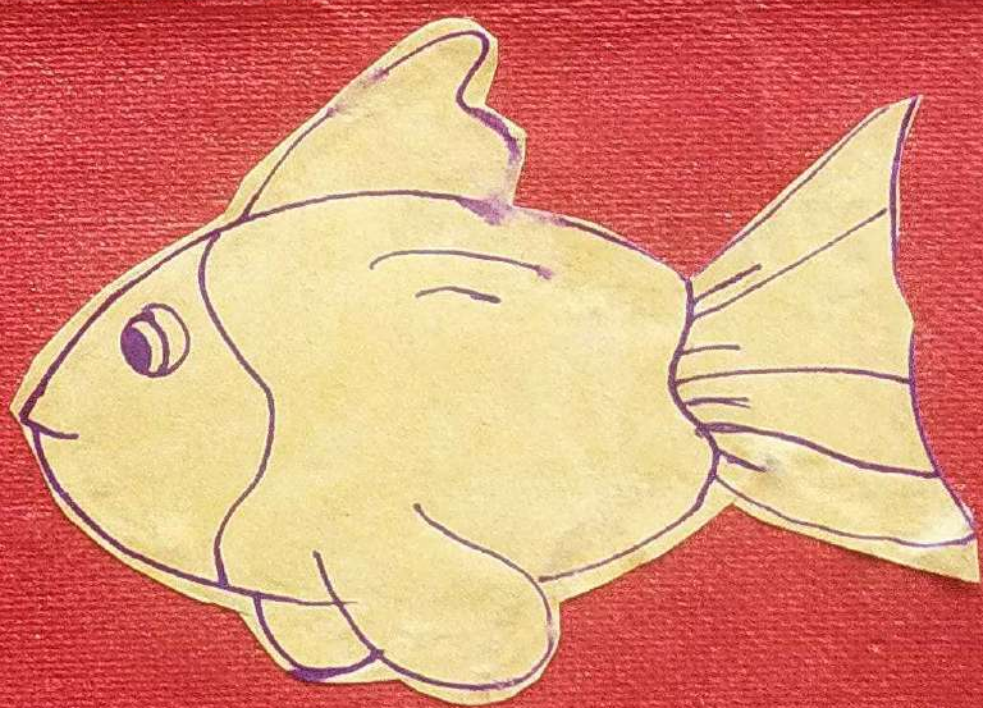
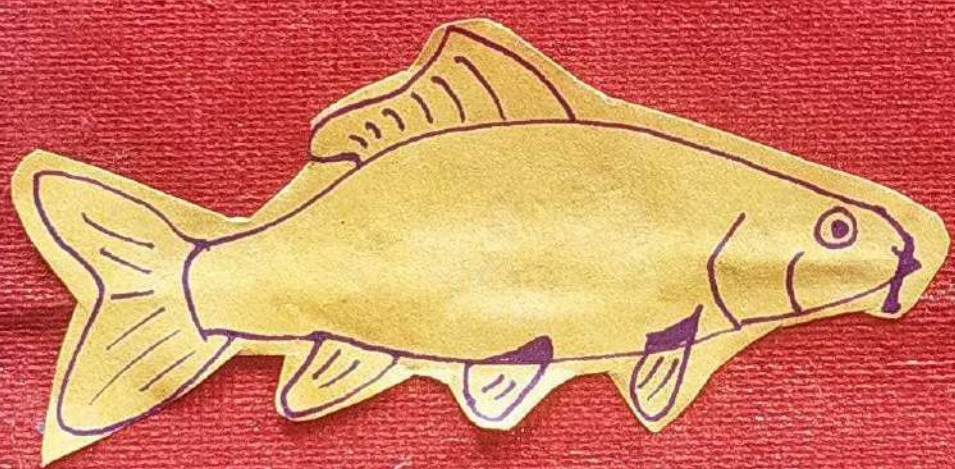




A Report on Common Carp ©

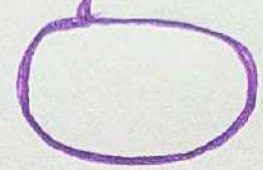


By Laxica

A Report on Common Carp

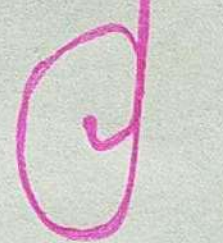
Submitted to

Mr. Vijay Singh



[zoology professor
C.M.G. G.C.W. Bhodia Khera Ftd.]

Submitted by



Laxica

B.Sc. Medical

IIIrd year

200260443012

C.M.G. G.C.W. Bhodia Khera.

Fatehabad; 125050

Certificate

This is to certify that Saxica of C.M.G. G.C.W.
Bhadia Kheda, Fatehabad of class
B.Sc. Medical 'III', roll no. 200260443012
has completed the project report on
common carp culture under the
guidance of Mr. Vijay Singh. (Head of
Zoology department C.M.G. G.C.W. Bhadia
Kheda Ftd.)

Sign.

8/8/23

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Submitted by-

Lexica

B.Sc. Medical

IIIrd year

200260443012



Index

- . Introduction
- . Farming of Common Carp
- . Some Basic Knowledge about Carp.
- 1. How to farm common carp.
- . Various types of Ponds
- . Different types of Nets
- . Marketing of common carp
- . Economic importance.



Common Carp

Introduction Biological

- i). It's body
- ii). There are
- iii). Dorsal
- iv). Anal fin

- Habitat
It lives in
Best growth
between
→ cold
of 6.5 to
superior

- Feeding
carp
The car

- Reproduction
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Introduction to common carp.....

Biological classification :-

Kingdom - Animalia
Phylum - Chordata
Class - Osteichthyes
Order - Cypriniformes
Family - Cyprinidae
Genus - Cyprinus

Characteristic features :-

- i). It's body is elongated and compressed with thick lips.
- ii). There are 2 pairs of Barbels at angle of mouth.
- iii). Dorsal fin base is long with 17-22 branched rays.
- iv). Anal fin with 6-7 soft rays.

Habitat :-

It live in the middle and lower streams of water.
Best growth is obtained when water temperature ranges between 23°C to 30°C . It can survive
→ cold water periods → Salinity upto 5‰ → pH range of 6.5 to 9.0 → low Oxygen concentration as well as supersaturation.

Feeding Habits :-

carps are Omnivorous with a high tendency towards the consumption of animal food such as worms, molluscs.

Reproduction :-

carps generally spawn in spring and early summer in temperate areas. They gather in shallow water. The female scatter their eggs in water and then the male fertilize the eggs. Eggs stick to a place and starts developing.

Farming of common carp.....

① what's the Scenario in The world?

common carp is the one of the largest produced freshwater fish species. It's global production cover around 3.4% of the world's fish production. It is the 2nd most significant fish species of the world's aquaculture production. Main countries involved are Poland, Hungary, Germany, Croatia etc.

② Farming of common carp in India.

India has a tremendous potential for the growth of fish based industries.

The common carp was brought from China and was put in Eoty lake. In 1947, it was produced in the Nainital and kumaun hill. This fish is now well acclimatized in Indian waters.

③ The common carp in Haryana

The fish farming in Haryana is of recent origin. In the short span of three decades, the fish farming in the state has developed to a status of significance. Haryana after Punjab stands 2nd in the average annual fish production.

The common carp is farmed in Haryana at a significant scale.

--- In the continuous state we have visited Otta village, Lissa, Haryana.

The total fisheries sector has been recognised as a powerful income and employment generator in Haryana.



Carps

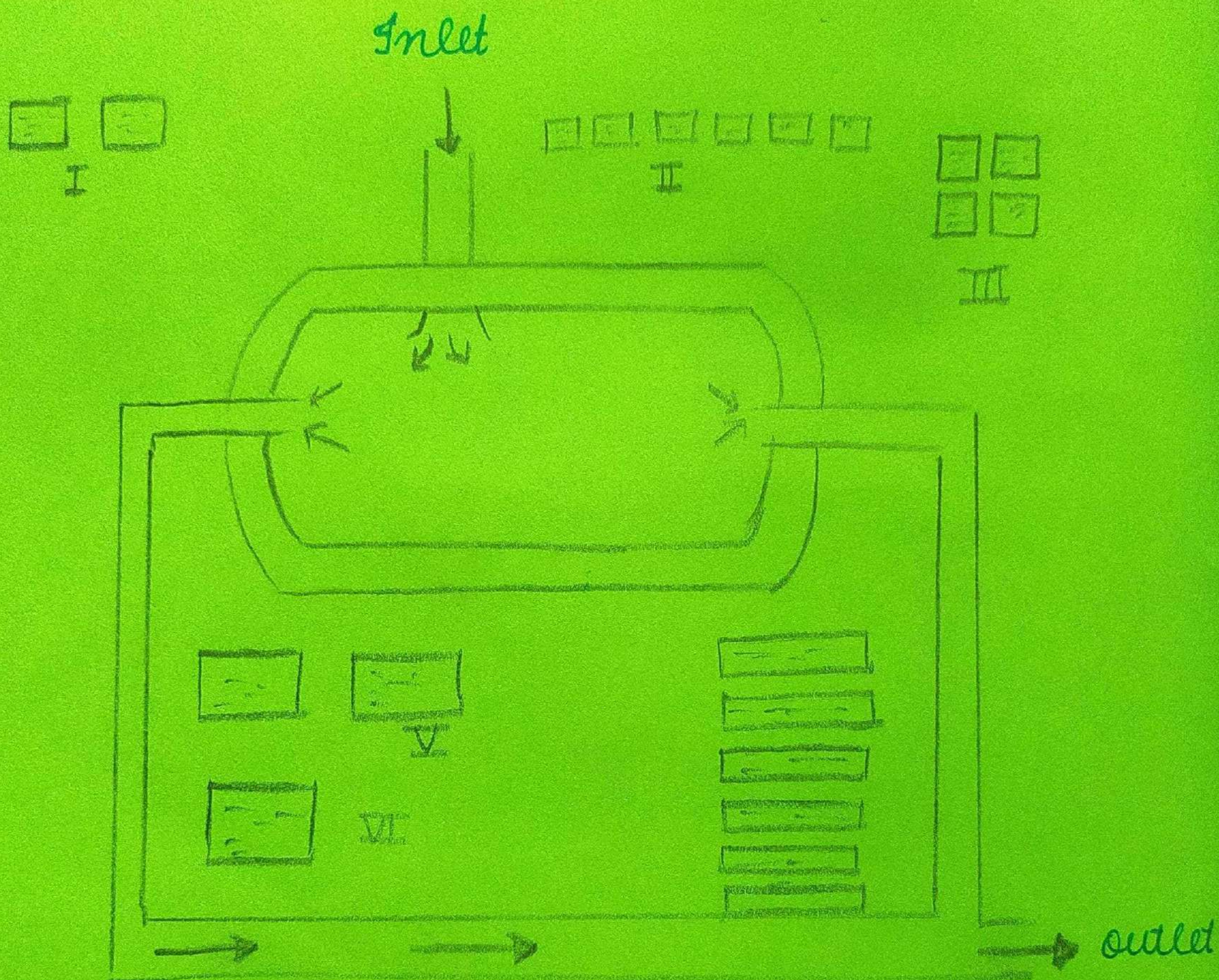
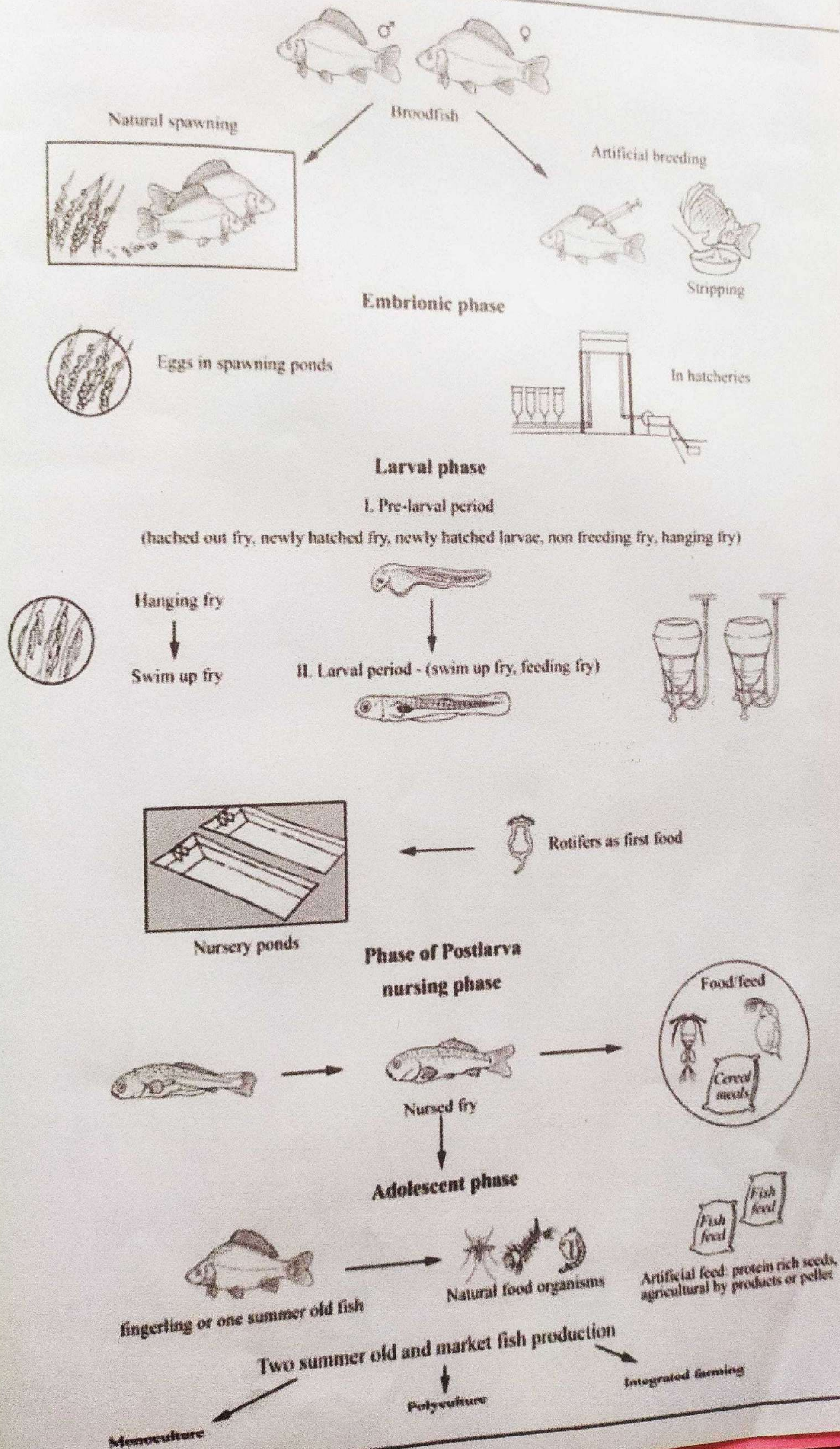


Fig. - An ideal fish farm

- I - Breeding ponds
- II - Hatching pits
- III - Nursery ponds
- IV - Rearing ponds
- V - Stocking ponds
- VI - Marketing pond

production cycle

production cycle of Cyprinus carpio





Basics to know.....

why carp fish is cultured?

Due to its advantages as -

commercial carp fish farming is very easy.

You can use your existing pond or tank to grow carp.

You can also use your roof to raise this fish.

Farm carp are more nutritious than wild fish.

Eat feeds from different levels.

Fish do not fight each other for food.

Each fish live on its surface.

Good disease resistance.

Minnow can easily find.

High demand in the market

what are the characters of cultivable carp fish?

Growth rate - Fish that grow large in a short period are suitable for culture.

Adapt to the climate - cultured fish species must adapt to the farm's local climatic conditions.

Tolerance - Fish must withstand wide fluctuations

Acceptance of artificial breeding -

Resistance - The reared fish must be strong enough to resist the attack of fish.

growth factor for common carp

Environmental conditions -

climate, water temperature, water quality,

food availability.

Cultural conditions -

Fish density, natural food production capacity,

pond production, and used food.



How to farm Common Carp

1. Select an area -

- ⊙ It is best to avoid flooding and contaminated areas.
 - ⊙ Don't choose a land near crop field as farmers usually chemicals that might contaminate the pond.
 - ⊙ Make sure there is a good transpiration system.
 - ⊙ It would be better if chosen land is a little less than the main water source.
- It will reduce the cost of filling.

2. Fish seed -

Fish seed is a term used for spawn (fertilized egg), hatchlings, sac fry, fry, juveniles, fingerlings. Fish seed are introduced in artificial ponds so that they grow and develop into fish. These can be -

→ Natural fish seed resources - These includes fish seed obtained from river and streams.

- ⊙ This method is strenuous

- ⊙ In this we get the mixture of wanted and unwanted fish seed.

To avoid these problems we use Induced breeding technology.

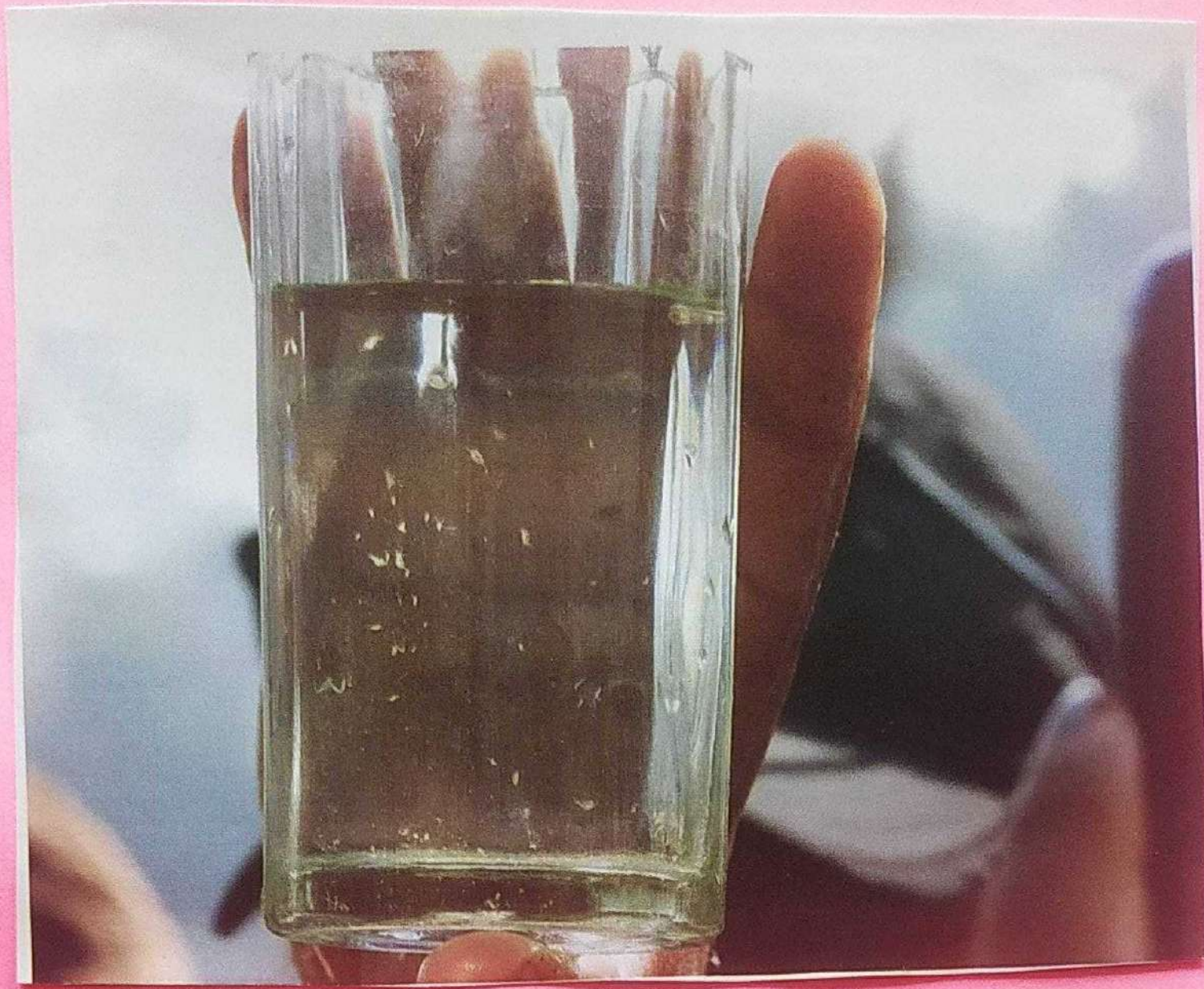
In this

- ⊙ Pure seed of desirable species can be obtained.

Induced breeding technique →

Intra-muscular injections are practiced in India. This is less risky than others.

After the injection, the breeders are released immediately inside the breeding Happa.



Fish seed



Fertilized eggs



Happa



happas in pond



Spawning normally occurs within 3-6 hours. Soon after fertilisation, the eggs swell up. The developing eggs are retained in the breeding hapa undisturbed for a period of at least 4-5 hours after spawning. Then these eggs are transferred into a bucket.

Breeding Hapa-

These are rectangular structures, formed by cloth supported by the bamboo sticks from all sides. The mesh of cloth should be small enough to prevent escape of eggs.

Hatching :-

It takes 4 to 5 days for eggs to hatch. These hatchlings are removed to indoor nursery tanks.

Nursery ponds.

- ① These are of the size of 55 ft x 35 ft x 5 ft.
- ② These are prepared before hatching of the hatchlings. In these ponds cowdung and fertilisers are used to grow phytoplankton and zooplankton.
- ③ The nursery ponds should be kept free of the weed fishes.
- ④ There should be proper food for fishes.
- ⑤ Sudden change in water quality should be avoided.
- ⑥ Here hatchlings grow to size of fingerlings.
- ⑦ Then these are transferred to rearing ponds.

Rearing ponds

These are for maintaining the proper growth of fingerlings.

- ① These are longer and narrower to provide long distance swimming to fishes.
- ② The ponds are 6-8 ft. deep.
- ③ When fingerlings attain the size of more than 20 cm. These are transferred to the stocking ponds.



- ⑥ The water supply to these ponds may be seasonal or perennial.
- ⑥ It decreases their movement and consumption of Oxygen.
- ⑥ To avoid transportation of parasites, antibiotics like methyl blue, Copper sulphate etc. are used.

When these fingerlings attain the size of more than 20 cm., they are transferred to stocking ponds. This transportation occurs in large containers of 1000 capacity.

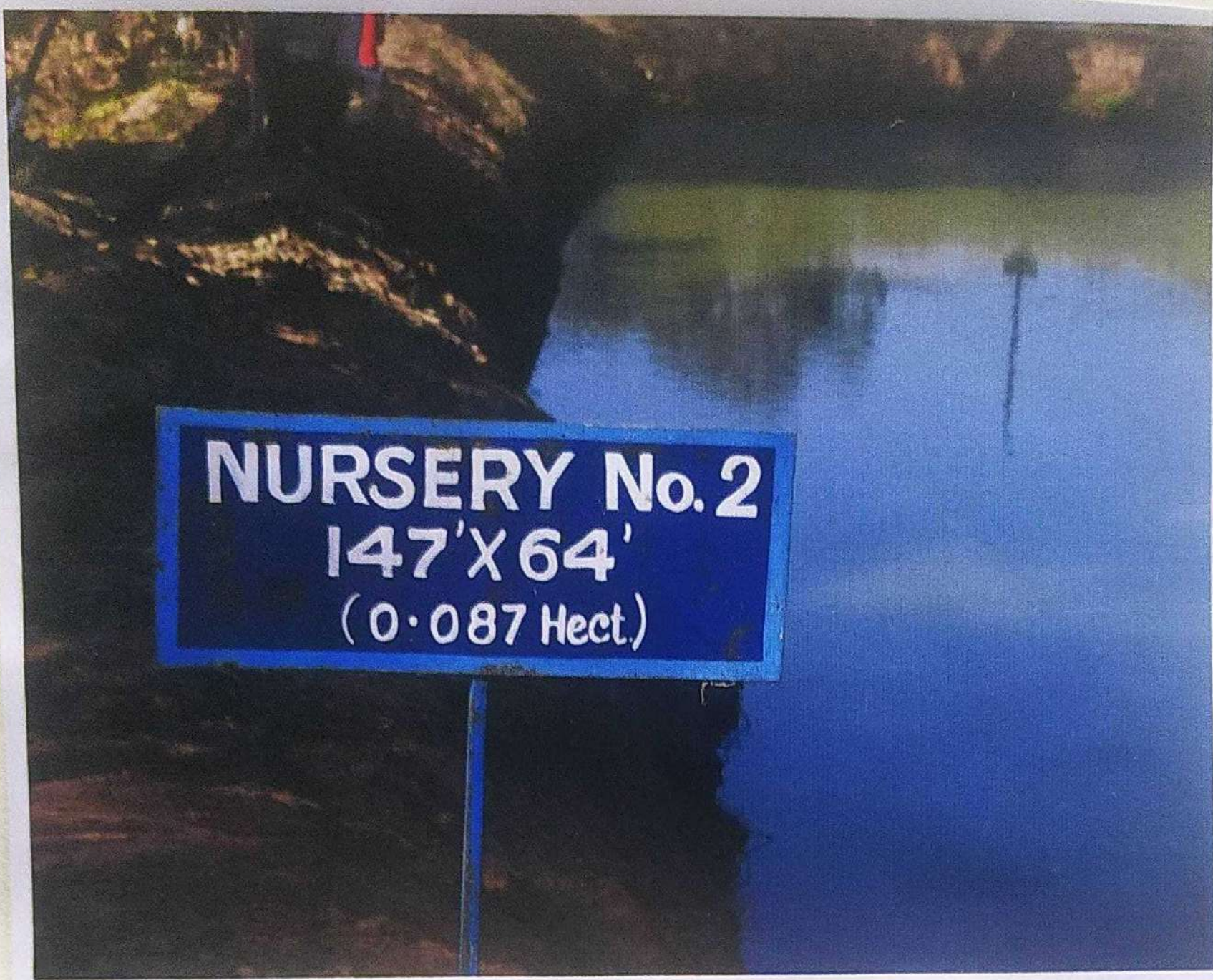
Stocking ponds:-

- ⑥ These are large sized ponds where the fingerlings are allowed to attain full size and kept there till harvesting.
- ⑥ Here the fishes are provided with artificial food in the form of oil cakes, mustard, powdered rice etc.
- ⑥ That food should be easily digestible and economical.
- ⑥ To increase the production of natural food like planktons, Organic manure and inorganic fertilizers are added in the ponds.
- ⑥ The best time to provide artificial food is morning.
- ⑥ As fishes attain maximum size and fully grown then harvesting is done.

3. Arrangement of ponds-

These can be arranged in either

- ⑥ Rosary system:- Where various types of ponds are constructed in series. All the ponds are



Nursery ponds





fish feed

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linked by a channel. A bypass channel is also present to regulate excess water.

- Parallel system: The ponds are built in either single or 2 parallel series. But all the ponds have separate inlets and outlets.

Maintenance of Pond

- Overpopulation of the fishes should be checked.
- Aquatic vegetation growth should be checked.
- Lime should be sprayed at the bottom of pond. It is an antiparasitic agent, kills harmful insects.
- Predatory fishes should be checked regularly.

4 Fish feed

Common carp is normally omnivorous. At different stages of its growth feed is provided accordingly.

Stage	Feed	Ingredients
Spawner	1	Finely powdered soyabean meal Finely powdered groundnut oil cake Rice Bran vitamin
Fry	2	Groundnut oil cake Soyabean meal rice bran
Fingerlings	1	Soyabean oil, Mustard oil cake
Adult fish		Natural food grown in ponds Pellets Protein food

5. Harvesting of adult fish

The process in which the full grown fishes are



captured from water is called Harvesting. The fish when become of a particular size are then captured.

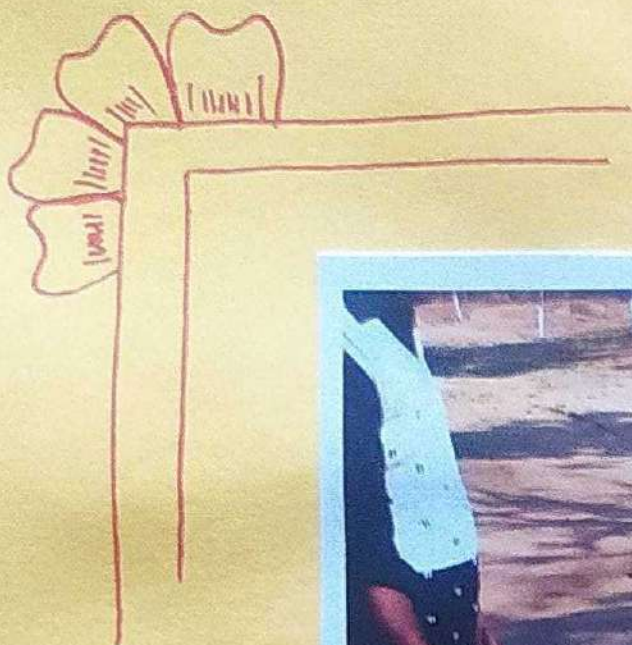
Fishing crafts and gears used -

① Cast net :-

- It is commonly called 'ghagharia jal' or Thruu net. It is almost bell shaped.
- It's strings are of cotton or nylon.
- On it's lower circular margin weights are present which are known as sinkers.
- The number of meshes at apex is 50 and at margins are about 1000.
- At the time of fishing, the net is thrown skillfully in water keeping hauling line in hand.
- The net spreads like an umbrella.
- The fishes are captured in net pocket, the string is pulled close the net and lift it up on the boat.

② Drag net :-

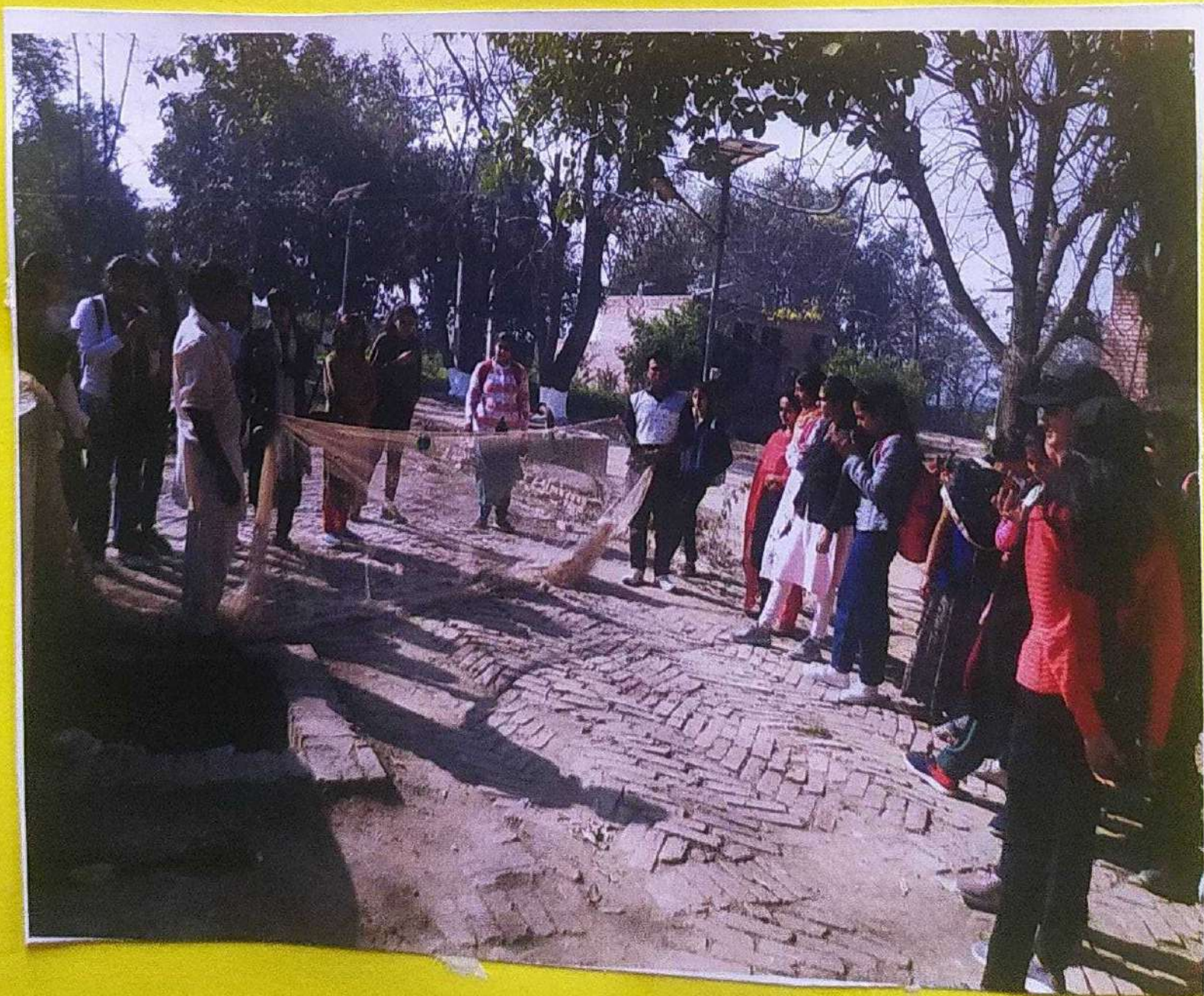
- Also known as 'chanti net' or 'Pattijal'.
- This is as long as the width of the pond.
- On upper surface there is floating line and on lower surface there is lead line with sinkers.
- The net is used against the water current.
- The fishes are accompanied at one end and are captured in the net.
- It requires 20-30 persons to move drag net along the bottom from one end of pond to another end.



fishing net



Fishing nets



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Management and Marketing.....

→ Economics of fish farming:-

- ① Fish as food :- Fishes are of great importance to humans in the form of food. Common carp is the main fish used as food.
- ② Liver oil :- It is extracted from the liver of fishes. It is the main source of Vitamin 'A'.
- ③ Fish meal :- It is prepared from the wastes of fish oil. Its chemical composition:
Proteins - 55-70% ; Moisture - 6-12% ; Iodines - Traces
Minerals 10-20% ; Calcium - 5.36% ; Vitamins - A, D, K
- ④ Fish protein :- White powder extracted from fish wastes by removing the fat.
- ⑤ Fish flour :- Commonly used in biscuits, bread, cakes, sweets etc.
- ⑥ Fish roes :- It is rich in Vitamin B₁ and also contains Vitamin C, D and E. It is easily digestible.
- ⑦ Fish fertilizers :- The waste of fish meal is widely used as manure for coffee, tea and tobacco plantation.
- ⑧ Fish skin :- The skin of fish is used for covering card cases.
- ⑨ Fish glue :- It is obtained from skin and bone of fish like Cod, Halibut etc.

Marketing of fishes

Marketing of fishes is a method to sell them.

- ① The demand position of consumer market should be assessed.
- ② The prices should be regulated.
- ③ The loss should be minimal.
- ④ The facility should be provided for transportation.
- ⑤ The facility of credit, loan should be given.
- ⑥ wide publicity should be given to carp food.

Latest advancements in Aquaculture techniques

A). Cryopreservation of gametes -

The preservation of semen in cold conditions. They will be used later.

B). Hybridization - If the breeding takes place between different species which ordinarily do not breed is hybridization.

C). Transgenic fish.

Transfer of isolated desired gene to desired fish is transgenic fish.