

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

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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

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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

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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

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Evidence documents for Site visit of external audit team


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

Audits covered: Green audit Energy audit Environment audit


Institute: 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



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

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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



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Name: Mrs. F. A. Shaikh
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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.
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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
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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.

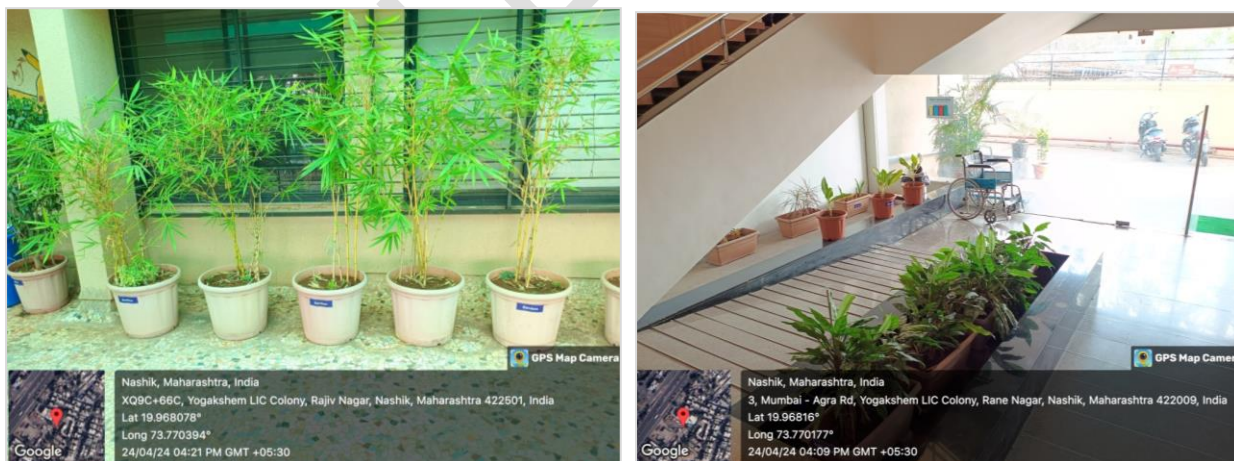


Plate 5: Plantation in the break out zone

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.

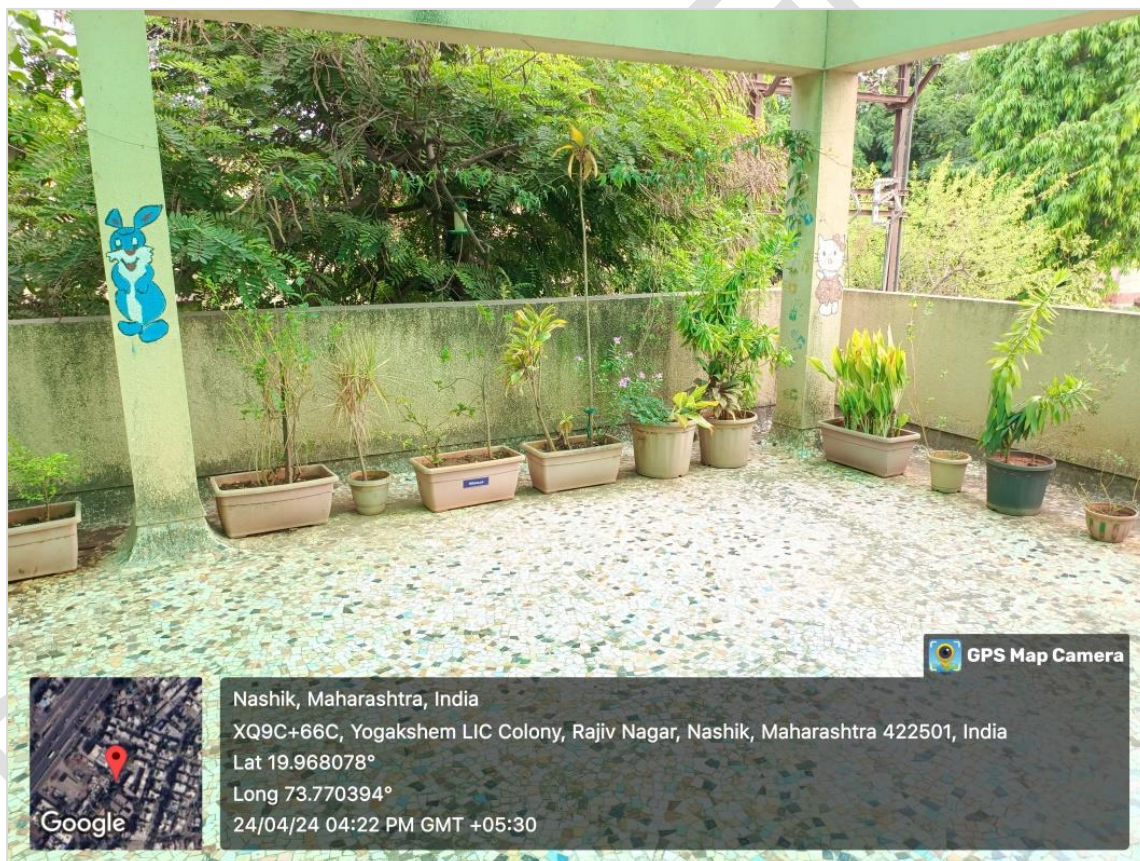


Plate 6: Greenery within the premises

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.

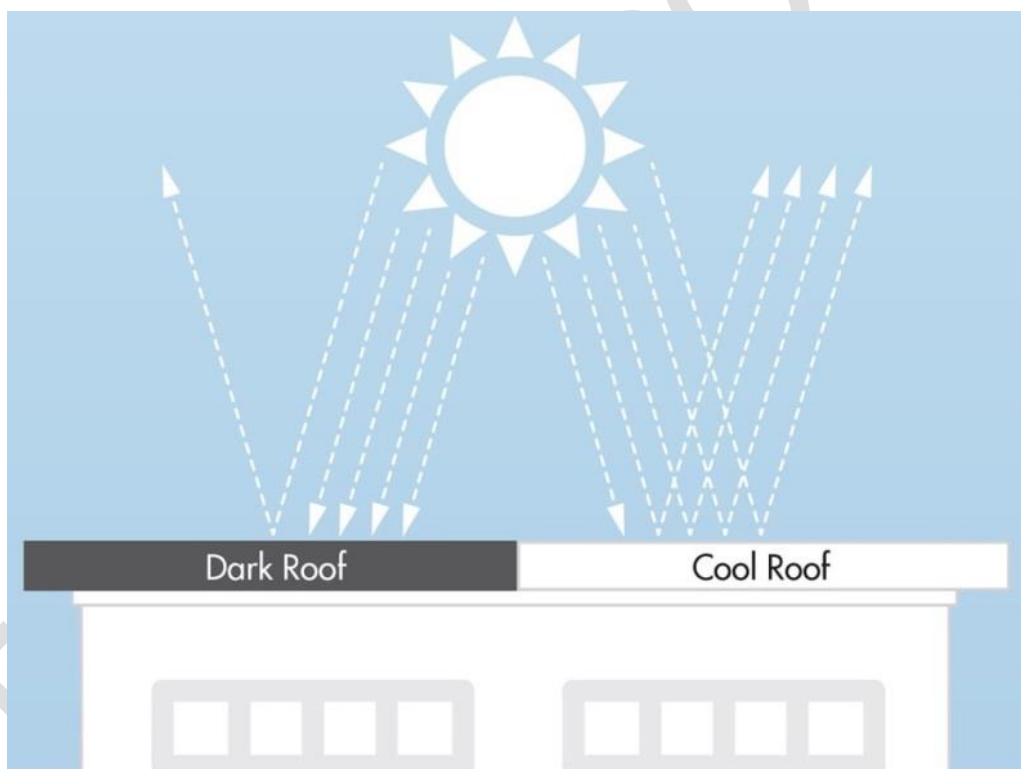


Plate 7: Cool roof comparative analysis (For reference purpose only)

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/heat-islands/what-you-can-do-reduce-heat-islands>

