

Improvement in Food Resources

Animal Husbandry

1. Cattle Farming

- The breeding of wild animals for specific purposes is called domestication, and such animals are called domestic animals.
- Animal husbandry is the branch of biology which deals with feeding, shelter, caring and breeding of domesticated animals.
- Animals domesticated for companionship at home are called pets.
- Animals domesticated to obtain food and other valuable products are called livestock.
- There are three types of animals:

Draught Breeds	• They are primarily used for drawing bullock carts, ploughing land and transport of materials. • The milk yield is very low. • The meat is tough.
Dairy Breeds	• They are high-milk yielders. • Their males are poor draughts.
Dual Purpose Breeds	• They are good milk yielders. • The males are good for draught purposes. • Examples: Haryana, Dangi, Tharparkar

Shelter
• It must be well-lit and well-ventilated.
• Cattle sheds must be properly covered to protect cattle from rain, heat and cold.
• The floor should be sloping so that cleaning and keeping the place dry is easy.
• The shelter must be spacious so that each animal is comfortable and overcrowding is avoided.
• There should be an arrangement for fresh, clean drinking water.
• A proper arrangement for the disposal of the animal's urine and excreta must be made.
• Shelters should be located away from residential areas and waste disposal sites.

Feeding

The animal food which contains essential components needed for the growth, development and general maintenance of the body is called feed.

a) Roughage	• Roughage is a coarse, fibrous substance with low nutrient contents. • Animals get their roughage from substances in their feed such as hay, green fodder, silage, berseem, lucerne and cowpea.
b) Concentrates	• They are rich in carbohydrates, proteins, fats, minerals and vitamins.
	▪ Grains and seeds of bajra, maize, rice, jowar and barley which are rich in carbohydrates. ▪ Oil cakes formed from cotton, mustard and groundnut. ▪ Rice bran, gram chaff, wheat bran and molasses.

Diseases in Cattle

Type of Disease	Name of Disease	Symptoms
Viral Disease	Foot and mouth disease	Blisters on feet and mouth Excessive salivation Reduced appetite Soreness of mouth Fever
	Cow pox	High fever Appearance of small nodules over the body
Bacterial Disease	Anthrax	High fever Swelling on the body, especially neck
	Rinderpest (cattle plague)	High fever Excessive salivation Redness of eyes Loss of appetite
	Salmonellosis	Diarrhoea with blood clot
Mad cow disease is a degenerative disease which affects the central nervous system.		

Poultry

- **Poultry** is the raising of chickens, ducks, turkeys and geese for meat and eggs.
- The egg-laying chickens are called **egg**ers or **lay**ers.
- Rhode Island leghorns and white leghorns are good layers.
- The chickens reared for obtaining meat are called **broilers**.
- The following breeds are found in Indian poultry:
 - ✓ Indigenous breed: Aseel
 - ✓ Exotic breeds: White Leghorn, Rhode Island Red

New varieties of fowls are developed for the following desirable traits:

Number and quality of chicks

Developing dwarf broiler parent for commercial chick production

Tolerance to high temperature

Small-sized egg-laying bird to use diets formed by using agriculture by-products

Low-maintenance requirements

Poultry Care

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| <ul style="list-style-type: none">• Chickens are raised in wire cages. |
| <ul style="list-style-type: none">• Birds should not be kept open or overcrowded. |
| <ul style="list-style-type: none">• Feeding trays and egg trays are kept in front of the cage. |
| <ul style="list-style-type: none">• The place should be well-ventilated. |
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| <ul style="list-style-type: none">• Clean drinking water must be provided. |
| <ul style="list-style-type: none">• Droppings fall on the ground, so it must be cleaned at intervals. |
| <ul style="list-style-type: none">• Bird droppings from poultry farms are an excellent source of nitrogen for plants. |
| <ul style="list-style-type: none">• Egg production is related to day-length; artificial lighting is done to increase the day length in winter. |
| <ul style="list-style-type: none">• The feed of poultry birds contains maize, soy, rice bran, cereals and groundnut cakes. |
| <ul style="list-style-type: none">• For broilers, a thick layer of sawdust is provided in the sheds to absorb droppings. |
| <ul style="list-style-type: none">• Feed and water are kept at regular intervals for easy access to all birds. |
| <ul style="list-style-type: none">• After raising one batch, sawdust is cleared, the area is sterilised and again fresh sawdust is spread to raise another batch. |

Poultry Diseases

Viral diseases	Fowl pox, Ranikhet
Bacterial diseases	Fowl cholera, salmonellosis, diarrhoea of chick, coryza
Fungal diseases	Aspergillosis

Timely vaccinations prevent chickens from these diseases.

Pisciculture (Fish Production)

Marine Fishery

- India has a coastline of 7500 km and deep seas.
- Fish are caught by using fishing nets and other gear.
- Echosounders and satellites are used to locate a large population of fish under the sea.
- Some of the popular marine fish varieties are Pomfret, Bombay duck, mackerel, snapper and mullet.
- Fish reared in pisciculture are Catla, Mrigal, Tilapia and Singhi.
- Marine fish reared in pisciculture are Pomfret, Bombay duck, snapper and mackerel.

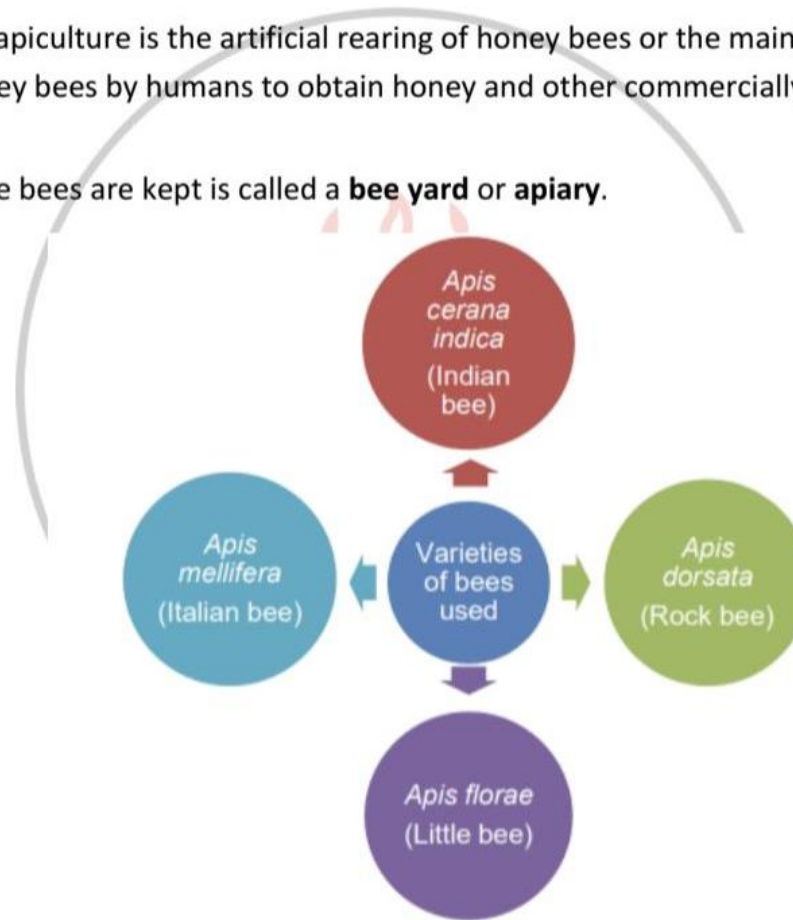
Inland Fisheries

- Fish reservoirs such as canals, ponds, rivers, estuaries and lagoons are used for fisheries.
- The fish yield is not so high.
- Fishing is also done in paddy fields.
- In this system, local and imported species of fish, usually 5–6, are used in a single pond.
- This is done to avoid any competition for food and space.
- Some of the fish cultured by using inland fishery techniques are Rohu, Catla, Mrigal and Tilapia.

Beekeeping

Beekeeping or apiculture is the artificial rearing of honey bees or the maintenance of colonies of honey bees by humans to obtain honey and other commercially important products.

The place where bees are kept is called a **bee yard** or **apiary**.



Italian bees

- High honey collection capacity
- Stay in given bee hive for long periods

In nature, honey bees live in colonies in a beehive made of wax which they produce. The three types of individuals found in a honey bee colony are drone, queen and worker.

