

Eco-entrepreneur Shubhendu Sharma on why planting an urban forest is the need of the hour

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Shubhendu Sharma left his job to start his startup of planting forests through Miyawaki technique (Credit: Afforestt)

The catastrophic impact of climate change is not unknown. This is probably why many people, over the years, have become [environment](#)-conscious and are opting for things that are sustainable in nature — from clothes to makeup, and even everyday items like combs and toothbrushes.

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This is also what prompted Industrial Engineer Shubhendu Sharma to leave his high-paying job and work towards “creating natural forests and promoting sustainability. “The whole concept resonated with me at the psychological level. I am not planting these forests to tackle deforestation or pollution but for the love and joy of seeing a forest or the process of making one. The environmental impact that it creates comes as a bonus,” said Sharma, founder and director of *Afforestt*, a service provider for creating natural, wild, maintenance-free, native forests.

As change starts at home, he did, too. Using the [Miyawaki](#) technique, he planted “a small forest in my backyard”. Explaining, he said that this methodology involves building dense, multilayered native forests, irrespective of the soil and climatic conditions. “These forests take two to three years to grow after which they become self-sustainable. Pioneered by botanist Akira Miyawaki, I use the technique to create [forests](#) on many concretised and barren lands,” he shared.

On World Nature Conservation Day, he spoke with [indianexpress.com](https://www.indianexpress.com) about the technique, its benefits, the process involved, and why urban forestry is the need of the hour.



These forests have 30 percent more green cover and lead to more pollution absorption (Credit: Afforestt)

Excerpts:

When and how did you get to know about the technique?

Akira Miyawaki is a Japanese scientist who has been making forests all over the world. He started doing it in Japan in the 1970s, and his first project in India was in Bengaluru in 2009. I happened to meet him back in 2008 when I was working at a company where he was making a forest to convert our factory into a [pollution-free](#) place. Then, he had explained how these forests are made and the kind of impact that they can create. I was exposed to this concept then and six months later we planted the forest. For the next one and a half to two years, I read a lot about his work, before starting my own company.

What are the benefits of using this technique?

In this methodology, we club the native species of a place together and create a multi-layer forest consisting of small trees, shrubs, and large trees. We develop the canopy of the forest, which helps fill up the vertical space (comprising the trunk) which otherwise would've gone wasted. We plant trees at 5 feet, as well as at 30 feet; this way, the entire vertical space is utilised.

This technique, ultimately, leads to a forest that has 30 times more green surface area, absorbs more pollution, and enables 30 times better temperature reduction. These forests attract a lot of natural and native biodiversity — we have also spotted birds, like [hornbills](#) in city centres.



This technique was pioneered by botanist Akira Miyawaki (Source: Afforestt)

How are these forests different from conventional ones?

If a forest has been planted by the forest department, then they would have different goals — of producing some harvest from these forests. So, most of the managed forests that you see in national park are usually plantations with goals of producing timber etc. Whereas a [natural forest](#) is an untouched place that is nurtured by nature. Also, these kinds of forests are very rare, which is why we want to plant more of these.

But how does this technique enable you to plant trees on concrete or barren grounds?

Soil is full of minerals that will always be there, whether it is a paved or a concrete floor. What is not there are the microbes that keep the soil alive. So we have to bring them back and make sure there is enough biomass, moisture, and shelter for all these [microorganisms](#). We dig the soil and mix some sponge-like material that will retain moisture and some crunchy biomass that will loosen up the soil and will be food to the microbes.

Then, we introduce these microbes so that they can continue to feed themselves and multiply — ultimately helping the soil come alive. That is what is going to nurture the forest so that it naturally starts to produce humus and becomes self-sustainable.



No synthetic materials are used in growing these forests (Source: Afforestt)

Can you describe the process involved in detail?

First, we find out about all the native species that belong to the place where the forest to be grown. For this, we have to go into the history of the place and find out what existed at that time, before human intervention. The second step involves checking for the 'fight readiness' of the land which involves ascertaining the availability of [sunlight](#), moisture, and air. This is done to make sure that the site is ready for planting the forest. A survey of the materials available in that area is done after which the microbes are introduced into the soil and the seedlings are planted. The forest floor is covered with mulch which protects the moisture from evaporation, protects them from sunlight, and sterilisation.

Some of the common challenges you face are...

The biggest challenge is availability and awareness about the native [species](#). We are always more inclined towards exotic things and making people understand that natural and native is better than exotic is still a challenge. Second is that in urban spaces, people are always scared of biodiversity. It is a new industry, so it is still developing. The big challenge is to create is heavy demand for it and that mindset shift is the kind of challenge we need to address.

Why is urban forestry the need of the hour?

We need some natural methods to mitigate the heat that is being generated in the cities. Most of this heat is generated because of a lack of [green](#) infrastructure. The best way to mitigate all of that is by planting an urban forest and in some of our experiments, we have seen a decrease of 14 degrees Celsius in

temperatures just by a one and half-year-old forest. So when you do that, the air becomes cleaner, less polluted, there is less noise, and your electricity bill is also getting reduced which is a direct economic impact.

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