

**Commissionerate of Collegiate Education  
Government of Telangana**

**Circular**

Sub: Collegiate Education – **Telangana ku Haritha Haram 2022-23**– Survival Status Reports called for – Certain Instructions – Issued.

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**‘Telangana Ku Haritha Haram’** is the flagship programme of the Government of Telangana. It conceives to increase the tree cover of the Telangana State from 25.16% to a minimum of 33% of its total geography. The main goal of this programme is to restore the ecological balance, conserve biodiversity and protect soil and its nutrients. For this purpose, massive plantation programmes have been underway since the past six years.

As per the instructions of the Commissioner of Collegiate, all the Principals are hereby requested to carry out plantation drives in their colleges under the banner of **‘Telangana ku Haritha haaram’** deploying the Japanese afforestation technique called **Miyawaki method** on the boundary of the colleges. Some notes on carrying out plantation using Miyawaki method have been attached along with this Circular.

The Principals also requested to send a report on the survival status of saplings planted last year as a part of Haritha Haram and check the QR codes tagged to the plants and re-tag plants whose tags have been lost, misplaced or damaged. The information may be furnished in the google form <https://forms.gle/vq8tk7FkBQqRdzWX9> on or before **10.09.2022** without fail.

**Signed by D Thiruvengala  
Chary**

**Date: 01-09-2022 18:15:10**

**Reason: Approved**

For Commissioner of Collegiate Education

To  
The Principals of all GDCs in Telangana State.

## **Notes on Miyawaki method of Afforestation**

To meet the stipulated plantation target under the **Telangana ku Haritha Haaram (TKHH) programme**, Telangana government has introduced the Japanese "**Miyawaki**" method of afforestation to grow urban forests and expand the green cover and it has already seen this method work in the Yadadri belt, NIT Warangal, NTPC Ramagundam, Karimnagar Police station, among others.

**Miyawaki** is a technique pioneered by Japanese botanist Akira Miyawaki, to build dense and native forests in a short time. This method includes planting trees (only native species) as close as possible in the same area. This saves space and the planted saplings support each other in growth and block the sunlight from reaching the ground, thereby preventing the growth of weeds. The saplings become maintenance-free (self-sustainable) after the first three years. The approach is known to ensure that plant growth is 10 times faster and the resulting plantation is 30 times denser than usual. Miyawaki method helps to create a forest in just 20 to 30 years, while through conventional methods it takes anywhere between 200 to 300 years.

Guidelines for carrying out Plantation using Miyawaki Technique:

1. Examination of Soil texture and Quantification of Biomass
2. Identification and Selection of Native Plant species for Plantation
3. Preparation of Soil
4. Plantation
5. Looking after the plants for three years.

## 1. Examination of Soil texture and Quantification of Biomass

Soil texture is an important parameter that helps in determining the water holding capacity, water infiltration, root perforation capacity, nutrient retention and erodibility. The texture of the soil can be sandy, loamy or clayey.



The following may be added to prepare the soil for plantation.

1. Organic fertilizers - The ground requires fertilizer to provide nutrients for plant growth. Organic fertilizers like vermicompost can be used.
2. Perforating materials - These materials are helpful for plants to penetrate their roots deeper into the ground. Rice husk, wheat husk, or groundnut shells can be an excellent resource to increase perforation.
3. Water retainers- A ground must have significant water retention power to develop a forest. We can add coconut coir and peat moss to strengthen the soil's water retention power.
4. Mulch- It is usually layered over the ground to protect it from the scorching sun. It is vital, especially for saplings, as their growth may be affected in dried soil. Afforests can use decaying leaves, dried bark, or even composts.



Biomass that is both spongy and dry like rice or wheat husk or groundnut shells can be added. Also add some water and moisture retainer, like cocopeat or sugarcane bagasse. Mulch the soil with organic and bio-degradable ingredients, like agro-waste. This step protects the soil and prevents sunlight from directly hitting the plants. Finally, add organic fertilizers like manure or vermicompost. Include some beneficial microbes for nutrition and to avoid the usage of pesticides.

## **2. Identification and Selection of Native Plant species for Plantation**

For a multi-layered process, choose different species of plants like shrub layer (6 feet), sub-tree layer (6-12 feet), tree layer (20-40 feet) and canopy layer (above 40 feet). Do not place the same species next to each other.



### 3. Preparation of Soil

- The site should get sunlight for a minimum of 8-9 hours a day. No pipes/drains/wires or debris should be present in the area.
- Weeds take away nutrition of the soil, and also restrict movement of materials and people. Hence they should be cleaned either manually, or using a JCB if the area is huge. Ensure that the pulled out weeds are disposed away from the site; else they may re-grow.
- There should be a main line with watering outlets for hoses, which can reach the entire area of the forest. Watering should be done every day manually using a hosepipe with a shower, and not by drip irrigation, sprinklers etc. The requirement is around 5 litres/sq metre per day.
- Clear weed growth, big stones and boulders



### 3. Plantation

- To plant the tree, dig a small pit with a trowel, remove the root bag in which the plant was growing, and gently place the plant in the pit. Level the soil outside gently around the stem of the plant, without pressing or compacting the soil.
- Support the plants with sticks: Saplings need support during the initial months so that they don't droop or bend. Insert support sticks into the soil close to the plant, without damaging the roots of the plant. For plants shorter than 1

metre, use 1 metre-long bamboo sticks. For taller plants, use slightly thicker 2-2.5 metre-long bamboo sticks.

- Mulch should be evenly laid out on the soil, in a 5-7 inch layer. To ensure that the mulch stays on the ground and does not fly around, it should be tied down with jute ropes. For this, bamboo pegs should be nailed at the periphery of the forest. Tie the pegs to each other with rope, pressing down on the mulch. There should be 30 pegs, each around 2 ft long, around every 100 sqm mound.
- The first time, the forest should be watered for an hour. Minimum water requirement is 5 litres per sqm, or 500 litres per 100 sqm mound.



#### **4. Looking after the plants for three years.**

- The forest should be monitored once in 1-2 months, to check if the targets have been achieved and if any changes should be made to improve results. This should be done the first 8-12 months. Count the number of saplings that have survived, and record the data. Growth of selected species should also be monitored.
- Water the forest with hose pipe once a day.

- Keep the forest weed-free for the first 2-3 years. Once the forest starts growing, weed growth will stop.
- Ensure that the plants stay straight, are not buried under the mulch, and are only loosely tied to the support stick.
- Keep the forest clean, and free of plastic, paper etc.
- Maintain proper drainage system so that water does not get accumulated anywhere in the forest. Do not build bunds in the forest, as accumulated water can kill plant roots.
- Mortality rate of plants is usually 2-5 percent. Mortality is to be checked only after 3-4 months of planting.
- Do not use any chemicals like pesticides or inorganic fertilisers. If you notice pests, leave them undisturbed. The forest will slowly build its own mechanism to keep itself healthy.
- Mulching should be maintained for at least one year. The soil should be re-mulched with time, since dry soil is detrimental to forest health. Also, never remove organic matter like fallen leaves from the forest floor, as it will kill good soil microbes.
- As the tree grows taller, longer support sticks may be needed so that the tree shoot does not bend and become weak. Never cut or prune the forest as it could make the forest weaker.

**For more details, please visit:**

1. <https://www.thebetterindia.com/206740/how-to-grow-forest-miyawaki-method-backyard-home-garden-steps-home-india/>
2. <https://bengaluru.citizenmatters.in/how-to-make-mini-forest-miyawaki-method-34867>