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FOREST RESOURCES WITH SPECIAL REFERENCE TO INDIA

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Abstract
The different types of resources like Wood, Timber, bushmeat, medicines etc provided by forests are termed Forest Resourses. A forest is a dense growth of trees and other plants covering a significant amount of land. It is an ecosystem, a community of plants and animals interacting with one another and their environment. Forestry is the science involved in studying, preserving and managing forests. This is a descriptive study. Here, attempt is made to study the natural resources along with its needs and importance. Problems and Conservation of Forest resources are also analysed here.

Keywords: Forest, Resourses, Deforestation, Afforestation, Conservation.

1. Introduction:

Life on this planet earth depends upon a variety of goods and services provided by the nature, which are known as Natural resources. Water, air, soil, minerals, coal, forests, crops and wildlife are all examples of natural resources. Any stock or reserve that can be drawn from nature is a natural resource. They are two kinds-one is Renewable resources and the other is Non-renewable resources. Different natural resources like forests, water, soil, food, minerals and energy play a vital role in the development of a nation. However, over use of these resources in our modern society is resulting in fast depletion of these resources and several related problems. If we want mankind to flourish there is a strong need to conserve these natural resources. While conservation efforts are underway at national as well as international level, the individual efforts for conservation of natural resources can go a long way. "Small droplets of water together form a big ocean". Similarly, with our small individual efforts we can together help in conserving our natural resources to a large extent. Forests are one of the most important natural resources on this earth. Covering the earth like a green blanket these forests not only produce innumerable material goods, but also provide several environmental services which are essential for life. About 1/3rd of the world's land area is forested which includes closed as well as open forests. But it is a matter of concern that almost everywhere the cover of the natural forests has declined over the years. The greatest losses have occurred in tropical Asia where one third of the forest resources have been destroyed.

2. Objectives of the study:

a) To study about the natural resources.
b) To study about the Forest resources.
c) To study about the conservation of forest resources.

3. Methodology:

This is a descriptive study. Here, secondary sources like books, journals and different websites are used for data collection.

4. Discussion:

Forests perform three important functions (a) productive, (b) protective and (c) aesthetic. The productive function includes the production of timber and a variety of other communities. Most of the forests are being managed for timber production especially for timer-based industries and for the production of fuel wood. The protective function of the forests includes the physical benefits which they confer such as watershed protection, amelioration of climatic condition etc. The aesthetic function of forests includes the recreation and amenity. The protective and aesthetic function may be called non-consumption functions.

Recently, Forest Survey of India (FSI) analysed the demand of timber (wood and other fuel wood) to the tune of 27.58 million m'. The cut of timber from forests in excess of permissible limit is only about 12 million m". Thus the gap between demand for timber and timber cut is 15 million m'. Due to this gap most of the forests are under enormous pressure and consequently India has started importing a large quantity of timber from several countries.

4.1: Importance of Forests:

The importance of forest can be described as the following.

(1) To conserve soil, water and air.

(ii) Forests are the only source of timber, fuel wood, bamboos, and varieties of medicinal plants.

(iii) Forest supply fodder, which are indispensable for people and animals living in close proximity of forest.

(iv) It lowers maximum temperatures and raises minimum temperature.

(v) Forests supply raw materials for the manufacture of paper, panel products, bidi leaves, resins, gums, essential oils, a number of useful shrubs which are used in the preparation of drugs.

(vi) Screen irritating smoke, dust, moving sand etc. from the air.

(vii) It absorbs sound.

(viii) Provide shelter to wild animals.

(ix) Induce rain.

(x) Check floods and droughts.

(xi) Maintain nature's equilibrium between living things.

4.2: Forest Types:

There are many ways to classify Forest, such as by (i) location (for example, temperate zone forests, Tropical zone forests), (ii) ownership (for example, public forests, private forests), (iii) age or origin (for example, old-growth forests, second-growth forests, plantation forests), (iv) important species (such as Douglas- fir forests, redwood forests), (v) economic and social importance (for example, commercial forests, non-commercial forests, urban forests, wilderness), (vi) wood properties (for example, hardwood forests, softwood forests); (vii) botanical makeup (for example, broadleaf forests, evergreen forests), or (8) a combination of features (such as moist temperate coniferous forests, dry

tropical deciduous forests). The last approach tends to be the most descriptive because it often integrates several dominant characteristics related to climate, geography, and botanical features. Some example of major forest types are -

1. Northern Coniferous forests which span the cold, northern latitudes of Canada and Europe.
2. Temperate mixed forests which occupy the eastern United States, Southeastern Canada, central Europe, Japan, East Asia, and parts of the Southern Hemisphere in Chile, Argentina, Australia, and New Zealand.
3. Temperate rainforests which are situated along moist, coastal regions of the Pacific Northwest, southern Chile, southeastern Australia, and Tasmania.
4. Tropical rainforests which are found in the equatorial regions of Central and South America.
5. Dry Forests which occur in the southern United States, the Mediterranean region, sub-Saharan Africa and semiarid regions of Mexico, India and Central and South Africa.
6.Mountain Forests which are characteristics of mountainous regions throughout the world.

4.3. Uses of Forests: Forests have enormous potential for human welfare, wildlife and the environment. They are not only useful for industry but also for rural economic growth. They offer huge potential for reducing poverty while also conserving their valuable key resources.

(a) Commercial uses - Forests provides us a large number of commercial goods, which includes timber, firewood, pulpwood, food items, gum, resins, edible oils, rubber, fibers, bamboo canes, medicines, drugs and many more items.

(b) Ecological uses - While a typical tree produces commercial goods worth about 30,000 it provides environmental services worth nearly Rs. 10,000. The ecological services provided by our forests are as follows-

-Production of Oxygen - The tree produce oxygen by photosynthesis which is so vital for life on the earth. They are rightly called as earth's lungs.

- Reducing global warming - The main greenhouse gas carbon dioxide is absorbed by the forests as a raw material for photosynthesis. Thus, forest canopy acts as a sink for Carbon dioxide thereby reducing the problem of global warming caused by greenhouse gas.

-Wildlife habitat - Forests are the homes of millions of wild animals and plants. About 7 million species are found in the tropical forests alone.

-Regulation of hydrological cycle - Forested watersheds act like giant sponges, absorbing the rainfall, slowing down the runoff and slowly releasing the water for recharge of springs.

-Soil conservation - Forests bind the soil particles tightly in their roots and prevent soil erosion. They also act as wind-breaks Pollution moderators - Forests can absorb many toxic gases and can help in keeping the air pure. They have also been reported to absorb noise and thus help in preventing air and noise pollution.

-Driving energy flow and nutrient cycling - Their huge biomass and enormous biological and biochemical diversity support energy flow and nutrient cycling.

The potential of forests must be tapped and nurtured, but we must stop over-exploitation. A recent World Bank study (2004) shows that if we unlock the opportunities for the people of India from its

forests, there will be a boost in economy from the current 222 million US dollars to 2 billion US dollars in the next 15 years. However, the exploitation needs to be balanced with conservation efforts.
In India, Joint Forest Management has come up as an innovative approach involving community participation, so that the rural economy is strengthened as well as forest resources are conserved through public involvement.

5. Problems of Forest resources

(i) Deforestation - Deforestation is very alarming in tropical countries. The ecological effect of deforestation depends on the initial forest environment, the way in which it is used and managed, and the purpose for which it is cleared. It has been estimated that due to deforestation, 15 to 20 percent of all the species in the forest are every year assuming the loss of tropical rain forests @ one percent/ one year. In India, the major causes of deforestation are creation of multipurpose river valley projects, irrigation, generation of power, rehabilitation, road construction etc. With the implementation of Forest Conservation Act 1980, over 4 million hector of forests have been protected from deforestation during one-decade period.
Deforestation has far reaching consequences, which may be outlined as follows:
-It threatens the existence of many wildlife species due to destruction of their natural habitat.
-Biodiversity is lost and along with that genetic diversity is eroded.
-Hydrological cycle gets affected, thereby influencing rainfall.
-Problems of soil erosion and loss of soil fertility increase.
-In hilly areas it often leads to landslides.

(ii) Big Dams in Forest areas - Big dams and river valley projects have multi- purpose uses and have been referred to as "Temple of Modern India". However, these dams are also responsible for the destruction of vast areas of forests. India has more than 1550 large dams, the maximum being in the state of Maharastra (more than 600), followed by Gujarat (more than 250) and Madhya Pradesh (130). The highest one is Tehri dam on river Bhagirathi in Uttarakhand and the largest in terms of capacity is Bhakra dam on river Sutlej in Himachal Pradesh. Big dams have been in sharp focus of various environmental groups all over the world which is mainly because of several ecological problems including deforestation and socio-economic problems related to tribal or native people associated with them. The silent valley hydroelectric project was one of the first such projects situated in the tropical rain forest area of Western Ghats which attracted much concern of the people. For building big dams, large scale devastation of forests takes place which breaks the natural ecological balance of the region. Floods, droughts and landslides become more prevalent in such areas. Forests are the repositories of invaluable gifts of nature in the form of biodiversity and by destroying these (particularly, the tropical rain forests) we are going to lose these species even before knowing them.
(ii) Industrialization - In modern society, the industrialization is increasing rapidly. A vast area of Forest land is used to set up the industry. As for example it can be mentioned that some part of land of famous Kaziranga National Park of Assam are used to set up stone-quarry, which is closed by the interference of Guwahati High Court on November, 2018.

(iii) Encroachment -The population of the world is increasing day by day. Some people who have lost their home use to take shelter in reverse forest area. In India it is a very dangerous problem. In Assam also thousands hector of land is under encroachers.

6. Conservation of Forests:

Conservation of Forest in mainly concerned with "its proper use, preservation and protection from destructive influences and misuse etc. The individuals and the society should concentrate on the conservation and preservation of forest for ecological balance, through individual and co-operative efforts. Every country should emphasis on such efforts for environmental protection. Environmental balance is possible through the delimitation of the uses of forest resources. The following measures can be taken for conservation of forests

(1). The process of more and more plantation should be encouraged with the help of government and non-government organizations.

(2) It is necessary to follow the laws related to forest protection. People's cooperation should be encouraged in this regard.

(3) Necessary education should be provided for the liberal attitude of men towards forest.

(4) Forest fires should be prevented.

(5) The trees, if cut down for timber and other use should be replaced by planting more trees.

(6) The use of fuel wood and wood charcoal should be discouraged. The consumption of fuel wood can be minimized by using biogas plants and solar chulas for cooking purposes.

(7) The rate of annual deforestation must be followed by greater rate of annual reforestation so that there will be no scarcity.

(8) A forestation programme should be undertaken in the waste lands.

(9) Trees of aesthetic value should be planted along road sides and railway tracks.

(10) Ornamental trees should be planted in the parks and other waste lands, which will give a beautiful look to the town and mitigate the foul environment.

(11) Regeneration i.e. renewal of forest crops, should be adopted.

(12) Unwanted felling (cutting down) of trees should be restricted.

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