

Want to Grow a Forest? Learn from the Last Student of the Man Who Grew 40Mn Trees

01 August 2019

"Any place so dense with trees that you can't even walk in it." Dr Akira Miyawaki's definition of forests tries to bust the myth that wilderness and urban civilisation are mutually exclusive terms. Even at the age of 91, the botanist is trying to encourage people to start growing forests right in their backyards. The reason for this relentless pursuit of planting in areas brutally shorn of all green life due to urbanisation is for all to get closer to nature."

Since the 1970s, Dr Miyawaki has been perfecting a peculiar method of afforesting urban areas. This process, which aims at creating mini forests and self-sufficient eco-systems, came to be known as the Miyawaki method. The Better India has covered several stories of individuals who have created a forest in a small space of land following the Miyawaki method. And this time, we had the honour of meeting with Nishino Fumitaka, the last disciple of the revered Japanese botanist.

What does it mean, to be the last disciple of Dr Miyawaki whose method has a faithful following world-wide?



(L) Nishino with (R) Nochi at a Benglauru police station that grows a Miyawaki forest.

"Nowadays, academia is relying more and more on online research. Very few people actually go out on field and conduct surveys. But trees, plants, forests cannot be understood online or in books. You have to visit them, observe them to truly understand them. In that

sense, I can start with a survey, specify and produce saplings and make a forest. As one package, no one else can do it," Nishino explains in Japanese with Nochi Motoharu translating for us. Nochi too has learned the technique from Nishino and is growing Miyawaki forests in Jordan.

Together, they explain how one can make a mini backyard forest, what points one must not overlook and the impact that such forests have had in Japan so far.

Monoculture plantations Vs Multilayered Miyawaki forests:



Shubhendu and Nishino examine a young forest grown by Afforestt. Image Courtesy: Shubhendu Sharma.

One of the most important points to note while going for such plantation is that you are aiming to create a forest—a self-sufficient ecosystem. This essentially means that you have to plant several plant species of varying heights, width and characteristics. Only their symbiotic relationship will make the forest survive without any interference.

Secondly, we must note that all the species you plant have to be native to that area. And this needs authentic research. Not every plant you see around—even in a large number—is native to that area. Eucalyptus, for instance, was brought to Karnataka by Tipu Sultan in 1790. The tree, native to Australia, spread to several parts of India since. However, it is not a species native to India.

Shubhendu Sharma, the founder of Afforestt stresses on the fact that you must resurrect the inactive soil before you start planting trees. He says that human activity that did not consider the importance of topsoil or microbes living beneath the surface has killed it. Which is why you don't see trees growing in areas where once thrived a forest. To ensure that the forest you plant doesn't have a short lifespan, you must make the soil alive again.

Only when you consider all the above points will you be ready to have a forest in your backyard.



How to grow a Miyawaki forest:



"Use native species. Plant them in your cities randomly. Include soil building and mulching as a part of your practice," Nishino puts it simply. Together with Shubhendu, he goes on to explain the steps to grow a Miyawaki forest.

The very first step is to visit a natural forest closest to the city. Here, as you venture deep into the jungle, you will start noticing certain species of trees that you never see in cities. You will also notice that certain city-dwelling plants are not a part of this forest. This is the first indication of what plants or trees grow naturally in that area and what is planted for beautification.

When you list the native species (you can take the help of the forest department in this too), you divide them into four categories – shrub layer, sub-tree layer, tree layer and canopy layer.

Go to your closest nursery, ideally, a forest department-run, to get the saplings of these finalised species. The forest department will get you authentic native species at subsidised

rates. Nishino stresses on the importance of good quality roots of the saplings. Although roots are not visible to us and hence can be ignored, their health is crucial to the growth of plants. As Shubhendu suggests, you can also get seeds germinated in forests.



When you have an adequate number of saplings, test the soil where the saplings will be planted. Soil with decomposing leaves, insect activity and a mild-petrichor is alive. If your soil doesn't show these signs, bring it to life!

"Mix some locally available biomass to improve its nutrition capacity, nutrition content, percolation capacity and water-retention capacity. You can use coconut husk, sugarcane bagasse or the husk of some locally available crops. Nutrition also comes from manure," Shubhendu explains.

Dig the soil about 1 metre deep and mix three types of biomass.

You have to artificially introduce microorganisms to this soil. Compost tea or Jeevamrut are good examples of such microorganisms which are present in cow dung, cow urine or soil from a natural forest. These will begin the cycle of reviving the soil and make the bed ready for plantation.

After the land is ready, you can begin the planting.

"Plant no less than three saplings per square metre," Nishino suggests, adding that these saplings need to be a mixed group of trees, shrubs and canopies. These will, of course, be different species and have to be planted in a random fashion.

Once planted, cover the land with mulch so as to stop the water from evaporating. Note that you are growing a forest anew and so, you need to create favourable conditions for a couple of years before letting the forest grow independently.

In most parts of India, you also need to water the plants (about 3 litres per square metre per day) twice every day. "That is not the case in Japan and we need not water the plants at all. However, a change in climate and groundwater levels in India means that you may have to water them regularly, for the initial days," Nishino explains.

If need be, you will also need to provide support to the plants that will grow vertically quickly. A bamboo stick should suffice.

Lastly, look out for signs like the activity of insects and growth of fungus on the soil. If you see bugs, earthworms or butterfly or mushrooms on the soils, it means your forest is thriving.

Nishino, who has been working closely with Dr Miyawaki since he was a child spoke about the impact that the plantation of native species has had in Japan.



Nishino explains the importance of native trees.

In one instance, the Tsunami waves had wiped out most plants in an area. The native trees, however, still stood strong, protecting the houses in their midst. These trees, of course, were planted very close to each other and this "unity" increased their strength.

In another instance, he visited a landslide site where only the native species had their stronghold while the other trees succumbed.

"The native species might be able to protect in the case of a natural disaster as opposed to alien species. And not just that, this method also protects the unique culture and vegetation of the region," he explains.

This thick and dense forest will protect us from air pollution and also block loud noises.

We visited a police station on Richmond road in Bengaluru that nurtures a 400-square-metre Miyawaki forest. Chandrashekhar, the DYSP at the station tells us, "The temperature is 5°C lower than the surroundings. We feel fresh as soon as we enter the premises and also more energetic. The men have started watering the trees without instruction now and that shows they have grown fond of the forest."

The project, just 13 months old, has already grown over 7 feet tall and is thriving with over 20 native flowering and fruit trees.

Growing a forest with this method is not an easy task. But the end result will be deeply satisfying. Nishino informs us that although he has seen a handful of failed projects of the Miywaki method in Japan, the number is very small as compared to the total number of forests successfully grown. And he stresses that overlooking crucial factors such as the plantation of several species- of varying characteristics or native plants- has been the cause of these failures.

Regrowing forests is the need of the hour and you could help contribute to it. Who wouldn't like to live in a forest and still have access to all the luxuries of a city? A Miyawaki forest helps you do that. Now that you know how to grow one, get to it!

Source: <u>https://www.thebetterindia.com/190465/want-to-grow-a-forest-learn-from-the-last-</u>student-of-the-man-who-grew-40mn-trees/