Agroforestry

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Agroforestry is considered to be the backbone of marginal farming for a self-reliant and sustainable agriculture. The varied agroforestry systems in India form a strong feasible option to counter climate change. But these approaches are an attempt to reduce the ecological footprint focused at the farm scale, and not at the larger landscape level.

Placing it in syllabus: Agroforestry
Dimensions

1. What is agroforestry
2. National Policy on agroforestry
3. Advantages of agroforestry
4. What is social forestry
5. Advantages of social forestry
6. Different types of social forestry

Content:

What is agroforestry?

- Agroforestry is the **cultivation of trees and shrubs as crops or for animal rearing with a view towards the environment, their utility or other social benefits.**
- It can include either farmland or forest farming, where cultivation takes place within managed forests.
- Its **benefits include** the diversification of agricultural income, cleaner environmental surroundings, provision of habitats, maintenance of soil quality, food sources, carbon storage, increased agricultural incomes, and sustainability.

National Policy on agroforestry:

The **National Agroforestry Policy of India was launched in 2014** — the first of its kind in the world.

Highlights of the Policy:

1) establishment of Institutional setup at National level to promote Agroforestry under the mandate of Ministry of Agriculture;

2) simplification of regulations related to harvesting, felling and transportation of trees grown on farmlands;

3) ensuring security of land tenure and creating a sound base of land records and data for developing a Market Information System (MIS) for agroforestry;

4) investing in research, extension and capacity building and related services;

5) access to quality planting material; institutional credit and insurance cover to agroforestry practitioners;

6) increased participation of industries dealing with agroforestry produce;

7) strengthening the marketing information system for tree products.

Agroforestry area (Million ha) in India

Maharashtra, Rajasthan, Madhya Pradesh and Karnataka are the states having highest total agroforestry area as compared to other states (FSI 2017).

Advantages of agroforestry:

- Agroforestry can play a vital role in meeting the diverse needs of people – **6Fs, i.e. food, fruit, fodder, fuel, fertiliser and fiber.**
- It has both productive and protective potential to meet the demands of the human and livestock populations.
- It act as a shield against poor production during drought and other stress conditions.
- Agroforestry provides nutritional security because of diverse production systems which include fruit, vegetables, oilseed crops, medicinal and aromatic plants in addition to normal food crops grown by the farmers.
- Crops like peas and cowpeas can be grown successfully during winter and summer months respectively under trees and these crops can also fix the atmospheric nitrogen and improve the fertility status of the soil.
- Khejri, an indigenous tree grown in the tropical dry and thorn forests of North-western parts of India, by agro-forestry has multiple benefits in conserving the fragile desert ecosystem.

- It plays an important role in optimising nutrient cycling, organic matter production and reducing a need for the external input of fertilisers.
- It improves livelihood security as a cover against crop failure due to climatic aberrations, particularly in arid and semi-arid regions.
- Other activities like sericulture, animal husbandry, apiculture can be integrated with agroforestry to reap maximum benefits.
- It increases employment opportunities and triggers a substantial increase in the number of small-scale industries dealing with wood and wood based products.
- Trees and shrubs often contribute substantial amounts of leaf fodder in whose importance increases with the severity of drought and progression of the drought season.
- Trees with potential as biofuel include Jatropha curcas, Simarouba, Azadiracta indica, etc… can be intercropped with annual crops such as cowpea, sesame, sunflower, French bean, black gram, green gram and groundnut.
- The promotion of oil crops also provides a poverty alleviation option in rural areas, as vacant waste and marginal land can be used for these trees, providing annual produce and income. The increased green cover will also benefit the environment. These oils are also CO_2 neutral, mitigating the GreenHouse Effect.

What is social forestry?

Social forestry can be defined as forestry of the people by the people and for the people. It is implemented in wastelands, panchayat lands, village commons and roadsides, canal banks, railway lines etc…

The *main objectives of Social Forestry* include:

a) To meet the fodder, fuel and small timber requirements of the rural people.

b) Providing employment to rural people by raising plantations in wastelands and creating assets for village panchayat to increase their income.

c) To protect the farmland against water and wind erosion.

d) To improve the financial position of individuals and community.

e) To avoid using cow dung cakes and agricultural waste as fuel and to make use of it as manure in the farmlands.

g) To improve the ecology and environment of the area.

h) To improve Carbon stock in the tree cover outside the forest.

The National Commission on Agriculture (NAC) suggested certain guidelines in 1976 to encourage the widespread adoption of social forestry. The guidelines include pastoral requirements; household, cottage and small-scale requirements for raw materials; employment for rural poor through social forestry activities; rejuvenation of degraded forest lands; providing recreation or tourism; and improvement of the aesthetic value of landscapes.

Advantages of social forestry:

- Increased Biodiversity – Growing of trees in barren lands within the community helps to increase biodiversity value.
- Carbon removal – In the fight against the global warming effect, trees play an essential role in the removal of carbon from the environment.
- Tree roots prevent soil erosion by holding soil in place, mitigating the negative effects of soil erosion.
- Bringing trees to human habitats can contribute to better health and improved general wellbeing.
- Trees also absorb tailpipe pollutants that can have a

negative effect on people's health such as carbon dioxide, nitrogen oxides, volatile organic compounds, and particulate matter.

- Trees reflect and absorb sound energy reducing noise pollution.
- Social forestry helps to create inviting and cool areas for relaxation and recreation such as parks and playgrounds thus increasing the aesthetic value.

Types of social-forestry:

1. Agroforestry

Agroforestry involves the growth of trees and agriculture in the same setting to provide landowners with agricultural and tree products on a commercial basis.

2. Farm Forestry

The objective is to manage trees for a specific purpose within a farming context. The common purpose is usually timber plantations on private land, but the setup can be applied to a range of enterprises that are managed in a variety of ways using different parts of the trees.

3. Extension Forestry

Extension forestry involves the planting of trees on the sides of canals, roads, and railways as well as on wastelands. This type of social forestry is beneficial in the creation of forests on the common village lands, panchayat lands, and government wastelands.

4. Community Forestry

Community forestry refers to the management of communal land. The village members collectively decide and implement projects on the communal land. The local population takes part in the planning, managing, and harvesting of forest crops. The population also shares a proportion of the socio-economic and

ecological benefits from the forest.

Mould your thought:

1. What is social forestry and its types? Explain the importance of National Agroforestry policy of India.

Approach to the answer:

- Define social forestry
- Write the types
- Define agroforestry and its benefits
- Write the objectives of the National Agroforestry policy
- Conclusion