

# ENVIRONMENT AUDIT

STUDY PERIOD (TWO YEARS) 2021 – 2022 & 2022 - 2023

Sustainability study  
**AUDIT REPORT**

Studied for  
Sindhi Seva Samiti's  
**Sindhi Institute of Management**  
No. 33/2B, Kempapura,  
Hebbal Bangalore – 560024, Karnataka, India

Studied in the capacity of  
**Accredited and Certified**  
Green Building Professional



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Valid till **August 2024**

# Disclaimer

The Audit Team has prepared this report for the **Sindhi Seva Samiti's Sindhi Institute of Management** located at No. 33/2B, Kempapura, Hebbal Bangalore – 560024, Karnataka, India based on input data submitted by the Institute analysed by the team to the best of their abilities.

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

These can be implemented phase wise or as a whole depending on the decision taken by the Hon'ble Management and College. 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.

## Greenvio Solutions

*Developing Healthy and Sustainable Environments*

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# Acknowledgement

The Audit Assessment Team thanks the **Sindhi Seva Samiti's Sindhi Institute of Management, Karnataka** 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 Governing body.**

Our heartfelt thanks are extended to the Chairperson of the entire process **CMA. Prof D Gopinath**, (Director/Principal) for the valuable inputs.

We are also thankful to College's Task force the faculty members who have played a major role in data collection – **Ms. Badrunnisa Shaikh** (Institute Coordinator) (*Special mention for the excellent coordination*); **Mr. Srinivas** (Estate Manager) and **Mr. Parameshappa** (Admin staff)

We highly appreciate the assistance of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

## Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

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# 1. Introduction

## 1.1 About the History

**Sindhi Institute of Management started in 2014 is a leading provider of globally recognized, Industry relevant Masters of Business Administration program.**

It works closely with corporate partners to ensure its programs are specifically tailored to reflect global market trends, and to offer complete flexibility for the students as they work towards success in a way that is suited to their career ambitions, and compatible with their personal commitments.

## 1.2 About the Institute

Sindhi Institute of Management initially was affiliated to the University of Mysore from 2014. It provided MBA Programme which is approved by UGC. The programme was excellent with students securing 100 percent results with an amazing lot of students having been placed in top companies of India.

The year 2018 was a landmark year for Sindhi Institute of Management. The year 2018 Sindhi Institute of Management got itself approved by the AICTE to offer MBA programmes and was affiliated to the Bengaluru Central University.

**The focus now is on getting the best of facilities with continuous Industry Institute Interaction so that the students get the best of both the worlds that is Academic and Industry.**

## 1.3 About the statements of the Institute

### 1.3.1 Vision

The Institute proposes "To nurture creativity, talent and performance by providing high quality education in a state-of-the-art environment and mould aspiring youth into future leaders."

### 1.3.2 Mission

The Institute adheres and focuses towards

- ⇒ Inculcating high value through integrity.
- ⇒ Empowerment through knowledge.
- ⇒ Development through social conscience.
- ⇒ Community upliftment through employability.

### 1.3.3 Aim

The Institute has formulated the aim "Commitment to reach global standards and impart quality education integrated with values to students enabling them to excel in the fields of Management; To cater to the ever changing and challenging needs of the society and the industry and also make them responsible citizens of the country."

### 1.3.4 Objectives

The objective of the Institute is:

- ⇒ To develop spirit of inquiry, scientific temperament and pursuit of knowledge among students and faculty.
- ⇒ To impart quality education that would endow students with knowledge and skills that will endure them for life.
- ⇒ To create an environment in the institution that is conducive for achieving academic excellence.
- ⇒ To usher in total quality management.

- To impart value based education.
- To sensitize students on gender related issues and strive towards women's empowerment and gender equality.
- To strive towards development of healthy stake holders' relationships.
- To bring about transparency in organizational functioning through decentralized governance and participative management.
- To improve ethics and work culture in the institution.
- Sensitise students and create a sense of responsibility towards social, environmental issues and national development."

## 1.4 Assessment of the Institute

### 1.4.1 Affiliations

The Institute is affiliated to **Bengaluru City University**; a state university in Bengaluru (Bangalore), Karnataka, India.

### 1.4.2 Certification

The College has received the Certifications of the **All India Survey of Higher Education (AISHE) code C – 62530** provided by Govt. of India.

### 1.4.3 Approvals

The technical courses provided by the College are by the **All India Council for Technical Education (AICTE), New Delhi.**

## 2. Overview

### 2.1 Populace analysis for Batch 2022-2024

#### 2.1.1 Students data

The data (shared by the Institute) shows there were **41 male and 49 female students**.

#### 2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	01	00	01
2	Teaching staff	05	07	12
3	Non-Teaching staff	04	00	04
<b>Total Staff Members</b>		<b>10</b>	<b>07</b>	<b>17</b>

*Table 1: Staff data of the Institution for Batch 2022-2024*

The staff data shows the Institute premises had a total of **17 Staff Members**.

### 2.2 Populace analysis for Batch 2021-2023

#### 2.2.1 Students data

The data (shared by the Institute) shows there were **46 male and 38 female students**.

#### 2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	01	00	01
2	Teaching staff	05	07	12
3	Non-Teaching staff	04	00	04
<b>Total Staff Members</b>		<b>10</b>	<b>07</b>	<b>17</b>

*Table 2: Staff data of the Institution for Batch 2021-2023*

The staff data shows the Institute premises had a total of **17 Staff Members**.



## 2.3 Total Institute Area & Institute Building Spread Area

The **site area is 2.44 acres** and the **Built-up area is 17,152.608 sq. ft.** for an approximately **107 footfalls.**

## 2.4 Institute Infrastructure

### 2.4.1 Establishment

The Institute was established in **2018.**

### 2.4.2 Spatial Organisation

There are provisions for staircase for accessibility on the premises, whereas there are amenities such as CCTV, a first aid room, etc.

The Institute is located pretty close to nature and hence has a very fresh environment which is absolutely pollution free and healthy.

The Building is a Reinforced Cement Concrete (RCC) framework building.

## 2.5 Operation and Maintenance of the premises

The interview session and data collection session was held with the staff regarding the operation and working hours. The schedule shared by the team shows that the Institute is working Monday to Saturday beginning at 08:00 hours up to 18:00 hours.

## 3. Research

### 3.1 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.

### 3.2 Analysis of the Green Building Study Audit

The procedure included detailed verification as follows:

- Investigation
- Technical discussion with team
- Observations
- Inferences

### 3.3 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.

### 3.4 Activities undertaken for the Green Building Study Audit

- Discussion with the Institute
- Allotment and Initiation by the Institute
- Data collection
- Submission of the files

## 4. Observation

### Survey Results

An online survey was conducted to analyse the student and staff views about the Energy management practices adopted in College, following is the result received.

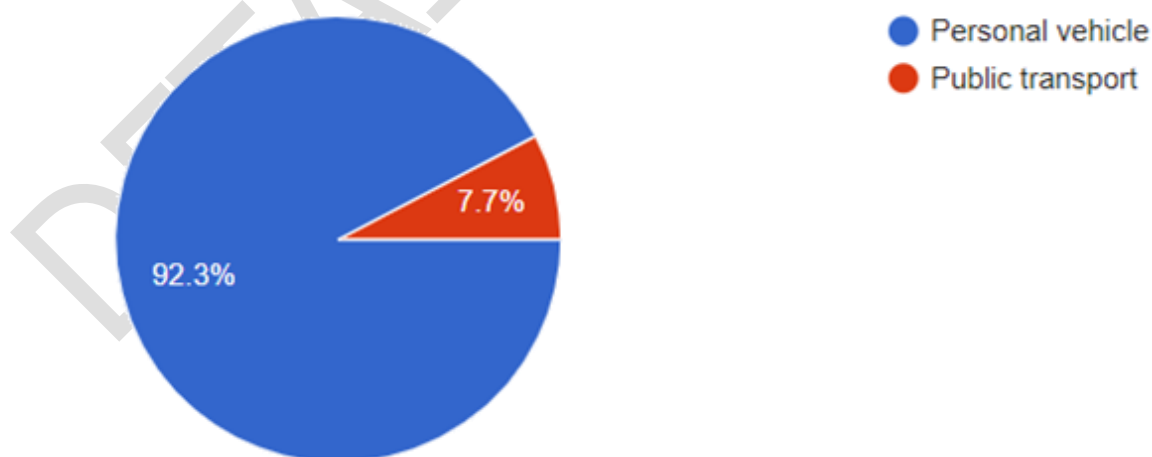
#### 4.1 Participation



*Figure 1: Participation analysis in the survey*

A total of **13 responses** were received out of which 100% were staff members.

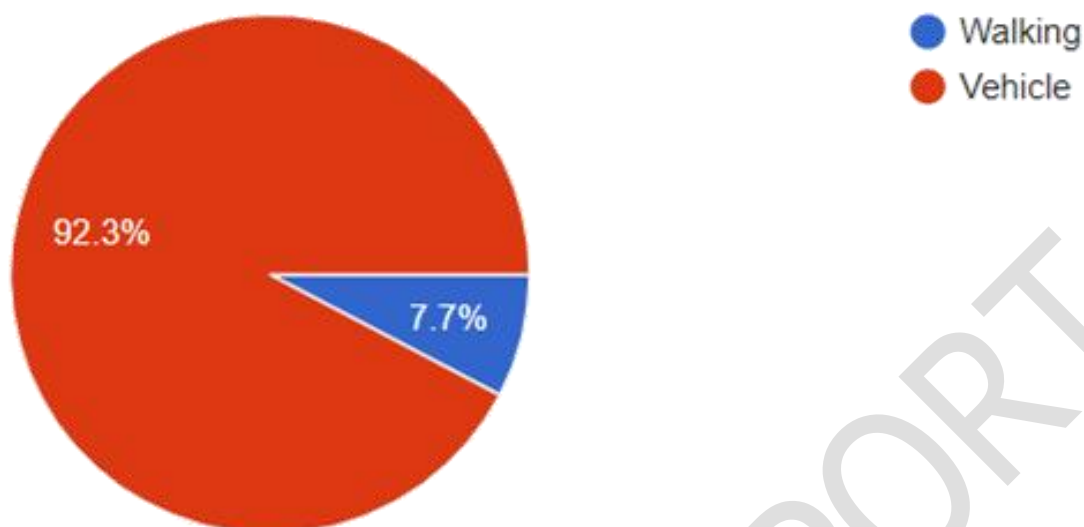
#### 4.2 Mode of commute to the Institute



*Figure 2: Mode of commute to the Institute*

Around **92% of responses** confirmed *PERSONAL VECHILCE* as their mode of commute, since this result is more than 75% this is not a good practice.

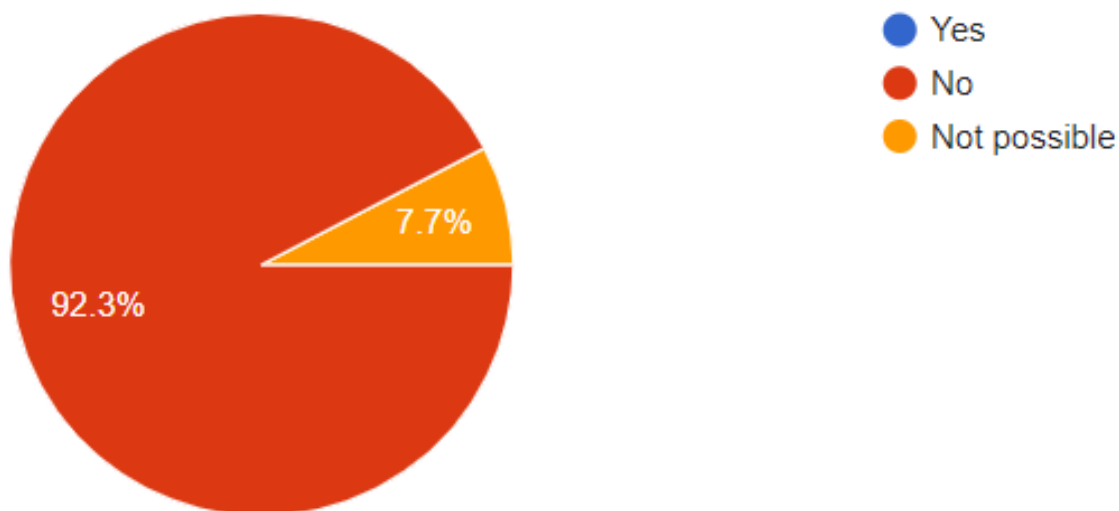
### 4.3 Mode of travel to the Institute



*Figure 3: Mode of travel to the Institute*

Around **92% of responses** *confirmed the use of vehicle as their mode of travel*, since this result is more than 50% this emphasis on carbon footprint contribution by the stakeholders.

### 4.4 Use of E-vehicle for commute to the Institute



*Figure 4: Use of E-vehicle for commute to the Institute*

Around **92% of responses** *confirmed that they do not use of E-vehicle as their mode of travel*, this emphasis that the said practice by the stakeholders needs improvement.

## 5. Documentation

### 5.1 Open Spaces

There is an open space used by students at present for sports and cultural gatherings. **There are provisions for natural plantations enhancing the beauty of the space.**

### 5.2 Flora audit

A flora survey was carried out to identify the total numbers of plants and trees. The flora survey is common for the entire campus as documented below.

S. No.	Plant Name	Type	Nos.
1	<i>Bamboo</i>	Tree	20
2	<i>Coconut Trees</i>	Tree	2
3	<i>Tabu Biaroscia</i>	Tree	1
4	<i>Pots</i>	Palms	50
5	<i>Flower Pots</i>	Plant	25
6	<i>Rain Lily</i>	Plant	10
7	<i>Table Rose</i>	Plant	10
8	<i>Hibiscus</i>	Plant	5
9	<i>Creeper</i>	Shrubs	3
10	<i>Rose Plants</i>	Plant	10

*Table 3: Details of the Flora in the premises*

**At present there are 136 numbers of plantations comprising of plants, trees, shrubs.** Timely maintenance and care has resulted in positive benefits for the surroundings.

### 5.3 Fauna audit

There are fauna in the aquarium space of the premises.

### 5.4 Noise Audit

On a macro level the Institute is surrounded by public buildings and minimal residential blocks **thus there is a peaceful and noise free arena observed inside the premises.**

## 5.5 Carbon Footprint Audit

### 5.5.1 Eco-friendly Commuting Practices

- The site is located in an urban locality.
- Overall, the carbon footprint is well under control.
- Students and staff members commute using public transport.
- There are no major fossil fuels used inside the premises.

### 5.5.2 Heat Island Reduction

**Certain measures have to be taken to keep outdoor temperatures under control.**

### 5.5.3 Outdoor Light Pollution Study

The Institute compound lights are not upward looking thus, these do not cause light pollution.

## 5.6 Universally accessible premises

*As per World Report on Disability, 2011 there are 180 million approx. Persons with Disabilities that makes it 15% of total population of India.* The following facilities are available on the premises for the specially-abled as part of universally accessible premises initiatives.

- Low height risers in the staircases; Non-slippery floor surfaces; Ramps at the entrance.
- Handrails for support; of only one block – **This has to be extended to all blocks**
- Universal toilet – **The current toilet should be upgraded with appropriate amenities including grab bars, hand rails etc.**

## 5.7 Fire Safety

Fire and life safety are an important consideration of National Building Code 2016. This aspect is touched upon as part of this study in the capacity of an Architect registered with Council of Architecture. As part of the research, fire safety audit was considered from the 'Building systems' perspective. *At present, the following provisions are available in the premises.*

- Fire extinguisher.
- Open staircase without any barriers and free of storage or combustible material.

## 6. Suggestion

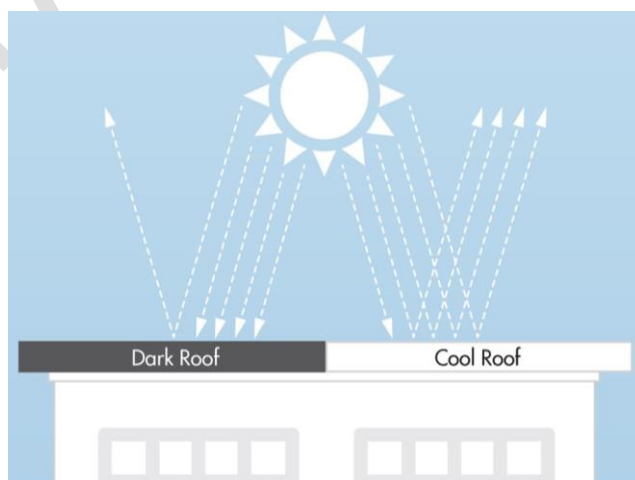
The following suggestions **should be executed within the next 1.5 to 2.5 years from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

### 6.1 Site beautification

- ➔ **Bird house/ Feeders** - At appropriate locations there can be provisions for drinking water and some grains for birds as they visit the site much frequently.
- ➔ **Child area** - There can be one provision where if student's or staff relative who are toddlers or senior citizens can rest and this area could have facilities accordingly.
- ➔ **Garden development** - The existing open space should be designed as an Architectural landscape.
  - Nursery documentation, expansion and beautification – The premises should have a nursery, details can be decided as per the landscape beautification.
  - Scientific name plates and QR codes – The team should undertake a project to have name plates with QR codes on every plant of the premises.

### 6.2 Heat island reduction

- ➔ **Cool rooftops** - The Terrace rooftops should be painted with Cooltop – reflective materials to reflect the harsh sun rays and reduce the heat absorption in the top most floor and surrounding areas of the building.



**Plate 1: Cool roof comparative analysis (For reference purpose only)**

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

### 6.3 Universally accessible premises

- **Resting places** - There should be increased provision for resting places on-premises outdoor and indoors.
- **Provisions for visually impaired - Signages** – In addition to the signages being in regular language there should be additional signages in braille language for the specially-abled students.
- **Provisions for visually impaired - Tactile flooring** – The indoor and outdoor of the premises should have dedicated tactile flooring for the visually impaired.
- **Provisions for visually impaired - Audio Visual Section** – There should be dedicated section for their visually impaired students to listen to the audio books; A braille audio book reader should be available.
- **Provisions for hearing and speech impaired – Sensor based fire system** – There should be smoke detectors, sensor based facilities and signages, floor layouts for emergency situations such as fire. Additionally, one maintenance staff should be allocated for assistance at every corner of the Institute.

### 6.4 Life safety

- **Fire station** – A dedicated fire station could be established within the premises as part of the Fire and Life safety practices.
- **Mandate fire extinguisher in spaces** - One fire extinguisher should mandatorily be there in every space which has an air conditioner/ gas cylinder.
- **Awareness** - Fire layouts in immediate spaces outside the lift, on the staircase landing, signages mentioning 'Do not use lift in case of fire' additionally fire exit signages, boards should be put up at all possible locations.
- **Sensitization programs** - Regular seminars/ webinars by experts such as Architects, Govt. Fire department on subjects related to fire and life safety should be organized and the outputs should be adopted and documented.



## 6.5 Pollution Control

- ➔ **Specific area designated for E-vehicles** – There should be designated area dedicated to E-vehicles parking and charging and this zone should be demarcated as 'Eco-Zone'
- ➔ **Promote the use of Eco-friendly vehicles** - There can be student and staff sensitization program on eco-friendly and battery-operated vehicles/ low emission vehicles for daily use.
- ➔ **Battery charging points for Eco-friendly vehicles** - There can be provision for battery charge points, this would inspire students to change their mode of transportation and adopt sustainable practices.
- ➔ **Bicycles as a gift** - As an appreciation gesture maybe the student's toppers/ staff best performers can be awarded a bicycle occasionally.
- ➔ **Avoid using plastic in premise** - There should be a provision for a ban on the use of plastic bags or products on the Premise.
- ➔ **Paperless technologies for offices** - The Institute can go technology-friendly and go paperless in the functioning of premises to a certain extent maybe not fully.



Investigative parameters – Energy Management – Solar street light and sources of energy consumption



Investigative parameters – Ecological Management – Diesel Generator, earth pit areas for backup measures



Investigative parameters – Fire and life safety measures



Investigative parameters – Ecological cover in the premises

## 7. Compilation

The study is based on the data collected, analysed, 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 analyse and study the data collected.

### 7.1 National references

- 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

### 7.2 International references

- Form, Space and Order by Francis D. K. Ching
- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada
- Used only for understanding Universal design - Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and [www.umassd.edu](http://www.umassd.edu)
- 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/>
- Accessibility study <https://www.washington.edu/>
- Urban heat island effect <https://www.epa.gov/heatlands/what-you-can-do-reduce-heat-islands>

### 7.3 Reference images for suggestions:

- ➔ <https://www.gaf.com/en-us/blog/six-truths-about-cool-roofs-281474980105387>
- ➔ <https://coolroofs.org/resources/what-is-a-solar-reflective-wall>
- ➔ <https://earthbound.report/2021/07/14/5-ways-to-reduce-the-urban-heat-island-effect/>

<https://www.du>

DETAILED REPORT

