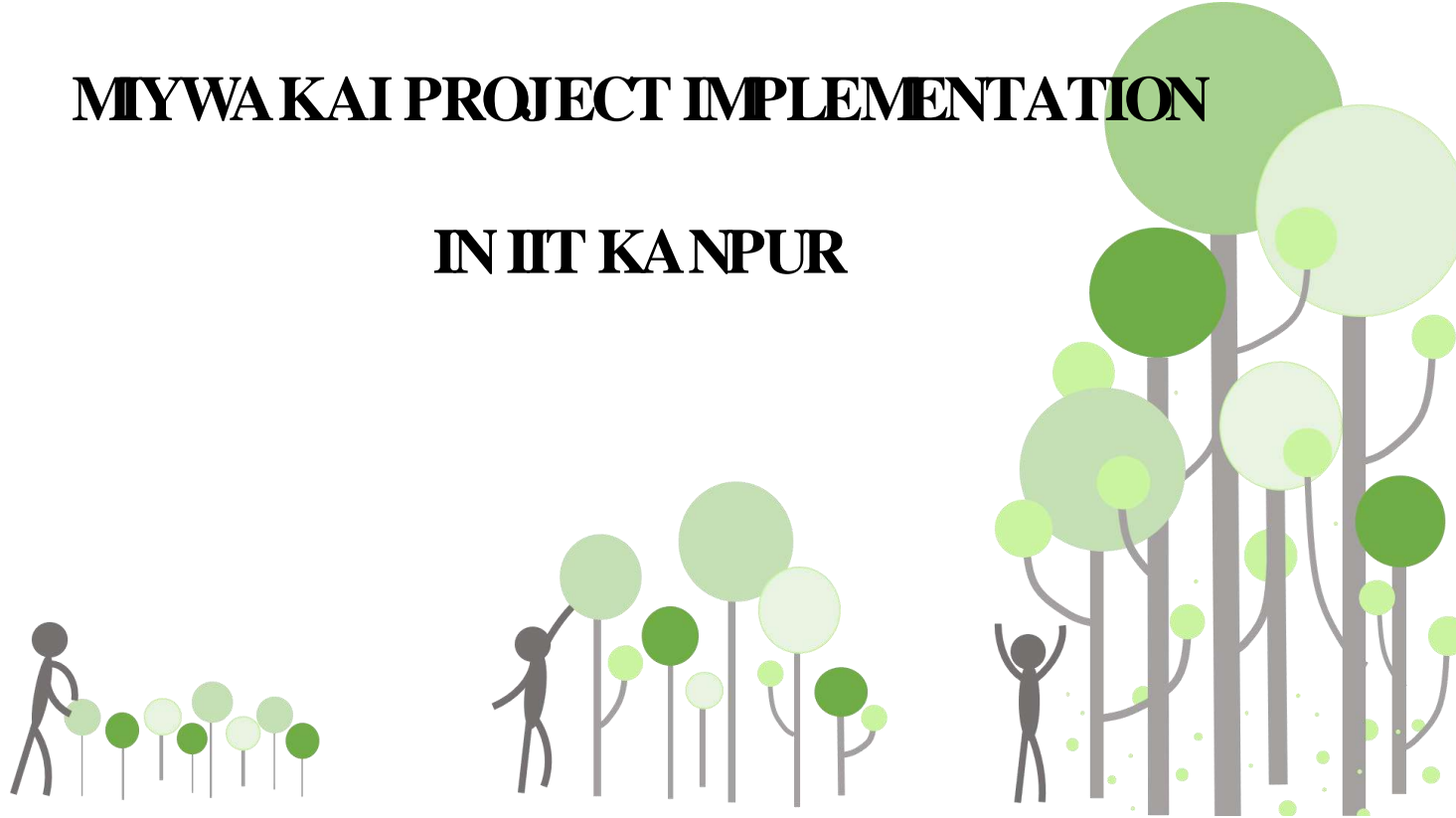




MIYWAKAI PROJECT IMPLEMENTATION IN IIT KANPUR



SUPPORTED BY BAJAJ ELECTRICALS FOUNDATION



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Miyawaki plantation



Miyawaki plantation is a technique pioneered by Japanese botanist Akira Miyawaki that helps to build dense, native forests in the urban areas around the world. The green cover in an urban area is under constant threat for developmental activities, it's very difficult to restore the green zone in urban areas due to scarcity of land. Miyawaki technique represents a small replica of the rain forest, this method helps to accommodate thousands of trees in a small patch of land, which directly benefits the environment around the world by sequestering more carbon from the atmosphere.

Objectives of Miyawaki Plantation

- To increase green patch in the concrete jungles of urban areas
- Create and optimize the model system (Miyawaki Forestation) which can be incorporated in the major cities as a carbon sink.
- Increase total biodiversity in different patches of the cities using urban forestation.
- Spread awareness with reference to environment protection and sustainability.

**GLIMPSE OF MIYAWAKI PROJECT IMPLEMENTATION IN
OTHER AREAS (MUMBAI AND PUNE)**

Timelapse for creation of Miyawaki Forest (Mumbai)



Land Before Plantation



Miyawaki Plantation



Saplings after 4 Months



Saplings after 10 Months

Saplings after 18 Months



Timelapse for creation of Miyawaki Forest (Pune) – Ongoing project



Land Before Plantation



Plantation



Plants after 5 months



Plantation (12 Months)

Project Details for Miyawaki Plantation (IIT Kanpur)

No of Saplings	12000
Approximate area considered for plantation	43000 Sqft.
No of plant species considered	20-25
Total fund sanctioned for the project by Bajaj Electricals Ltd.	3601360 INR
Approximate time for completion of plantation work	2 Months
No of Years considered for maintenance of plants	2 years
No of gardeners considered for maintenance for 2 years	4 Nos.
Area need to be fenced	242.56 R.M

List of plants considered for Miyawaki plantation at IIT Kanpur (12000 Nos)

Sr. No	Common Name	Botanical Name	Approximate No.
1	Jarul	<i>Lagerstroemia speciosa</i>	480 Nos.
2	Neeru	<i>Spathodea campanulata</i>	480 Nos.
3	Mahagani	<i>Mahogany macrophylla</i>	480 Nos.
4	Sisham	<i>Dalbergia sissoo</i>	480 Nos.
5	Trumpet Tree	<i>Tabebuia rosea</i>	480 Nos.
6	Kadamb	<i>Neolamarckia cadamba</i>	480 Nos.
7	Jamun	<i>Syzygium cumini</i>	480 Nos.
8	Neem	<i>Azadirachta indica</i>	480 Nos.
9	Saptaparni	<i>Alstonia scholaris</i>	480 Nos.
10	Bakul,	<i>Mimusops elengi</i>	480 Nos.
11	Kanchan	<i>Bauhinia purpurea</i>	480 Nos.
12	Karanj, Pongam	<i>Pongamia pinnata</i>	480 Nos.
13	Indian Almond	<i>Terminalia cattapa</i>	480 Nos.
14	Neel mohar	<i>Jacaranda mimosifolia</i>	480 Nos.
15	Arjuna	<i>Terminalia arjuna</i>	480 Nos.
16	Peru	<i>Psidium guajava</i>	480 Nos.
17	Vilayti chinch	<i>Pithecellobium dulce</i>	480 Nos.
18	Phanas	<i>Artocarpus heterophyllus</i>	480 Nos.
19	Tamarind	<i>Tamarindus indica</i>	480 Nos.
20	Parijat	<i>Nyctanthes arbor-tristis</i>	480 Nos.
21	Kailash neem	<i>Millingtonia hortensis</i>	480 Nos.
22	Mahuva	<i>Madhuca indica</i>	480 Nos.
23	Phalsa	<i>Grewia asiatica</i>	480 Nos.
24	Seeta Ashoka	<i>Seeta ashoka</i>	480 Nos.
25	Shirish	<i>Albizia lebeck</i>	480 Nos.

Note: The list and number of saplings may change based on the availability of plants

Benefits from the Miyawaki IIT Kanpur Project

- Temperature reduction: -2°C minimum, locally
- Air quality improvement, pollution clustering: adsorption of 15% microparticles by leaves and bark intercept dust.
- Noise reduction: -10 dB for a mature Urban Forest
- Biodiversity balance: biodiversity is on average 18 times higher, pest concentration can be lower, the forest ensures transfers and biodiversity increase in urban context.
- Soil stability: The entanglement of roots forms a matrix-pillar system that retains soils
- CO₂ sequestration: Maximum CO₂ sequestration with minimum use of a land



We can create forest trails with benches and declare that area as a high oxygen sitting or jogging zone

Miyawaki forest IIT Kanpur look after 2 years (reference image)



**Timeline For The Implementation of Miyawaki
Plantation Project (IIT Kanpur)**

Confirmation of Project from Bajaj Electricals Foundation, Mumbai (November 2021)



Initiation of discussion for requirement of land and permissions for Miyawaki plantation
(Director and Dean, Infrastructure and Planning, IIT Kanpur) (February 2022)



Confirmation of Land requirement and all permissions for the project implementation (From
IIT Kanpur and Bajaj Electricals Foundation) (November 2022)



Start of land preparation work for Miyawaki plantation (January 2023)



Delivery of plants (March 2023)



Start of plantation work (March 2023)



Completion of plantation work (May 2023)



Maintenance (June 2023 onwards)

STEPS INVOLVED IN MIYAWAKI PLANTATION

Clearance of area



The entire plantation area is going to be cleaned and levelled with the help of excavator

Pit Preparation



Appropriate size pits will be made before plantation

Pit chemical treatment



Pits are going to be treated with chemicals for better root growth and plant survival

Selection of a plants



All the trees will be of 4 feet height, the trees are going to selected on the basis of different layers of Miyawaki forest like large, medium and small trees

Plantation of saplings



All necessary steps are going to be followed for the plantation of trees

For /sq mt area approximate 4 nos of tress are going to considered for plantation.

Mulching of trees with dried grass



After plantation of trees, the ground will be covered with dried grass (Mulch) to reduce unwanted weeds.

Maintenance of saplings



**Trees will be maintained for 2 years so that they can become self sustaining.
All necessary steps are going to be followed for maintenance (Watering, de-weeding, regular
fertiligation, spraying insecticide, etc.)**

Carbon Sequestration



We have created our Miyawaki forest in approximate 72000 Sq. ft land, after two year of maintenance, Approximate carbon di oxide sequestration will be 93000 kg of and every year their will be additional carbon di oxide absorption.



**THANK
YOU**

