KVQA Certification Services Pvt. Ltd.

SUMATHI REDDY
INSTITUTE OF TECHNOLOGY FOR WOMEN
Learning at its best
Affiliated to JNTUH - Approved by AICTE

Green Landscape audit

Acknowledgment

KVQA Certification Services Pvt. Ltd.

K V HarGopal 25 October 2023

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Green Landscape Audit

The KVQA Certification services Pvt. Ltd. acknowledges with thanks the cooperation extended to our team for completing the study at Sumathi Reddy Institute of Technology for Women (SRITW).

The interactions and deliberations with SRITW team were exemplary and the whole exercise was thoroughly a rewarding experience for us. We deeply appreciate the interest, enthusiasm, and commitment of SRITW team towards environmental sustainability.

We are sure that the recommendations presented in this report will be implemented and the SRITW team will further improve their environmental performance.

Kind regards,

Yours sincerely

Introduction

The impact of urbanization on biodiversity loss

A decrease in biodiversity is caused by urbanization. Important habitat is lost or broken up into sections too small to sustain intricate ecological ecosystems as cities expand. As natural regions are absorbed by the urban jungle, species may become endangered or even locally extinct in the city.

It is ironic that non-native animals are frequently brought in unintentionally or on purpose for food, as pets, or for aesthetic purposes, and that this is due to urban expansion.

Documentation of Flora

Plans for conservation and sustainable management require a thorough understanding of the biodiversity of any given area. The preparation of a species inventory is the first duty in the conservation process. For effective plant conservation, a thorough understanding of the phenology, distribution, habitat, and habits of different plants is required.

The documentation of flora will help in identifying, documenting and promoting the conservation of native flora in India. This in turn will help in promoting native species for landscapes as they suit the growing interest in "low-maintenance" gardening and landscaping.

Many species are vigorous & hard and can survive winter, cold and summer heat. These species, once established, can flourish without irrigation or fertilization and are resistant to most pests & diseases.

Need for Documentation of Flora:

The knowledge building on significance and importance of various flora existing around us is the need of the hour. Loss of the biodiversity is likely to result in loss of various other taxonomic groups.

Serve as a ready reckoner:

Most of the campuses have huge landscape with diverse floral species. Nevertheless, the availability of information on these species is minimal. Hence, the documentation of the species would serve as an educational material on the details of species existing within the campus.

Public Visibility:

Despite having various Biodiversity initiatives in place within the campus most of the campuses lack the visibility of the measures taken in conservation. The study will create awareness &visibility of the campus on various conservation measures implemented to the occupants as well as to the visitors.Also, the organization will gain visibility globally amongst its shareholders for the positive steps taken towards protecting biodiversity.

Conservation of species:

Due to urbanization most of the floral species are under tremendous pressure. The need of the hour is to conserve and protect these species. The study would help in identifying such species in the campus which need to be conserved.

SRITW Sequestering Carbon through Plantations

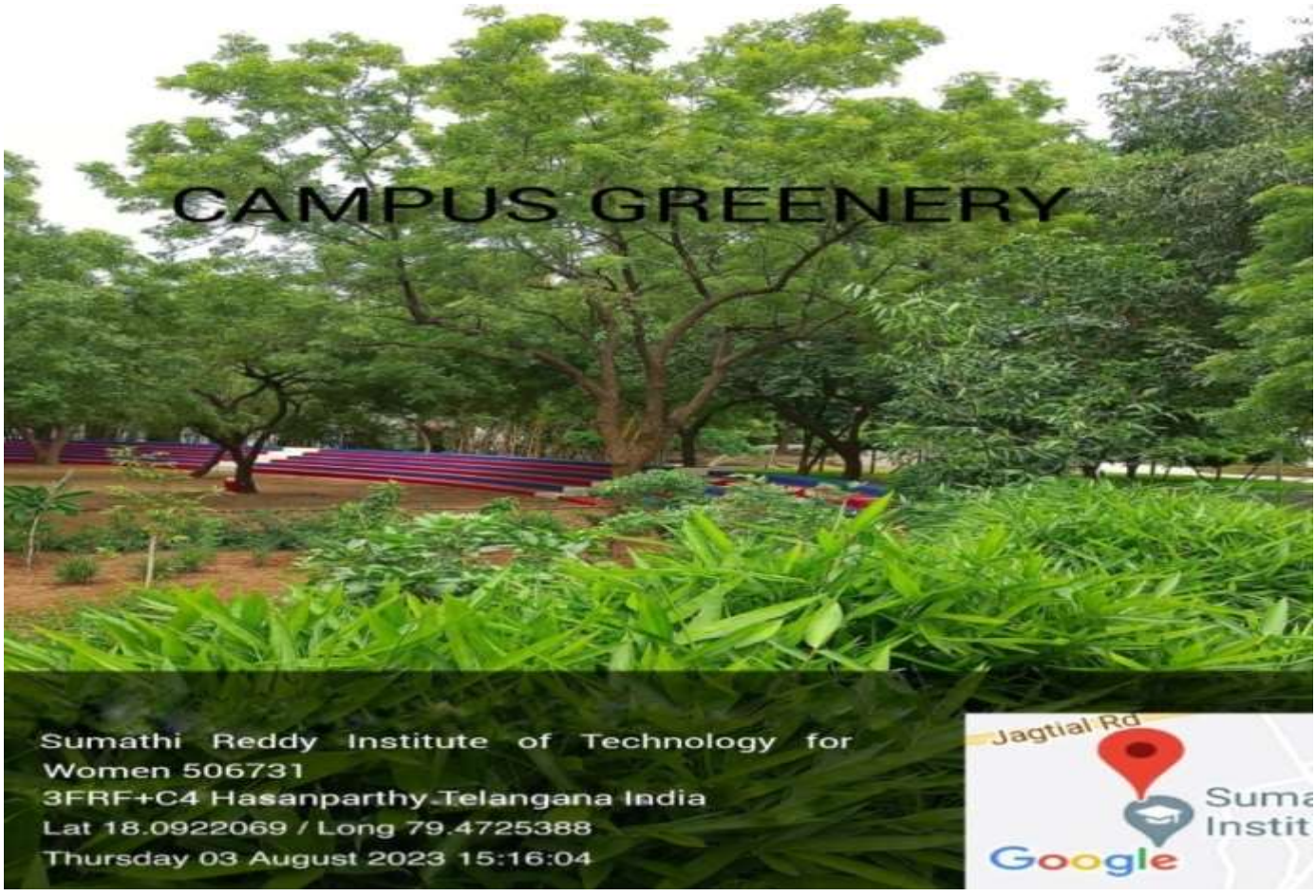
Carbon sequestration through plantation is one of the important steps towards achieving carbon neutrality. In carbon footprint calculation of SRITW, carbon sequestration through plantation is considered and due credit has been given.

No. of trees considered for carbon footprint calculation

1600 treesCO2 absorbed by a tree in one year : 18 KG

Total CO2 sequestrated : 1600 trees x 18 KG of CO2 / year

: 28,800 KGs of CO2



Amphi Theatre

Campus Landscaping

Landscaping at play area

Plantation & Maintenance techniques

Selection of Species:

- Native species like *Azadirachta indica* (Neem), *Pongamia pinnata* (Pongam tree), *Butea monosperma* (Flame of the forest) and also fruit bearing species like, *Psidium guajva* (Guava), *Annona squamosal* (Custard apple), *Punica granatum* (Pomegranate), *Phyllanthus emblica* (Indian Gooseberry), and *Citrus limon* (Lime) to be selected for plantation
- Saplings of 2-3 ft height to be considered for plantation in public areas
- Plantation can be taken up as avenues (roadside plantation) and green belts (thick plantation in one area)
- Fruit plantation can be taken up in protected areas, institutions with large areas. Special care to be taken in maintenance since these plants also generate revenue.

Digging of pits

Pits to be dug about one month prior to the plantation date and it should be exposed to sunlight. This will help in killing of harmful disease-causing bacteria and virus.

- In places of no availability of proper sunlight, dry trash to be filled in the pit and burnt.
- Pit size should be normally $2ft^3$ or $3ft^3$.
- Further to the digging of pit, the bottom of the pit should be loosened up to 6-9 inches.While digging, we can observe different soil profiles. Topsoil will be soft and contains enough

nutrients for nourishing the plant. The topsoil should be deposited on one end and hard soil on the other end. While filling the pit with soil, the topsoil only should be used. The topsoil from the non-plantation area around the pit to be collected and mixed with manure and used for filling of the pit.

Transportation

- Visit to the nurseries and enquire about plant species like availability, size, age and girth prior to the plantation. Also, the size of the packet in which the plant is existing to be enquired.
- The saplings to be watered one or two days prior to the movement of plants to plantation area. The plants to be procured at least 15 days prior to plantation.
- The saplings to be watered as soon as they reach the plantation area and regularly thereafter.
- They should be kept in shade, non-windy & protected areas.

The above said steps to be followed for movement of plants near to the pits within the plantation area. Enough water to be stored for watering the plants after plantation. Also, tools and manpower to be kept in place to ensure proper plantation of saplings. If the sapling is bushy with many branches, then the branches are to be trimmed before plantation.

Plantation

- The poly bag around the root ball to be carefully cut with a knife/sickle/scissors without disturbing the roots
- Rope and stakes are to be kept ready to support the plant after plantation.
- Regular watering to be done to the plants
- **Note:** At least 5% of extra plants to be procured for timely gap filling and to ensure 100% survival. Care to be taken for these plants like other plants.

Recommendations for Enhancing Flora in Campus

1. **Implement Ecosystem Restoration**
    - Develop naturalized areas in the Open Area segments
    - 'Theme Gardens' can be developed in unused areas of the campus to increase proportion of natural area
2. **Enhance Ecosystem Protection**
    - Protect and maintain the existing Open Area segments
3. **Planting more fruit yielding trees**
    - Increase tree density and canopy cover in the built-up areas

4. **Increase native plants to boost native biodiversity**
    - Bees, butterflies and other insects
    - Healthy native plant growth will help in easy identification of invasive alien species
5. **Preventing/ Decreasing Invasive Alien Species Spread**
    - Identify potential threatening species in advance and implement quarantine measures
    - Commitment to complete eradication
    - Manual Uprooting of small populations
    - Develop natural areas to encourage bird roosting and nesting in built-up areas
6. **Introduce features to attract birds in the built-up areas**
    - Bird feeders
    - Water troughs/ Bird baths
    - Nesting material
7. **Improve measures for rainwater harvesting in paved and un-paved areas**

- Open fields, parks, pavement landscapes, etc.
- Develop outdoor parks in open areas

Conclusion

The campus's net emissions are significantly reduced by tree plantations, as the carbon sequestration calculation shows. Thus, in order to lower the campus's overall carbon emissions, SRITW must create a plan that incorporates tree planting.