



Auroville  
**Green Practices**



**FOREST**



## **FOREST**

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*Ecological Restoration in Auroville*
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# FOREST





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Glenn Baldwin

Auroville Forest Group

# Ecological Restoration in Auroville

# Ecological Restoration in Auroville



Auroville was to be located on a near treeless plateau







The first summers with their intense heat and persistent dust storms, made it clear that for Auroville to develop shade was needed.



Due to the Auroville being 50 metres above sea level violent monsoon storms had eroded canyon and ravine systems into the landscape as rain water ran off the plateau.



As the ocean turned red during the monsoon it also became clear that for Auroville to grow the fresh water had stop running off.



The first pioneering Aurovillians arrived with there families.



In the green belt area of the future township small huts appeared giving shelter from the harsh sun to the young pioneers.



Huts were made with whatever materials were available.





Wells for water were drilled by hand.



Windmills were erected to pump the water from the wells, the early ones being made of wood and canvas.

Tree nurseries were started utilizing available seeds.





Trees where planted and nurtured





The first seedlings were watered with the help of Bullock carts to help them survive the tough pioneer conditions.





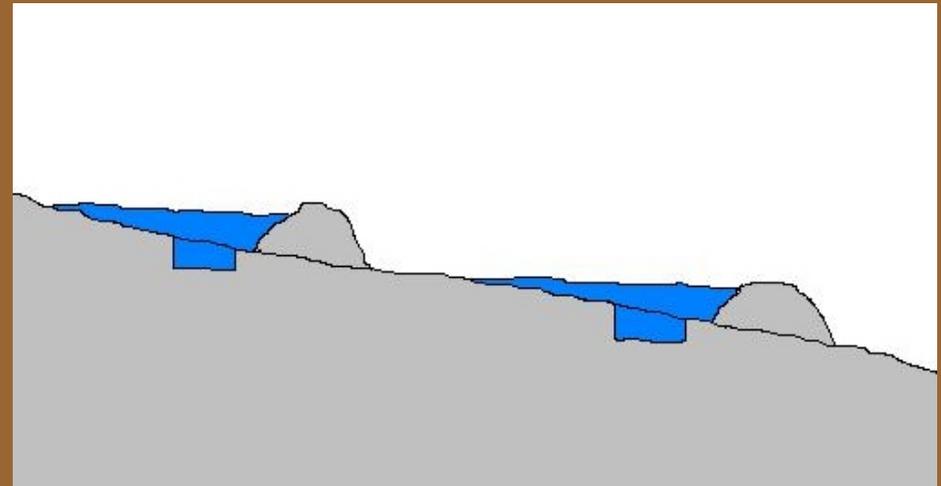
With the onset of fierce monsoon rains, the work to retain that water on the plateau and prevent it from flowing into the ocean began.



To prevent precious top soils and fresh water being washed away it was clear many techniques of soil and water conservation had to be applied.



Many hundreds of kilometers of bunds were dug. Some on perimeters of land and some on the contours, with the aim of “zero runoff”.







In the canyons masonry check-dams were built.







Earth dams and gully plugs were also used in this effort of Zero-Runoff.

In Auroville the average annual rainfall is 1256mm

average maximum temperature 37.6°C

average minimum temperature 18.8°C

A combination of these conditions and good protection of the planted areas with fences and watchmen to prevent cattle grazing meant that the trees grew well, some very fast.



Not all the tree species that were planted survived, but some did very well and got established, creating the first pioneer canopy.



## *Acacia auriculiformis*

This species named appropriately by the Mother as “worktree” became the tree that thrived the most. An exotic from Australia, it became the true pioneer of the plateau.



The natural life span of this tree in Auroville conditions is between 25 and 30 years and when felled it's wood is of excellent hardwood quality that can be used in construction and furniture making. It also is an excellent firewood which is a resource for our bakeries



A canopy was emerging, soils were starting to rejuvenate, it was observed that a natural regeneration process was starting under the protection of the planted trees. Local species that had managed to survive in some niche were appearing in the Auroville forests.



Over the years, many of the foresters were studying the forests of South India .

In the early nineties a team of Auroville botanists started an intense study of the indigenous flora.



Sites were located and botanical surveys carried out on these remnants.



The richest source of plants that could represent the climax forest was to be found in sacred temple groves.



Auroville botanists surveyed up to 150 sacred groves.



During the research visits, seed collection of these indigenous species was taking place.



Auroville nurseries mastered the propagation techniques of more than 200 indigenous species.



It was found that the indigenous flora type of the Auroville area was the

**Tropical Dry Evergreen Forest (TDEF)**

# What is Tropical Dry Evergreen Forest?



The Tropical Dry Evergreen Forest (TDEF) is the indigenous forest of the coastal seaboard of South East India. Historically the ecosystem extended from Vishakapatnam to Ramanathapuram as a belt of vegetation between 30 and 50 km wide.

## Why the TDEF?

The unique climatic conditions provide a limited dry season for this area. It benefits from the Seasonal rainfall patterns of the S.W. monsoon from June to September and the N.E. monsoon from mid-October to mid-December.

From mid December to February precipitation occurs.

# What is Tropical Dry Evergreen Forest?

TDEF contains over 400 woody species of which around 70 are found within the pristine climax forest. The TDEF is predominantly composed of trees and shrubs that have thick dark green foliage throughout the year. Within this forest the number of species approaches 1000, of which over 600 have a recorded use for mankind, either medicinally, culturally or in religious rituals



The Tropical Dry Evergreen Forest supports many species of birds, reptiles and mammals.





Porcupine



Chameleon



Indian civet cat

# Current Situation

- It is a highly endangered forest type with only a few hundred acres of undisturbed vegetation left, representing only 0.01% of its original coverage
- The fast disappearing sacred temple groves are some of the last gene banks for this forest type





The practical result of this research was that there were many thousands of TDEF seedlings in the Auroville nurseries. The time was ripe for the indigenous flora to be introduced under the pioneer canopy.



The work of inter-planting the pioneer forest with the indigenous TDEF species was now the priority of the Auroville Forest Group.



Not only trees were planted but woody shrubs, stragglers, lianas, succulents etc were also planted to create a biodiversity in line with the original forest.

During the period between 1997 and 2009 the Auroville Forest Group have been planting on average 35,000 TDEF seedling each year of a diversity of 180 species in the Auroville forests.

That equates to approximately 420,000 seedlings in the last 12 years.

The natural regeneration that was happening in the past was limited to only a few species due to the range of seed dispersal. Now many of the introduced trees and shrubs are producing viable seed and the forests are becoming a seed bank for the TDEF.



The work of re-introducing this rare and endangered forest type into the Auroville greenbelt continues today. Increasing bio-diversity, planting newly acquired land and maintaining the soil/water conservation systems is an ongoing pursuit.



The tangible changes on the plateau gives the enthusiasm and energy to continue this work.





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# **Ecological Restoration in Auroville**