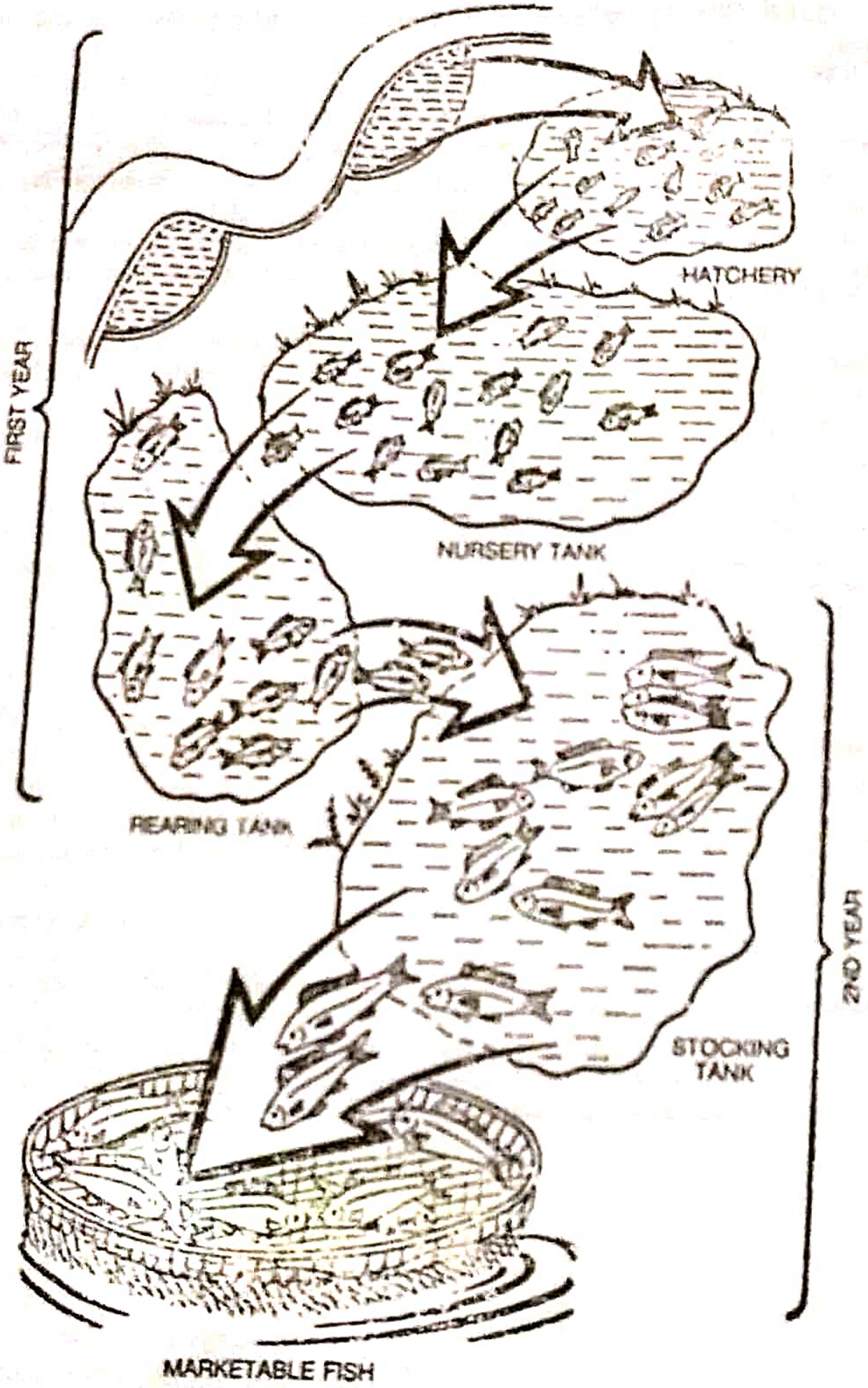

Fig. 9.4. Plan of a fish farm.

The eggs and newly hatched larvae are collected every year from the natural breeding grounds along the river bank. These are stored in earthenware pots within 12 to 14 hours after the mother fish was spawned and marketed for sale. These are kept in hatchery for about 18–24 hours. After this the young larvae are transferred to the nursery tank, where these are kept for a short period. This is simply to look after the young and delicate larvae and protect them from larger fishes. In about a week the fry is transferred from here to the rearing tank when it is about an inch long.

In the rearing tank the fishfry is caught in a special small meshed net daily and is released. The main purpose of this practice is simply to condition the fry to overcome the shock of capture and transfer. In the rearing tank the fishfry is kept for 4–6 months. By that time it attains the size of one foot and becomes sturdy.

In the stocking tank the young fish are kept till these are ready for marketing. This pond is rich in food and allows a quick growth and a rapid increase in size.

Although, pond culture arose in Bengal and Bihar, is now practised in all other states through Central and State Fisheries Departments. In addition to carps, mullets, milkfish, pearlspot, tilapia etc. are also reared for sale. The young larvae are transferred to this tank from the hatchery.