

GEOGRAPHY

6TH SEMESTER (HONOURS)

PAPER: DSE4 (E) (ENVIRONMENTAL GEOGRAPHY) UNIT: 4.1

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- ❖ **CONSERVATION:** Conservation is the care and protection of natural resources includes air, mineral, plants, soli, water, and wildlife so that they can persist for future generations.
- ❖ **FOREST CONSERVATION:** Forest conservation is the practice of planting and maintaining forested areas for the benefit and sustainability of future generations. Forest conservation involves the upkeep of the natural resources within a forest that are beneficial to both human and environment.
- ❖ **FOREST MANAGEMENT:** Forest management is a branch of forestry concerned with those methods used for the protection, production, and harvesting of timber. Management can be based on conservation, economic or mixture of the two. The techniques of management include timber extraction, planting and replanting of different species, cutting roads and pathways through forest and preventing fire.

METHODS OF FOREST MANAGEMRNT



AFFORESTATION

- ❖ **AFFORESTATION:** It means planting trees in an area that does not have trees to create a forest. According word web dictionary afforestation is the conversion of bare or cultivated land into forest.
- **Objectives of afforestation:**
 - 1) To increase forest cover, planting more trees, increase O₂ production, and keep better quality air.
 - 2) To rehabilitate the degraded forests to increase carbon fixation and reducing CO₂ from atmosphere.
 - 3) To regenerate of indigenous herbs/ shrubs.
 - 4) To increase the level of ground water and also to reduce nitrogen leaching in soil and nitrogen contamination of drinking water.
 - 5) To increase awareness among people, monitoring and evaluation.

- **Benefits of afforestation:** 1) Provide alternative source of tree products- in today's trees in forest being cut down for production rapidly which has put pressure on forest resulting in deforestation. Afforestation helps to alleviate the pressure on natural forest by providing alternative source of trees products.
- 2) Increase supply of trees that are in high demand- for commercial purpose the demand is high for specific trees. Afforestation allows stakeholders to plant the type of trees in demand to stabilize the industry and business reliability.
- 3) Environmental benefits- planting trees in a barren land helps to create a new ecosystem and planting trees in depleted trees helps to restore the ecosystem of an area. most govt. and institution have used afforestation to help revert the arid and semi arid areas to productive areas.
- 4) Value addition- land with full tree cover is more attractive and valuable than barren land. Whether one is seeking to develop or sell property planting trees is sure way of increasing the property's value.

SOCIAL FORESTRY

- ❖ **SOCIAL FORESTRY-** Social forestry refers to the forest planted by the people of a society. It has been defined as '**the forestry of the people, for the people.**' Social forestry started in India mid 80s with help of World Bank and European Union to conserve and afforested forest. The significance of social forestry has been emphasized in the national forest policy 1952 and 1988.
- **Objectives of social forestry-** 1) To meet the need for fuel wood, small timber, bamboo, fodder and other minor forest produce on sustainable basis. 2) To provide gainful employment opportunities to the rural population. 3) To develop cottage industries. 4) To provide efficient soil and water conservation. 5) To improve aesthetic value of an area and to meet the recreational needs of the population.
- **Type of social forestry-** There are 4 types of social forestry
 - i. **Agro forestry-** It involves the growth of trees and fodder plants, grasses on his own land, on commercial basis. Agro forestry offers economic benefits, social benefits and increased productivity as well as the provision of ecological good and service.
 - ii. **Farm forestry -** In this forestry trees are managed for a specific purpose within a farming context. The common purpose is usually timber plantation on private land. Farm forestry offers many benefits include shelter and pasture for animals, improved environmental condition, increased in the capital value of the plantation, sustainable management of natural resources and increase in biodiversity.
 - iii. **Extension forestry-** It involves the planting of trees on the sides of canals. Roads, and railways and wetlands. It is beneficial in the creation of forest on the common village lands, panchayat lands, Government wetlands.
 - iv. **Community forestry-** It involves the raising of trees on community lands with the set objectives to provide benefits to the community as a whole. Although the plants and

seedling are provide by the forest departments, the protection of planted trees is primarily the responsibility of the community as whole.

➤ **IMPORTANCE OF SOCIAL FORESTRY:**

- a. Ecological importance- 1) it provides efficient conservation of water and soil. 2) Social forestry utilizes waste lands and degraded lands. 3) Social forestry reduces environmental pressure and increase consciousness among people.
- b. Economic importance-1) It help to meet the local needs for firewood, timber bamboo, fuel and fodder. 2) They provide employment opportunities to the rural people.
- c. Social importance- 1) It provide raw materials for cottage industries. 2) They help to achieve an all round rural development programmes.

➤ **Advantages of social forestry:**

- 1) Educate the people about the need to protect and conserved natural forest.
- 2) Provides them alternate source of firewood and fodder so that they need not go the natural forest.
- 3) Waste land in and around the village will be put to proper use.

➤ **Weakness of social forestry:**

- 1) Corruption and misuse of the fund which is the for the purpose of social forestry.
- 2) Illegal tree cutting.
- 3) The lake of information among people and ignorance regarding social forestry.
- 4) In many states there are unsatisfactory activities regarding social forestry.

AGRO -FORESTRY

❖ Agro- forestry is a sustainable management for land that increases overall production, combines agriculture crops, tree crops, forest plants and animals simultaneously and applies management practices that are compatible with cultural patterns of local population. Agro forestry is a type of social forestry in which individual farmer undertakes tree farming and grows fodder plants, grasses, and legumes on his own land for domestic use or commercial use. The land may be degraded land or useful land In agro forestry trees are considered as a crop and they become a part of crop combination.

➤ **Objectives of agro forestry:**

- 1) To manage land efficiently so that productivity is increased and restored.
- 2) To use available resources efficiently and economically.

- 3) To provide raw material for small cottage industries in rural areas.
- 4) To generate employment opportunities for rural people.

➤ **Advantages of agro forestry:**

- 1) The absentee landlord goes for agro forestry to retain title of the land and to increase their income.
- 2) Agro forestry helps to manage their agriculture land even without the availability of family labour.
- 3) It ensures better land use.
- 4) Agro forestry generates employment opportunity.
- 5) It conserves soil moisture.
- 6) Agro forestry meets the need of fuel-wood, fodder and timber.
- 7) It protects the arable land from winds and water erosion.

➤ **Shortcoming of Agro forestry-** Despite numerous benefits agro forestry has some adverse effects on agriculture land. Some of short coming are given below:

- 1) The market oriented trees are preferred which damage the ecosystem.
- 2) Fuel wood and fodder trees are generally neglected.
- 3) The exotic varieties planted by the farmers in the form of agro forestry are soil moisture and water exhaustive. Consequently the underground water table is adversely affected.
- 4) The productivity per unit area decrease at least in about two meters from the trees the moisture content in the soil is significantly reduced.
- 5) The trees become the habitat of many pests and diseases, adversely affecting the crops.

JOINT FOREST MANAGEMENT

- ❖ Joint Forest Management is a partnership in forest management among state forest departments and local communities in India. The policy and guideline of JFM were enunciated in the Indian national forest policy of 1988 and JFM guidelines of 1990 proposed by the Govt of India. These guidelines were further revised in 2000. The basic rationale of JFM approach is the cooperation of local communities and the state govt. in the protection of resources from fire, illegal grazing and timber cutting in exchange for which they receive non timber forest product.

➤ **Objectives of joint forest management:**

- 1) To involve all stake holders in the preservation, conservation of forest and restoration of degraded forest.
- 2) To ensure effective coordination between state govt. and local communities who are dependent on forest.
- 3) To use JFM to prevent soil erosion and deforestation.

- **Advantages of joint forest management-** It is cheap means of obtaining artificial regeneration of forest lands. It involves local communities in managing plantation and helps in protection of forest. It also generates employment to local people.
- **Disadvantages of joint forest management:**

- 1) JFM reduces soil fertility and cause soil erosion.
- 2) It is more prone to epidemics or insect attack.
- 3) It allows forest land to local communities creates problems of ownership and tenure rights.
- 4) It is also cause exploitation of human labour.

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