



# THE MADURA COLLEGE

An Autonomous Institution affiliated to Madurai Kamaraj University

Re-Accredited (3<sup>rd</sup> cycle) with 'A' grade by NAAC

Vidya Nagar, T.P.K Road, Madurai - 625 011

## Internal Quality Assurance Cell (IQAC)

### Establishment of **MIYAWAKI FOREST ZONE** (An ultra-dense bio-diverse pocket forest)

Forest cover is being reduced at an alarming rate. Century old trees are being brought down in few hours. This loss is irreversible. In countries like India that are highly vulnerable to climate breakdown, forests are an integral element towards mitigation. Tree cover of almost 1.6 million hectares was lost between 2001 and 2018 in India - nearly four times the geographical area of Goa, according to a study released by the World Resources Institute. But there is a solution to bring back the lost green cover quickly. Miyawaki is a technique pioneered by the Japanese botanist Akira Miyawaki for urban afforestation. Under this technique various native species of plants are planted close to each other, which ensures their growth upwards is rapid by receiving sunlight from the top. The approach is supposed to ensure that plant growth is 10 times faster and the resulting plantation is 30 times denser than usual.

The Management of The Madura College jointly with Rotary Club (West) have planted 5500 samples of 110 varieties. The Rotary Club (West) trust contributed 3.5 lakh for this forest and supported the institution for the soil test, regulating the land, procuring the samples and planting it. The forest will be spread out on an area of one acre adjacent to TVS Block and act as green-lung for the region. It will help in promoting the local biodiversity to sustain by planting native species of flora which would also harbor the native fauna. Miyawaki forest is answer to cities which are turning to concrete jungles. Small patch of forests in multiple locations within the city will act as carbon sink for the city.

Student engagement is also an important aspect of this project as workshops will be conducted to train them on soil amendment and the Miyawaki method of plantation. The maintenance and monitoring of the forest will also be done by the students and college staff.

## LIST OF TYPES OF TREES PLANTED IN MIYAWAKI FOREST

| Sl.No | Common Name          | Botanical Name                   | Family          |
|-------|----------------------|----------------------------------|-----------------|
| 1.    | Toothed leaf limonia | <i>Naringi crenulata</i>         | Rutaceae        |
| 2.    | Rubber vine          | <i>Cryptostegia grandiflora</i>  | Apocynaceae     |
| 3.    | Fish-killer tree     | <i>Barringtonia racemosa</i>     | Lecythidaceae   |
| 4.    | Water apple          | <i>Syzygium samarangense</i>     | Myrtaceae       |
| 5.    | Asoka tree           | <i>Saraca asoca</i>              | Caesalpiniaceae |
| 6.    | Peanut butter fruit  | <i>Bunchosia argentea</i>        | Malpighiaceae   |
| 7.    | Pomegranate          | <i>Punica granatum</i>           | Lythraceae      |
| 8.    | Firebush             | <i>Hamelia patens</i>            | Rubiaceae       |
| 9.    | Rudraksham           | <i>Elaeocarpus angustifolius</i> | Elaeocarpaceae  |
| 10.   | Indian Ash tree      | <i>Lannea coromandelica</i>      | Anacardiaceae   |
| 11.   | Lasora               | <i>Cordia dichotoma</i>          | Cordiaceae      |
| 12.   | Red fig              | <i>Ficus carica</i>              | Moraceae        |
| 13.   | Blue Jacaranda       | <i>Jacaranda mimosifolia</i>     | Bignoniaceae    |
| 14.   | Black portia         | <i>Thespesia populnea</i>        | Malvaceae       |
| 15.   | Common Mallow        | <i>Thespesia lampas</i>          | Malvaceae       |
| 16.   | Sea grape            | <i>Coccoloba uvifera</i>         | Polygonaceae    |
| 17.   | Conocarpus           | <i>Conocarpus erectus</i>        | Combretaceae    |
| 18.   | Beggars bowl         | <i>Crescentia alata</i>          | Bignoniaceae    |
| 19.   | Ficus                | <i>Ficus aurata</i>              | Moraceae        |
| 20.   | Travelers's palm     | <i>Ravinala madagascariensis</i> | Musaceae        |
| 21.   | Milkwood             | <i>Alstonia macrophylla</i>      | Apocynaceae     |
| 22.   | Child-life tree      | <i>Putranjiva roxburghii</i>     | Putranjivaceae  |
| 23.   | Divi divi            | <i>Caesalpinia coriarea</i>      | Caesalpiniaceae |
| 24.   | Kaim                 | <i>Mitragyna parvifolia</i>      | Rubiaceae       |
| 25.   | Gian crepe-myrtle    | <i>Lagerstroemia speciosa</i>    | Lythraceae      |
| 26.   | Rosy trumpet tree    | <i>Tabebuia rosea</i>            | Bignoniaceae    |
| 27.   | Sappan wood          | <i>Beancaea sappan</i>           | Mimosaceae      |
| 28.   | African Locust tree  | <i>Parkia biglandulosa</i>       | Mimosaceae      |
| 29.   | Turkey Berry         | <i>Solanum torvum</i>            | Solanaceae      |
| 30.   | Beach Gardenia       | <i>Guettarda speciosa</i>        | Rubiaceae       |
| 31.   | Indan Aloewood       | <i>Aquilaria malaccensis</i>     | Thymelaeaceae   |
| 32.   | Mexican Lilac        | <i>Gliricidia sepium</i>         | Fabaceae        |
| 33.   | Terminalia metaly    | <i>Terminalia metallica</i>      | Combretaceae    |
| 34.   | Dyer's oleander      | <i>Wrightia tinctoria</i>        | Apocynaceae     |
| 35.   | Yellow oleander      | <i>Cascabela thevetia</i>        | Apocynaceae     |

|     |                       |                                |                 |
|-----|-----------------------|--------------------------------|-----------------|
| 36. | Ghaf tree             | <i>Prosopis cinerea</i>        | Mimosaceae      |
| 37. | West Indian Cherry    | <i>Malpighia glabra</i>        | Malpighiaceae   |
| 38. | West Indian pea       | <i>Sesbania grandiflora</i>    | Fabaceae        |
| 39. | Indian Elm tree       | <i>Holoptelea integrifolia</i> | Ulmaceae        |
| 40. | Areca nut             | <i>Areca catechu</i>           | Arecaceae       |
| 41. | Bamboo                | <i>Bambusa arundinacea</i>     | Poaceae         |
| 42. | Silk cotton tree      | <i>Ceiba pentandra</i>         | Malvaceae       |
| 43. | Beechwood             | <i>Gmelina arborea</i>         | Verbenaceae     |
| 44. | Mahogany              | <i>Swietenia macrophylla</i>   | Meliaceae       |
| 45. | Malabar Neem          | <i>Melia dubia</i>             | Meliaceae       |
| 46. | Arjun tree            | <i>Terminalia arjuna</i>       | Combretaceae    |
| 47. | Indian Siris          | <i>Albizia lebbek</i>          | Mimosaceae      |
| 48. | Indian Mast tree      | <i>Monoon longifolium</i>      | Annonaceae      |
| 49. | Rosewood              | <i>Dalbergia latifolia</i>     | Fabaceae        |
| 50. | Silver oak            | <i>Grevillea robusta</i>       | Proteaceae      |
| 51. | Paradise tree         | <i>Simarouba glauca</i>        | Simaroubaceae   |
| 52. | Teak                  | <i>Tectona grandis</i>         | Verbenaceae     |
| 53. | Belliric Myrobalan    | <i>Terminalia bellirica</i>    | Combretaceae    |
| 54. | Andaman redwood       | <i>Pterocarpus marsupium</i>   | Fabaceae        |
| 55. | Sisso                 | <i>Dalbergia sissoo</i>        | Fabaceae        |
| 56. | Jamun tree            | <i>Syzygium cuminii</i>        | Myrtaceae       |
| 57. | Red sanders           | <i>Pterocarpus santalinus</i>  | Myrtaceae       |
| 58. | African mahogany      | <i>Khaya senegalensis</i>      | Meliaceae       |
| 59. | Big silk cotton       | <i>Bombox ceiba</i>            | Malvaceae       |
| 60. | Cinnamon              | <i>Cinnamomum malabatrums</i>  | Lauraceae       |
| 61. | Prickly custard apple | <i>Annona muricata</i>         | Annonaceae      |
| 62. | Flame of the forest   | <i>Butea monosperma</i>        | Fabaceae        |
| 63. | Gulmohar              | <i>Delonix regia</i>           | Caesalpiniaceae |
| 64. | Cashew                | <i>Anacardium occidentale</i>  | Anacardiaceae   |
| 65. | Green Champa          | <i>Artabotrys hexapetalus</i>  | Annonaceae      |
| 66. | Black pepper          | <i>Piper nigrum</i>            | Piperaceae      |
| 67. | Ebony wood            | <i>Diopyros ebenum</i>         | Ebenaceae       |
| 68. | Pink shower           | <i>Cassia javanica</i>         | Caesalpiniaceae |
| 69. | Cherry                | <i>Prunus avium</i>            | Rosaceae        |
| 70. | Indian butter tree    | <i>Madhuca longifolia</i>      | Sapotaceae      |
| 71. | Spanish cherry        | <i>Mimusops elengi</i>         | Sapotaceae      |
| 72. | Orchid tree           | <i>Bauhinia variegata</i>      | Caesapliniaceae |
| 73. | Indian Coral tree     | <i>Erythrina grandiflora</i>   | Fabaceae        |
| 74. | Cannonball tree       | <i>Gouropita guianensis</i>    | Lecythidaceae   |
| 75. | Indian cork tree      | <i>Millingtonia hortensis</i>  | Bignoniaceae    |
| 76. | Indian beech tree     | <i>Pongamia pinnata</i>        | Fabaceae        |

|      |                    |                                 |                 |
|------|--------------------|---------------------------------|-----------------|
| 77.  | Alexandrian laural | <i>Calophyllum inophyllum</i>   | Calophyllaceae  |
| 78.  | Golden shower      | <i>Cassia fistula</i>           | Caesalpiniaceae |
| 79.  | Champak tree       | <i>Magnolia champaca</i>        | Magnoliaceae    |
| 80.  | Yellow flame tree  | <i>Peltophorum pterocarpum</i>  | Caesalpiniaceae |
| 81.  | Rain tree          | <i>Samanea saman</i>            | Mimosaceae      |
| 82.  | African Tulip tree | <i>Spathodea campanulata</i>    | Bignoniaceae    |
| 83.  | Sacred Fig tree    | <i>Ficus religiosa</i>          | Moraceae        |
| 84.  | Cluster Fig        | <i>Ficus racemosa</i>           | Moraceae        |
| 85.  | Banyan             | <i>Ficus benghalensis</i>       | Moraceae        |
| 86.  | Curry leaf         | <i>Murraya koenigii</i>         | Rutaceae        |
| 87.  | Common jujube      | <i>Ziziphus jujuba</i>          | Rhamnaceae      |
| 88.  | Guava              | <i>Psidium guajava</i>          | Myrtaceae       |
| 89.  | Jack fruit         | <i>Artocarpus heterophyllus</i> | Moraceae        |
| 90.  | Madras thorn       | <i>Pithecellobium dulce</i>     | Mimosaceae      |
| 91.  | Mango              | <i>Mangifera indica</i>         | Anacardiaceae   |
| 92.  | Neem               | <i>Azadirachta indica</i>       | Meliaceae       |
| 93.  | Indian Mulberry    | <i>Morinda citrifolia</i>       | Rubiaceae       |
| 94.  | Ceylon wood        | <i>Manilkara hexandra</i>       | Sapotaceae      |
| 95.  | Sandal wood        | <i>Santalum album</i>           | Santalaceae     |
| 96.  | Sapodilla          | <i>Manilkara zapota</i>         | Sapotaceae      |
| 97.  | Custard apple      | <i>Annona squamosa</i>          | Annonaceae      |
| 98.  | Singapore Cherry   | <i>Muntingia calabura</i>       | Malvaceae       |
| 99.  | Tamarind           | <i>Tamarindus indica</i>        | Caesalpiniaceae |
| 100. | Wood apple         | <i>Limonia acidissima</i>       | Rutaceae        |
| 101. | Stone apple        | <i>Aegle marmelos</i>           | Rutaceae        |
| 102. | Indian Almond      | <i>Terminalia catappa</i>       | Combretaceae    |
| 103. | Hairy Fig          | <i>Ficus hispida</i>            | Moraceae        |
| 104. | Star gooseberry    | <i>Phyllanthus acidus</i>       | Phyllanthaceae  |
| 105. | Indian gooseberry  | <i>Phyllanthus emblica</i>      | Phyllanthaceae  |
| 106. | Acid lime          | <i>Citrus aurantifolia</i>      | Rutaceae        |
| 107. | Henna tree         | <i>Lawsonia inermis</i>         | Lythraceae      |
| 108. | Chinese Chaste     | <i>Vitex negundo</i>            | Verbenaceae     |
| 109. | Tree of sadness    | <i>Nyctanthes arbor-tristis</i> | Oleaceae        |
| 110. | Charcoal tree      | <i>Trema orientalis</i>         | Cannabaceae     |

## PHOTOGRAPHS

**College allotted this space for development  
- with weed growth and water logging**



**Stones and Debris were removed**



**Prepared the land –  
After first plough in May 2021**



**Marked the land for planting**



**Plantation begin on 19th June 2021**





## Benefit of Trench



**Spreading  
mulch film to  
control weed  
growth**



**A Beetle damaged  
a sapling**





**Same sapling  
recovered  
naturally with  
new shoots**

**Current View**

