

# THIRUTHANGAL NADAR COLLEGE GREEN AUDIT REPORT (2022 – 2023)

Audited by

DEPARTMENT OF PLANT BIOLOGY  
AND PLANT BIOTECHNOLOGY



### **OBJECTIVES OF GREEN AUDIT:**

A clean and healthy environment inside the college campus aids effective learning and provides an efficacious learning environment. As a part of such practice, internal environmental audit (Green Audit) is conducted to upgrade the environmental condition in and around the campus.

Various audits tasks like waste management, energy, water and plantation are carried out to bench mark the performance and improve the respective sustainability parameters. Green auditing promotes financial savings through reduction of resource use and also gives an opportunity for the development of social responsibility for the students and teachers.

### **SCOPE OF GREEN AUDIT INVOLVES THE FOLLOWING ELEMENTS:**

- Waste Disposal & Management Audit
- Energy Audit
- Water Audit
- Green environment

### **ABOUT THE COLLEGE:**

Thiruthangal Nadar College, established in the year 1997 as a college for men was upgraded as a co-educational institution in 2002 to cater to the needs of women in North Chennai thus empowering them. It is a Self-Financing institution affiliated to the University of Madras. It was instituted by the magnanimous members of Chennaivazh Thiruthangal Hindu Nadar Uravinmurai Dharma Fund with a deep sense of generosity and compassion to the under-privileged student community. The benevolent members of the management have extended their

exemplary services in the field of education with an exuberant spirit of facilitating and providing wider opportunities to the youth from different backgrounds. The motto of the institution “Knowledge is Power” is pre-eminently enshrined to ignite and enlighten the minds of the youngsters through education by dispelling the darkness of ignorance.



## Population Breakdown

## Waste Management Audit

### Solid waste management

- Waste materials inside the campus is collected by the house keeping and segregated into biodegradable and non-biodegradable at the backyard.
- The Biodegradable including leaf litter from trees inside the campus is utilized for composting.
- A Biogas unit is setup near the canteen. Vegetable waste and leftover food items are utilized as raw material for the production of biogas.
- Paper waste is sold to vendors for recycling at regular intervals. Wooden scraps found on campus are reused in mending damaged furniture.

### Compost Pits



### Biogas unit





### Plastic free zone

- Care is taken to avoid plastic waste accumulation during College and Department events.
- To minimize accumulation of plastic waste, canteens are encouraged to use disposable eco-friendly paper plates and cups.
- Separate bins are set up at main areas on campus for disposing plastic bottles. Exclusive bins are placed at several locales of campus to dispose recyclable and non-recyclable waste.
- RO plant is installed inside the campus to purify the water to reduce the use of plastic bottles. The waste water from RO plant is utilized for watering the plants.

## Liquid waste management

1. The drainage system is underground, and there is no open sewage or sewerage system on campus.
2. There are multiple pumping stations across campus to boost the effectiveness of sewage canals.
3. We have planted *Canna sp.* to recycle the waste water and the purified water is used for irrigation.



*Canna sp.*

## Energy Audit

College electricity audit has been executed and verified by the Department of Physics. In an attempt of this, they have collected data by considering the total no. of tube lights, fans, computers, printers, A.C's and other electrical instruments together with the electrical unit that each of the equipment would consume.

They have given various suggestions to reduce the energy consumption in the campus. We can use LED bulbs to save more electricity. The energy consuming

devices in college campus can be replaced by electrical efficient appliances. The appliances are of high watt equipment so the electrical consumption is high in our TNC college campus. Now-a-days, low voltage appliances are used in building; they are productive in saving electricity.

“The Solar Street Light” was implemented in continuation of the “Energy Audit”, by the Department of Physics. This is an attempt to initiate the resourcefulness of conservation of energy in our campus.



**Solar Light in front of Principal’s office (Photo courtesy: Department of Physics)**

### **Water Audit**

The campus located at the heart of the city is highly urbanized. Six ground bore well dug at and 150 feet and 1 open well are available in the campus to satisfy its water requirements of the college. RO plant with the capacity of 2000 L is installed

inside the campus to purify the water for drinking purposes. The rejected water is used for cleaning purposes.

## RO plant



### **Rain water harvesting system**

- To mitigate the shortfall, the campus has rain water harvesting pits. The dimensions of the pits are as follows:
  - a. 2 nos of 96 cu. ft (4x4x6 ft) each
  - b. 2 nos of 96 cu. ft (8x2x6 ft) each
- The gutters in the College serve as good channels for rain water to reach the water body.



- Excess rainwater is directed towards the landscape area catering to the plants' watering needs.



## Environment

### Plantation in Campus

Abundance of flora of the campus acts as a natural sink for carbon sequestration and ensures the oxygen level in the atmosphere. The Campus has

various trees and plants. Being in the middle of densely urban area, it is vital to maintain the green cover in the campus. Students and faculty are active participants in numerous plantations drives in the nearby localities.



### **Shaded walkway at TNC**

#### **Tree counting**

The department has taken initiative to develop and upkeep the plants inside the campus. Floral diversity survey has conducted in the campus by counting the number of trees, shrubs, herbs and creepers along with their proper taxonomical identification.





- There are approx. 646 flora (Herbs, Shrubs, climbers and trees) inside the campus. **(List of flora is attached as a word document)**
- A small vegetable garden is initiated and maintained inside the herbal garden by the students of the department. Also, few rare herbs and many ornamental plants were also planted by them inside the campus.
- A well maintained oxy-zone reduces the pollution.

### Vegetable Garden





## Oxy-Zone



### **Pollution control**

#### **Transport**

Vehicular pollution is being minimized by encouraging the use of public transport to the maximum possible extent.

- Bicycles are used by staff and students on campus. There are adequate facilities to park bicycles.
- Most students and some of the staff members use public transport for commuting since the College is well connected by bus services.
- College bus transport is available for all the girl students.
- Vehicle pooling is encouraged for those who are not in a position to use the public transport facility.

- All roads on campus are pedestrian-friendly as vehicle movement is limited on campus. Students are encouraged to walk around the campus.

### **Fugitive emissions from fuels & solid fuels**

Use of firewood and other solid fuels, in raw or pellet form, is prohibited within the campuses. Care is also taken to avoid supplies of various items and commodities, from outside the campuses, which use unacceptable fuels in their preparation / manufacture.

Solvent and other product use: Except for laboratory chemicals, solvents do not form part of the Campus' teaching and research activities. Care is taken to dispose-off effluents in safe and acceptable fashion.

## Photographs of some Best Practices at TNC



Landscaping





Thiruthangal Nadar College  
Knowledge is Power

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7.1.6. The institutional environment and energy initiatives are confirmed through the following

7.1 Quality audits on environment and energy

Year: 2022 – 2023



**Fire hose in the building**





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**Shaded Parking**