Environment Audit

Study Period (Two Years) 2022 – 2023 & 2023 - 2024

Sustainability study

AUDIT REPORT

Studied for

Church Educational Society's

Aurora's PG College

Peerzadiguda, Hyderabad,
Telangana, 500092

Studied in the capacity of

Accredited and Certified GBP

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Studied by

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/
Email: greenviosolutions@gmail.com

Background reference image Nic Y C Gua on unsplash

Disclaimer

The Audit Team has prepared this report for the **Church Educational Society's Aurora's PG College** located *Peerzadiguda, Hyderabad, Telangana, 500092* 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
Sustainable Academe is our department for conducting Audits
Palghar District, Maharashtra- 401208
sustainableacademe@gmail.com

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Acknowledgement

The Audit Assessment Team extends its appreciation to the **Church Educational Society's Aurora's PG College, Telangana** for assigning this important work of Environment 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.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Srikanth Jatla** (Director) for the valuable inputs.

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

- Teaching staff member – ***R.Swapna, Keerthana***
- Non-teaching staff member – ***Srinivas Reddy***
- Admin staff member - ***B. Srikanth, Manjula***

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Contents

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

1. Introduction

1.1 About statements of the Institute

1.1.1 Vision

The Institute is committed *"To achieve high standards of excellence in management and computer education and research by integrating professional insights, cutting-edge technologies, an enriching learning environment, and social relevance."*

1.1.2 Mission

The Institute endeavours *""To produce high-calibre management professionals capable of excelling in the fiercely competitive global market, equipped with the ability to maximise wealth while promoting human welfare. Additionally, they aim to groom highly competent software professionals who are proficient in cutting-edge and emerging technologies and who embrace continuous learning as the cornerstone of their life and career."*

1.2 Assessment of the Institute

The Institute was established in 1999.

1.2.1 Affiliations

The courses provided by Institute have received affiliation through the **Osmania University, Hyderabad, Telangana**

1.2.2 Certification

The All India Survey of Higher Education **(AISHE)** code is C-25789

1.2.3 Approval

The courses by the Institute have received approval through **All India Council for Technical Education (AICTE), New Delhi**.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

2. Overview

2.1 Summarised Populace analysis for 2023-2024

2.1.1 Students data

The data (shared by the Institute) shows there were **828 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	13	26	**39**
2	Teaching staff	52	54	**106**
3	Non-Teaching staff	05	09	**14**
Total Staff Members		**70**	**89**	**159**

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

The staff data shows the Institute premises had **159 Staff Members.**

2.2 Summarised Populace analysis for 2022-2023

2.2.1 Students data

The data (shared by the Institute) shows there were **694 students.**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	13	26	**39**
2	Teaching staff	42	49	**91**
3	Non-Teaching staff	05	09	**14**
Total Staff Members		**60**	**84**	**114**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had **114 Staff Members.**

3. Research

3.1 Campus area

The **site is spread over 0.5 acres of land covering 5,813 sq. m or 62,548 sq. ft. of built-up area.**

3.2 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution sustainable and healthy premises for its inhabitants.

3.3 Analysis of the Green Building Study Audit

The procedure included detailed verification as follows:

- Investigation
- Technical
- Observations
- Inferences

3.4 Strategy adopted for Green Building Study Audit

The strategies included data collection from the admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collection, and preparation of the Report.

4. Investigation

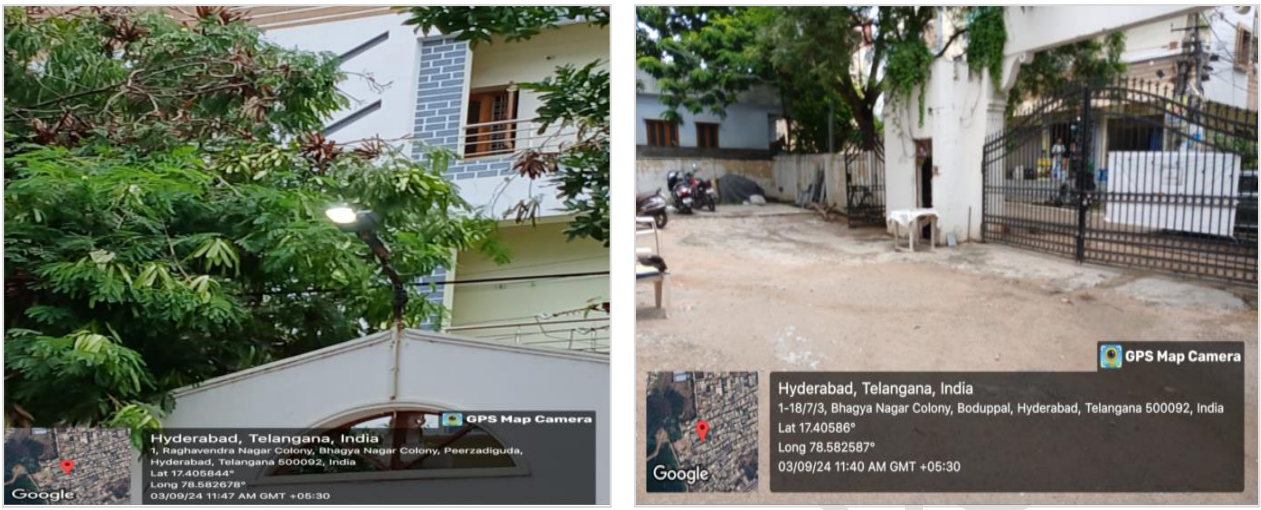

Plate 1: Greenery within the premises

Observation: Trees in periphery surrounding the campus.

Plate 2: Parking space

Observation: This is the space that acts as an open space, however it has scope for improvement if appropriate walkaway, pathways and green cover is developed.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5. Documentation

5.1 Open Spaces

The first hand observations are documented below:

- The campus is located in an urban area, there is lack of dedicated open space.

The study suggests that:

- ***The plantations should have numbering/ coding done***
- ***The site should be designed and boards identifying these spaces as 'BREAKOUT ZONE' and 'PARKING ZONE' can be displayed around the site***

5.2 Biodiversity audit

5.2.1 Flora audit

A flora survey to identify the total numbers of plants and trees by internal team as documented below displays the verities of the plantations.

S. No.	Plant name	Type	Nos.	Planted by / Grown
1.	*Almond*	Plant	1	Planted by staff
2.	*Guava*	Plant	4	Planted by Student
3.	*Java Plum*	Plant	3	Planted by Student
4.	*Indian Gooseberry*	Pant	2	Planted by Student
5.	*Carmbola*	Plant	3	Planted by Student
6.	*Kapok*	Tree	1	Planted by staff
7.	*Phyllanthus Pulcher*	plant	1	Planted by Student
8.	*Acalypha Willesiana*	Plant	1	Planted by Student
9.	*Sacred Fig*	Tree	1	Planted by staff
10.	*Tabebuia Pallida*	Tree	1	Planted by staff
11.	*Jungle Geranium*	plant	1	Planted by Student
12.	*Nerium Oleander*	plant	1	Planted by Student

13.	*Neem Tree*	Tree	1	Planted by staff
14.	*Calamansi*	Plant	1	Planted by Student
15.	*Litchi*	Plant	1	Planted by Student
16.	*Gardencroton*	Plant	1	Planted by Student
17.	*Ti*	Plant	4	Planted by Student
18.	*Dracaen Atrifasciata*	Plant	3	Planted by Student
19.	*Arecapalm*	Plant	1	Planted by Student
20.	*Ghost*	Plant	1	Planted by Student
21.	*Euphorbiatithymaloides*	Plant	1	Planted by Student
22.	*Basket*	Plant	1	Planted by Student
23.	*Heena Plant*	Plant	1	Planted by Student
24.	*Sedumpalmeri*	Plant	1	Planted by Student
25.	*Polyseiasfruticosa*	Plant	2	Planted by Student
26.	*Aglaonema*	Plant	1	Planted by Student
27.	*Juniper*	Plant	1	Planted by Student
28.	*Acalypha Indica*	Plant	2	Planted by Student
29.	*Dieffenbachiaseguine*	Plant	1	Planted by Student
30.	*Holybasil*	Plant	1	Planted by Student
31.	*Aloevara*	Plant	1	Planted by Student
32.	*Moses In The Cradle*	Plant	2	Planted by Student
33.	*Black Locust*	Tree	2	Planted by staff

Table 3: Details of the Flora in the premises

At present, there are **50 numbers of identified plantations as evident from the site documentation** in the premises.

The study suggests documenting the plantations as a research paper/ book.

5.2.2 Fauna audit

The details of the fauna within the premises were not provided.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5.3 Noise Audit

The study suggests that outside the campus a signboard could be displayed that highlights 'Silent zone' and 'No honking zone' being an Educational Institute.

5.4 Carbon Footprint Audit – Heat Island Reduction

The heat island effect refers to the study of micro climatic feature within a site. There are multiple factors that add on to the feature such as external temperature, internal temperatures, site context including available and site adjacent facilities. The shaded areas (Due to the built space and green cover) add to low heat island effects of campus:

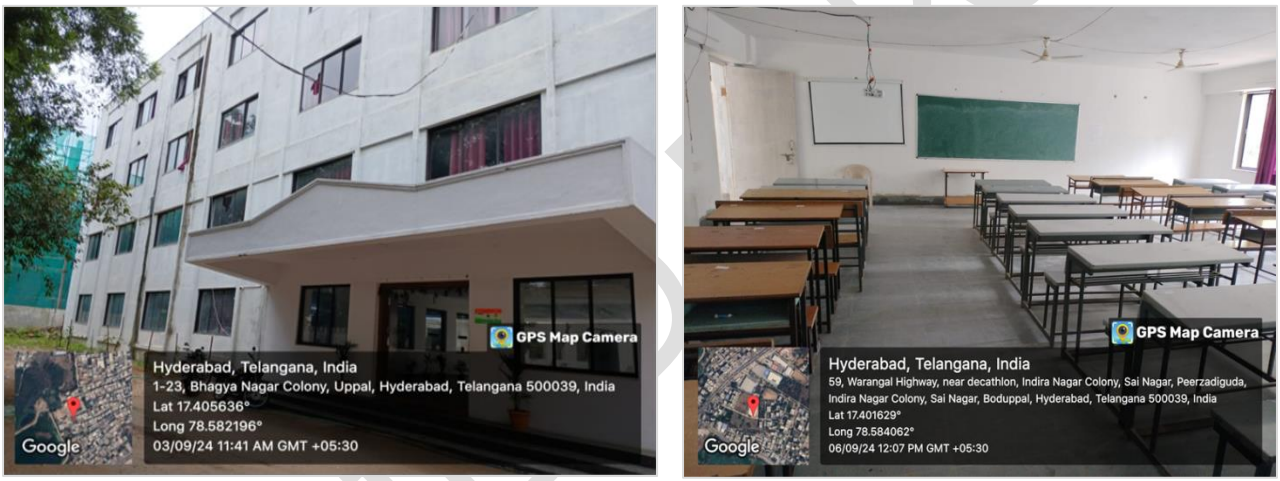

Plate 3: Exterior and interior of the premises

Overall, there seems to be less heat island effect felt since the campus the campus is light colored painted in outdoor and indoor areas that may help in reflecting sunrays.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

6. Inferences

The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner. The same has been identified in two phases for a total duration of three years.

- **Phase 1**
  - *Duration: One year from the date of Report submission – Shared currently*
  - These are first hand suggestions
  - They are easy and quick to implement
  - They involve close very less or almost no expenses
  - They can serve as a foundation for the entire plan of action

Section 1 – Eco-restoration of outdoors (Landscape perspective)

- **Feeders**
  - At appropriate locations there can be provisions for drinking water and some grains for birds as they visit the site much frequently.
- **Numbering the plantations in the premises**
  - *Make a list of all the plantations in the premises*
  - *Secondly, start numbering the plantations in either of the ways:*
    i. Painting the nos. on iron plates and nailing the same
    ii. Printing the nos. on paper, laminating and pasting the same
    iii. Painting the nos. with letters and nos. directly
  - *Care should be taken that the display should be visible*
  - *Uniform color palette should be identified and used*
  - *Measures should be taken to avoid withering during monsoon*
  - *This could be undertaken as a student activity*

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Reference suggestions 1: Numbering the plantations

- **Plant as an extension of 'Green motto'**
  - External resource persons visiting the premises can share the goal of green environment in the following ways:
    i. Plant a sapling within the premises
    ii. Handover a sapling as a gesture

Section 2 – Documentation

- **Messages on the beam area**
  - Include quotes and messages from eminent personalities all over the premises on beam for inspiration and beautification.
- **Awareness**
  - Introduce zone wise display boards at relevant locations

Section 3 – Amenities

- **Facilities**
  - First aid box near the administrative area
  - Suggestion box every floor of the premises

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Section 4 – Environmental management systems

➲ Heat island control measures

- *Cool rooftops*

i. Keep terrace areas free of any kind of storage materials

ii. Terrace rooftops can be painted with Cooltop (Reflective material) to reflect the harsh sun rays and reduce the heat absorption in the top most floor and surrounding areas of the building.

iii. Introduce signboards about 'No students are allowed to enter'

iv. Undertake feasibility study of before - after temperature reading.

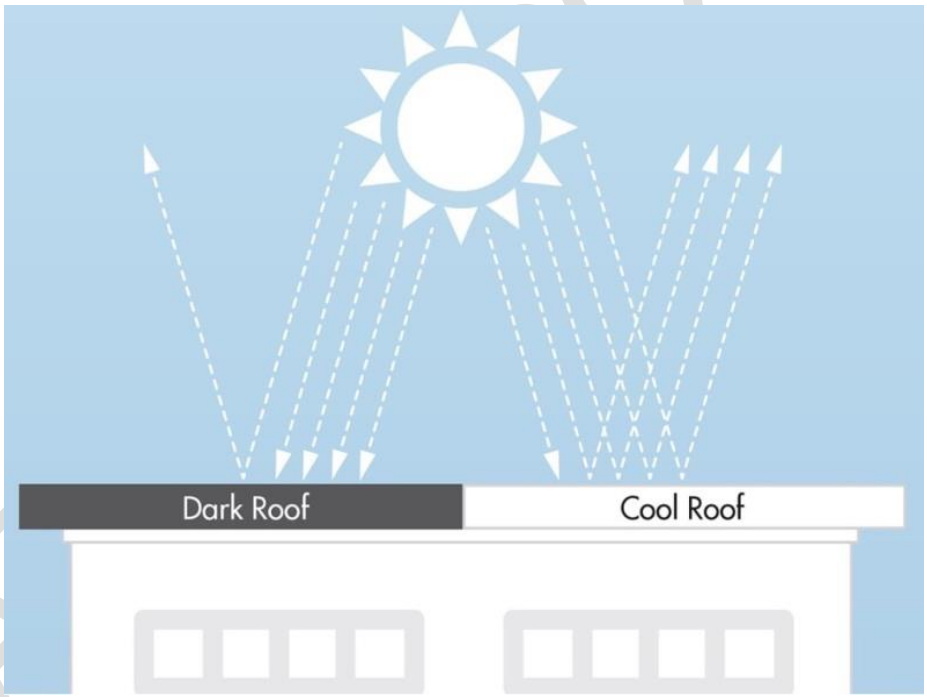

Plate 4: Cool roof comparative analysis (For reference purpose only)

Source: Image by https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387

➲ Pollution control measures

- *Vehicle usage -* Restricting the speed limit of vehicles on the premises to 10 km per hour, not horning on the premises will help in maintaining the sound in control and emphasis on a silent zone.
- *Avoid burning waste -* The waste produced on the premises should not be burned as it is dangerous to the health of students and staff

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

7. 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.

National references

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

International references

- The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States
- Streetscape elements – Chapter 6 on San Francisco
- American lung association https://www.lung.org/
- Study related to air pollution https://www.airgle.com/
- Exploring the light pollution https://education.nationalgeographic.org/
- Urban heat island effect https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands

ENERGY AUDIT

STUDY PERIOD (TWO YEARS) 2022 – 2023 & 2023 - 2024

Sustainability study

AUDIT REPORT

Studied for

Church Educational Society's

Aurora's PG College

Peerzadiguda, Hyderabad,

Telangana, 500092

Studied in the capacity of

Accredited and Certified GBP

Studied by

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/

Email: greenviosolutions@gmail.com

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Background reference image Janko Ferlic on pexels

Disclaimer

The Audit Team has prepared this report for the **Church Educational Society's Aurora's PG College** located *Peerzadiguda, Hyderabad, Telangana, 500092* 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
Sustainable Academe is our department for conducting Audits
Palghar District, Maharashtra- 401208
sustainableacademe@gmail.com

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Acknowledgement

The Audit Assessment Team extends its appreciation to the **Church Educational Society's Aurora's PG College, Telangana** for assigning this important work of Energy 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.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Srikanth Jatla** (Director) for the valuable inputs.

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

- Teaching staff member – ***R.Swapna, Keerthana***
- Non-teaching staff member – ***Srinivas Reddy***
- Admin staff member - ***B. Srikanth, Manjula***

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Contents

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

1. Introduction

1.1 About statements of the Institute

1.1.1 Vision

The Institute is committed *"To achieve high standards of excellence in management and computer education and research by integrating professional insights, cutting-edge technologies, an enriching learning environment, and social relevance."*

1.1.2 Mission

The Institute endeavours *""To produce high-calibre management professionals capable of excelling in the fiercely competitive global market, equipped with the ability to maximise wealth while promoting human welfare. Additionally, they aim to groom highly competent software professionals who are proficient in cutting-edge and emerging technologies and who embrace continuous learning as the cornerstone of their life and career."*

1.2 Assessment of the Institute

The Institute was established in 1999.

1.2.1 Affiliations

The courses provided by Institute have received affiliation through the **Osmania University, Hyderabad, Telangana**

1.2.2 Certification

The All India Survey of Higher Education **(AISHE)** code is C-25789

1.2.3 Approval

The courses by the Institute have received approval through **All India Council for Technical Education (AICTE), New Delhi**.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

2. Overview

2.1 Summarised Populace analysis for 2023-2024

2.1.1 Students data

The data (shared by the Institute) shows there were **828 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	13	26	**39**
2	Teaching staff	52	54	**106**
3	Non-Teaching staff	05	09	**14**
Total Staff Members		**70**	**89**	**159**

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

The staff data shows the Institute premises had **159 Staff Members.**

2.2 Summarised Populace analysis for 2022-2023

2.2.1 Students data

The data (shared by the Institute) shows there were **694 students.**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	13	26	**39**
2	Teaching staff	42	49	**91**
3	Non-Teaching staff	05	09	**14**
Total Staff Members		**60**	**84**	**114**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had **114 Staff Members.**

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

3. Research

3.1 Campus area

The **site is spread over 0.5 acres of land covering 5,813 sq. m or 62,548 sq. ft. of built-up area.**

3.2 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution sustainable and healthy premises for its inhabitants.

3.3 Analysis of the Green Building Study Audit

The procedure included detailed verification as follows:

- Investigation
- Technical
- Observations
- Inferences

3.4 Strategy adopted for Green Building Study Audit

The strategies included data collection from the admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collection, and preparation of the Report.

4. Investigation

Observation: Given the scale of the campus, the solar panels/ wind mills are a must; but they are not available in the premises

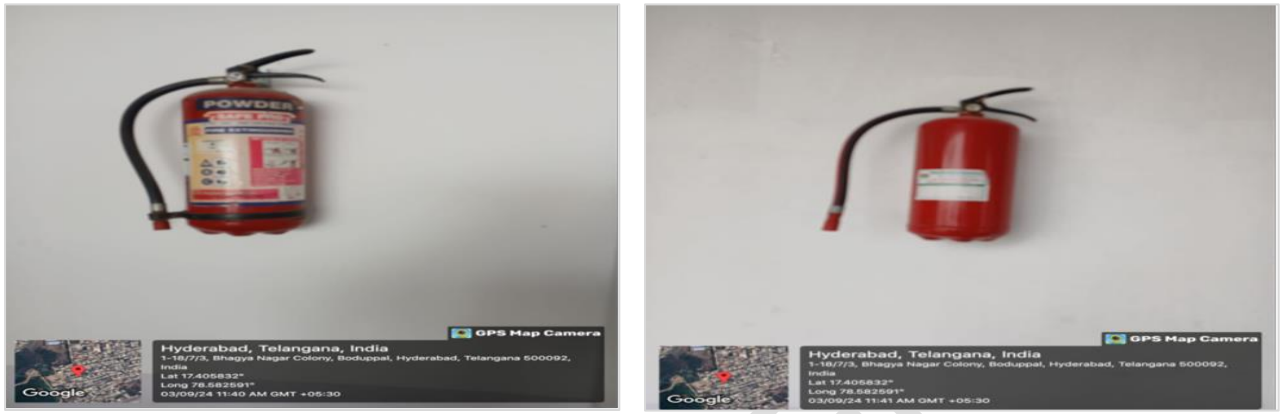

Plate 1: Fire and life safety measures in the premises

Observation: There is no PASS Board close by.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5. Documentation

Section 1 – Energy management

5.1 Primary sources of energy consumption

- **Electrical (Metered) –** Light, Fans, Equipments, Pumps comprise these sources.
- **Alternate sources of energy consumption–** There are no such sources.

5.2 Secondary sources of energy consumption

The premise uses following facilities as backup for administrative purposes. The details of the existing sources are documented below:

S. No.	Name	Nos.
1	UPS	1
2	Batteries	4
3	Induction stove	1

Table 3: Details of secondary sources of energy consumption

5.3 Actual electrical consumption as per bills

The information shared for the meter available in the premises.

S. No.	Month	Year	Amount	(A) Total units consumed	(B) Solar units generated	(C = A-B) Gross units consumed after deduction
Academic year 1 (2023-2024)						
1	June	2023	21,679	1,685	0	1,685
2	July	2023	21,253	1,672	0	1,672
3	August	2023	20,520	1,562	0	1,562
4	September	2023	26,132	2,100	0	2,100
5	October	2023	23,903	1,890	0	1,890
6	November	2023	20,136	1,546	0	1,546

7	December	2023	25,630	2,039	0	2,039
8	January	2024	29,971	2,437	0	2,437
9	February	2024	32,123	3,075	0	3,075
10	March	2024	32,840	2,698	0	2,698
11	April	2024	41,869	3,516	0	3,516
12	May	2024	32,972	3,095	0	3,095
Academic year 2 (2022-2023)						
13	June	2022	29,282	2,373	0	2,373
14	July	2022	31,473	2,578	0	2,578
15	August	2022	29,909	2,433	0	2,433
16	September	2022	29,909	2,433	0	2,433
17	October	2022	24,708	1,961	0	1,961
18	November	2022	25,300	2,019	0	2,019
19	December	2022	26,935	2,157	0	2,157
20	January	2023	33,388	2,746	0	2,746
21	February	2023	29,718	2,409	0	2,409
22	March	2023	22,665	1,761	0	1,761
23	April	2023	18,375	1,385	0	1,385
24	May	2023	15,017	1,420	0	1,420

Table 4: Details of the electrical consumption

Note: Two years refers to data submitted for past twenty-four months

The observation related to above information states:

- The **total amount** spent in past two years is **Rs. 6,45,707/-**
- The **average amount** spent every month are **Rs. 26,904/-**
- The **total units** consumed in past two years **~ 52,990 units (Electrical)**
- The **average units** consumed every month are **~ 2,208 units (Electrical)**
- **Percentage of energy met by alternate (solar (renewable)) source is zero**

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5.4 Calculated Electrical Consumption as per inventory

The electricity bills provide actual consumption data. The following is the calculated consumption. It is done to understand the percentage of energy usage in the premises by various applications. It is based on the inventory collected and interviews with the staff.

The additional data such as wattage is taken from market research. In terms of electrical consumption, the main sources are lights, fans, air conditioner, and equipment. The inventory and data collection for sources of energy consumed in the premise in summarised in the following sections.

The following documentation is based on the consumption practice of the premises on a regular working day.

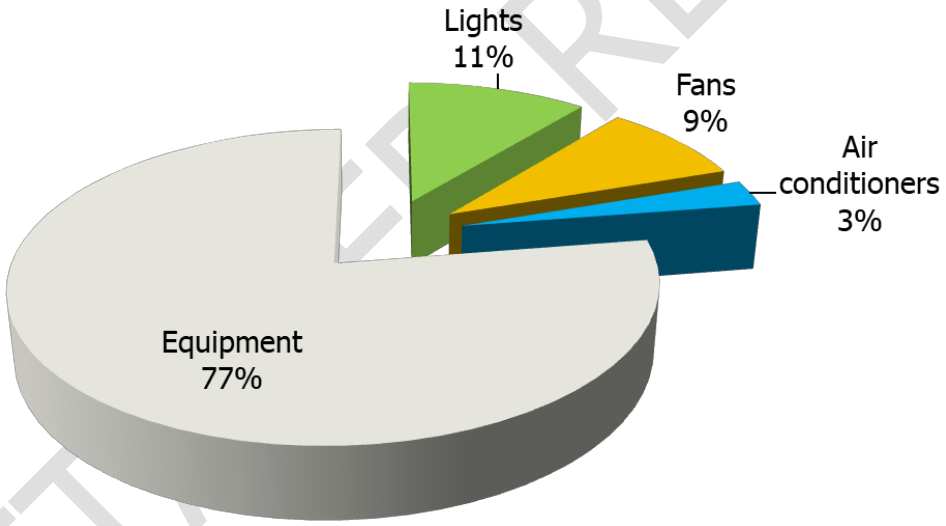

Figure 1: Summary of the calculated electrical consumption as per inventory

The above graph shows that equipment consume 77% whereas the lights consume 11% while the fans consume 9% and air conditioners consume 3% each of the total calculated electrical energy.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5.5 Lights

5.5.1 Types of lights based on the numbers

There are **225 LED lights on the premises**.

5.5.2 Types of lights based on the power consumption

The energy consumption of lights is **29,495 kWh** of energy with the **LED lights consuming 100%** of the total power consumed by lights.

5.6 Fans

5.6.1 Types of fans based on the numbers

There are **241 Ceiling fans** on the premises.

5.6.2 Types of fans based on the power consumption

The energy consumption of fans is **23,928 kWh** of the energy with the **ceiling fans consuming 100%** of total power consumed by fans.

5.7 Air conditioners

5.7.1 Types of air conditioners based on the numbers

There are **three air conditioners** on the entire premises**.**

5.7.2 Building-wise consumption analysis

The energy consumption of air conditioners is **7,561 kWh** of energy.

5.8 Equipment

5.8.1 Types of Equipment

There are **324 nos. of equipment** in the Educational sector.

5.8.2 Types of equipment as per their energy contribution

The energy consumption of equipment is **2,09,365 kWh** of energy.

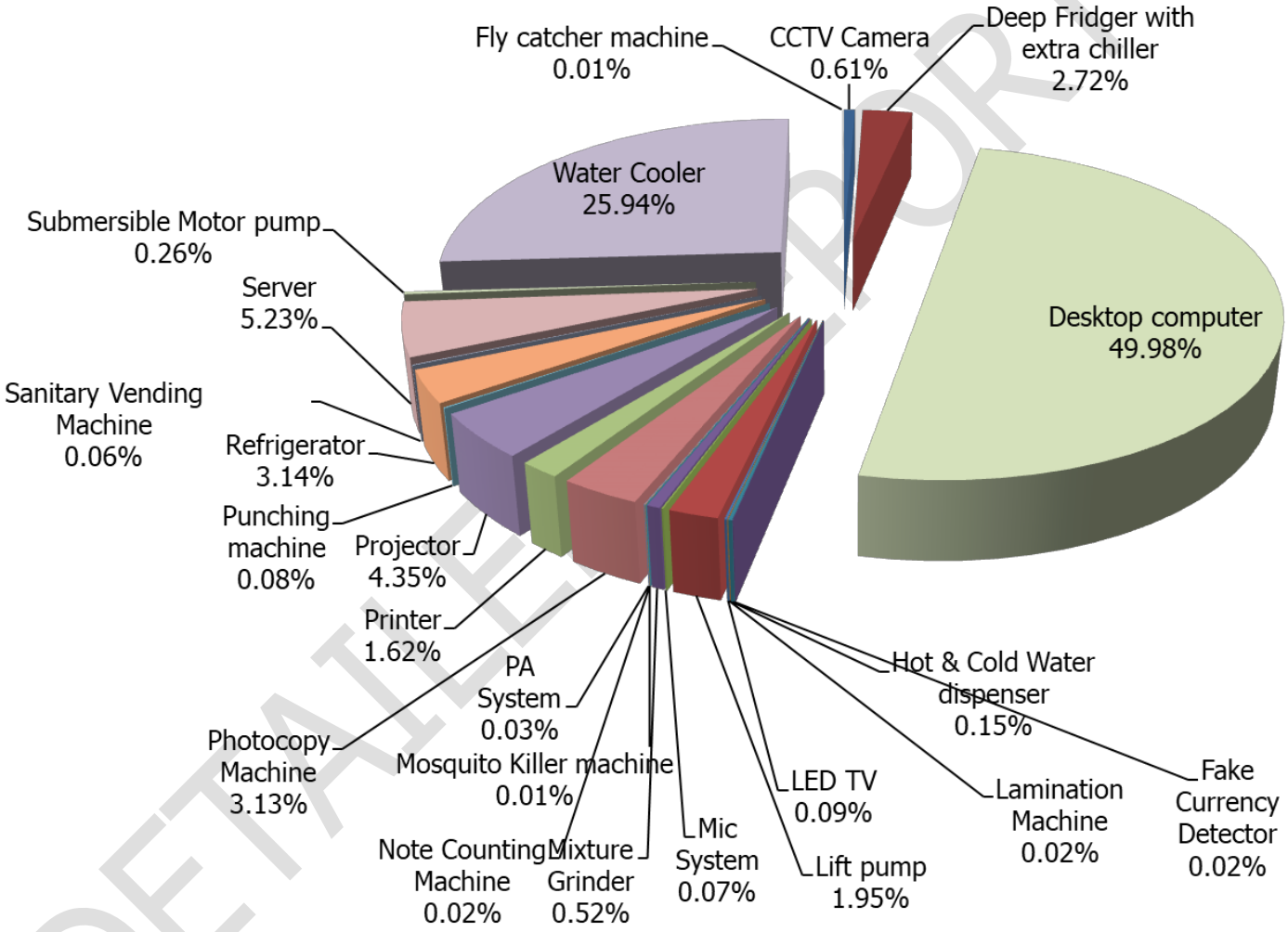

Figure 2: Energy consumed by types of equipment in the educational sector based on the usage study

Above summary shows that **desktop computer consumes more energy at 49.98%** while **water cooler consumes 25.94%** whereas **server consumes 5.23%** & **projector consumes 4.35%** these are maximum consumers as compared to other equipment.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Section 2 – Life safety management

Fire and life safety are an important consideration of the National Building Code 2016.

This aspect is touched upon as part of this study in the capacity of an Architect registered with the Council of Architecture. As part of the research, fire safety audit was considered from the 'Building systems' perspective.

The study suggests that there is scope for certain improvements such as

- ***There should be a display board stating 'Students or staff members not allowed' on terrace or danger zone areas***
- ***The students should not be allowed to decorate the spaces that have electrical connections***
- ***There should be documentations of the switchboards and main boards such as SB1, MB1 further the switches should be documented appropriately.***
- ***The study suggests that the floor should have a 'FIRE ESCAPE ROUTE LAYOUT' that highlights the position of stakeholders and nearest passage as well as staircase.***

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

6. Inferences

The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner. The same has been identified in two phases for a total duration of three years.

- **Phase 1**
  - *Duration: One year from the date of Report submission – Shared currently*
  - These are first hand suggestions
  - They are easy and quick to implement
  - They involve close very less or almost no expenses
  - They can serve as a foundation for the entire plan of action

Section 1 – Energy management

- **General practice**
  - *The stakeholders should be educated to*
    i. Keep the lights on in the class room only when needed and unplug electrical devices when not in use.
    ii. Electrical appliances consume energy even when you are not using them hence plugging something in only when needed can save electrical energy usage.
    iii. At the time of locking the departments all fans, lights should be switched off.
    iv. The students should be trained to switch off fans and lights when there is no need of them.
    v. Staff should be trained to switch of lights and fans in their rooms when they leave the room.
- **Awareness and vigilance**
  - *Strict instructions* for avoiding wastage of energy including rules such as if anyone is found putting on the switch unnecessary may be a punishable offence or fine
  - *Seminars/ Webinars/ Workshops* o stakeholders on energy preservation, use of e-vehicles
  - *Conduct visits and monitoring by authority* for check of appliances/ their

working conditions/ energy usage etc. every fifteen to twenty days

- **Facilities intervention to reduce electrical load**
  - *Use white colored* interiors and exterior façade to reflect light and
  - *Avoid dark colored* interior and exterior façade, especially exterior façade
  - *Cover the inverters/ solar meters on the rooftop areas*
  - *Demarcate the areas as 'DANGER'* and do not allow any other stakeholder except the skilled or expertise staff member
  - *Cover the rooftop of outdoor air conditioner units* to avoid any direct sun exposure on the top area as this may lead to increased electrical consumption and reduce the duration of quick cooling
- **Display information about the technical facilities**
  - *Any space that has any source of renewable energy in the block certain information as follows should be displayed on a board near the entrance or foyer area of the block for sensitization*
    i. 'DANGER ZONE' and 'NO SMOKING ZONE' boards
    ii. Do and Don't for the specific type of plant
    iii. Plant name
    iv. Capacity
    v. Location
    vi. Type of renewable energy system
    vii. Nos. of units
    viii. Installation date, month and year
    ix. Energy generated per day and annually
    x. Energy consumption actual requirement per day and annually
    xi. Energy saved per day and annually
    xii. Last maintenance date and vendor
    xiii. Revenue generation (if any) per day and annually
    xiv. Institute name and logo

Section 2 – Energy generation

Suggestions are excluded for this section.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Section 3 – Life safety management

➲ Display boards for awareness

- *All fire and life safety exit signages* as per NBC norms should be displayed at every nook and corner including assembly point, exit points
- *A RACE Board* at the location of extreme populace/ footfalls.
- There should be *a PASS Board* alongside every fire extinguisher

Reference suggestions 1: PASS Board display

➲ Fire and life safety measures

- Every space that has a gas cylinder/ air conditioner/ combustible appliance/ more than ten electrical or electronic appliance and Server rooms there should be EITHER sand bucket/ fire ball

➲ Earth pit zones

- Add signboard about 'Outdoor Electrical area'
- Code the earthing pits in the courtyard.

➲ DG and Transformer area

- Add safety signages such as 'Danger-do not touch' etc.
- Add signboards about the usage such as 'Transformer areas' and 'Diesel Generator area' etc.
- Every user in this space should compulsorily jacket, helmet, gloves, boots while working and being a part of this space.
- Code the earthing pits in the courtyard.
- Add additional fire extinguishers

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

7. 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.

Specific references for study related to energy

- https://www.energy.gov/eere/buildings/zero-energy-buildings
- https://www.dsaarch.com/zero-net-positive-energy
- U.S. Energy Information Administration
- https://www.happysprout.com/inspiration/what-is-smart-gardening/
- https://ieeexplore.ieee.org/document/6779316
- https://www.murata.com/en-global/apps/industry/security/entranceandexitsystem
- https://www.energuide.be/en/questions-answers/what-are-the-alternatives-to-air-conditioning/2121/
- IGBC Green Campus rating system Abridged Reference Guide
- GEM Sustainability Certification Rating Program

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

GREEN AUDIT

STUDY PERIOD (TWO YEARS) 2022 – 2023 & 2023 - 2024

Sustainability study

AUDIT REPORT

Studied for

Church Educational Society's

Aurora's PG College

Peerzadiguda, Hyderabad,

Telangana, 500092

Studied in the capacity of

Accredited and Certified GBP

Studied by

Greenvio Solutions

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500098

Website: https://thegreenviosolutions.co.in/

Email: greenviosolutions@gmail.com

Background reference image Sasin Tipchai on unsplash

Disclaimer

The Audit Team has prepared this report for the **Church Educational Society's Aurora's PG College** located *Peerzadiguda, Hyderabad, Telangana, 500092* 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
Sustainable Academe is our department for conducting Audits
Palghar District, Maharashtra- 401208
sustainableacademe@gmail.com

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Acknowledgement

The Audit Assessment Team extends its appreciation to the **Church Educational Society's Aurora's PG College, Telangana** 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.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Srikanth Jatla** (Director) for the valuable inputs.

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

- Teaching staff member – ***R.Swapna, Keerthana***
- Non-teaching staff member – ***Srinivas Reddy***
- Admin staff member - ***B. Srikanth, Manjula***

Sustainable Academe
Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Contents

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

1. Introduction

1.1 About statements of the Institute

1.1.1 Vision

The Institute is committed *"To achieve high standards of excellence in management and computer education and research by integrating professional insights, cutting-edge technologies, an enriching learning environment, and social relevance."*

1.1.2 Mission

The Institute endeavours *""To produce high-calibre management professionals capable of excelling in the fiercely competitive global market, equipped with the ability to maximise wealth while promoting human welfare. Additionally, they aim to groom highly competent software professionals who are proficient in cutting-edge and emerging technologies and who embrace continuous learning as the cornerstone of their life and career."*

1.2 Assessment of the Institute

The Institute was established in 1999.

1.2.1 Affiliations

The courses provided by Institute have received affiliation through the **Osmania University, Hyderabad, Telangana**

1.2.2 Certification

The All India Survey of Higher Education **(AISHE)** code is C-25789

1.2.3 Approval

The courses by the Institute have received approval through **All India Council for Technical Education (AICTE), New Delhi**.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

2. Overview

2.1 Summarised Populace analysis for 2023-2024

2.1.1 Students data

The data (shared by the Institute) shows there were **828 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	13	26	**39**
2	Teaching staff	52	54	**106**
3	Non-Teaching staff	05	09	**14**
Total Staff Members		**70**	**89**	**159**

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

The staff data shows the Institute premises had **159 Staff Members.**

2.2 Summarised Populace analysis for 2022-2023

2.2.1 Students data

The data (shared by the Institute) shows there were **694 students.**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	13	26	**39**
2	Teaching staff	42	49	**91**
3	Non-Teaching staff	05	09	**14**
Total Staff Members		**60**	**84**	**114**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had **114 Staff Members.**

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

3. Research

3.1 Campus area

The **site is spread over 0.5 acres of land covering 5,813 sq. m or 62,548 sq. ft. of built-up area.**

3.2 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution sustainable and healthy premises for its inhabitants.

3.3 Analysis of the Green Building Study Audit

The procedure included detailed verification as follows:

- Investigation
- Technical
- Observations
- Inferences

3.4 Strategy adopted for Green Building Study Audit

The strategies included data collection from the admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collection, and preparation of the Report.

4. Investigation

Plate 1: Water management practices in the premises

Observation: Water facilities in the premises – Tanks and rain water harvesting. Both of these areas require up gradation such as paint with information about the facilities and some plantations around rain water harvesting.

Plate 2: Waste management practices in the premises

Observation: The dustbin in the premises – The plastic bins can be replaced with steel ones.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5. Documentation

5.1 Green Practices Audit

The increasing global warming and climate change have made us realise that apart from the enormous strategies the individual small efforts need to be taken by individuals and Educational Institutes as the younger generations are the future of the world and once they are taught about these practices only then can we assume a better future.

5.1.1 Green practices

We observed the following points during the investigation data verification of the premises.

- **Waste management** – *Every type of waste is well managed.*
- **Social awareness** - *The Institute has taken up awareness drives on various social issues for sustainable development.*

5.1.2 Community development

The details of ***extension initiatives*** under various heads in Institute are documented below:

S. No.	Type	Since	Coordinator name
1	Employability Skills centre	2022-2024	Mr.B.Santosh Kumar
2	Blood Donation Drive	2022-2024	Mr.Mahesh
3	Helping Hands Initiative	2022-2024	Mrs.Sunitha

Table 3: Details of the extension initiatives by the Institute

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

S. No.	Initiative	Details	Type	Date
Academic year 1 (2023-2024)				
1.	World Environmental Day	We celebrated the environment by planting trees	Physical	06/05/2023

2.	Sustainability campaign	Go green eco products Manufacturer Boduppal - Hyderabad	Physical	16/03/2024
3.	Recycling drive	This initiative aimed to raise awareness about recycling and environmental sustainability	Physical	30/04/2024
4.	*Haritha Haram*	The *Haritha Haram* initiative in college focuses on enhancing green spaces by planting trees and promoting environmental awareness	Physical	3/10/2023
Academic year 2 (2022-2023)				
5.	World Nature Day	To race the awareness about the vital importance of nature and to promote conservation efforts	Physical	10/04/2022
6.	World Environmental Day	For promoting Eco Friendly Practices	Physical	04/06/2022
7.	Recycling drive	This initiative aimed to raise awareness about recycling and environmental sustainability	Physical	18/03/2023
8.	Plastic ban - Conserve environment initiative	"The aim of the event is to Encourage students the use of reusable or biodegradable	Physical	17/12/2022

Table 4: 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

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5.2 Waste Audit

Waste is an inevitable part of our lives. Over the years the awareness about waste management techniques has given a rise to rethink how the waste can be avoided being sent to the landfills. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted, and waste management strategies that are implemented in addition to the newer ways that can be adopted aiming to make the premise clean and sustainable.

5.2.1 Waste management (Parameters adopted)

S. No.	Type	Quantity (Daily basis)	Current practice	Proposed practice
1	Solid waste (Toilets)	50 Kgs	Solid waste from toilets is managed by separating it in a septic tank, where it settles and undergoes anaerobic decomposition. Over time, the waste breaks down into sludge. Periodic removal of this sludge is required to maintain the septic system's efficiency, ensuring proper sanitation and preventing overflow or contamination. No other solid waste is generated in the toilets.	***Biogas plant can be proposed***
2	Organic waste (Regular)	2 Kgs	Organic waste is collected in the campus compost bin, and the resulting compost is used to enhance the growth of plants and trees on the premises.	Continue with the practice
3	Liquid waste (Toilets, wash basins)	5000 litres	Managing liquid waste from toilets involves directing the wastewater to a septic tank, where solids settle at the bottom, and liquid effluent is gradually released into a drain field. This system allows for the natural treatment of waste, reducing contamination and promoting safe disposal, making it an effective solution for areas without sewage systems.	Continue with the practice
4	Chemical waste from	0	No chemical waste is generated on campus.	Continue with the practice

	laboratories			
5	Toxic waste from laboratories	0	No toxic waste is generated on campus.	Continue with the practice
6	E-waste	-	Little to no e-waste is generated on a daily basis. In case of spoiled keyboards or mice from computer labs, once in a month, the collected e-waste is send for recycling by partnering with ITC Wow, which is a specialised waste management services provider.	Continue with the practice
7	Plastic waste	100 grams	Single use plastics are banned on campus. The college manages plastic waste generated through food packets by collecting them daily and sending it for the recycling by partnering with ITC WoW.	Continue with the practice
8	Bio-waste (Sanitary)	30 to 40 pads	The college manages sanitary bio-waste through Sanitary Napkin Incinerator, which can turn used sanitary pads to ash. The incinerator can dispose off up to 250 pads per day. The college ensures proper segregation and disposal of the ash generated by collaborating with ITC WoW.	Continue with the practice
9	Medical waste (Pharmacy etc.)	0	There is no such waste produced on campus.	Continue with the practice
10	Construction waste and reuse (Only if applicable)	0	There is no such waste produced on campus at present as there is no construction activity.	Continue with the practice

Table 5: Details of the waste management practices

5.2.2 Waste management (Measures adopted)

There are 10 dustbins in the outdoor areas and 53 in the indoor areas of the premises.

5.3 Water Audit

Water is one of the basic needs. Pure drinking water is a resource that needs to be preserved efficiently. A water audit helps to identify the sources of water consumption, and the water requirement by the premises is met by these sources.

The effective usage of water without any wastage should be a mandatory practice. Understanding the techniques as per site context to increase water conservation in terms of awareness and practice can be identified and executed as part of this exercise.

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The Institute requires water from the Local Municipality for drinking water purposes. **The details are documented below:**

S. No.	Type	Size	Capacity (litres)	Nos.
1	Underground	20x20	40,000	1
2	Overhead	10x10	10,000	2
3	Fire tank	0	0	0
Total			**50,000**	**3**

Table 6: Water tanks details

The study suggests that the space requires of tanks can be documented with mention of size, capacity usage, Institute name, colour coding and last maintenance date mentioned on each facility.

5.3.1.2 Source of Secondary water supply

The Institute uses water supply for secondary usages such as watering plants, kitchen, toilets, and wash basins and other spaces. **The details are documented below:**

S. No.	Type	Size	Capacity (litres)	Nos.
1	Well	-	-	0
2	Bore well	1400 ft.	10,000	1

Table 7: Information about the secondary sources of water consumption

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

5.3.1.3 Source of Tertiary water supply

The tertiary source of water is the source of water harvesting as documented below:

S. No.	Type	Size	Capacity (litres)	Nos.
1	Rain water harvesting tank	10x10	5,000	1

Table 8: Details about the rainwater-harvesting tank in the premises

5.3.1.4 Source of Reusing waste water

This initiative is practiced.

5.3.2 Water proportion study

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

A) Water requirement/ consumption

- As per the Chapter 2 of the Report, the total footfalls in premises were 828 students and 159 Staff Members thus 987 populace.
- 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.
- Thus, 987 x 135 x 280 (Min. working nos. of days) = 3,73,08,600 litres is the total water requirement (Average assuming certain nos.)
-

B) Water sources and availability

As per the previous year study, the total water availability is as follows:

- Primary source (Water tanks) – 50,000 litres
- Secondary source (Bore well) – 10,000 litres
- Tertiary water sources (Rain water harvesting) – 5,000 litres
- Thus total water available is 65,000 litres (Including primary, secondary and tertiary)

5.4 Health and Hygiene Audit

The hygiene is a part and parcel of our daily life. It is extremely essential to keep the surroundings clean in the same manner as we would want our houses to be. Educational Institutes have a bigger role to play in order to affect the young minds in the positive manner through better hygienic practices.

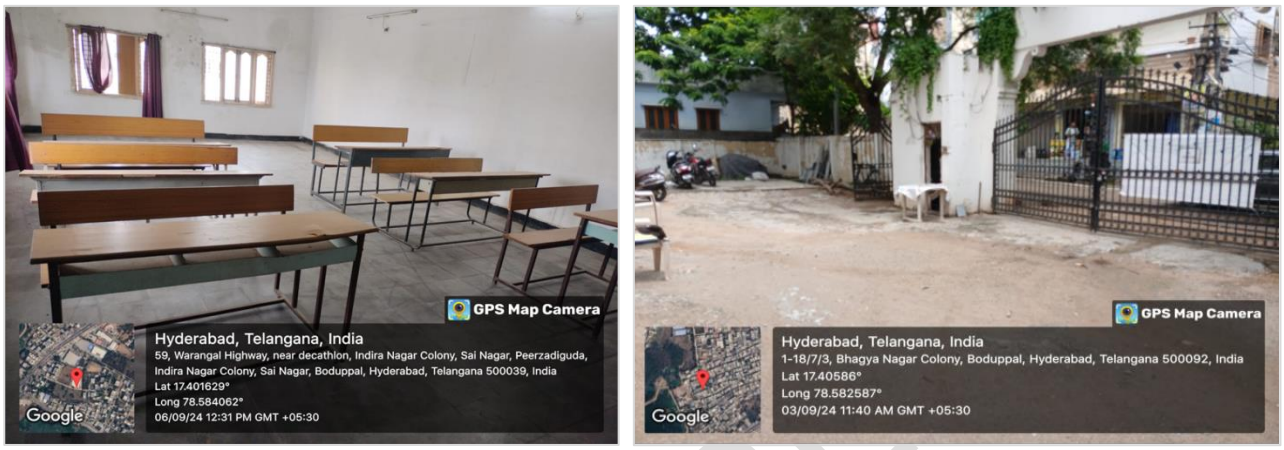

Plate 4: Clean indoor and outdoor areas

Overall, the premise is good and does not require major update for hygiene and cleanliness.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

6. Inferences

The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner. The same has been identified in two phases for a total duration of three years.

- **Phase 1**
  - *Duration: One year from the date of Report submission – Shared currently*
  - These are first hand suggestions
  - They are easy and quick to implement
  - They involve close very less or almost no expenses
  - They can serve as a foundation for the entire plan of action

Section 1 – Green practices audit

- **Environmental awareness**
  - There can be various slogans in local and national language on the compound wall giving the message of saving the environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizens.
- **Government initiatives**
  - Undertake initiatives such as Swachh Bharat Abhiyan, cleanliness drives in the Institute and surrounding villages also activities such as the capacity building of locals in surrounding villages by Institute students.
- **Increase the green awareness practice**
  - This should be in terms of the physical and virtual events, which will be beneficial for all stakeholders in the shared premises. (Basically the frequency of the lectures should be increased)
- **Mandatory programs should be conducted on following days**
  - January
    i. Wd. Braille Day

- February
  i. Wd. Wetland day
  ii. Wd. Pulses day
  iii. Intd. Polar Bear Day
  iv. Nl. Science day
- March
  i. Wd. Wildlife day
  ii. Intd. Action for Rivers
  iii. Global Recycling Day
  iv. Wd. Sparrow day
  v. Wordl forest day/ Intl. day of happiness
  vi. Wd. Water day
  vii. Wd. Meteorological & resources day
- April
  i. Intd. Mine awareness day
  ii. World health day
  iii. Wd Atmosphere Day
  iv. Intd. Earth day
  v. Intd girl in ict/ Wd. Safety, health
- May
  i. Wd Migratory Bird Day
  ii. Intd. Of plant health
  iii. Wd. Bee day
  iv. Intd. Biological diversity
  v. Wd. No tobacco day
- June
  i. Wd. Bicycle day
  ii. Wd. Envt day
  iii. World Oceans Day
  iv. Global Wind Day
  v. Wd. Combat drought
  vi. Sustn. Gastronomy day
  vii. Intd. Of the tropics
- July
  i. Intd. Of cooperatives & World Day Free of Plastic Bags

ii. Soil conservation
iii. Wd. Population day
iv. Mangrove Ecosystem

- August
  i. Intd. Indigenous day
- September
  i. Intd. Clean blue sky
  ii. Intd. Literacy/ Clean-up Day
  iii. World ozone day
  iv. Intd. Of peace/ Zero Emission Day
  v. Intd. Aware food loss
- October
  i. Wd. Nature day
  ii. Wd. Habitat day
  iii. Wd. Wildlife day
  iv. Wd. Cotton day
  v. Wd. Migratory bird
  vi. Intd. Rural women
  vii. Wd. Food day
  viii. Climate Action
  ix. Wd. Cities day
- November
  i. Wd. Tsunami awareness
  ii. Nl. Birds day
  iii. Wd. Energy/ Diabetes
  iv. Wd. Toilet day
- December
  i. Intd. Person with disability day
  ii. Wd. Soil day

Note:

- Wd. Stands for World
- Intd. Stands for International Day

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Section 2 – Waste audit

- **Awareness**
  - *Educate the housekeeping staff through monthly or quarterly programs* related to waste management
  - *Generate awareness among student and staff stakeholders about products that generate waste* through display boards about 'Do not litter' with messages about waste management, its importance and process
- **Measures towards waste management**
  - *Check cutlery practice in canteen area to inculcate healthy habits*
    i. Steel/ paper/ *bagasses* (sugarcane waste) plates for food
    ii. Paper cups/ *Kulhad* or mud containers for tea
    iii. Food served on leaf and further used for composting
    iv. Spoons or straws made of disposable or edible material
    v. Stakeholders can be guided to bring their own tiffin's for material management
    vi. Possibilities of waste paper reused including newspaper for cutlery replacement can be explored
- **Regular checks**
  - *Food wastage* - Check the quantity of food wastage in canteen/ hostel mess and device a plan of action with the staff accordingly
  - *Dustbins overflow* – Location of the dustbins, whether they are over flowing, whether the waste is dumped anywhere within or in backyard of premises – Take a check and collect the waste appropriately
- **Facilities**
  - *One dry big dustbin* has to be installed in every 10-20 meters of walking area in outdoor spaces
  - *Install twin litter dustbins* on every floor, outdoors specifically canteen - Provision of coloured specific dustbins for different waste, instruction boards at multiple locations 'OR' Blue dustbin for degradable or red dustbin for household waste or green dustbin for recyclable

Section 3 – Water audit

➲ Awareness

- *Remind every stakeholder about water conservation/ avoid water wastage by displaying board* at every wash room, laboratories, outdoor ground and canteen areas
- *Literate employees about water conservation and educate the staff* members about the measures and action that can be taken

➲ Measures towards water conservation

- *Put a container below the outdoor unit pipe of every air conditioner and reuse the same for secondary purposes* such as washing cars, cleaning campus outdoor areas etc. avoid using the same for plantation.
    i. Maintain a record of the nos. of containers and water recycled on a daily basis, further prepare a monthly or quarterly report about the same

➲ Regular checks

- *Check taps/ faucets of toilets, wash basins, laboratories and outdoor areas for non-working conditions and leakages on a daily basis after 5 pm or once Institute's working hours are over*
- If there is hostel facility there should be *a regular check once students go to the Institute for any open taps or any type of water wastage; additionally replace all showers with bucket and tap system* within hostel premises
- *Lock the outdoor taps when they are not in use and check pipelines for damage to avoid any non-maintenance*
- *Use buckets for floor cleaning* to save water and recycle the waste water
- Any kind of *water wastage in any area indoor/ outdoor in every department of the Institute and report about the same to authorities*
- *Cover any open drain/ open water area* (except farm/ water pond) that can be prone to become a mosquito breeding spot

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Section 4 – Health and Hygiene Audit

➲ Awareness

- *Prepare specific instructions for cleaning and sanitizing* and display the instructions all over premises
- *Display signages/ posters about 'Do not spit' and 'Keep surrounding clean' No smoking' and 'Healthy premises'* for healthy habits
- Undertake *every Saturday 'Campus Cleanliness program'* once in a week by the students and staff members

➲ Neat and clean premises practices

- Daily one times cleaning of all floors passage areas through sweeping dusting in indoor areas collection of dry fallen leaves and access ways; watering of plants in outdoor areas
- Daily three times cleaning, disinfecting washroom areas and check to avoid any garbage burning all around campus
- Weekly deep cleaning of building spaces including individual areas, open grounds and grass cutting

➲ Stakeholder intervention

- *Practice pest control programs* with through external stakeholders such that 'Once in every 15 days for Library' whereas 'Once in a month for outdoor areas such as open drains, mosquito breeding spots etc.' and 'Once in every six months or annually for entire campus'

➲ Hygiene Facilities - Availability of Sanitizing Equipment

- *Water dispenser (Non-mechanic/ electric), hand wash* on every floor
- There should be facilities such as *potpourri, camphor tablets* in the toilet to avoid smell and health related issues in toilet areas
- *Install sanitary vending machine or make the sanitary pads available* through a female representative, the information about the same should be displayed in foyer areas
- *Green carpets* could be placed outside drinking water and toilet blocks. This will add to hygiene areas and keep the water spillage under control.

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

7. 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.

- Uniform Plumbing Code – India, 2008
- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- IGBC Green Landscape Rating system, March 2013
- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

GV/ENVT/09-24/302

Environment Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for **2022-2023 and 2023-2024** to the Esteemed Institution

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

Church Educational Society's

Aurora's PG College

Peerzadiguda, Hyderabad, Telangana, 500092

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Environment Protection and Conservation.

Issued on **09 September 2023** valid till **31 August 2025**

Ar. Nahida Abdulla Shaikh

Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS)

Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe I Sustainability Department of Greenvio Solutions, Naigaon

An environment Design and Consultancy developing Healthy and Sustainable Environ...

Email: **sustainableacademe@gmail.com** I **greenviosolutions@gmail.com**

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Website: https://thegreenviosolutions.co.in/

GV/EA/09-24/300

Energy Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for **2022-2023 and 2023-2024** to the Esteemed Institution

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

Church Educational Society's

Aurora's PG College

Peerzadiguda, Hyderabad, Telangana, 500092

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Energy Management and Conservation.

Issued on **09 September 2023** valid till **31 August 2025**

Ar. Nahida Abdulla Shaikh

Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS)

Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe I Sustainability Department of Greenvio Solutions, Naigaon

An environment Design and Consultancy developing Healthy and Sustainable Environments

Email: **sustainableacademe@gmail.com** I **greenviosolutions@gmail.com**

GREENVIO SOLUTIONS SUSTAINABLE ACADEME

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092

Greenvio Solutions

Website: https://thegreenviosolutions.co.in/

GV/GA/09-24/ 303

Green Audit Certificate (As per Green Building Parameters)

The study is conducted as per Indian and International Green Building Standards initiated in the capacity of an Accredited & Certified Green Building Professional

It is awarded for **2022-2023 and 2023-2024** to the Esteemed Institution

(Analysed for 2 years and extended validity for 1 year, thus total 3 years)

Church Educational Society's

Aurora's PG College

Peerzadiguda, Hyderabad, Telangana, 500092

As part of the Institution's initiatives for a Healthy & Sustainable Institute the audit was conducted.
We appreciate the immense efforts taken by Staff and students towards the Efficient Management of premises.

Issued on **09 September 2023** valid till **31 August 2025**

Ar. Nahida Abdulla Shaikh

Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS)

Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe I Sustainability Department of Greenvio Solutions, Naigaon

An environment Design and Consultancy developing Healthy and Sustainable Environments

Email: **sustainableacademe@gmail.com** I **greenviosolutions@gmail.com**

Website: https://thegreenviosolutions.co.in/

Principal
Aurora's PG College (MCA)
Uppal, Hyderabad-500092