Fish farming

This is the rearing of fish in a controlled environment for food or sale

Importance of fish farming

- Source of food i.e. proteins
- High return
- Fish take short time to mature
- Source of employment
- Source of animal feeds
- Diversification economic activities.
- Requires less capital
- Makes use of land which is not suitable for other agricultural enterprises
- Reduce dangers associated with fishing in rivers.
- Market for fish largely available
- Fish farming can easily be integrated with other farmenterprises.

Challenges of fish farming

- Lack of land/space for ponds
- Lack of education and skills in fish farming
- Shortage of inputs
- Limited funding
- High costs for fish feeds
- High pollution of water and swamps
- Limited research
- Some culture and religion restrict consumption of some species
- Low level of technology
- Legal restriction on fish farming in swamps.
- Disease and pests

Species of fish reared in Uganda

- Tilapia

- Cat fish
- The carp
- Nile perch
- Silver fish
- Lung fish

Fish pond

It is a structure used to hold a standing body of water with limited flow.

Types of fish pond

- **Embankment pond (levee ponds):** is made by construction of walls above the ground level to impound water without excavation into the ground.
- Excavated pond: made by digging out the soil and then using the dug soil to build pond embankment.
- Partially excavated pond with low walls (ravine ponds):

Features of a good fish pond

- Permanent /reliable water source throughout the year
- Pond walls or dykes to hold the water in the pond.
- Water controls to manage water level and flow.
- Tracks and roadways along the pond wall for easy access.
- Harvesting facilities and other equipment for water and fish management.
- Security
- Access to market

Factors that affect fish species for rearing

- Breed rate of the fish in a pond
- Growth rate and weight gain of fish
- Adaptability to the pond conditions lake water quality
- Presence market for the fish
- Resistance to tress or diseases
- Availability of fish seeds
- Skill

Care for fish pond

- Feed the fish regularly and remove excess food and debris from the pond
- Observe the fish for healthy swimming, eating, and breathing behavior
- Monitor the water level, temperature, pH and quality, and add new water if needed
- Clean the pond and the pump, filter, lines, and fountains regularly

- Manage the nearby plants and grow water plants to provide shade and oxygen
- Control water weeds
- Plant vegetation on the wall tops to control soil erosion
- Cement the walls to control leakage
- Fertilize the fish pond to promote growth of algae
- Add dewormers into the pond water to control worms in the fish

To prevent diseases in your fish pond

1. **Water Quality Maintenance:**
   - Regularly test the water quality for pH, ammonia, nitrite, and nitrate levels.
   - Maintain proper water circulation and aeration to prevent stagnation.
   - Use a good-quality filter to remove debris and excess nutrients.

2. **Quarantine New Fish:**
   - Before introducing new fish, quarantine them in a separate tank for a few weeks.
   - Observe their health and behavior during this period to prevent the spread of diseases.

3. **Avoid Overcrowding:**
   - Overcrowding stresses fish and increases the risk of diseases.
   - Follow recommended stocking densities based on the size of your pond.

4. **Feed Properly:**
   - Feed your fish a balanced diet to boost their immune system.
   - Avoid overfeeding, as excess food can lead to water pollution.

5. **Remove Dead Fish Promptly:**
   - Dead fish can release harmful substances into the water.
   - Remove them promptly to prevent disease transmission.

6. **Regular Inspections:**
   - Check your fish for signs of illness (e.g., abnormal swimming, lesions, discoloration).
   - Address any issues promptly by consulting a fish health professional.
   - Remember that prevention is key, and maintaining a healthy environment is crucial for disease prevention in your fish pond!

Methods of harvesting fish

- Drainage of pond water completely pick out fish and refill with water
- Use of nets

Method of preserving and processing fish

- Drying
- Salting

- Smoking
- Canning
- Freezing
- Dehydrating

Management practices that increase fish yield in a pond

- Select good quality fish breed
- Proper stocking of the pond
- Managing oxygen level
- Managing water pH
- Fertilize the pond to promote growth of planktons
- Control fish disease
- Control fish predator
- Control weed

Revision questions

1. Continuous supply of oxygen in fish pond can be maintained by
   A. Removing water weed from the pond
   B. Pumping air into the pond
   C. Refilled of the pond with fresh water regularly
   D. Planting grass on the pond walls
2. Which of the following is not likely to occur when there is excess supply of feed in a fish pond?
   A. Wastage of feeds
   B. Development of foul smell
   C. Over fattening of fish
   D. Abundance of phytoplankton

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3. (a) State six factors to be considered when selecting a site for fish pond (06marks)
   - The topography of the site should be gently sloping to allow the pond to be filled and drained easily under natural gravity
   - The soil water holding capacity and water the water table should be high to hold water in the pond for a long time without draining away
   - The water source should be stable/permanent to provide water to the pond
   - It should readily accessible for monitoring
   - There should security
   - Should be free from pollution
   - Should be of adequate size

- Should be free from human interference.

(b) Give four management practices carried out in a fish pond (04marks)

- Pond stocking
- Pond cleaning
- Pond repair
- Pest and disease control
- Fish feeding
- Water refilling
- Fish sampling
- Fish harvesting and marketing

4. (a) Give f**ive** challenges that farmers face in fish farming (05marks)
   - Lack of land/space for ponds
   - Lack of education and skills in fish farming
   - Shortage of inputs
   - Limited funding
   - High costs for fish feeds
   - High pollution of water and swamps
   - Limited research
   - Some culture and religion restrict consumption of some species
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   - Disease and pests

   (b) Outline **five** management practices that should be carried out to ensure successful rearing of fish to maturity in a pond. (05marks)
   - Select good quality fish species
   - Maintain optimal fish population
   - Fertilize the pond to boost algae growth
   - Feed the fish regularly and remove excess food and debris from the pond
   - Observe the fish for healthy swimming, eating, and breathing behavior
   - Monitor and control the water level, temperature, pH and quality, and add new water if needed
   - Clean the pond and the pump, filter, lines, and fountains regularly
   - Manage the nearby plants and grow water plants to provide shade and oxygen
   - Control water weeds and predators