The Miyawaki Approach to Reforestation

Aditi Learning Center's Experience Village Khusgaon, Maval Taluka, Pune District

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Who is Akira Miyawaki?

- Miyawaki Akira (born January 29, 1928)
- Japanese botanist and expert in plant ecology
- Since 1993 Professor Emeritus at Yokohama National University
- Received Blue Planet Prize in 2006
- Miyawaki observed the trees which traditionally grew around temples, shrines and cemeteries in Japan were native species and relics of primary forest
- He studied potential natural vegetation. Specialized in the study and propagation of natural forests
- He then developed, tested and refined a method of ecological engineering known as the Miyawaki method

Our Miyawaki Forest is 3 years old 1300 trees on 400 square meters





May 2016









What is the Miyawaki approach?

- Involves planting of native trees only
- Six layered forest of native trees is created with canopy trees, large trees, medium trees, small trees, shrubs and climbers
- Planting 3 different trees in every square meter
- Up to 9,000 trees can be grown on 1 acre of land

Overview of Steps Involved

- Soil testing to discern the combination of natural fertilizers and soil enriching elements required. (example: manure for nutrition, cocopeat to hold moisture, rice husk to keep soil porous)
- Marking and excavating land to a depth of 1 meter
- Mixing the soil with the additional elements and replacing the mixture in the earth
- Placing and planting the plants to enable 6 layered forest cultivation
- Cover with mulch

Benefits of the Miyawaki Approach

- Growth is 3 times faster
- No maintenance required after 3 years
- Can be used in tropics, temperate region, on slopes, rocky regions or degraded land
- Water restoration capacity can be higher as more plants in less area
- Can enable biodiversity restoration
- Can be a 100 year old forest in 10 years

Results of Biodiversity Study

Biodiversity study of the Aditi Learning Centre property in 2017 to 2018 identified the following

• Birds 84 varieties

Flora 212

- Butterflies 54 varieties
- Dragon flies 20 varieties
- Other insects 59
- Reptiles 11 varieties
- Crabs 3 varieties
- Spiders 10 varieties
- Mammals 8 varieties

Factors that have influenced the rich biodiversity at Aditi Learning Centre

Natural factors

- There is habitat complexity with microhabitats: rocks, boulders, seasonal streams, water holes, mulch and logs
- Natural vegetation and flora of trees, grasses, shrubs and thickets
- Water resource conservation
- Peripheral grasslands and hills enables the easy passage of birds and animals

Factors that have influenced the biodiversity

Human factors

- No change in land use
- Protection of area (fencing)
- Soil conservation
- No use of chemical fertilisers or pesticides for 10 years
- Fire lines and fire management
- Education and involvement of associated members
- Maintenance of water resources
- Water conservation efforts to manage watershed
- Planting of 300 trees since 2009
- Miyawaki forest of 1300 trees on 400 square meters in 2016