Microsoft

PROJECT REPORT

INDIA 2023 - PUNE OXYGEN PARK DEVELOPMENT PROJECT

ONETREEPLANTED

THANK YOU
FOR YOUR SUPPORT

Dear Microsoft,

Thanks to your support, a total of 25,755 trees were planted to restore 1.5 acres of land in India.

Planting trees in areas that have been degraded or deforested helps the environment by accelerating and assuring the re-establishment of healthy forests. Through reforestation, the canopy is restored, ecosystems are made whole, and biodiversity can thrive.

None of this would be possible without you. On behalf of everyone at One Tree Planted, thank you!

What follows is a report outlining the project you supported in India. I hope you enjoy reading it and truly feel the impact you have made.

Harry P. Lynch

**PRESIDENT & CEO
ONE TREE PLANTED**

OVERVIEW

The project created an urban park by planting 25,584 trees in Wadgaon Sheri in Pune, India. Similar to many other Indian cities, Pune has experienced rapid urbanization in recent years. As a result, the city has consistently ranked high in terms of air pollution; residents often experience temperatures 2+ C higher than surrounding area; and access to green spaces is alarmingly low at <3 meter square per capita (WHO recommends a minimum of 9m2 of green space per capita).

Our local planting partner secured a 6-acre parcel from the Municipal Corporation of Pune and planted trees to transform it into an "oxygen park" that will help improve air and water quality, provide shade, reduce noise pollution and create a utilizable green space for the local community. 40+ tree species will be utilized to create high-density forest pockets. Our partner surveyed local residents in the design process, engaged both community members and corporate employees in tree planting, and will continue to promote park usage through continuous feedback from adjacent residents.

TREES PLANTED
25,755

TREE SPECIES PLANTED
57

ACRES REFORESTED
1.5

PEOPLE IMPACTED
17,000

JOBS SUPPORTED
50   *25 JOBS CREATED*

VOLUNTEERS INVOLVED
95   *142 VOLUNTEER HOURS*

TREE SPECIES PLANTED

We planted 40+ native tree species, totaling 25,584 trees.

Smaller saplings (1-3 feet tall) were used to create high density multi species forest pockets inspired by the Miyawaki method. Larger saplings (5-6 feet tall) were used for individual trees planted at conventional spacing (120 trees). In addition to this, there shrubs and native grasses were planted in selected locations based on the master plan.

SPECIES PLANTED THROUGH THIS PROJECT

- Mangifera indica (Amba)
- Phyllanthus emblica (Amla)
- Ailanthus excelsa (Ardusa)
- Justicia adhatoda (Ardusi)
- Sapindus trifoliatus (Aritha)
- Terminalia arjuna (Arjun)
- Terminalia catappa (Badam)
- Terminalia billerica (Baheda)
- Aegle marmelos (bili)
- Mumusops elengi (Borsali)
- Millingtonia hortensis (Buch)
- Pinica granatum (Dadam)
- Cassia fistula (Garmala)
- Adansonia digitata (Goras amli)
- Delonix regia (Gulmohar)
- Caesalpinia pulcherria (Gultora)
- Cordia dichotoma (Gunda)
- Syzygium cumini (Jamun)
- Psidium guajava (Jamgal)
- Bauhinia purpurea (Kacchnar)
- Anthocephalus cadamba (Kadamb)
- Pongamia pinnata (Kanji)
- Bombax ceiba (Kapok)
- Senna siamea (Kashid)
- Senegalia catechu (Khair)
- Butea monosperma (Khakhra)
- Tamarindus indica (Amli)
- Cordia sebestena (Kodia)
- Citrus limon (Limbu)
- Madhuca longofolia (Mahuda)
- Murraya koenigii (Mitho limdo)
- Vitex nagundo (Nagod)
- Azadirachta indica (Neem)
- Erythrina variegata (Pangara)
- Ficus arnottiana (Paras pipdo)
- Nyctanthes arbortristis (Parijat)
- Peltophorum pterocarpum (Peltophorum)
- Cassia renigera (Pink cassia)
- Drypetes roxburghii (Putranjiva)
- Albizia saman (Rain tree)
- Cestrum nocturnum (Ratrani)
- Manikara hexandra (Rayan)
- Tectona grandis (Saag)
- Alstonia scholaris (Saptaparni)
- Moringa oleifera (Saragvo)
- Casuarina equisetofolia (Saru)
- Morinda citrifolia (Setur)
- Gmelia arborea (Sevan)

YOUR IMPACT
ON THE MAP

The trees were planted on a parcel of land located within the city of Pune in Maharashtra. The total land parcel size is ~165 acres and before planting was mostly barren. The site is protected with a compound wall, and there is a pond on the land.
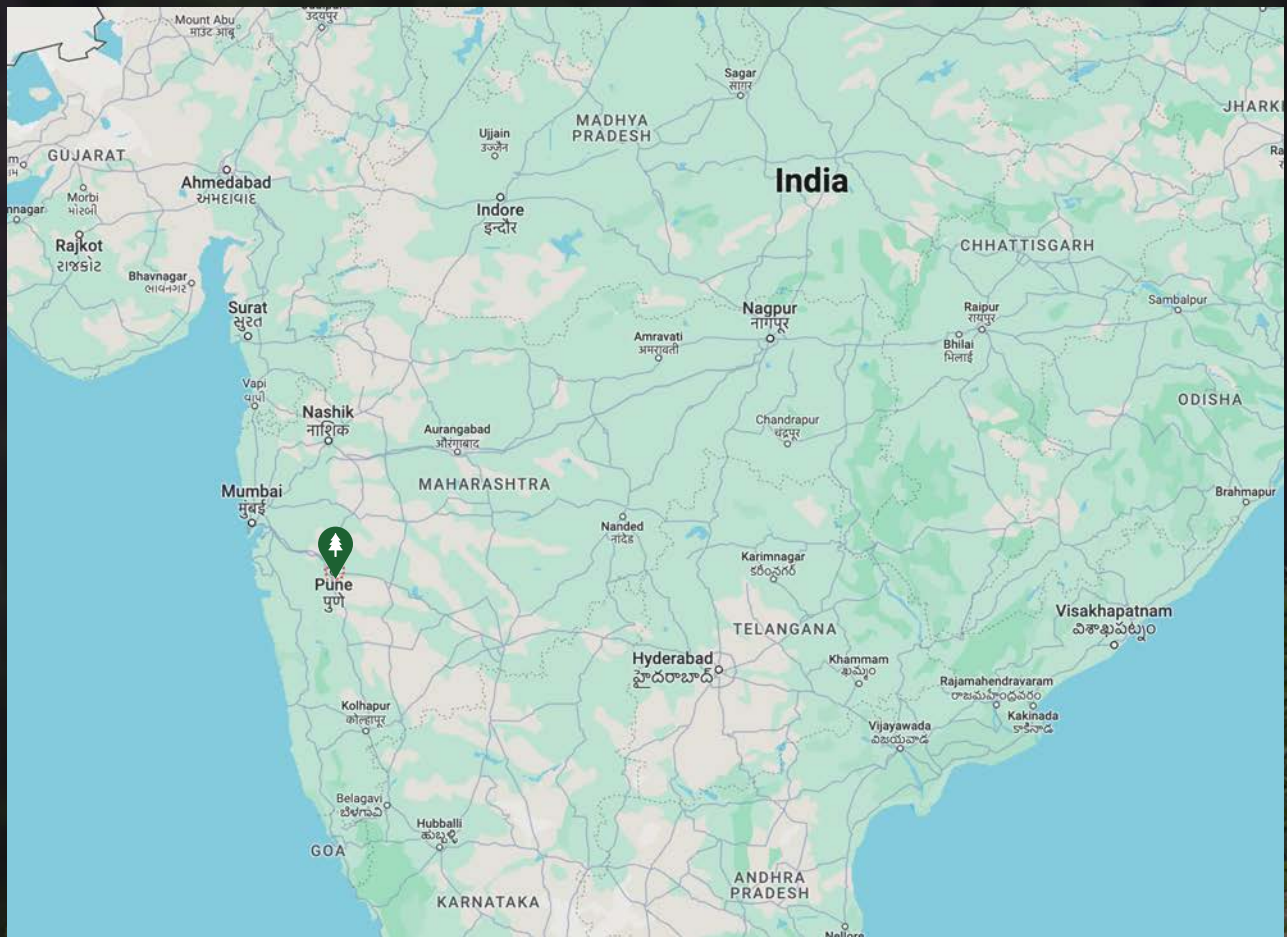
A CLOSER LOOK
AT THE IMPACT
OF OXYGEN PARKS IN INDIA

Forest Bathing, defined as a visit to the forest for relaxation and to improve one's health, became part of a national public health program in Japan in 1982. This practice is proven to have a positive medical impact, increase feelings of well being and have an impact on treatment of attention disorders in children. This concept has been a strong inspiration behind the oxygen park design, which are envisioned as densely forested spaces where citizens can connect with nature and engage in forest bathing.

The estimates on per capita green space in Indian cities are alarming. The World Health Organization, in its concern for public health, produced a document on the subject stating that every city should have a minimum of 9 m2 of green space per person. An optimal amount would sit between 10 and 15 m2 per person.

Our planting partner's oxygen parks, which are dense forest pockets inserted in urban areas, are highly impactful in increasing urban green cover and promoting urban biodiversity. They also have a significant impact on several important environmental impact parameters like air purification, temperature control, noise and dust reduction, soil fertility, and carbon sequestration. The community centric design and approach increases human-nature connection, improving health and wellbeing.

This project's approach to regeneration is based on bringing back native biodiversity. This involves working with only native species of the region which include grasses, shrubs and tree species with a focus on creating and restoring habitats.

142 HOURS OF PLANTING WERE DEDICATED BY VOLUNTEERS

DOCUMENTING
YOUR IMPACT

Through authentic and informative storytelling, we help donors relate to the people who plant their trees and to the impact they're making for the planet. We share photos, videos, and updates from our global projects across our social media, website, and other media to create a personal connection to the incredible work happening on the ground.

PHOTOS FROM YOUR PROJECT

COMMUNITY
BENEFITS

The and parcel for the project is located in Wadegon Sheri. Wadgaon Sheri is a mid-income and very densely populated neighborhood in Pune, India. The residents face a number of environmental challenges, such as poor air quality, very limited access to green spaces, and limited access to clean water. The area has seen a significant amount of development in recent years, with an increase in the number of residential complexes, shops, and other amenities.

As an organization, "bringing nature back to cities" and "connecting people with nature" are the two sub goals for this project. Inspired by the concept of forest bathing "Shinrin Yoku", defined as a visit to the forest for relaxation and to improve one's health, our local partner explored the concept of parks for the community; parks so dense that they are rightful of the name 'Oxygen Parks'. Connecting people with nature by involving the community in plantation drives and encouraging repeated visits to experience the plant growth is critical. Along with employee volunteer plantation drives, plantation drives with neighboring communities and children are also encouraged.

AIR POLLUTION
REDUCTION

Air quality in Pune has been a cause of concern in recent years. According to data from the Central Pollution Control Board (CPCB), Pune has consistently ranked among the top cities in India in terms of air pollution. The city has seen an increase in the levels of particulate matter (PM) and nitrogen dioxide (NO2) in the air, which can cause serious health problems such as respiratory illness and heart disease.

Trees remove air pollutants from the atmosphere mainly through dry deposition, a mechanism by which gaseous and particulate pollutants are captured by plants and absorbed through their leaves, branches and stems.

Urban tree canopies are more effective in capturing particles than other vegetation types due to their greater surface roughness. Trees act as a sink for carbon dioxide (CO2) by fixing carbon during photosynthesis and storing excess carbon as biomass. CO2 sequestration refers to the annual rate of CO2 storage in above- and below-ground biomass.

URBAN HEAT REDUCTION

Pune, like many other Indian cities, has been experiencing the UHI effect, which can cause a rise in temperature of 2-8°C above the surrounding rural areas. This increase in temperature can have negative impacts on the health and well-being of the city's residents and can also contribute to increased air pollution levels. To mitigate the UHI effect, Pune Municipal Corporation has taken some steps such as promoting green spaces, creating more parks and gardens, promoting green roofs, and encouraging people to plant trees on the streets and in their homes.

Trees are not only good reflectors of short-wave radiation, but their canopies also shade low albedo surfaces that would otherwise absorb such radiation, reducing surface temperatures and convective heat.

Trees also reduce warming of the local environment through the process of evapotranspiration where, by the evaporation of water from leaf surfaces, solar energy is converted into latent rather than sensible heat, thus 'cooling' the surrounding air and improving human thermal comfort.

According to the report 'The Miyawaki method – data and concepts' by Urban Forests Company, 2020, Miyawaki forests bring down the temperature by 2°C minimum, locally.

17,000+
PEOPLE IMPACTED

U.N. SUSTAINABLE DEVELOPMENT GOALS

THIS PROJECT CONTRIBUTED TO THE FOLLOWING SUSTAINABLE DEVELOPMENT GOALS:

3 GOOD HEALTH AND WELL-BEING

8 DECENT WORK AND ECONOMIC GROWTH

11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

15 LIFE ON LAND

WHAT ARE SDGS?

Sustainable development entails seeking out solutions that not only boost the economic outcomes of developing and poorer nations, but also work to limit (or eliminate) our impact on the planet. Trees are one such solution.

From creating jobs and reducing hunger to improving gender equality, cleaning air and water, absorbing carbon, protecting life on land and water, and more, planting trees can address all 17 sustainable development goals.