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The Miyawaki method is an afforestation technique that uses native species to create dense, multilayered forests.

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The Miyawaki Technique is a unique methodology proven to work worldwide, irrespective of soil and climatic conditions. More than 3,000 forests have been successfully created worldwide using this methodology

In countries like India that are highly vulnerable to climate breakdown, forests are an integral element towards mitigation. Tree cover of almost 1.6 million hectares was lost between 2001 and 2018 in India — nearly four times the geographical area of Goa, according to a study released by the World Resources Institute. In this pledge to the UNFCC, the Indian government promised to cover 33% of its geographical area with forest cover by 2022, which currently stands at 24%. One possible method to achieve the target would be the Miyawaki method of afforestation. Also called the Potted Seedling Method, this afforestation technique uses native species to create dense, multilayered forests.

The Method

This method of afforestation creates native forests up to 30 times denser compared to conventional plantations. In terms of biodiversity these forests are much more diverse compared to usual plantations as at least 50-100 different native species are planted in the same area.

These patches of Miyawaki forests provide 30 times better noise and dust reduction and up to 30 times better Carbon-dioxide absorption as compared to a mono culture plantation. In Miyawaki technique tree saplings are placed close enough to increase the density which creates micro habitat and safe spaces for other native flora and fauna which come on their own. These forests are one of the fastest growing man-made native forests and guarantees the growth of 1 meter per year. As these are strictly native, they require minimum maintenance i.e. only general watering and observing that too for first 3 years, after which the whole forest become self-sustainable and regenerate and maintain itself just like it happens in old growth forests. This technique of growing Miyawaki forests is completely chemical free that sustains itself and supports local bio-diversity.

1 - Miyawaki method is an afforestation technique that uses native species to create dense, multilayered forests.

Miyawaki in India

In India, this method is slowly gaining momentum. One of the social enterprise Afforestt has worked with various companies and individuals to create these forests. Afforestt's Miyawaki technique includes a six-step process that starts with surveying the soil to assess physical texture, organic carbon, soil pH and more. Then a survey of native species and biomass is done by visiting and collecting relevant data from the nearest natural forest in the region. After which, native saplings are procured and planted in layers, as per Miyawaki guidelines. Finally, the site is monitored and maintained for a period of 2 to 3 years, after which the sites become self-sustainable. Roughly the cost would be Rs. 50,000 to Rs. 60,000 to create a tiny forest of 300 ft & 100 square metre, but these method guarantees a high survival and growth rate compared to conventional forests. The issue though with this method can be its high cost. Given that urban land is usually in a degraded state, the cost of preparing the soil and land can be high. Second, these are dense plantations. So the number of saplings needed increases, thereby raising costs. Going forward, creating Miyawaki forests can't be looked at as a solution in isolation, but a small significant part of mitigating the effects of climate change.

2 - The 750 square metre Miyawaki forest at Barapullah site with 2278 trees which includes 44 native species of trees. Photo from Afforestt.

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