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HCFI DR KK AGGARWAL RESEARCH FUND

HCFI Round Table Environment Expert Zoom Meeting on "Innovative Scheme for Sustainable Plantation – Hari Bhari Vasundhara"

August 17, 2025 (Sunday, 12 NOON-1 PM)

- Tree plantation is very crucial for both the environment and economic well-being. Sustainable tree plantation plays a very important role in protecting the environment and mitigating climate change.
- By sequestering carbon dioxide, it supports biodiversity, conserves soil and water, and contributes to a very healthy ecosystem. They regulate the water cycle, provide shelter and contribute to nutrient cycling.
- The HCFI had done an 8-tree plantation drive taking inspiration from the Skanda Purana. These 8 trees included Peepal, Neem, Vat, Imli, Kaitha, Bael, Amla, and Mango. The Shloka means that if a person plants these 8 trees, he will go to heaven. There will be no pollution where these 8 trees are planted.
- Another project undertaken by the HCFI was the Panchwati program, with plantation of 5 trees – Vat, Amla, Peepal, Bael, and Ashok. All these 5 trees have medicinal properties. Recently, a plantation drive around the Ghazipur landfill site was undertaken with the help of the Municipal Corporation of Delhi (MCD).
- Our green cover has increased to 25.17% of the country's total land area; this includes small bushes, grasslands, fields, etc. There is no separate data for forests alone.
- Although every year, many trees are planted, but most do not survive. A scheme is being devised to keep them alive. A person who gets a tree should register on an application. He/she will get a code and should fill in their name, address, etc. When the person plants a tree, he should upload a picture of the tree on the App and do this every 3 months for 3 years. After this time, the tree will become permanent. One has to donate minimum 50 trees to 25 people. The target for the first year is 25,000 trees. By the 9th year, 16,20,000 trees can be planted provided there is continuous monitoring and dedication. A person can plant minimum 450 trees in 9 years.
- Instead of sweets, plants can be given as gifts. Local and hardy plants that can tolerate the environment and survive can be selected.
- Indigenous trees that can be donated are Mango, Amla, Neem, Mahua, Imli, Arjun, Harad, Baheda, Molshree, Bael, Bargad, Gular, Ashok, Tanj, Chirol, Chandan, and Jamun. These trees are hardy and do not need much fertilizers and grow easily. Most birds nest on these trees.
- Tree growth depends on soil. Over the years, soil quality has deteriorated because of the use of fertilizers, insecticides, fungicides, and weedicides. Hence, the quality of ground water is poor.

- These problems reduce if there are trees, because they preserve the soil quality and the ground water is also recharged.
- Lot of construction is going on, most of which is unplanned. It does not provide for trees on either side of the road. A 7-8 m green space on both sides of the road helps reduce noise, pollution, dust including the urban heat island effect.
- Urban agencies that are involved in city planning should keep space provision (20%-25% of area) for green area.
- Big trees like Neem, Mango, Peepal, and Banyan require more space; these cannot be planted near the boundary of the house. They should be planted in open space or parks.
- Small to medium trees such as fragrant and medicinal plants can be planted in houses.
- Every plant should come with an advisory on its care and maintenance to ensure its healthy growth and survival.
- There should be proper Standard Operating Procedures (SOPs) for plantation e.g., depth of the hole, type and quantity of soil, etc.
- Pruning should be done in a scientific manner otherwise fungus, termites can grow.
- There are several schemes to promote tree plantation such as the Delhi Nagar Van Yojana supported by the Environment Ministry, School Nursery Scheme to connect the young generation to the soil.
- Various countries have initiatives to promote plantation such as Great Wall Project (China), Green Belt Movement (Kenya), Tree Plantation Day (America), National Tree Day (Australia), and Reforestation Program (Brazil).
- Tree plantation drives, operation and maintenance can be outsourced. Likewise, the working and maintenance of rainwater harvesting should also be outsourced. The government can play a vital role in plantation and reconstruction work on priority.
- Trees are planted and then forgotten. There should be an App where plantation can be monitored. Geotagging is also being done.
- A karanj tree can grow well in *domat mitti* (loam soil) and other soil types such as sandy soil. It can be used for forest restoration. Gulmohar trees are not suited for our soil.
- Soil bacteria like the *Rhizobium* can be added to soil. They have a symbiotic relationship; they take sugar from the plant and give nitrogen to the plant.
- Poor environmental conditions are damaging the plants. Pollution is the biggest problem in Delhi-NCR. Because of the high PM2.5 levels, oxygen for plants becomes low. Lead and cadmium get mixed in the soil, which is harmful for the plants.
- Air Pollution Tolerance Index (APTI) of plants should be calculated. Trees with higher tolerance index are able to tolerate air pollution. Peepal and Jamun trees have very high APTI. Such trees should be planted.
- Rather than esthetics, a scientific approach is important when planting trees.
- Satellite data can be used to detect empty areas where trees can be planted.
- We have to work on individual social responsibility.

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