

Biodiversity

Concept, Origin and Evolution



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INTRODUCTION

- ❑ The great variety of life forms on earth has developed since thousands of years.
- ❑ This diversity of living creates a support system for each civilization on the earth for its growth and development.
- ❑ However man has become consumerist.
- ❑ Negative effect on the diversity of biological resources upon which it is based.
- ❑ The diversity of life on earth is so great that if we use it sustainably we can go on developing new products from biodiversity for many generations.

INTRODUCTION

This is only possible when we manage, maintain & treated 'biodiversity' as a precious resource and prevent the extinction of species.

What is biodiversity?

- ❑ Biological diversity deals with the degree of nature's variance in the life forms.
- ❑ This variety can be studied at three levels; the genetic, Species and community.
- ❑ The organization of species in an area into distinctive plant and animal communities constitutes ecosystem diversity.

Origin & Evolution of Biodiversity

- ❑ Life was initiated as a product of organic reactions in the Earth's primordial seas.
- ❑ Once life took hold on the planet, it began gradually to diversify.
- ❑ Unicellular unspecialized forms gradually evolved into complex multi-cellular plants and animals.
- ❑
- ❑ Evolution is related to the ability of living organisms to adapt to changes in their environment.

Origin & Evolution of Biodiversity

- Most species appear to have a life span extending over several million years.
- Adaptability to gradual changes in their habitat, and interactions with newly formed species produce groups of inter linked organisms that continue to evolve together.

Origin & Evolution of Biodiversity

- ❑ Behavioural patterns comprising a community of species link them to each other through their breeding biology, feeding patterns, migrations, etc.
- ❑ As ancient species became extinct due to geological upheavals, they left behind empty 'niches' in the habitat that stimulated existing species to fill them through the formation of new species.
- ❑ The Earth's ancient history has seen periods of mega extinctions, which have been followed by periods of formation of new species.

Origin & Evolution of Biodiversity

- ❑ This however took millions of years, as evolution is a very slow process.
- ❑ During the recent past however, extinctions due to the activities of modern man have begun to take place so rapidly that nature has had no time to evolve new species. The earth is losing species more rapidly than ever before.