

ENERGY AUDIT

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

Sustainability study

AUDIT REPORT

Studied for

Ashoka Education Foundation's

Ashoka Business School

Rane Nagar, Nashik,

Maharashtra 422009

Studied in the capacity of

Accredited and Certified GBP



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

Email: greenviosolutions@gmail.com

Disclaimer

The Audit Team has prepared this report for the **Ashoka Education Foundation's Ashoka Business School** located Rane Nagar, Nashik, Maharashtra 422009 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



Acknowledgement

The Audit Assessment Team extends its appreciation to the **Ashoka Education Foundation's Ashoka Business School, Maharashtra** 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. Sarita Dhawale**, (I/c 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 – **Dr. Leena Gorhe**, Assistant Professor
- ➔ Non-teaching staff member – **Mr. Sachin Lokhande**
- ➔ Admin staff member - **Mr. Vishal Sonkamble**

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Contents

Disclaimer	1
Acknowledgement	2
Contents.....	3
1. Introduction.....	4
2. Overview	5
3. Research	6
4. Investigation	7
5. Documentation	11
6. Inferences.....	20
7. Compilation.....	23

1. Introduction

1.1 About statements of the Institute

1.1.1 Vision

The Institute proposes "To be a premiere educational center of excellence fostering managerial competencies of global standards for holistic advancement of students and create professional leaders contributing to the socio-economic development of the nation."

1.1.2 Mission

The Institute adheres "To provide a platform for learners to hone their competencies through experiential learning by imparting professional leadership skills driven by committed educators."

1.2 Assessment of the Institute

The Institute was established in 2012.

1.2.1 Affiliations

The courses provided by Institute have received affiliation through **Savitribai Phule Pune University**

1.2.2 Certification

The Institute has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-41439
- **ISO** – Received the ISO 9001:2015 Certification

1.2.3 Approval

The courses by the Institute have received approval through **All India Council for Technical Education (AICTE), New Delhi** and the Institute is a NAAC accredited campus.

2. Overview

2.1 Summarised Populace analysis for 2023-2024

2.1.1 Students data

The data (shared by the Institute) shows there were **246 students**.

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	04	11
2	Teaching staff	05	06	11
3	Non-Teaching staff	06	07	13
Total Staff Members		18	17	35

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

The staff data shows the Institute premises had **35 Staff Members**.

2.2 Summarised Populace analysis for 2022-2023

2.2.1 Students data

The data (shared by the Institute) shows there were **240 students**.

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	04	11
2	Teaching staff	05	07	12
3	Non-Teaching staff	06	07	13
Total Staff Members		18	18	36

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

The staff data shows the Institute premises had **36 Staff Members**.

3. Research

3.1 Campus area

The **site spread over 0.5 acres of land.**

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

1 | Page

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: Ashoka Business School, Nashik Date: 24 APRIL 2024

Document objective: Inferences of the Site visit

Observations (Positive aspects)	Suggestions (Improvement aspects)
Green Audit	
<ul style="list-style-type: none"> - Cleanliness is very well undertaken & maintained - Dustbins & water initiatives/ eco-friendly initiatives undertaken 	<ul style="list-style-type: none"> - Water management & documentation of waste management facilities can be undertaken
Energy Audit	
<ul style="list-style-type: none"> - Approx 80-85% of energy requirement met through solar in premises, which is a good practice 	<ul style="list-style-type: none"> - Smart & ecosystems (sensor based) can be utilized & undertaken
Environment Audit	
<ul style="list-style-type: none"> - Zones dedicated to green area improvisation are available at multiple spaces 	<ul style="list-style-type: none"> - Documentation & reflectance can be increased



Signature & round seal
Name: Dr. Santa Dhawale
Designation: HC Director
For the said Institute



Signature & round seal
Name: Ms. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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




Plate 1: Evidence files related to inferences of the site visit

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: Ashoka Business School Date: 24 APRIL 2024

Document objective: Proof of the Site visit



Meeting with the core team



Investigation of the systems



Shinde
24/4/24
Signature & round seal
Name: Dr. Sarita Dhawale
Designation: HC Director
For the said Institute



Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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



Plate 2: Evidence files related to the site visit

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: Ashoka Business School. Date: 24 APRIL 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. Sarita Dhawale	Internal	I/C Director, ABS	
4.	Dr. Mahesh Wagh	Internal	Aca. coordinator	
5.	Dr. Leena Garhe	Internal	ISR Cell coordinator	
6.	Dr. Pooja Ghelap	Internal	Research Cell coordinator	
7.	Mx. Nishal Sankamble.	Internal	Sr. Admin Officer	



Signature & round seal
 Name: Dr. Sarita Dhawale
 Designation: I/C Director.
 For the said Institute

Signature & round seal
 Name: Mrs. F. A. Shaikh
 Designation: Project Coordinator
 For The Greenvio Solutions



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



Plate 3: Evidence file related to induction meeting attendance record

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: Ashoka Business School Date: 24 APRIL 2024

Document objective: Exit 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. Sarita Dhawale	Internal	I/C Director, ABS	
4.	Dr. Mahesh Wagh	Internal	Academic coordinator, ABS.	
5.	Dr. Keena Gorbe	Internal	ISR cell coordinator, ABS.	
6.	Ms. Vishal son-Kamble	Internal	Sr. Admin officer	
7.	Dr. Pooja Ghalap	Internal	Research cell coordinator.	



Signature & round seal

Name: Dr. Sarita Dhawale

Designation: I/C Director

For the said Institute

Signature & round seal

Name: Mrs. F. A. Shaikh

Designation: Project Coordinator

For The Greenvio Solutions

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



Plate 4: Evidence file related to exit meeting attendance record

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 nine solar panels available.

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	Inverters	1
3	Batteries	30
4	Gas cylinders	1
5	Induction stove	1
6	Sensor based taps	18

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 (2022-2023)						
1	June	2022	34,132	2,781	2,136	645

2	July	2022	26,794	2,013	1,337	676
3	August	2022	17,560	1,095	1,514	-419
4	September	2022	18,555	1,213	1,528	-315
5	October	2022	13,593	670	1,786	-1,116
6	November	2022	19,658	1,316	1,737	-421
7	December	2022	29,426	2,342	1,436	906
8	January	2023	25,159	1,898	1,552	346
9	February	2023	23,248	1,723	2,136	-413
10	March	2023	16,407	1,003	1,337	-334
11	April	2023	41,299	2,875	2,093	782
12	May	2023	66,495	4,561	2,511	2,050
Academic year 2 (2023-2024)						
13	June	2023	34,132	4,255	2,136	2,119
14	July	2023	26,794	1,848	1,337	511
15	August	2023	17,560	1,128	1,514	-386
16	September	2023	18,555	2,059	1,528	531
17	October	2023	13,593	3,320	1,786	1,534
18	November	2023	19,658	2,344	1,737	607
19	December	2023	29,426	1,629	1,436	193
20	January	2024	25,159	1,866	1,552	314
21	February	2024	23,248	1,366	2,136	-770
22	March	2024	16,407	1,652	1,337	315

Table 4: Details of the electrical consumption

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

The observation related to above information states:

- ⇒ The **total amount** spent in past two years is **Rs. 5,56,858/-**
- ⇒ The **average amount** spent every month are **Rs. 25,312/-**
- ⇒ The **total units** consumed in past two years **~ 44,957 units (Electrical + solar)**
- ⇒ The **average units** consumed every month are **~ 2,044 units (Electrical + solar)**
- ⇒ The **total units** consumed in past two years is **~ 37,602 units (Only solar)**
- ⇒ The **average units** consumed every month are **~ 1,709 units (Only solar)**
- ⇒ **Alternate source of energy is available in form of nine nos. of rooftop solar panels.**
- ⇒ **Percentage of energy met by alternate (solar (renewable)) source is 84%**

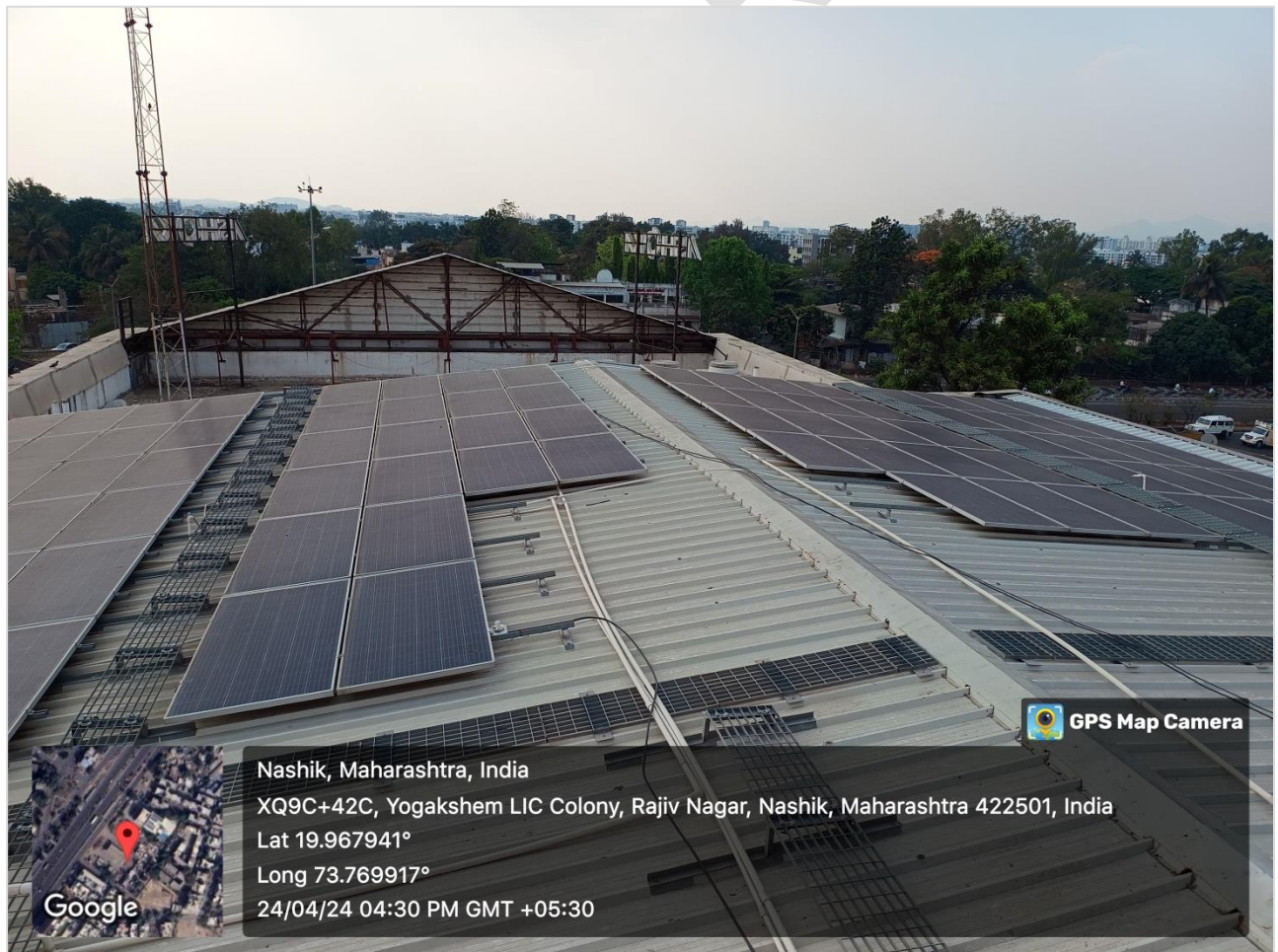


Plate 5: Rooftop solar panels in the premises

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 is summarised in the following sections.

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

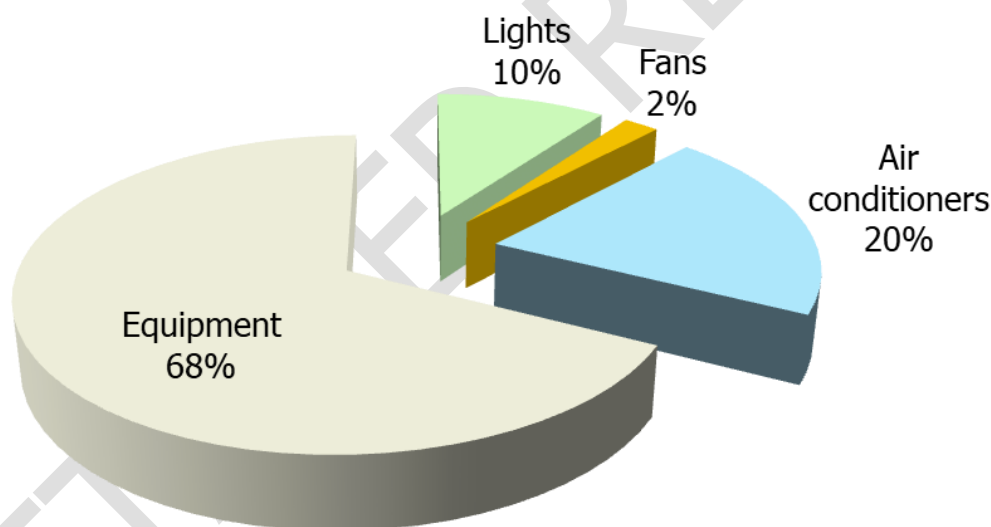


Figure 1: Summary of the calculated electrical consumption as per inventory

The above graph shows that equipment consume 68% whereas the air conditioners consume 20% while the lights consume 10% and the fans consume 2% of the total calculated electrical energy.

5.5 Lights

5.5.1 Types of lights based on the numbers

There are **539 lights on the premises**; the following table shows the various types of lights on the premises.

S. No.	Type	Nos.
1	LED lights (Energy efficient appliance)	365
2	CFL lights (Non-Energy efficient appliance)	174

Table 5: Summary of the types of lights on-premise

5.5.2 Types of lights based on the power consumption

The energy consumption of lights is **14,170 kWh** of energy.

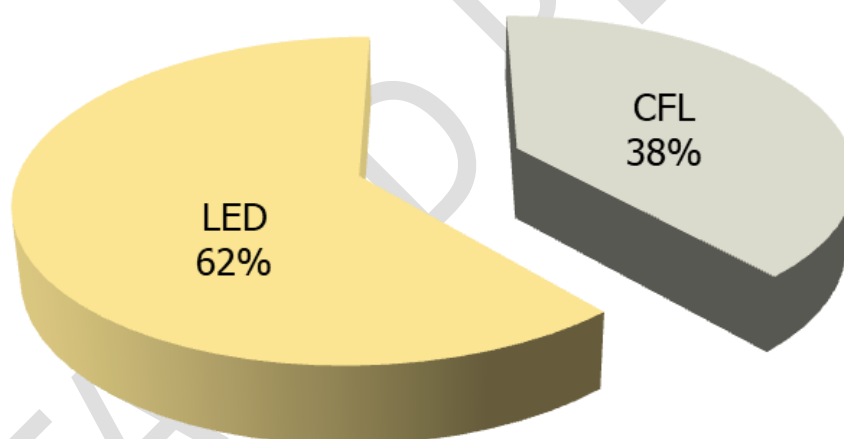


Figure 2: Energy consumed by types of lights in the premise based on the usage study

The analysis of the types of Lights on-premises shows **LED lights consume 62%** whereas the **CFL lights consume 38%** of the total power consumed by lights.

5.6 Fans

5.6.1 Types of fans based on the numbers

There are **76 fans** on the premises as follows:

S. No.	Type	Nos.
1	Ceiling fans	53
2	Large motor exhaust fan	1
3	Pedestal fans	8
4	Small motor exhaust fans	8
5	Wall mounted fans	6

Table 6: Summary of the types of fans in the premises

5.6 Types of fans based on the power consumption

The energy consumption of fans is **2,939 kWh** of the energy.

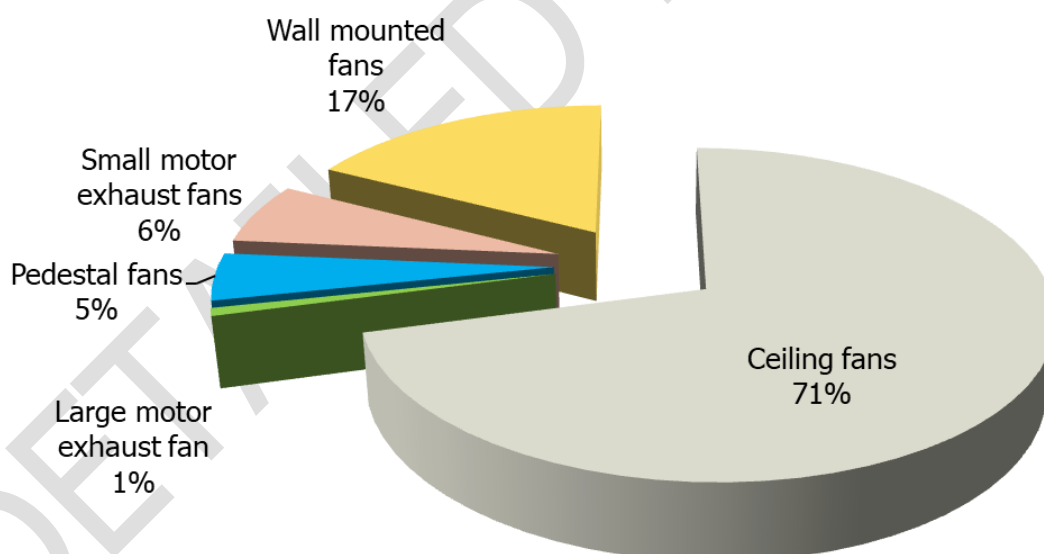


Figure 3: Types of fans based on power consumption

The above analysis shows that the **ceiling fans consume 71%** whereas the **wall mounted fans consume 17%** while the **small motor exhaust fans consume 6%** whereas the **pedestal fans consume 5%** and the **large motor exhaust fans consume 1%** of total power consumed by fans.

5.7 Air conditioners

5.7.1 Types of air conditioners based on the numbers

There are **42 air conditioners** on the entire premises.

5.7.2 Building-wise consumption analysis

The energy consumption of air conditioners is **28,800 kWh** of energy.

5.8 Equipment

5.8.1 Types of Equipment

There are **234 nos. of equipment** in the Educational sector.

5.8.2 Types of equipment as per their energy contribution

The energy consumption of equipment is **1,03,228 kWh** of energy.

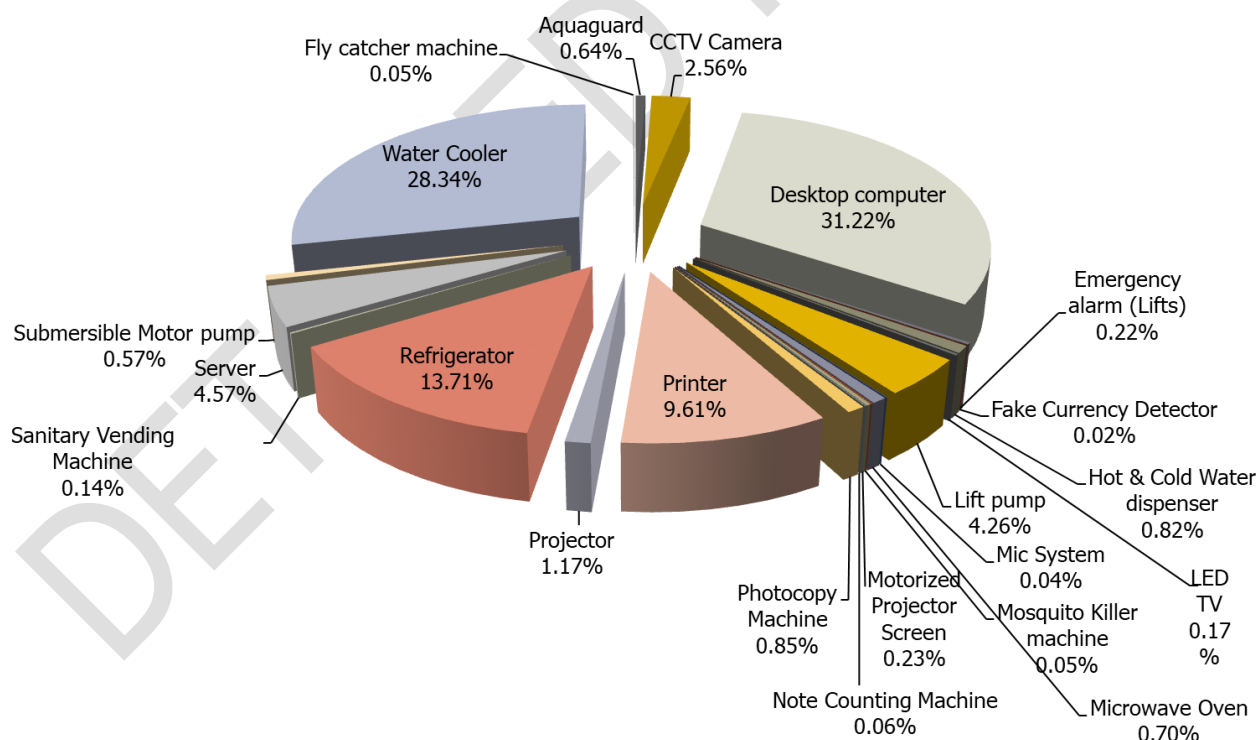


Figure 4: Energy consumed by types of equipment in the educational sector based on the usage study

Above summary shows **desktop computer consumes more energy at 31.22%** while **water cooler consumes 28.34%** whereas **refrigerator consumes 13.71%** & **printer consumes 9.61%** these are maximum consumers as compared to other equipment.

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 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.***

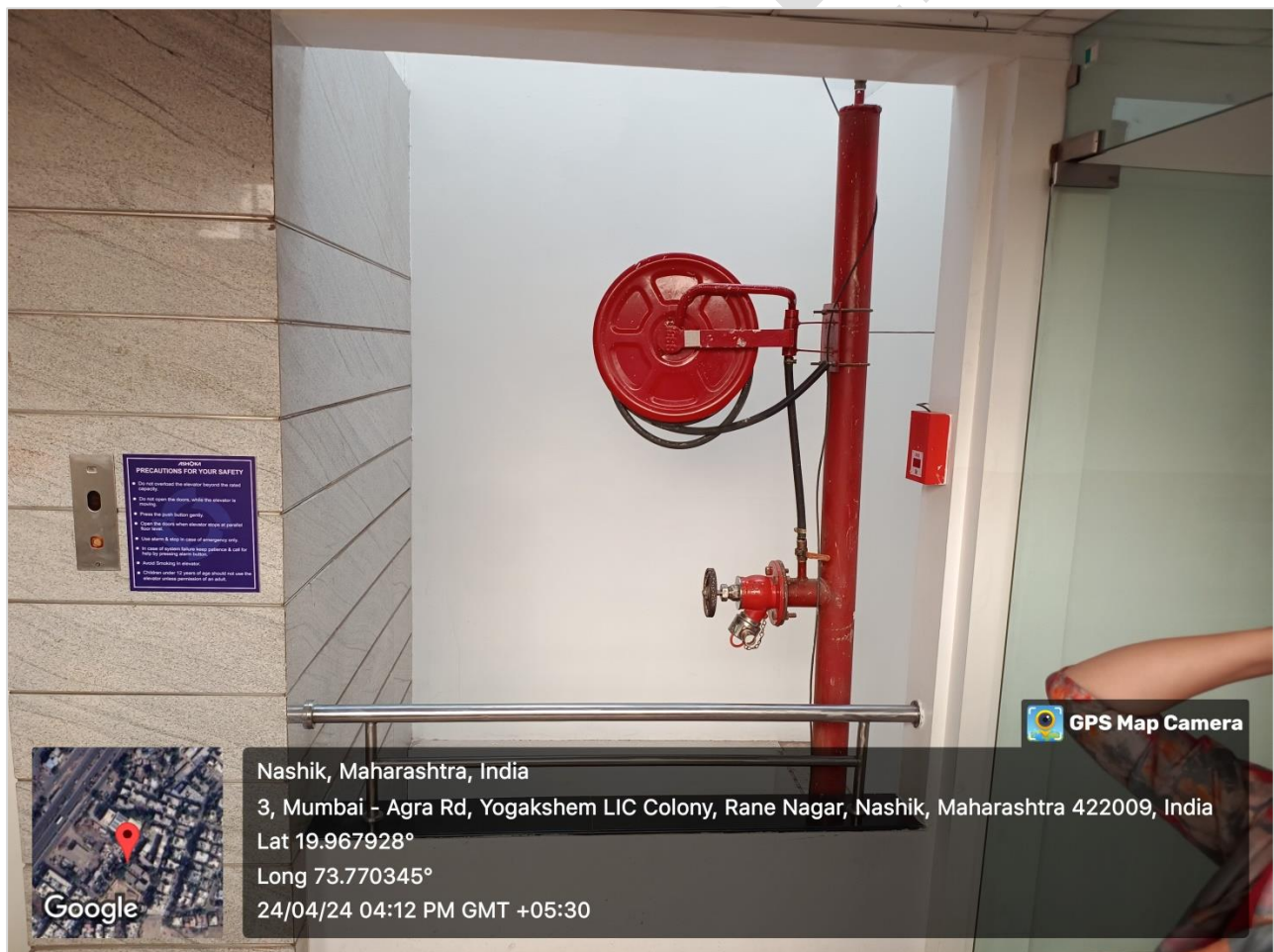


Plate 6: Fire fighting system in the premises

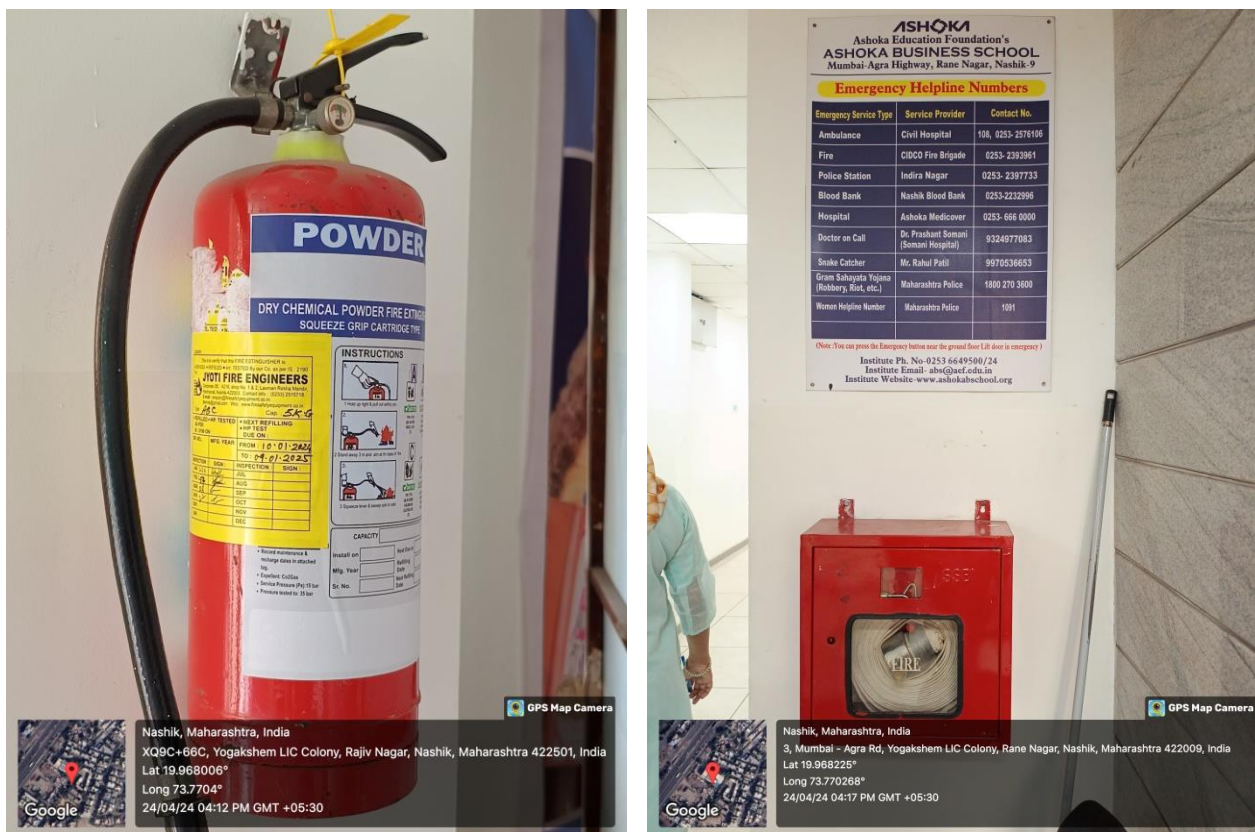


Plate 7: Fire extinguisher, Hydrant cabinet and emergency contact nos. display



Plate 8: Signages and safety precautions in the premises

The study suggests that the nos. and size of Fire and life safety signages should be increased.

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

➔ Awareness and vigilance

- Seminars/ Webinars/ Workshops for 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

- 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

Recommendations are excluded for this section owing to site constrains.

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/ fire extinguisher

➔ 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

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.energiguide.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

ENVIRONMENT AUDIT

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

Sustainability study
AUDIT REPORT

Studied for
Ashoka Education Foundation's
Ashoka Business School

Rane Nagar, Nashik,
Maharashtra 422009

Studied in the capacity of
Accredited and Certified GBP



Studied by

Greenvio
Solutions

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

Email: greenviosolutions@gmail.com

Disclaimer

The Audit Team has prepared this report for the **Ashoka Education Foundation's Ashoka Business School** located Rane Nagar, Nashik, Maharashtra 422009 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



Acknowledgement

The Audit Assessment Team extends its appreciation to the **Ashoka Education Foundation's Ashoka Business School, Maharashtra** 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. Sarita Dhawale**, (I/c 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 – **Dr. Leena Gorhe**, *Assistant Professor*
- ➔ Non-teaching staff member – **Mr. Sachin Lokhande**
- ➔ Admin staff member - **Mr. Vishal Sonkamble**

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Contents

Disclaimer	1
Acknowledgement	2
Contents.....	3
1. Introduction.....	4
2. Overview	5
3. Research	6
4. Investigation	7
5. Documentation	11
6. Inferences.....	14
7. Compilation.....	17

1. Introduction

1.1 About statements of the Institute

1.1.1 Vision

The Institute proposes "To be a premiere educational center of excellence fostering managerial competencies of global standards for holistic advancement of students and create professional leaders contributing to the socio-economic development of the nation."

1.1.2 Mission

The Institute adheres "To provide a platform for learners to hone their competencies through experiential learning by imparting professional leadership skills driven by committed educators."

1.2 Assessment of the Institute

The Institute was established in 2012.

1.2.1 Affiliations

The courses provided by Institute have received affiliation through **Savitribai Phule Pune University**

1.2.2 Certification

The Institute has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-41439
- **ISO** – Received the ISO 9001:2015 Certification

1.2.3 Approval

The courses by the Institute have received approval through **All India Council for Technical Education (AICTE), New Delhi** and the Institute is a NAAC accredited campus.

2. Overview

2.1 Summarised Populace analysis for 2023-2024

2.1.1 Students data

The data (shared by the Institute) shows there were **246 students**.

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	04	11
2	Teaching staff	05	06	11
3	Non-Teaching staff	06	07	13
Total Staff Members		18	17	35

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

The staff data shows the Institute premises had **35 Staff Members**.

2.2 Summarised Populace analysis for 2022-2023

2.2.1 Students data

The data (shared by the Institute) shows there were **240 students**.

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	04	11
2	Teaching staff	05	07	12
3	Non-Teaching staff	06	07	13
Total Staff Members		18	18	36

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

The staff data shows the Institute premises had **36 Staff Members**.

3. Research

3.1 Campus area

The **site spread over 0.5 acres of land.**

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

1 | Page

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: Ashoka Business School, Nashik Date: 24 APRIL 2024

Document objective: Inferences of the Site visit

Observations (Positive aspects)	Suggestions (Improvement aspects)
Green Audit	
<ul style="list-style-type: none"> - Cleanliness is very well undertaken & maintained - Dustbins & water initiatives/ eco-friendly initiatives undertaken 	<ul style="list-style-type: none"> - Water management & documentation of waste management facilities can be undertaken
Energy Audit	
<ul style="list-style-type: none"> - Approx 80-85% of energy requirement met through solar in premises, which is a good practice 	<ul style="list-style-type: none"> - Smart & ecosystems (sensor based) can be utilized & undertaken
Environment Audit	
<ul style="list-style-type: none"> - Zones dedicated to green area improvisation are available at multiple spaces 	<ul style="list-style-type: none"> - Documentation & reflectance can be increased



Signature & round seal
Name: Dr. Santa Dhawale
Designation: HC Director
For the said Institute



Signature & round seal
Name: Ms. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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




Plate 1: Evidence files related to inferences of the site visit

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: Ashoka Business School Date: 24 APRIL 2024

Document objective: Proof of the Site visit



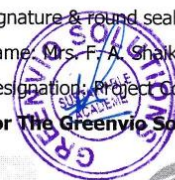
Meeting with the core team



Investigation of the systems



Signature & round seal
Name: Dr. Sarita Dhawale
Designation: HC Director
For the said Institute



Signature & round seal
Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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



Plate 2: Evidence files related to the site visit

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: Ashoka Business School. Date: 24 APRIL 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. Sarita Dhawale	Internal	I/C Director, ABS	
4.	Dr. Mahesh Wagh	Internal	Aca. coordinator	
5.	Dr. Leena Garhe	Internal	ISR Cell coordinator	
6.	Dr. Pooja Ghelap	Internal	Research Cell coordinator	
7.	Mx. Nishal Sankamble.	Internal	Sr. Admin Officer	



Signature & round seal
 Name: Dr. Sarita Dhawale
 Designation: I/C Director.
 For the said Institute

Signature & round seal
 Name: Mrs. F. A. Shaikh
 Designation: Project Coordinator
 For The Greenvio Solutions



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



Plate 3: Evidence file related to induction meeting attendance record

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: Ashoka Business School Date: 24 APRIL 2024

Document objective: Exit 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. Sarita Dhawale	Internal	I/C Director, ABS	
4.	Dr. Mahesh Wagh	Internal	Academic coordinator, ABS.	
5.	Dr. Keena Gorbe	Internal	ISR cell coordinator, ABS.	
6.	Ms. Vishal son-Kamble	Internal	Sr. Admin officer	
7.	Dr. Pooja Ghalap	Internal	Research cell coordinator.	

Signature & round seal:
 Name: Sarita Dhawale
 Designation: I/C Director
 For the said Institute

Signature & round seal
 Name: Mrs. F. A. Shaikh
 Designation: Project Coordinator
 For The Greenvio Solutions

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



Plate 4: Evidence file related to exit meeting attendance record

5. Documentation

5.1 Open Spaces

The first hand observations state campus is located in an urban area; ***study suggests that:***

- ***The plantations should have numbering/ coding done***
- ***The site should be designed and boards identifying these spaces as 'BREAKOUT ZONE' and 'GREEN 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 varieties of the plantations.

S. No.	Plant name	Type	Nos.
1	<i>Ashoka</i>	Tree	4
2	<i>Coconut Palm</i>	Tree	5
3	<i>Foxtail Palm</i>	Tree	12
4	<i>Neem</i>	Tree	1
5	<i>Bougainvillea</i>	Shrub	24
6	<i>Lemon</i>	Tree	1
7	<i>Mango</i>	Tree	1
8	<i>Tikoma</i>	Shrub	1
9	<i>Gandhraj</i>	Shrub	2
10	<i>Spider Yellow Lily</i>	Herb	52
11	<i>Jasmine</i>	Shrub	13
12	<i>Rose</i>	Shrub	22
13	<i>Ekzora</i>	Shrub	7
14	<i>Hibiscus</i>	Tree	11
15	<i>Dracaena</i>	Shrub	9
16	<i>Song Of India</i>	Shrub	2
17	<i>Ficus</i>	Tree	24

18	<i>Starlite Ficus</i>	Tree	2
19	<i>Plumeria</i>	Tree	3
20	<i>Areca Palm</i>	Shrub	7
21	<i>Rhapis Palm</i>	Tree	8
22	<i>Aglaonema</i>	Shrub	9
23	<i>Snake Plant</i>	Shrub	15
24	<i>Umbrella Plant</i>	Shrub	2
25	<i>Dwarf Oyster</i>	Herb	3
26	<i>Aloe Vera</i>	Herb	2
27	<i>Asparagus</i>	Herb	17
28	<i>Gerbera</i>	Herb	6
29	<i>Croton</i>	Tree	3
30	<i>Michelia</i>	Tree	1
31	<i>Golden Duranta</i>	Shrub	3
32	<i>Foxtail Fern</i>	Herb	4
33	<i>Bamboo</i>	Tree	7

Table 3: Details of the Flora in the premises

At present there are **283 numbers of plantations** in the premises.

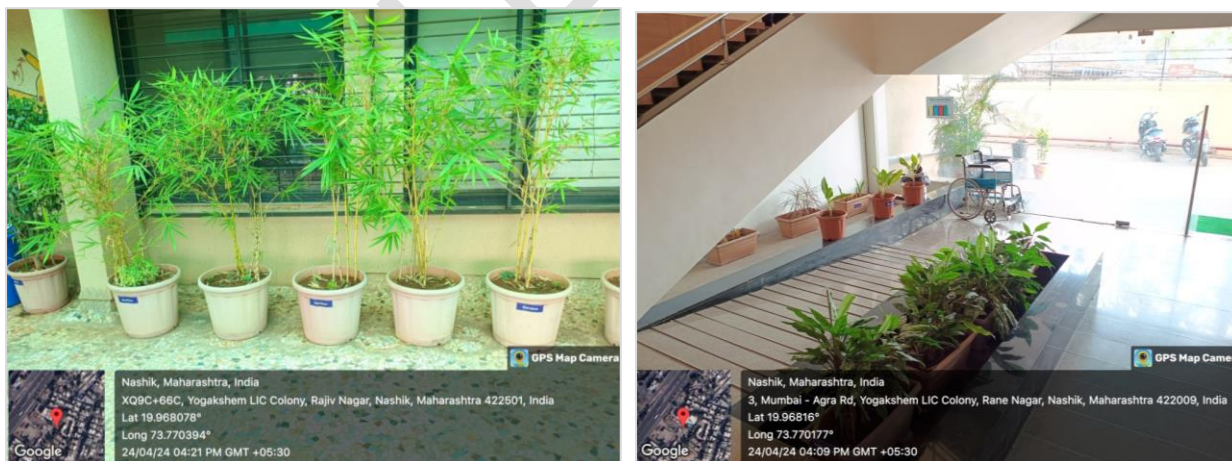


Plate 5: Plantation in the break out zone

5.2.2 Fauna audit

The details of the fauna was not provided, however since the campus is located in an urban area there may be lack of specific varieties of fauna species, moreover such a study might not have been undertaken.

5.3 Noise Audit

On a macro level, the is adjacent to national highway and is surrounded with residential and commercial spaces but due to building design any negative effect is not felt within premises.

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.

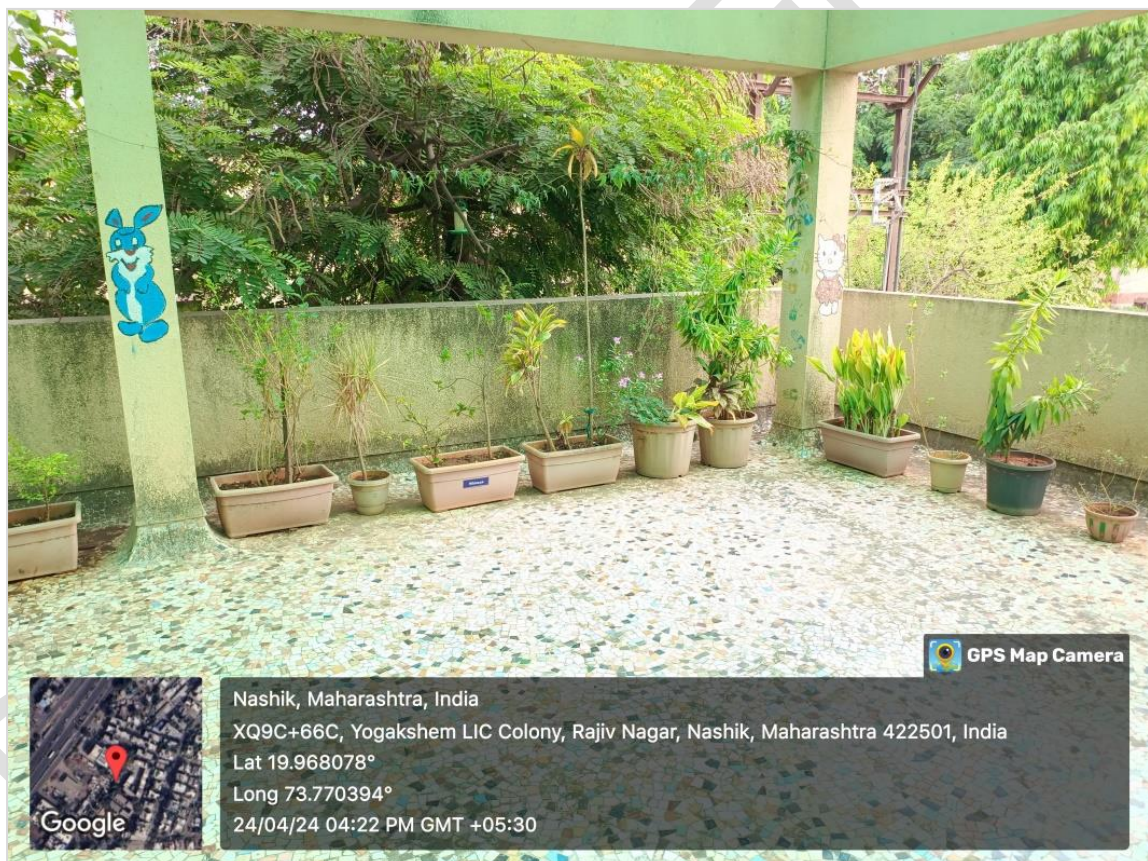


Plate 6: Greenery within the premises

Overall, the campus is maintained in an excellent manner with cleanliness, greenery, infrastructure in the best form. The building is painted in light ochre tone and not in any dark colour, moreover the interiors are air conditioned thus keeping the heat island effect within the premises relatively low.

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



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

Recommendations are excluded for this section

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.

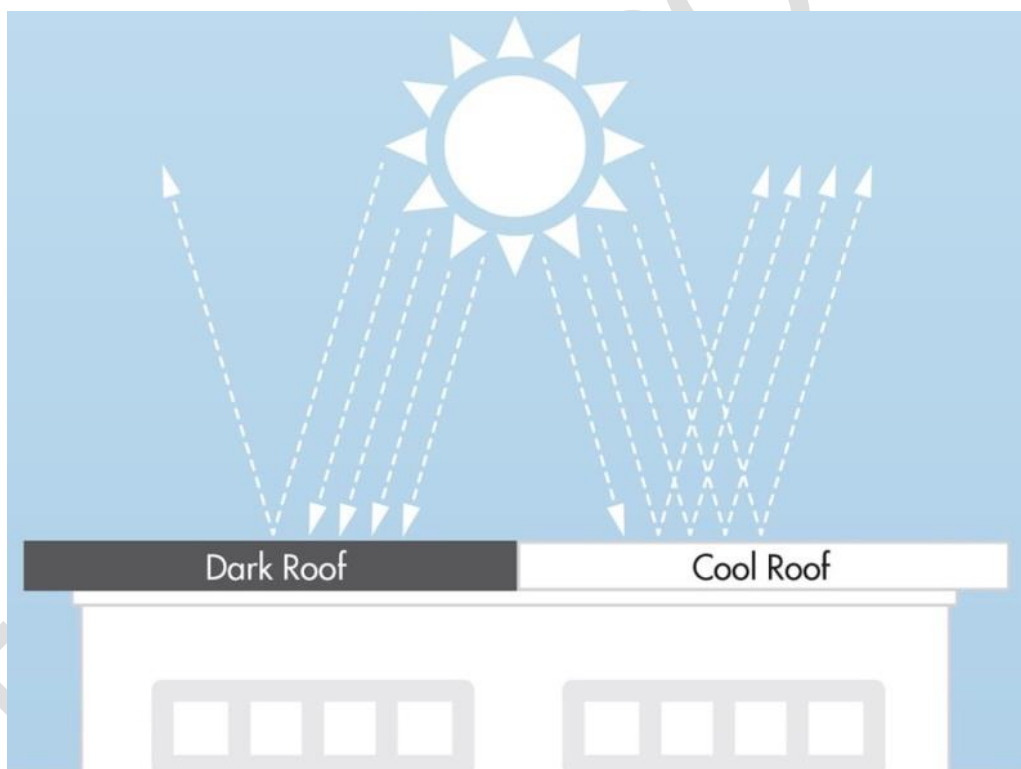


Plate 7: Cool roof comparative analysis (For reference purpose only)

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 honking 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

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>

GREEN AUDIT

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

Sustainability study
AUDIT REPORT

Studied for
Ashoka Education Foundation's
Ashoka Business School

Rane Nagar, Nashik,
Maharashtra 422009

Studied in the capacity of
Accredited and Certified GBP



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

Email: greenviosolutions@gmail.com

Disclaimer

The Audit Team has prepared this report for the **Ashoka Education Foundation's Ashoka Business School** located Rane Nagar, Nashik, Maharashtra 422009 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



Acknowledgement

The Audit Assessment Team extends its appreciation to the **Ashoka Education Foundation's Ashoka Business School, 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.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Sarita Dhawale**, (I/c 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 – **Dr. Leena Gorhe**, Assistant Professor
- ➔ Non-teaching staff member – **Mr. Sachin Lokhande**
- ➔ Admin staff member - **Mr. Vishal Sonkamble**

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

Contents

Disclaimer	1
Acknowledgement	2
Contents.....	3
1. Introduction.....	4
2. Overview	5
3. Research	6
4. Investigation	7
5. Documentation	11
6. Inferences.....	16
7. Compilation.....	22

1. Introduction

1.1 About statements of the Institute

1.1.1 Vision

The Institute proposes "To be a premiere educational center of excellence fostering managerial competencies of global standards for holistic advancement of students and create professional leaders contributing to the socio-economic development of the nation."

1.1.2 Mission

The Institute adheres "To provide a platform for learners to hone their competencies through experiential learning by imparting professional leadership skills driven by committed educators."

1.2 Assessment of the Institute

The Institute was established in 2012.

1.2.1 Affiliations

The courses provided by Institute have received affiliation through **Savitribai Phule Pune University**

1.2.2 Certification

The Institute has received the following Certifications

- **AISHE** – The All India Survey of Higher Education code is C-41439
- **ISO** – Received the ISO 9001:2015 Certification

1.2.3 Approval

The courses by the Institute have received approval through **All India Council for Technical Education (AICTE), New Delhi** and the Institute is a NAAC accredited campus.

2. Overview

2.1 Summarised Populace analysis for 2023-2024

2.1.1 Students data

The data (shared by the Institute) shows there were **246 students**.

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	04	11
2	Teaching staff	05	06	11
3	Non-Teaching staff	06	07	13
Total Staff Members		18	17	35

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

The staff data shows the Institute premises had **35 Staff Members**.

2.2 Summarised Populace analysis for 2022-2023

2.2.1 Students data

The data (shared by the Institute) shows there were **240 students**.

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	07	04	11
2	Teaching staff	05	07	12
3	Non-Teaching staff	06	07	13
Total Staff Members		18	18	36

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

The staff data shows the Institute premises had **36 Staff Members**.

3. Research

3.1 Campus area

The **site spread over 0.5 acres of land.**

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

1 | Page

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: Ashoka Business School, Nashik Date: 24 APRIL 2024

Document objective: Inferences of the Site visit

Observations (Positive aspects)	Suggestions (Improvement aspects)
Green Audit	
<ul style="list-style-type: none"> - Cleanliness is very well undertaken & maintained - Dustbins & water initiatives/ eco-friendly initiatives undertaken 	<ul style="list-style-type: none"> - Water management & documentation of waste management facilities can be undertaken
Energy Audit	
<ul style="list-style-type: none"> - Approx 80-85% of energy requirement met through solar in premises, which is a good practice 	<ul style="list-style-type: none"> - Smart & ecosystems (sensor based) can be utilized & undertaken
Environment Audit	
<ul style="list-style-type: none"> - Zones dedicated to green area improvisation are available at multiple spaces 	<ul style="list-style-type: none"> - Documentation & reflectance can be increased



Signature & round seal
Name: Dr. Santa Dhawale
Designation: HC Director
For the said Institute



Signature & round seal
Name: Ms. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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




Plate 1: Evidence files related to inferences of the site visit

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: Ashoka Business School Date: 24 APRIL 2024

Document objective: Proof of the Site visit



Meeting with the core team



Investigation of the systems



Shruti
24/4/24
Name: Dr. Sarita Dhawale
Designation: HC Director
For the said Institute



Name: Mrs. F. A. Shaikh
Designation: Project Coordinator
For The Greenvio Solutions

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



Plate 2: Evidence files related to the site visit

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: Ashoka Business School. Date: 24 APRIL 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. Sarita Dhawale	Internal	I/C Director, ABS	
4.	Dr. Mahesh Wagh	Internal	Aca. coordinator	
5.	Dr. Leena Garhe	Internal	ISR Cell coordinator	
6.	Dr. Pooja Ghelap	Internal	Research Cell coordinator	
7.	Mx. Nishal Sankamble.	Internal	Sr. Admin Officer	



Signature & round seal
 Name: Dr. Sarita Dhawale
 Designation: I/C Director.
 For the said Institute

Signature & round seal
 Name: Mrs. F. A. Shaikh
 Designation: Project Coordinator
 For The Greenvio Solutions



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



Plate 3: Evidence file related to induction meeting attendance record

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: Ashoka Business School Date: 24 APRIL 2024

Document objective: Exit 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. Sarita Dhawale	Internal	I/C Director, ABS	
4.	Dr. Mahesh Wagh	Internal	Academic coordinator, ABS.	
5.	Dr. Keena Gorbe	Internal	ISR cell coordinator, ABS.	
6.	Ms. Vishal son-Kamble	Internal	Sr. Admin officer	
7.	Dr. Pooja Ghalap	Internal	Research cell coordinator.	

Signature & round seal:
 Name: Sarita Dhawale
 Designation: I/C Director
 For the said Institute

Signature & round seal:
 Name: Mrs. F. A. Shaikh
 Designation: Project Coordinator
 For The Greenvio Solutions

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



Plate 4: Evidence file related to exit meeting attendance record

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.

- **Well maintained premises** - *The Institute has done exceptional work towards infrastructure, hygiene, cleanliness of the campus.*
- **Social awareness** - *The Institute has taken up social works.*

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	Earn while you learn scheme	2012	Dr Pooja Gholap
2	Jawahar Kala Kendra (JKC)	2019	Dr Pooja Gholap
3	Employability Skills centre	2012	Dr Hemant Wanjare
4	Neighborhood development scheme (ISR Cell)	2017	Dr Leena Gorhe

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 (2022-2023)				
1	World Environment	5 th June is Celebrated as World Environment Day globally to save earth	Physical	05-06-2022

	Day	valuable resources like water soil and food		
2	World Cycle Day	3 rd June Celebrated as World Cycle Day globally to save earth from pollution	Physical	03-06-2022
4	National Energy conservation day	ISR Cell ABS	Physical	15-12-2022
5	Go-Green Pledge	One person one tree	Physical	17-12-2022
6	Swachh Bharat	Student participated for College cleanliness drive	Physical	17-12-2022
7	Kirloskar District level Vasundhra competition	Ashoka Business School ISR Cell presented ABS Green initiatives for the Kirloskar Vasundhara Eco Rangers KVER competition conducted by Kirloskar Oil engines Ltd.	Physical	20-01-2023
Academic year 2 (2023-2024)				
1	Soil: where food begins	Online webinar on the subject	Digital	07-072023

Table 4: Details of the environmental initiatives undertaken by Institute

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



Plate 5: Certain evidences of the environmental activities

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	Current practice	Proposed practice
1	Solid waste (Toilets)	Connected to NMC (Local corporation)	Continue with the practice
2	Organic waste (Regular)	Composting is practiced	<i>Requires improvement</i>
3	Liquid waste (Toilets, wash basins)	Connected to NMC (Local corporation)	Continue with the practice
4	Chemical waste from laboratories	Not applicable	
5	Toxic waste from laboratories		
6	E-waste	Not managed appropriately	<i>Tie-up with eco-reco; thereco for recycling</i>
7	Plastic waste	Segregated and sent to municipal corporation	<i>Undertake eco-walls project & other practices</i>
8	Bio-waste (Sanitary)	Handover with dustbin bag To NMC Vehicle	Continue with the practice

Table 5: Details of the waste management practices

5.2.2 Waste management (Measures adopted)

There are thirty-six dustbins in the indoor and five in the outdoor 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. There is one underground and one overhead tank with a capacity of 36,000 litres each.

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. There are no such facilities, the water tanks serve dual purpose of primary and secondary sources.

5.3.1.3 Source of Tertiary water supply

The tertiary source of water is the source of water harvesting, one pit of 4' x 4' is available in the premises.

5.3.1.4 Source of Reusing waste water

This initiative is not practiced.

The study suggests that keeping the site context and constraints in mind this is not a compulsion as the city waste is connected to the local corporation which is further treated.

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.

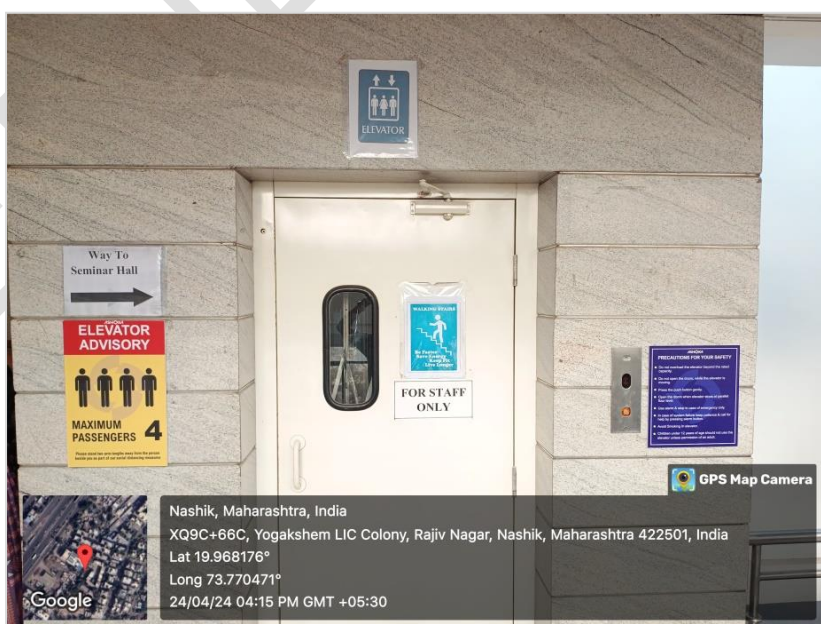
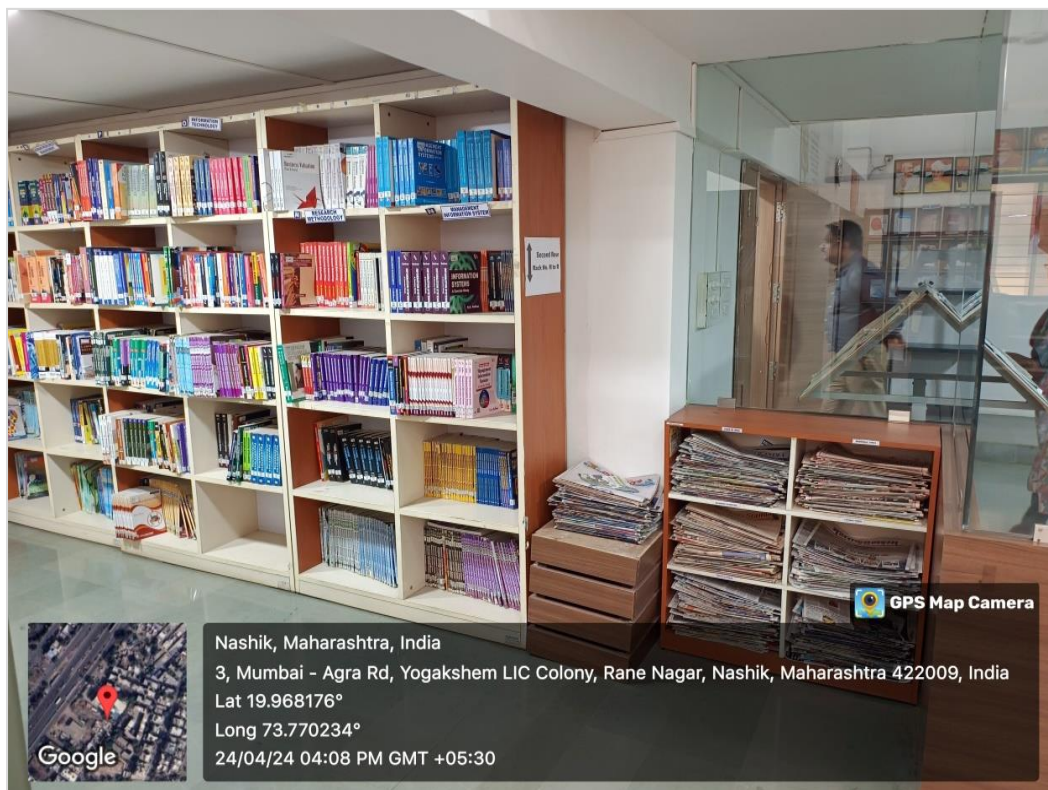


Plate 6: Clean and hygienic premises

Overall, the campus is extremely well maintained and hygienic.

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.

➔ 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. NI. Science day

- March

- i. Wd. Wildlife day
- ii. Intd. Action for Rivers
- iii. Global Recycling Day
- iv. Wd. Sparrow day
- v. World 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. Env't 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. NI. 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

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

➔ Facilities

- One dry small dustbin of each class must be installed
- One dry big dustbin has to be installed in every 10-20 meters of walking area in outdoor spaces
- Install Sani bins with display of 'Sanitary pads icon' in washrooms of every department and toilets

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

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

➔ Hygiene Facilities - Availability of Sanitizing Equipment

- Water dispenser (Non-mechanic/ electric), hand wash on every floor
- Green carpets could be placed outside drinking water and toilet blocks. This will add to hygiene areas and keep the water spillage under control.

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

