

# Biodiversity in india

[Environment](#), [Ecology](#)



Biodiversity is the part of nature which includes the difference in genes among the individuals of a species, the variety and richness of all the plant and animal species at different scales in space, locally in a region, in the country and the world and various types of ecosystems, both terrestrial and aquatic within a defined area. Biodiversity deals with the degree of nature's variety in the biosphere. Types of biodiversity

**Genetic diversity** - the genetic variability within a species.

**Species diversity** - the variety of species within a community

**Ecosystem diversity** - the organisation of species in an area into distinctive plant and animal communities.

**Genetic diversity** Each member of any animal or plant species differs widely from other individuals in its genetic makeup because of the large number of combinations possible in the genes that give every individual specific characteristics. Thus, for example, each human being is very different from all others. This genetic variability is essential for a healthy breeding population of a species. If the number of breeding individuals is reduced, the dissimilarity of genetic makeup is reduced and in-breeding occurs. Eventually this can lead to the extinction of the species. The diversity in wild species forms the 'gene pool' from which our crops and domestic animals have been developed over thousands of years. Today the variety of nature's bounty is being further harnessed by using wild relatives of crop plants to create new varieties of more productive crops and to breed better domestic animals. Modern biotechnology manipulates genes for developing better types of medicines and a variety of industrial products.

**Species diversity** The numbers of species of plants and animals that are present in a region constitutes its species diversity. This diversity is seen both in natural ecosystems and in agricultural ecosystems.

Some areas are more rich in species than others. Natural undisturbed tropical forests have a much greater species richness than plantations. A natural forest ecosystem provides a large number of non-wood products that local people depend on such as fruit, fuel wood, fodder, fiber, gum, resin and medicines. Timber plantations do not provide the large variety of goods that are essential for local consumption. In the long-term the economic sustainable returns from non-wood forest products is said to be greater than the returns from felling a forest for its timber. Thus the value of a natural forest, with all its species richness is much greater than a plantation. At present conservation scientists have been able to identify and categorise about 1.75 million species on earth. However, many new species are being identified, especially in the flowering plants and insects. Areas that are rich in species diversity are called 'hotspots' of diversity. India is among the world's 15 nations that are exceptionally rich in species diversity.

**Ecosystem Diversity** There are a large variety of different ecosystems on earth, which have their own complement of distinctive inter linked species based on the differences in the habitat. Ecosystem diversity can be described for a specific geographical region, or a political entity such as a country, a State or a taluka. Distinctive ecosystems include landscapes such as forests, grasslands, deserts, mountains, etc., as well as aquatic ecosystems such as rivers, lakes, and the sea. Each region also has man-modified areas such as farmland or grazing pastures. An ecosystem is referred to as 'natural' when it is relatively undisturbed by human activities, or 'modified' when it is changed to other types of uses, such as farmland or urban areas.

Ecosystems are most natural in wilderness areas. If natural ecosystems are

overused or misused their productivity eventually decreases and they are then said to be degraded. India is exceptionally rich in ecosystem diversity.