

FOREST AND MANKIND

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ABSTRACT

Forest is a very complex system of abiotic and biotic components in constant dynamic equilibrium. The future of mankind is intricately intertwined with the extent and nature of forest cover. Deforestation can considerably disrupt ecosystem and afforestation can provide “Carbon Sinks” for absorption of carbon-di-oxide, the major green house gas in earth’s atmosphere and thereby reducing to a large extent, the consequences arising due to accumulation of greenhouse gases in the biosphere.

INTRODUCTION

Man’s basic life support system consists of land, water, air, plant and animal resources, found in the Biosphere. The word “Forest” is derived from the Latin word “Foris” which means “outside”. Therefore, forests are areas covering practically all uncultivated or untended lands covered with rather tall and dense tree growth.

Forest is a dynamic and striking feature of the land surface. It is a natural asset of great value which is renewable and the most self-generating of all ecosystems. Nature is blessed with a variety of resources; biological

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resources are of vital importance for the very existence of life on this planet.

About 30% of the world's ice-free land surface is forest or woodland. Forested areas of the world today comprise between 3,000 million and 3,500 million ha. According to recent estimates, temperate forests cover approximately 1,430 million ha. in the industrialized countries and another 210 million ha. in non-tropical developing countries (Gabriel Melchias, 2001).

Forests provide different biological resources such as plants, animals and micro-organisms. Of these, plant resources find a high place in the daily life of man. The plant resources are broadly classified into two types: major forest produce and minor forest produce. Major forest produce includes timber and fuel wood. Minor forest produce includes all forest products other than timber and fuel wood.

Forests form a major factor of environmental conservation and have an appreciable effect on the climate. They offer protection to the wide array of animals. Forests tend to increase local precipitation, enrich soil with the fallen leaves, regulate water cycle and prevent soil erosion. Forests, besides providing forest produce, support forest-based industries and thereby generating employment to rural masses; forests also provide gene resource for both flora and fauna.

India possesses a variety of forests and natural vegetation which varies from region to region due to variations in climatic conditions, soil types and relief

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features. The country can be divided into five major vegetation regions, which are: (I) the tropical evergreen and semi-evergreen forests (ii) the tropical deciduous forests (iii) the dry thorn forests (iv) the tidal forests and (v) hill forests of the Himalayan region.

Each forest type has its own distribution features with its own floristic composition, life form structures and habitat. Forest contribute to India's bio-diversity. The various forest types have contributed in identifying India as one of the twelve mega-diverse countries. Much of the wild life in India is peculiar to the sub-continent and not found anywhere else in the world. The swamp deer, the four-horned antelope, the spotted chital, the great one horned rhinoceros, the lion and the bison are also peculiar to India.

The concept of wildlife as a "thing of beauty" and a "gift of nature" which need to be preserved, rather than a game to be hunted, grew largely after 1947, when many of the former game reserves were redesignated as "wildlife sanctuaries" where all the wild animals and birds were sought to be fully protected so that they will not become extinct. "Project Tiger" was also launched with the object of preserving and increasing tiger population by safeguarding tiger, animals of its prey and its habitat in selected areas of the country.

DEFORESTATION AND AFFORESTATION:

Indiscriminate felling of trees occurred due to rapid urbanization and industrialization, which, inturn, resulted in reduced water absorption, storage in catchment areas, and has also led to soil erosion and floods. Deforestation has also

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contributed in sharp build-up of atmospheric carbon-di-oxide level resulting in “Global warming.”

Forests represent half of the world’s photosynthetic fixation of carbon from the atmosphere, with its concurrent release of oxygen, which alone stands to substantiate that it is the most important living resource. It is estimated that human activities including burning of fossil fuels, clearing land and agriculture contribute about six billion tonnes of carbon-di-oxide to the atmosphere each year.

The sun’s rays reach the Earth’s atmosphere in the form of short-wave radiation. This radiation passes through the atmosphere to heat the Earth’s surface during the day. The Earth’s surface heated by the sun’s energy, re-radiates this heat back into space as long wave or infra-red radiation. Some of this energy is absorbed by several trace gases in the atmosphere, including water vapour, carbon-di-oxide, methane and ozone and as a result, the temperature of the atmosphere is raised. These energy absorbing trace gases are known as the greenhouse gases. Greenhouse gases are largely held responsible for the global warming, the phenomenon of increase in global temperature, which may have catastrophic consequences for life on earth.

Forest conservation movement called Chipko movement was started in India in 1972 to save tree felling. Chipko movement in 1977 declared that the main products of forest are soil, water and oxygen and not timber, i.e., the forest cover is directly linked with water cycle and its replenishment. Afforestation movement such as planting trees resulted in formation of “Carbon Sinks” wherein atmospheric carbon-di-oxide is absorbed by vegetation.

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The concept of social forestry, now being implemented on a massive scale, aims at not only providing adequate quantities of fuel wood, fodder and other forest produce, but also meet the requirements of ecological balance through large scale afforestation on community lands and waste lands in the country. The social forestry programme mainly comprises of three schemes

- (i) Mixed plantation on waste land
- (ii) Reafforestation of degraded forests
- (iii) Raising of shelter-belts.

CONCLUSION

Social forestry programmes should be started with active student participation. Human beings must be taught the art of living “environmentally sustainable” lives right from early childhood. Only then will they realize the role of humans in natural resource depletion and as adults, incorporate environmentally sustainable habits into their daily personal lives. The United Nations has declared the coming decade (2005-2015) as a “Decade of Education for Sustainable Development.”

Formation of nature clubs, involving youth and people’s conservation movements will help in reduction of hunting, felling of trees, and unlawful encroachment of forest land. The afforestation and reafforestation programmes will fulfill all the biomass requirements of the masses living in tribal and rural areas of our country. Increase in forest cover will help in reduction of atmospheric carbon-di-oxide level through natural processes into the ecosystem.

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