



SENIOR LEADERSHIP OF PNBISL PRESENTING SAPPLINGS TO DELHI GREENS TEAM.



FY 2025-26



Greening Delhi for the Future: Miyawaki Forest-based Greenbelt Plantation Initiative

1. Introduction

The Greening Delhi for the Future initiative was implemented by Delhi Greens NGO with the support of PNB Investment Services Limited (PNBISL) under its Corporate Social Responsibility (CSR) programme during FY 2025–26. The project aimed to improve environmental conditions in North Delhi by establishing dense native greenbelts using the Miyawaki afforestation method at two locations: Grameen Gowshala, Bawana and Arogya Mandir Bhalswa Sub-Centre.

The Miyawaki method is an ecological restoration technique that creates dense, fast-growing forests by planting a diverse mix of native species at high density. These plantations grow significantly faster than conventional plantations, become largely self-sustaining within two to three years and provide multiple ecological benefits such as improved air quality, carbon sequestration, groundwater recharge, biodiversity protection & enhancement,

soil restoration and reduction in urban heat & noise pollution. The method has been widely adopted by government agencies for urban greening and greenbelt development.

The selected project sites were facing significant environmental pressures, including air pollution, degraded soil, proximity to highways, landfill impacts and limited green cover. Establishing Miyawaki forests at these locations was envisioned as a long-term ecological intervention to improve environmental quality while demonstrating an effective and scalable model for urban ecological restoration.

The project successfully established two dense greenbelt plantations with a combined total of 300 native saplings, comprising 100 saplings at Grameen Gowshala, Bawana, and 200 saplings at Arogya Mandir Bhalswa Sub-Centre.

2. The Process

The project involved the development of two Miyawaki forest-based greenbelt plantations covering approximately 900 square feet of land. A total of 300 native saplings were planted, including 100 saplings at Grameen Gowshala, Bawana and 200 saplings at Arogya Mandir Bhalswa Sub-Centre. The plantations were designed as dense linear greenbelts suited to the available narrow land strips while maintaining Miyawaki planting standards of approximately 3-5 saplings per square metre. The project focused on native and locally adapted species selected for their ecological suitability, pollution tolerance, biodiversity value, and ability to establish a self-sustaining forest ecosystem.

Species included canopy, medium-height, sub-tree and shrub layers comprising trees such as Arjun, Neem, Pilkhan, Jamun, Kachnar, Imli, Baheda, Siris, Karanj, Amaltas and Moringa, along with shrubs including Mehendi, Yellow Bells, Kaner and *Thevetia*. This multi-layered plantation structure was designed to replicate a natural forest ecosystem capable of supporting birds, pollinators and other urban biodiversity. The initiative also served as a collaborative CSR programme involving employees and management of PNB Investment Services Limited, Delhi Greens NGO, local institutions and community members, promoting environmental awareness and stakeholder ownership.

3. Implementation

Implementation followed a systematic and scientifically planned approach tailored to site-specific conditions. The project commenced with detailed site surveys to assess soil quality, sunlight availability, drainage patterns, existing vegetation and local biodiversity. Since both sites had degraded soil conditions, *in situ* soil testing and

field observations were carried out to determine the required soil improvement measures. Extensive site preparation was undertaken before plantation. This included clearing weeds and debris, removal of stones and construction waste where necessary, land levelling, excavation using machinery, soil amelioration with organic compost, coco peat and seaweed-based soil conditioners, followed by moisture preparation through irrigation. Protective fencing comprising cement poles, bamboo supports and barbed wire was installed to safeguard the plantation from grazing and physical disturbances.

Plantation layouts were then designed according to the available land while maintaining the principles of the Miyawaki technique. Native species were selected after reviewing local ecological conditions and ensuring a balanced combination of canopy trees, sub-canopy species and shrubs to accelerate natural forest succession. Naturalized species were also considered given the highly polluted status of one of the sites. Saplings were planted in dense, staggered arrangements to encourage rapid canopy formation and healthy competition among species. After the plantation, mulching was applied to conserve soil moisture, suppress weeds and improve long-term soil fertility. Basic irrigation infrastructure was also established to support early plant establishment. Community participation formed an important component of project implementation. Representatives from PNB Investment Services Limited actively participated in the plantation activities alongside Delhi Greens volunteers, local community members, staff from the Arogya Mandir and Grameen Gowshala, and other stakeholders. Community consultations also contributed valuable local knowledge regarding historical vegetation, soil characteristics and biodiversity, helping strengthen species selection and long-term stewardship of the plantations.

Bawana Site ↓



Bhalswa Site ↓











To ensure sustainability, a structured maintenance and monitoring mechanism has been established. Regular inspections, watering, weed removal, mulching, replacement of unsuccessful saplings and periodic health assessments is being undertaken. Plantation progress is being documented through geo-tagged photographs and uploaded to the Delhi Greens digital monitoring portal, ensuring transparent reporting and long-term tracking of plantation performance.

4. Outcome

The project successfully established two Miyawaki forest-based greenbelt plantation sites with a combined plantation of 300 native saplings, creating a significant ecological intervention in environmentally stressed areas of North Delhi. The plantations are being nurtured and are expected to mature into dense, self-sustaining urban forests capable of improving local air quality by filtering out the dust and vehicular emissions, enhancing

carbon sequestration, reducing urban heat, improving groundwater recharge, restoring degraded soil and increasing biodiversity by providing habitat for birds, pollinators and beneficial insects. The greenbelts will help reduce noise pollution and create healthier surroundings for nearby residents and livestock.

Beyond environmental improvements, the initiative demonstrated the effectiveness of CSR-supported ecological restoration through strong collaboration between corporate partners, civil society organisations and local communities. It also created awareness about sustainable urban forestry and established a replicable model for greenbelt development in pollution-affected and space-constrained urban environments. Overall, the project represents a successful example of scientific afforestation combined with community participation and corporate support, contributing to long-term environmental resilience and sustainable urban development in Delhi.



Plantation Sites as on 31.03.26. Live monitoring is under process.