



## Pipal Tree/Lily's Leaves/Mithila Wildlife Trust reforestation programme 2023 - 2027

### Reforestation in Kathmandu valley

*A new approach to addressing the challenge of the world's most polluted city.*



#### 1. Introduction

In recent years, Kathmandu has experienced dreadful air quality due to a combination of factors. These have included increased urbanisation, poorly regulated vehicle emissions, smoking brick kilns and its topography (the city lies in a basin that traps pollutants). Small wonder that Nepal has the world's worst record of deaths from chronic lung disease. But in early 2023 the underlying toxic mix was exacerbated by climate change. The seasonal winter rains that normally clean the air failed and the same drought fuelled massive wildfires, the smoke from which drifted into Kathmandu valley. Kathmandu officially became the world city with the worst air quality; air pollutants exceeded a hundred times the WHO safe daily limit and, as ever, it was the poorest and most vulnerable within society who experienced the worst impact. *View this link or the QR code on the right.* <https://pipaltree.info/air>



For Pipal Tree, the combined climate and environment emergency has become the elephant in the room. In respect of the former, Nepal with its melting glaciers, now unpredictable weather patterns and natural disasters is the tenth most affected country in the world by climate change. For the latter, Kathmandu is rapidly becoming uninhabitable. We are prioritising a response to the challenge over our other historical activities and this proposal represents a positive and innovative step in restoring the environment in a way that can be amplified through being replicated by others.

## 2. Context and background

Pipal Tree's open-ended Mission is:

*"We empower the most disadvantaged people in Nepal towards living productive, fulfilling, and healthy lives through improving education, offering training opportunities and by the restoration of their natural environment. We focus primarily on women and girls, the lowest castes, marginalised ethnic groups, and disabled people."*

We implement our projects through three local organisations. Two of these are the NGO The Mithila Wildlife Trust (MWT), which is based in Madhesh Province in the southeast, and the Kathmandu-based social enterprise "Lily's Leaves". To date, MWT has been primarily involved in community-based rewilding and reforestation projects in its operational area. This has included pioneering in Nepal the rapid-growth reforestation **Miyawaki Method** at a rural location to remarkable success. For its part, Lily's Leaves has been mainly providing training and life-skills opportunities to vulnerable women alongside offering material support to schools. Through this project, the two organisations are collaborating as we extend the use of the Miyawaki Method to a site in Kathmandu valley. Lily's Leaves is the implementer, while MWT provides consultancy support.

It should be noted that the Miyawaki Method is designed to create dense, rapid-growing forests, at sites where only a small amount of land area is available (the size of a tennis court is a minimum). This is the situation within urban areas where tiny forests can not only provide habitats for wildlife but also help clean the air, reduce temperatures, and improve the mental health of city dwellers. The Method involves excavating to a depth of 1.5m, placing a thick layer of compost/manure/organic material, replacing the topsoil, and then planting saplings densely i.e., nine per m<sup>2</sup>. This latter, counter-intuitive, approach appears to work very effectively with saplings supporting one another synergistically. This is probably not only because of the fertiliser but also the loosening of the soil that allows easy penetration of the root systems. It is stated that a Miyawaki plantation grows ten times faster, is twenty times more biodiverse and thirty times denser than a conventional forest plantation. This is a tremendous return on investment, and we have proven in Nepal that the Method delivers what it says on the tin. See images below:



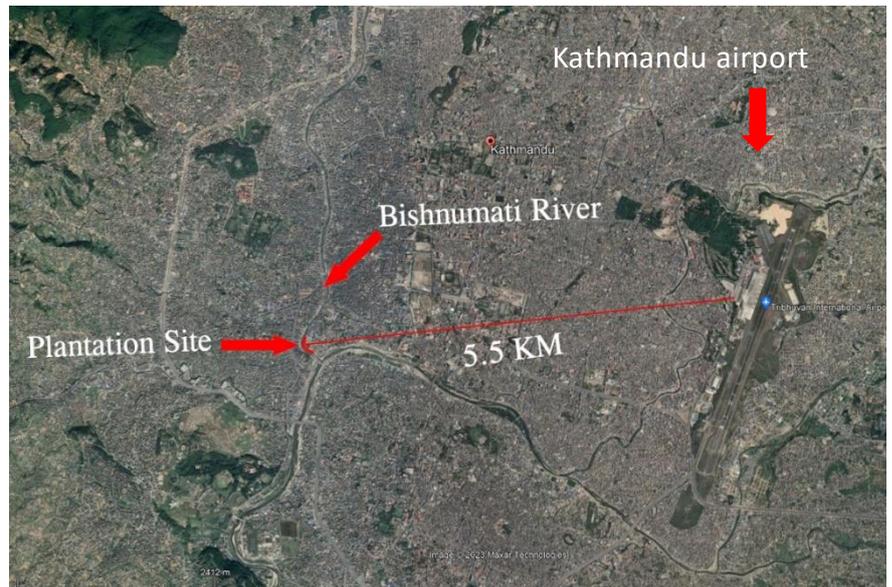
November 2022. Left: A teak sapling in a plantation control area. Right: A teak sapling in a Miyawaki section, planted at the same time.

Our pioneering work has already received [prominent coverage](#) in Nepal's leading English language paper, the Nepali Times. *See QR code on right.* That exposure has led to enquiries and visits from across Nepal with MWT offering free consultancy to any organisation that wishes to replicate the project.



### 3. Project Aim and Objectives

Through this project we will demonstrate the rapid and major return on investment by using the Miyawaki Method to afforest a riverbank at Bishnumati in Kathmandu valley. This will become a site of scientific interest and focus for environmental research for schools, Tribhuvan University (Kathmandu), NGOs and other interested parties. Nepal is very much a “copycat” society, so, we will take the lead in implementing a project that will inevitably be replicated elsewhere across Nepal, creating an amplification effect from a comparatively modest investment. Initial discussions between Lily’s Leaves and the City Planning Commission of Kathmandu have been very positive, with the Commission agreeing to collaborate in this and future reforestation projects. The Department of Forestry will provide free saplings as its contribution towards the project.



### 4. Project site and plan

The site lies on the Bishnumati river, 5.5km to the west of Kathmandu airport near the Teku Bridge/Transformer Road. The land area available comprises a total of 4,600m<sup>2</sup> of riverbank, waste ground that was formerly used for informal dumping of rubbish. Over recent months, the Kathmandu Sub-Metropolitan City local government has banned the use of such public land within human settlement area to be used as dump sites and tipping has ceased. Lily’s Leaves has now been granted written permission to clear and prepare the site for planting of a Miyawaki forest.



The project is being implemented in two phases, as funds become available. Phase 1, implemented in July 2023 and fully funded by Pipal Tree through a Big Give appeal, involved the restoration of 1,500m<sup>2</sup> at a cost of £8,800. Phase 2 will see the reforestation of the remaining 3,100m<sup>2</sup> and associated outreach costs for a budget of £31,800. The work is being shared by the local community, schools and colleges, local government officials and Lily’s Leaves staff and beneficiaries, under the supervision of MWT.



5. Images from Phase 1



6. Phase 2 Budget

<b>Kathmandu Miyawaki Reforestation Project Phase 2</b>	
Ground preparation	£1,200
Compost/manure	£3,000
Volunteer support (refreshments/snacks etc)	£500
Fencing	£2,300
Saplings provided by Dept of Forestry	<b>£1,300</b>
Saplings purchased from nurseries	£5,600
Sapling transport	£1,000
Irrigation	£1,100
Project management and monitoring by beneficiaries	£900
Public relations	£400
Schools liaison and project work	£3,000
Security guard (for two years)	£4,500
Contingency @ 7.5%	£2,200
Lily's Leaves support costs @ 10%	£3,200
Mithila Wildlife Trust consultancy @ 5%	£1,600
Less local government contribution	<b>-£5,700</b>
UK support costs	£3,000
<b>Total</b>	<b>£27,800</b>

6. Finance and fundraising

Pipal Tree's financial year follows the calendar year, and our 2022 accounts were submitted in very good time at the end of January. These reflect a healthy cash position and a good recovery from the setback of COVID. However, the cost-of-living crisis is making its presence felt and fundraising has never been so challenging. We have responded by implementing some cutbacks and by remaining alert to new opportunities. Most recently, we have found a new ally, BBC MasterChef [Santosh Shah](#), who hails from south Nepal where we have conducted much of our reforestation work (see QR code on right). Santosh hosted and funded a fundraising lunch in London in 2022 and has promised to do likewise in Kathmandu in November for this project. He commands a huge amount of support from Nepalese people at home and abroad.



If you can support us with a grant or [an online donation](#) through our secure site, this would be very timely. If we happen to raise more funds than we need for Phase 2, the surplus will be directed towards a Phase 3 plantation development in another part of Kathmandu valley.

Thank you so much.

Philip Holmes OBE MSc  
Lt Col (retd)  
Founder/CEO  
5<sup>th</sup> August 2023

