

Chapter 6



UNIT IX: Plant Ecology

Principles of Ecology



Learning Objectives

The learner will be able to

- ❖ Understand the interaction between organisms and their environment.
- ❖ Describe biotic and abiotic factors that influence the dynamics of populations.
- ❖ Describe how organisms adapt themselves to environmental changes.
- ❖ Learn the structure of various fruits and seeds related to their dispersal mechanism.



Chapter outline

- 6.1 Ecology
- 6.2 Ecological factors
- 6.3 Ecological adaptations
- 6.4 Dispersal of seeds and fruits

Ecology is a division of biology which deals with the study of environment in relation to organisms. It can be studied by considering individual organisms, population, community, biome or biosphere and their environment. While observing our different environments, one can ask questions like

- Why do plants or animals vary with places?
- What are the causes for variation in biological diversity of different places?

- How soil, climate and other physical features affect the flora and fauna or vice versa?

These questions can be better answered with the study of ecology.

Ecology is essentially a practical science involving experiments, continuous observations to predict how organisms react to particular environmental circumstances and understanding the principles involved in ecology.

6.1 Ecology

The term “ecology” (**oekologie**) is derived from two Greek words – **oikos** (meaning house or dwelling place and **logos** meaning study) It was first proposed by **Reiter** (1868). However, the most widely accepted definition of ecology was given by **Ernest Haeckel** (1869).



R. Misra

Alexander von Humbolt - Father of Ecology
Eugene P. Odum - Father of modern Ecology
R. Misra - Father of Indian Ecology

6.1.1 Definitions of ecology

“The study of living organisms, both plants and animals, in their natural habitats or homes.”

- **Reiter** (1885)

“Ecology is the study of the reciprocal relationship between living organisms and their environment.”

- **Ernest Haeckel** (1889)