

GREEN AUDIT

STUDY PERIOD (ONE YEAR) 2023 - 2024

Sustainability study

AUDIT REPORT

Studied for

Sree Narayana Guru College of Commerce

P. L. Lokhande Marg, Chembur (West),
Mumbai - 400089, Maharashtra, India

Studied in the capacity of

Accredited and Certified
Green Building Professional



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Disclaimer

The Audit Team has prepared this report for **Sree Narayana Guru College of Commerce** located at P. L. Lokhande Marg, Chembur (West), Mumbai - 400089, Maharashtra, India based on input data submitted by the Institute analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

The Report is prepared by the Team of Greenvio Solutions under their brand and department – Sustainable Academe as Consultancy firm with the Project Head - Ar. Nahida Shaikh who is as an Accredited and Certified Green Building Professional-Architect. Green Building consultancy is her forte and she is one of the most sought after names when it comes to providing excellent quality services within the stipulated time frame.

The Study is conducted in capacity of Accredited & Certified Green Building Professional with extensive experience.


Ar. Nahida Abdulla

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

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Acknowledgement

The Audit Assessment Team extends its appreciation to **Sree Narayana Guru College of Commerce, Maharashtra** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

We are also thankful to Institute's Task force who have played a major role in data collection.

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208



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1. Introduction

1.1 About the Institution

1.1.1 Vision

The Institute proposes "Empowerment through Higher Education to all strata of Society"

1.1.2 Mission

The Institute adheres and focuses "Quality education to all irrespective of caste, creed, socio-economic status and uplift the poor and downtrodden".

2. Overview

2.1 Summarised Populace analysis for 2023-24

2.1.1 Students data

The data (shared by Institute) shows there were 1,814 students.

2.1.2 Staff data

Sl. No.	Particulars	Male	Female	Total
1	Teaching Staff	16	26	42
2	Non-teaching Staff	12	10	22
Total		28	36	64

Table 1: Staff data of the Institution for 2023-2024

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3. Observation

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Evidence documents for Site visit of external audit team


Audit team headed by external expert - Ar. Nahida Abdulla
Accredited & Certified Green Building Professional, ISO IA (IMS)
Audit objective: Green Building up gradation of the premises


Audits covered: Green audit Energy audit Environment audit

Institute: Sree Narayana Guru College, Chembur Date: 8/11/2024

Document objective: Inferences of the Site visit

Observations (Positive aspects)	Suggestions (Improvement aspects)
Green Audit	
Waste management practices have been improved as informed by team;	- Undertake social programs on a macro level
Energy Audit	
- Renewable energy has been implemented through rooftop solar panels.	- Documentation of energy reduction should be undertaken
Environment Audit	
- Cleanliness w.r.t. green cover has been undertaken	- Systems of plantation in and around campus still has scope for improvement


Signature & round seal
Name: Dr. Jayasree V
Designation: I/C principal
For the said Institute


Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
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Plate 1: Evidence files related to inferences



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Evidence documents for Site visit of external audit team

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Institute: Sree Narayana Guru College Date: 8/11/2024

Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdulla	External	Project Head	
3.	Dr. Jayasree V	Internal	In Charge Principal	
4.	Dr. S. P. Hinduja	Internal	Vice Principal	
5.	Ms. Navena Suresh	Internal	Faculty	


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Plate 2: Evidence files related to proof



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4. Investigation

The following results are based on the investigation carried out during the site visit.

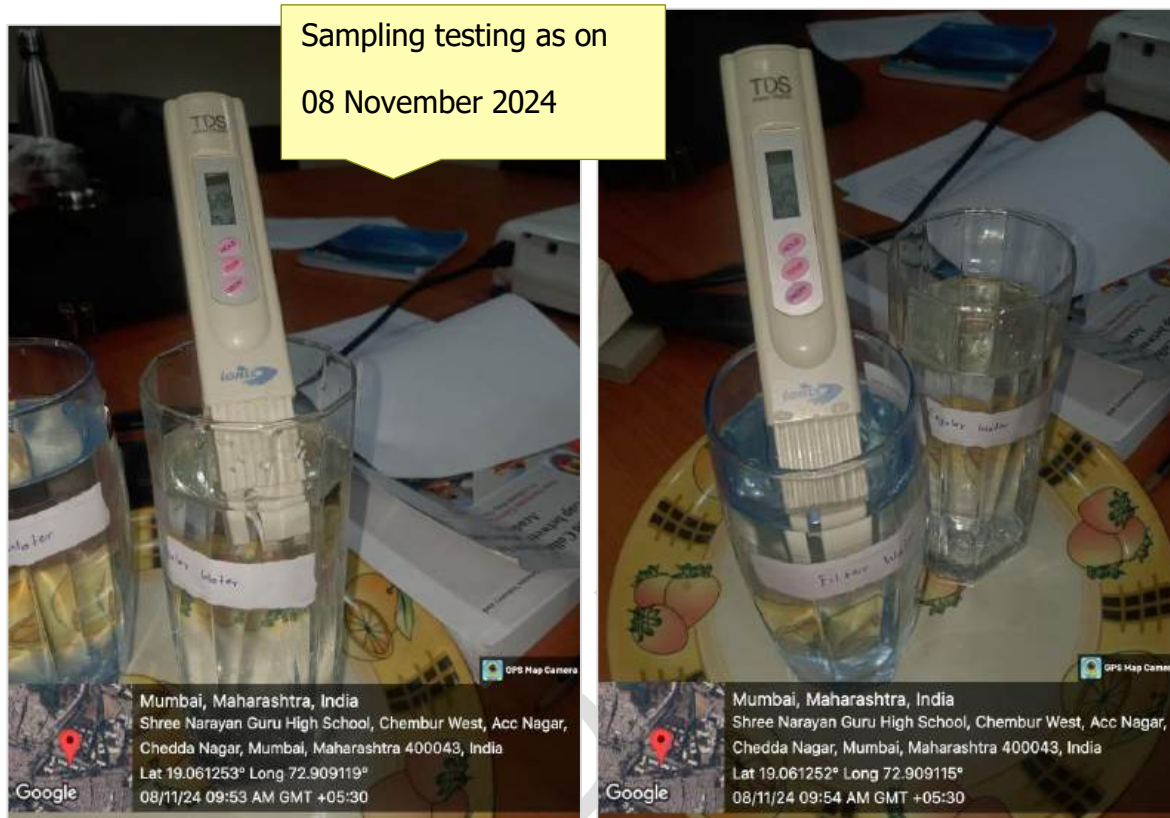


Figure 1: Water testing investigation study

S. No.	Type of water	Required level	Actual level	Inference
1	R.O. water (Drinking purpose)	50	45	<u>Excellent, no change</u>
2	Tap water (General purpose)	Not applicable	276	Nothing

Table 2: Water testing details



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5. Documentation

5.1 Green Practices Audit

5.1.1 Green practices

There is NSS club initiatives cell that undertakes innumerable programs.

5.1.2 Community development

The details of the **environmental activities** conducted as part of the extension initiatives by the Institute documented below:

S. No.	Initiative	Details	Type	Date
1.	Seed collection drive	The initiative aimed to promote environmental sustainability and biodiversity conservation by collecting seeds from each class within the college premises.	Physical	15-07-2023
2.	Seed ball making event	The event aimed to create seed balls that would later be utilized for seed bombing in Adai Village, fostering biodiversity and ecological sustainability in the region.	Physical	21-07-2023
3.	Seed bombing activity	The seed bombing activity aimed to contribute to afforestation efforts in Adai Village using seeds collected from students in college.	Physical	22-07-2023
4.	Waste management	To address the pressing issue of waste disposal and promote sustainable waste management practices within the community.	Physical	08-08-2023
5.	Tree plantation drive	Aimed to contribute to the ongoing efforts of afforestation and environmental conservation.	Physical	11-08-2023
6.	Rally on meri mati mera desh	Aimed to instill a sense of patriotism and environmental responsibility among the youth.	Physical	12-08-2023
7.	Swachhata	Aimed to promote cleanliness, hygiene, and	Physical	01-10-



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	hi sewa & plastic waste management workshop	effective management of plastic waste within the community.		2023
8.	Plastic collection drive	The primary objective of this initiative was to raise awareness about the detrimental effects of plastic pollution and to encourage responsible disposal practices among students.	Physical	10-10-2023
9.	Juhu beach cleanliness drive	Participants actively engaged in cleaning up the Juhu Beach, one of Mumbai's iconic coastal areas, by collecting litter, debris, and plastic waste	Physical	30-11-2023
10.	Choo machar activity	Armed with survey insights, students orchestrated a multifaceted awareness campaign within the community.	Physical	September 2023 to February 2024

Table 3: Details of the environmental initiatives undertaken by Institute

The study suggests that the nos. of practices should be increased.



Plate 3: Certain evidences of the environmental activities

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Plate 4: Awareness messages in campus

5.2 Waste Audit

5.2.1 Waste management (Parameters adopted)

The following practices are common to entire campus.

S. No.	Type	Current practice	Proposed practice
1.	Solid waste (Toilets)	Sent to storm water drain	Small scale biogas plant can be proposed
2.	Organic waste (Regular)	Not undertaken	Organic composting can be undertaken
3.	Liquid waste (Toilets, wash basins)	Connected to local storm water drain	Propose a sewage treatment plant
4.	Chemical waste from laboratories	Not applicable	
5.	Toxic waste from laboratories		
6.	Plastic waste	MoU with external vendor	Continue with the practice
7.	E-waste	No information provided	Undertake MoU and proper recording of waste
8.	Paper waste	No information provided	
9.	Bio-waste (Sanitary)	No information provided	Introduce dedicated sanibins

Table 4: Details of the waste management practices

5.2.2 Dustbins study

Sufficient dustbins are available on every floors.



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5.3 Water Audit

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The primary source is the water supply from BMC. Rooftop water tanks and water cooler were observed within the campus



Plate 5: Water tanks

5.3.1.2 Source of Secondary water supply

The Institute uses water supply for secondary usages such as watering plants, toilets, and wash basins and other spaces.

5.3.1.3 Source of Tertiary water supply

Rooftop rainwater will be collected in underground tanks or sumps. Water collected from paved and unpaved areas will be directed through a grease and silt trap to ensure it is clean. The filtered water can then be used directly or utilized for recharging existing bore wells within the campus, following the designated drawings.

5.3.1.4 Source of Reusing waste water

It is practiced in the campus.

5.3.1.5 Sensitization initiatives

Awareness signboards are placed in the campus to save water.



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5.3.1.6 Water proportion study

This section studies the total consumption of water and its proportion with the water recharged and saved on the premises.

- As per the Chapter 2 of the Report, the total footfalls in premises were **1,878 nos.**
- As per NBC norms for Educational buildings with boarding facilities the water requirement is **90 litres per head for drinking water and 45 litres per head for flushing** (secondary) purposes thus making it 135 litres/ per day.
- However, in practical usage a stakeholder can use minimum of **0.5 to 1 litres for drinking and 6 to 8 litres for secondary purposes**, thus reframing the norm to actual requirement of $0.5 + 6 = 6.5$ litres
- Thus, $6.5 \text{ litres} \times 1,878 \text{ populace} \times 232 \text{ (Min. working nos. of days)} = \mathbf{28,32,024 \text{ litres is the total water requirement}}$ (Average assuming certain nos.)
- Bifurcating this study further we can assume **0.5 litres x 1,878 populace x 232 days = 2,17,848 litres for drinking** and primary purposes
- For primary and secondary purposes – The overhead and underground water tanks are available, any water scarcity issue was not informed thus it can be stated that the available facilities are sufficient.

5.4 Health and Hygiene Audit

There are facilities such as dustbins, cleanliness. **Overall, premise is good and no changes required in this aspect. No odour issue was observed near washroom areas as well.**

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6. Compliance

The compliance study was carried out through investigative ways. This was done to understand extent of implementations based on previous reports.

- Original report study was for June 2021 to May 2022 and June 2022 to May 2023
- Renewal study currently done is for June 2023 to May 2024

7. Suggestion

The suggestion (inference) would act as a 'PLAN OF ACTION' for implementation.

- Conduct the 'Before' and 'After' study with photos
- Document the same in 'Action taken report'


S. No.	Aspect	Suggestion
1.		Paint the following information on the water tanks: <ul style="list-style-type: none"> ➤ Capacity ➤ Purpose – Drinking or General use ➤ Last cleaning date ➤ Numbering of the tanks
2.	Paint pipes	Paint the pipes with following color coding <ul style="list-style-type: none"> ➤ Red – Fire ➤ Cobalt blue – Rain Water harvesting ➤ Sky blue - Drinking water ➤ Grey – Electrical ➤ Brown – Sewage/ waste water
3.	Waste management	Undertake composting on Institute level using Biocomposter by Trustbin
4.	Social initiatives	Undertake Unnat Bharat Abhiyan project
5.	Regular tap	Introduce a signboard near tap water as 'Not suitable for drinking'

Table 5: Observation based suggestion study of the campus

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8. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

- ➔ IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- ➔ IGBC Green Landscape Rating system, March 2013



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