■ VIII. Biological Components of Soil

Organisms, both animals (fauna/micro-fauna) and plants (flora/micro-flora) are important in the overall quality, fertility and stability of soil. They are responsible for the formation of humus, a product of organic matter degradation and synthesis. Moreover, organisms aid in the physical manipulation, mixing, and formation of soil and its structural stabilisation. Soils contain a vast number and wide range of organisms. A greater proportion of these belong to the plant kingdom. Organisms are important in the myriad of biochemical reactions and intricate biological processes that take place within the soil.

A. Soil Organisms

(*i*) Organisms (biological component) of the soil play major roles in :

- Nutrient cycling and release (breakdown of organic compounds)
- Biochemical weathering of minerals and soil development
- Ameliorating soil physical and chemical properties

Without this living component, the mere accumulation of the mineral fraction would not be "soil".

(*ii*) Soil organisms include plants and animals.

- Majority of soil organisms are plants (microflora), but animals are equally important (have more physical role).
- Most are microscopic, *i.e.* microflora and microfauna.

(B) Major groups of organisms of common occurrence in soils

Animals	Macro-fauna	Live mainly on plant materials	Small mamals, insects, millipedes, mites, slugs, snails, earthworms
		Mostly predatory	Moles, Insects, Mites, Centipedes, Spiders
	Micro-fauna	Predatory, parasitic or live on plant tissue	Nematodes, Protozoa, Rotifers
Plants	Roots of higher plants	Mango, Banyan, Jack fruit, Pines etc.	
	Algae	Green algae, Blue-green algae, Diatoms	
	Fungi	Mushrooms, Yeasts, Molds	
	Actinomycetes of many kinds		Streptomyces (70% of soil flora)
	Bacteria	Aerobic Anaerobic	Autotrophic Heterotrophic