Subject: Agricultural Science

Class: JSS1

Term: First Term

Week 6

Topic: Forms of Agriculture (III)

Sub-Topic:

- Fishery
- Heliciculture (Snailry)
- Apiculture (Bee Farming)
- Preparation of Honey

Lesson Objectives

By the end of the lesson, students should be able to:

1. Define fishery, heliciculture, and apiculture.
2. State the types and benefits of each practice.
3. Describe how honey is produced and harvested from beehives.

I. ✅ Definition of Terms

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1. Fishery

Fishery is the branch of agriculture that deals with the **breeding, catching, and management of fish and other aquatic animals** such as crayfish and prawns.

Types of Fishery

- **Natural Fishery** – Fish caught from rivers, lakes, oceans (e.g., artisanal fishing).
- **Artificial Fishery** – Fish are raised in fish ponds or tanks (e.g., fish farming).

Examples of Fish Raised

- Tilapia
- Catfish
- Mackerel
- Herring

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2. Heliciculture (Snailry)

Heliciculture is the rearing of **snails** for food and commercial purposes. It is also called **snail farming**.

Characteristics of Snails

- Slow-growing and quiet animals
- Feed on vegetables, fruits, and peels
- Active at night (nocturnal)

Common Species

- *Achatina achatina*
- *Achatina fulica*

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3. Apiculture (Bee Farming)

Apiculture is the **rearing and management of bees** for the production of **honey, wax**, and **pollination** services.

Types of Bees in a Hive

- **Queen bee** – The only fertile female; lays eggs
- **Drones** – Male bees that mate with the queen
- **Worker bees** – Female bees that clean, build the hive, and collect nectar

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II. 🍯 Preparation and Harvesting of Honey

Bees produce honey by collecting nectar from flowers and storing it in waxy structures called **honeycombs** inside the hive.

Steps in Honey Production & Harvesting:

1. **Nectar Collection**
   Bees collect nectar from flowers and convert it into honey through enzymes in their mouths.
2. **Storage in Honeycomb**
   The honey is deposited into hexagon-shaped cells made of beeswax.
3. **Capping with Wax**
   When full, the cell is sealed with wax.
4. **Harvesting Honey**
   - Beekeeper wears protective clothing
   - Honeycomb is removed from the hive using a knife or extractor
   - The honey is extracted (either by pressing or using a honey extractor)
   - The honey is then **filtered and bottled**

III. ⚖️ Advantages and Disadvantages

Practice	Advantages	Disadvantages
Fishery	- Fast reproduction - High demand and income - Source of protein	- Requires clean water - Diseases can spread easily
Heliciculture	- Low cost and space - Nutritious meat - High market value	- Slow growth rate - Sensitive to dryness and predators
Apiculture	- Produces honey and wax - Aids in pollination - Low maintenance	- Risk of bee stings - Bees may leave the hive if not well managed

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IV. 💼 Importance of These Practices

- **Fishery** – Provides protein-rich food, job opportunities, and income
- **Snailry** – Supplies a healthy meat option, easy for beginners to start
- **Bee Farming** – Produces honey (natural sweetener), beeswax (for polish and candles), and supports plant pollination