

Miyawaki Principles of Forest

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What is Miyawaki Method?

- **Miyawaki is a Japanese technique of growing dense plantations in a short time.** The method is being extensively used in and around Bengaluru by activists, corporate firms as part of their corporate social responsibility (CSR) activities, and even individuals. A dense plantation can be grown from scratch in a span of two years using the method.
- **Akira Miyawaki, a Japanese botanist**, an expert in the study of **Natural forest and Restoration of Natural Vegetation, by using traditional principles**, he proposed a plan to restore native forests for environmental protection, as water retention resource and to protect against natural hazards. He chose various native species of trees that he tested on the substrate to be afforested, created a nursery where plants were mixed and then planted on the site.
- Akira Miyawaki implemented and recommended unusually dense plantation of very young seedlings.
- It is aimed at restoring and creating an indigenous forest within 10 years.

The process explained

1. A pit has to be dug, and its dimensions depend on the available space. Before digging the pit, the list of tree species should be chosen judiciously. As there is very little space to work around with, trees with varying heights should be chosen. For example, if a tree that can grow up to 30 feet are planted, the next one should be considerably shorter. This ensures the branches don't clash.

2. Fill it with one layer of compost, followed by a layer of natural waste such as bagasse and coconut shells and then top it with a layer of red soil.
3. Plant the saplings following interval and tree height specifications.
4. The whole process can be completed in two to three weeks. The saplings have to be maintained regularly for a year.

Principles

The Miyawaki Method relies on the following principles for the faster growth of trees.

- **Indigenous trees:** Certain trees are better suited for unique ecological environments than others. To have the highest chance of success in terms of tree health and survival, one needs to know the indigenous trees in the proposed rehabilitation area and also select young indigenous seedlings that are under 1 year old.
- **Land preparation:** For the trees to grow healthy and strong, they need the right nourishment. The land has to be prepared adequately. Land preparation entails mixing manure and rice husks to the soil in equal portions. The manure provides nourishment of vital nutrients, while the perforated husks help water to pass through the soil.
- **Species Competition and Mixing:** In a natural forest, there is intense competition for sunlight. In order for an indigenous forest to grow back in under 10 years, the spacing and placement of trees need to be carefully considered for maximum growth. Within each square meter, 3 tree seedlings are planted. Because of the good amount of mulch used, weeding is not needed, as the weeds are then suppressed by the mulch. Mixing the species reinforces species diversity and resistance leading to the co-existence of trees.
- **Water Conservation:** A significant amount of water loss

happens through evaporation from the soil surface. By mulching the ground of the area to be rehabilitated, water is preserved. In addition to this, the trees need to be intensely watered, with up to 5 litres per square meter once a week.