



SHRI YASHWANTRAO CHAVAN SHIKSHAN PRASARAK MANDAL'S

# SINHGAD COLLEGE OF COMMERCE

(Affiliated to University of Mumbai)

## Best Practice 1: Fresh Air, Fresh Ideas: Green Practices in Sinhgad College of Commerce"

1 The "Fresh Air, Fresh Ideas: Green Practices in Sinhgad College of Commerce" campaign highlights the college's exemplary efforts in promoting a sustainable and eco-friendly campus environment. These practices demonstrate a commitment to environmental conservation and inspire students to adopt green habits that can make a positive impact on the world around them 1. Seminars and Guest Lectures: Sinhgad College of Commerce actively organizes seminars and guest lectures to promote a green environment on campus.

2. Student Council and Rotaract Club Collaboration: Initiatives such as lake clean-up drives, e-waste collection, poster competitions, and plastic ban events engage students in hands-on activities while raising awareness about environmental issues.

3. Paperless Office: Sinhgad College of Commerce has implemented a paperless office system, minimizing the use of paper and encouraging digital documentation and communication.

4. Aero taps and Water Conservation: The college has installed aero taps, which reduce water flow while maintaining functionality. This measure helps conserve water by minimizing wastage and promoting responsible water usage among students and staff.

5. Rainwater Harvesting: Sinhgad College of Commerce has implemented rainwater harvesting systems to collect and store rainwater for reuse. This sustainable practice helps conserve water resources and reduces dependence on external sources for water supply.

6. Vertical Garden: The college features a vertical garden, which not only adds aesthetic value but also contributes to air purification, biodiversity, and the overall well-being of the campus environment. The vertical garden serves as a green space that promotes ecological balance and enhances the ambiance of the college.

7. Sensor Lighting in Washrooms: To conserve energy, the college has installed sensor lighting in washrooms. These lights automatically turn on and off based on human presence, reducing unnecessary energy consumption.

8. Energy Conservation Awareness: Students are actively encouraged to switch off lights and fans when lectures or activities are not taking place, fostering a culture of energy conservation. This practice helps reduce electricity usage and promotes a more sustainable campus.







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9. Community Outreach: Sinhgad College of Commerce extends its green initiatives beyond the campus by educating school children about environmental conservation. By organizing educational visits and interactive sessions, college students inspire and empower younger generations to become environmentally responsible citizens.

10. Plastic-Free Campus: The college actively discourages the use of plastic by students, staff, and visitors. Plastic-free initiatives include promoting the use of reusable bags, tiffins, and bottles, and raising awareness about the detrimental effects of plastic on the environment.

## Best practice 2 Empowering Girls:

The Real "Takat" of Sinhgad College of Commerce Sinhgad College of Commerce is known for its strong commitment to empowering students, particularly girls, from minority religions, lower-income backgrounds, and first-generation learners. With its campaign "Takat" and the motto "Education is Empowerment," the college has implemented several best practices to ensure the success and holistic development of these students. This report highlights the efforts made by Sinhgad College of Commerce in empowering girl students, reducing dropout rates, and equipping them with essential skills.

1. Focus on Retention and Graduation: Sinhgad College of Commerce recognizes the importance of supporting girls from marginalized backgrounds throughout their academic journey. The college provides counseling services to encourage these students to complete their education. By addressing individual challenges and offering guidance, the college aims to minimize the dropout ratio among girl students and promote a culture of academic perseverance.

2. Skill Development Initiatives: To empower girl students with practical skills, Sinhgad College of Commerce offers various skill development programs. The college recognizes that proficiency in spoken English, information and communication technology (ICT), and vocational courses like beauty parlour courses can significantly enhance employment opportunities. By equipping girls with these skills, the college aims to boost their self-confidence and prepare them for the competitive job market.

3. Mentoring and Guidance: The college recognizes the importance of mentorship in empowering girl students. It has established mentoring programs where experienced faculty members provide guidance, support, and career advice to girls. These mentorship initiatives aim to create a nurturing environment, build resilience, and foster personal growth among the students. Conclusion: Sinhgad College of Commerce's commitment to empowering girl students from minority religions, lower-income families, and



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first-generation learners is commendable. Through its "Takat" campaign and emphasis on education as empowerment, the college has implemented various best practices to uplift and support these students. By providing counseling services, imparting essential skills, offering financial assistance, fostering mentorship, and engaging with the community, the college aims to create a conducive environment where every girl can thrive and realize her full potential. Sinhgad College of Commerce serves as a shining example of how empowering girl children can be the true strength of an educational institution.



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GPS Map Camera

Mumbai, Maharashtra, India  
SINHGAD COLLEGE OF COMMERCE Plot No 126, Mahada  
Colony Chandivali, Powai, Mumbai, Maharashtra 400072, India  
Lat 19.115684°  
Long 72.899564°  
06/06/23 10:32 AM GMT +05:30

Google



GPS Map Camera

Mumbai, Maharashtra, India  
SINHGAD COLLEGE OF COMMERCE Bldg No.10, D-104, MHADA  
Colony, Chandivali, Powai, Mumbai, Maharashtra 400072, India  
Lat 19.112497°  
Long 72.896289°  
24/06/23 02:23 PM GMT +05:30

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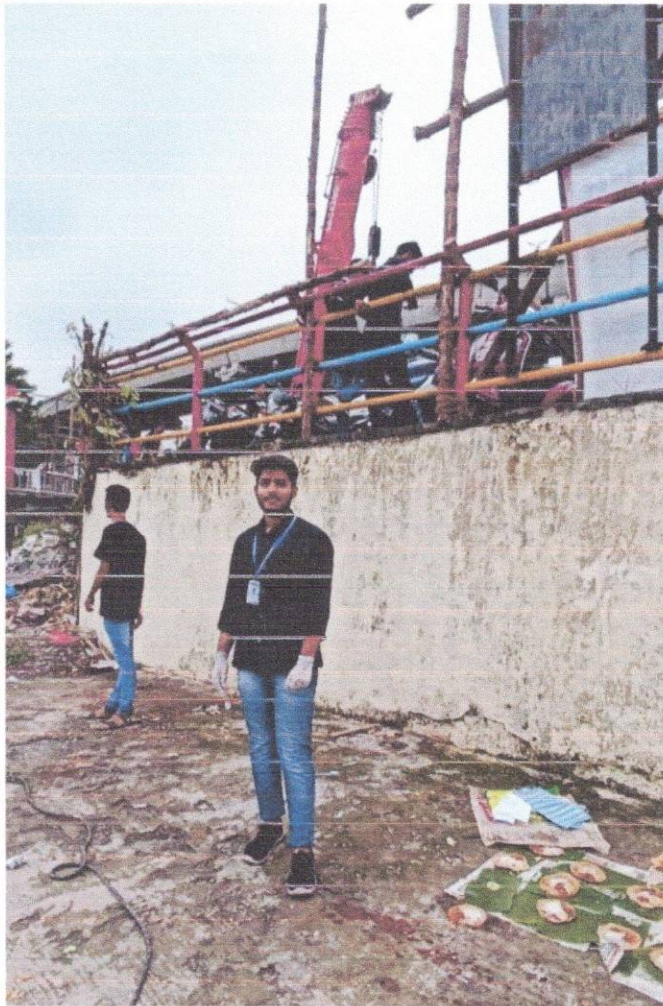




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*R. Harv*

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District 3141  
**Rotaract**  
Rotary Club Partner



Rotract Club of  
Sinhgad College of Commerce



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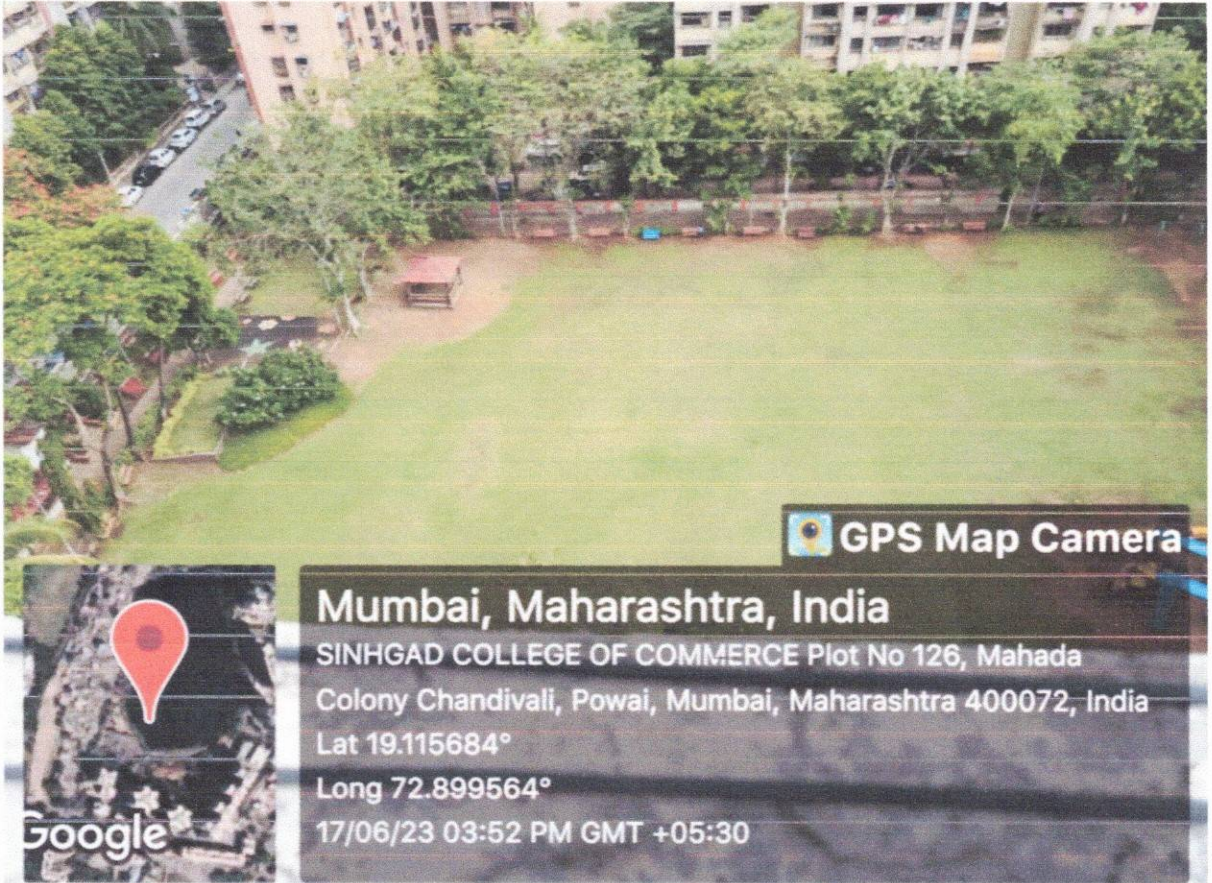




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GPS Map Camera



**Mumbai, Maharashtra, India**

SINHGAD COLLEGE OF COMMERCE Plot No 126, Mahada  
Colony Chandivali, Powai, Mumbai, Maharashtra 400072, India

Lat 19.115684°

Long 72.899564°

17/06/23 03:52 PM GMT +05:30



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**Let's take one step forward...**



**Donate Your Clothes**

Be a cause of someone's happiness. Donate your old clothes to NEEDY PEOPLE.

Donate for a cause 😊



**E-waste (electronic items for recycling)**

8th floor, Sinhgad college of Commerce,  
Mhada colony, Powai,  
Andheri (E)



@rc\_sinhgad



Rakesh kami  
+91 91678 79264



rcsinhgad@gmail.com



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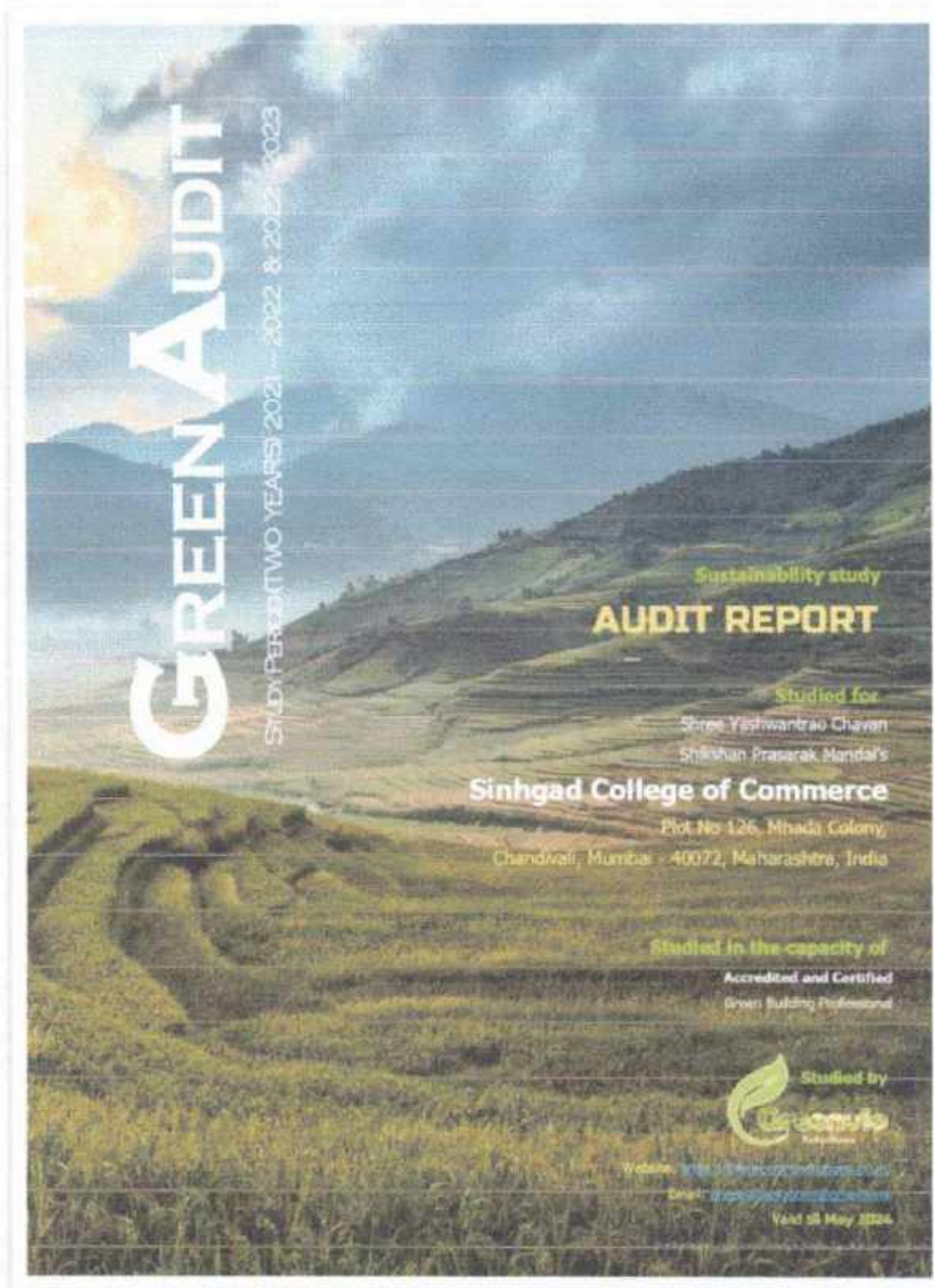
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## Audit Reports

### 1) Green Audit Report



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## Disclaimer

The Audit Team has prepared this report for the **Shree Yashwantrao Chavan Shikshan Prasarak Mandal's Sinhgad College of Commerce** located at Plot No. 126, Mhada Colony, Chandivali, Mumbai - 40072, Maharashtra, India based on input data submitted by the Institute analysed by the team to the best of their abilities.

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

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

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

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

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

### 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

[audit@greenvio.com](mailto:audit@greenvio.com)



*R. K. Kulkarni*  
**PRINCIPAL**





## Acknowledgement

The Audit Assessment Team extends its appreciation to the **Shree Yashwantrao Chavan Shikshan Prasarak Mandal's Sinhgad College of Commerce, Maharashtra** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to **Prof. M. N. Navale** and everyone from the Management.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Ritika Hemdev**, Principal for the valuable inputs.

We are also thankful to Institute's Task force the faculty members who have played a major role in data collection Mr. Suhas Kamble, Assistant Coordinator.

We highly appreciate the assistance of Mr. Amol Karande, Clerk and 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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**Evidence of the on-site investigation**Evidence of the visit on **Saturday, 17 June 2023**

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**Evidence documents for Site visit of external audit team**

Audit team headed by a special expert - Dr. Rakesh Bhatnagar  
Accredited & Certified Green Building Professionals (ISO 14001)  
Audited under Green Building as a section of the premises

Audits covered: ☒ Green audit ☒ Energy audit ☒ Environment auditInstitute: **Sinhgad College of Commerce**Date: **17 June 2023****Document objective: Inferences of the Site visit**

Observations (Positive aspects)	Suggestions (Improvement aspects)
<b>Green Audit</b>	
- Pest control initiatives undertaken to maintain hygiene of premises.	- Undertake water conservation facilities such as aerators etc. - Undertake waste management
<b>Energy Audit</b>	
- Well ventilated spaces for thermal & visual comfort - less nos. of air conditioning load.	- Undertake energy conservation & management facilities
<b>Environment Audit</b>	
- Due to life safety measures have been undertaken	- Retight green walls - green & break out zones



Signature &amp; round seal

Name: **Dr. Rakesh Bhatnagar**Designation: **I/C Principal**

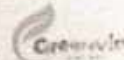
For the said Institute



Signature

Name: **Dr. Rakesh Bhatnagar**Designation: **Project Coordinator**

For The Greenvin Solutions

Website: [www.greenvin.co.in](http://www.greenvin.co.in) Email: [greenvin@greenvin.co.in](mailto:greenvin@greenvin.co.in)**I/C PRINCIPAL**




**Evidence of the on-site investigation**Evidence of the visit on **Saturday, 17 June 2023**

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**Evidence documents for Site visit of external audit team**

Visit team headed by external expert - Mr. Nafida Abdul  
Accredited & Certified Green Building Professional, ISO 14001  
Audit objective: Green Building verification of the premises

Audits covered: ☒ Green audit ☒ Energy audit ☒ Environment auditInstitute: Sinhgad College of Commerce Date: 17 June 2023**Document objective: Proof of the Site visit****Meeting with the core team****Investigation of the systems**

Signature & stamp of   
Name: Dr. Nafida Abdul  
Designation: I/C Manager  
For the said Institute

Signature & stamp of   
Name: Mr. F. A. Shaikh  
Designation: Project Coordinator  
For The Greenvia Solutions

Website: [thegreenviasolutions.com](http://thegreenviasolutions.com) Email: [greenviasolutions@gmail.com](mailto:greenviasolutions@gmail.com)**I/C PRINCIPAL**



## 1. Introduction

### 1.1 About the Institution

**Shri Yashwantrao Chavan Shikshan Prasarak Mandal (SYCSPM)** was established in the year 1985 with an objective of providing quality education in the fields of Arts, Commerce, Vocational subjects and basic school. It is registered under the Societies Registration Act 1860 and BPT Act, 1950

There are 6 institutes under the aegis of the Mandal offering full-fledged School/College education and training in vocational courses. All the Institutes under the Mandal are recognized by the concerned statutory authorities and meticulously fulfil the norms and standards laid down by them.

**Sinhgad College of Commerce** was established with a view to conducting undergraduate Commerce & Management courses of the University of Mumbai. The College conducts the following three-year integrated degree courses:

- Bachelor of Commerce (B.Com.)
- Bachelor of Management Studies (B.M.S.)

### 1.2 Statements of the Institution

#### 1.2.1 Vision

The Institute proposes *"To shape & carve management experts & professionals by institutionalizing dissemination of relevant knowledge through structured learning systems."*

#### 1.2.2 Mission

The Institute adheres and focuses *"To nurture and transform young talent into world class managers. Inculcate the values of perseverance, coherence, endurance and encourage discovering the competencies of students."*



*R. Hemdar*  
H.C. PRINCIPAL





### 1.3 Assessment of the Institute

#### 1.3.1 Affiliation

The Institute is affiliated to **Mumbai University**, a collegiate state-owned public university in Mumbai and one of the largest university systems in the world.

#### 1.3.2 Certification

The College has received the code under **All India Survey of Higher Education (AISHE)** wherein the code is C-34216.

### 1.4 Facilities

Some of the key facilities are listed below.

- Well stocked library
- Computer laboratory with latest softwares
- Conference hall
- State of the art Seminar hall
- Hygienic canteen and mess

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## 2. Overview

### 2.1 Summarised Populace analysis for 2022-2023

#### 2.1.1 Students data

The data (shared by the Institute) shows there were a total of **182 male and 153 female students.**

#### 2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	03	03	06
2	Teaching staff	01	04	05
3	Non-Teaching staff	05	00	05
Total Staff Members		09	07	16

Table 1: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had a total of **16 Staff Members.**

### 2.2 Summarised Populace analysis for 2021-2022

#### 2.2.1 Students data

The data (shared by the Institute) shows there were a total of **175 male and 149 female students.**

#### 2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	03	03	06
2	Teaching staff	01	04	05
3	Non-Teaching staff	05	00	05
Total Staff Members		09	07	16

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had a total of **16 Staff Members.**



*R. J. J.*  
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### **2.3 Site Area & Institute Building Spread Area**

The site area is 0.15 acre for an approx. 351 footfalls.

### **2.4 Institute Infrastructure**

#### **2.4.1 Establishment**

The Institute was established in 2008.

#### **2.4.2 Spatial Organisation**

The Institute is located in a pollution free and healthy environment.

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

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

### **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 College is working for 280 days beginning at 07:30 hours up to 17:30 hours.



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### 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



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**Evidence of the on-site investigation**Evidence of the visit on **Saturday, 17 June 2023**

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**Evidence documents for Site visit of external audit team**

Audit team headed by: Dr. Rishika Hemdekar - Sr. Mahila Aashika  
 Audit team B: Prof. Sameta Ghose - Senior Lecturer, (SOS) & (B)  
 Audit team C: Dr. Anil Kulkarni - Sr. Lecturer, (SOS) & (B)

Audits covered: ☒ Green audit ☐ Energy audit ☒ Environment auditInstitute: Sinhgad College of Commerce Date: 17 June 2023Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Dr. Nahida Abdullah	External	Project Head	
3.	Dr. Rishika Hemdekar		Principal	
4.	Prof. Sameta Ghose		JGA Coordinator	
5.	Prof. Shivani Akhane		Teaching faculty	
6.	Prof. Anuraag Molekar		"	
7.	Mr. Kamble		Non Teaching	
8.	Mr. Anol		"	



Name: Dr. Rishika Hemdekar  
 Designation: Principal  
 For the said Institute



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

Website: [www.sinhgadcollegeofcommerce.edu.in](http://www.sinhgadcollegeofcommerce.edu.in) Email: [gsinhgadcollege@gmail.com](mailto:gsinhgadcollege@gmail.com)**HC PRINCIPAL****SINHGAD COLLEGE OF COMMERCE**

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## 4. Documentation

### 4.1 Green Practices Audit

The increasing global warming and climate change have made us realise that apart from the enormous strategies need to be taken by individuals and Educational Institutes consistently. We observed the following points during the process.

- **Social awareness** - The Institute has taken up awareness drives on various social issues for social upliftment and environmental up gradation.
- **Silent and peaceful atmosphere** - The Institute is located amidst residential areas which are well designed thus these help to maintain the pollution under control and provide a healthy ambience.

### 4.2 Waste Audit

Waste is an inevitable part of our lives. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted. The waste management strategies are studied and ways that can be adopted aiming to make the premise clean and sustainable are proposed.

S. No.	Type of waste	Source and quantity	Current Disposal method	Can be treated/ recycled?	Methodology
1	Paper waste	Newspaper and other paper	Given to Management	Yes	TREATED - Have a MoU and undertake measure
2	E-waste	Computers - Non-biodegradable waste	Given to vendor	Yes	
3	Dry waste in form of leaves	Open space & plantations, papers - Non biodegradable waste	Handed over to municipality	Yes	TREATED - Organic composting can be undertaken
4	Liquid waste	Toilets, washbasins etc.	Let into storm water drain	Yes	CONTINUE - with the current practice
6	Solid waste	Toilets-Biodegradable waste		Yes	

Table 3: Details of the waste management practices adopted by the team

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### 4.3 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.

#### 4.3.1 Water availability and consumption

##### 4.3.1.1 Source of Primary water supply

The Institute uses drinking water for daily consumption through the 'OVERHEAD' and 'UNDERGROUND' water tanks used for primary purposes.

##### 4.3.1.2 Source of Secondary water supply

The Institute uses the secondary sources of water supply for general usages such as watering plants, kitchen, toilets, and wash basins connected to the labs and other spaces. At present, there is one bore well for secondary purposes.

##### 4.3.1.3 Source of Tertiary water supply

The tertiary source of water is the additional source of water harvesting. The Institute has a dedicated tank on the rooftop for this purpose.

#### 4.3.2 Areas of water usage

Based on the inventory done and data shared by the staff it was found that the premise has the following facilities:

- ☐ General toilet for students, staff
- ☐ Urinals
- ☐ Taps in wash basins in toilets
- ☐ Taps in Canteen

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#### **4.4 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.

##### **4.4.1 Facilities available**

The Institution has washroom facility, hand wash, drinking water and dustbin facilities.

##### **4.4.2 Hygiene aspects**

There was no major hygiene issue observed anywhere in the premises.



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## 5. Investigation

*A site visit was conducted at the premises on **Saturday, 17 June 2023** and the following observations were noted as part of the physical investigation.*

### 5.1 Improvement aspects

The following suggestions are to be considered as a **first priority** for implementation. These **should be executed within the next 1 year from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

#### ☐ Water tanks in all areas

- Include the information about size, capacity and usage
- Paint the tank in light blue colour
- Add **signboards** about the usage such as "Drinking" or "Secondary"
- Add **signboard and map** about the process/ system in practice

#### ☐ General aspects (Indoors areas)

- Zoning of the site w.r.t. space wise analysis
- Signboards, signages, information and display boards at relevant locations.

#### ☐ Library in the Campus

- Include silence board at various locations and at entrance.
- Install book drop box system at the entrance of the library.
- Upgrade smart scanning system for every book
- Include a self service station for digitalization.

*R. K. Kulkarni*

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## 6. Suggestion

### Section-wise suggestions related to premises

The following suggestions are to be considered as a **second priority** for implementation. These **should be executed within the next 3.5 years from the date of the Report submission**. The Institute can execute a plan after discussion with Project Head.

#### 6.1 Green practices Audit

- **Plant as a gift** - As a kind gesture, the guests visiting the premise can be asked to plant a small plant on the premise itself and they can be even given plants/bouquets from the flowers of the plants on the premise as a gift.
- **Environmental awareness** - There can be various artworks 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.

#### 6.2 Waste Audit

- **Signages** - Messages about avoiding wastage should be placed at appropriate locations.
- **Include better plastic/ E-waste management measures** - The Institute can celebrate one day of every month as a 'Plastic/ E-waste awareness day'. The stakeholders (Students and staff members) can be asked to bring plastic/ E-waste which can be further given to an NGO for recycling or better purpose.

#### 6.3 Water Audit

- **Waterless urinals** - There can be the provision of waterless urinals as a Green Building initiative in the premise, either the existing ones can be replaced with such a facility or new toilets can be constructed in this manner.
- **Rain water bunds** - There should be landscape beautification project undertaken to appropriate channelize the rain water through bunds and similar facilities.

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**6.4 Health and Hygiene Audit**

- ❖ **Courtyards and duct areas** – These are located in the internal and setback should have vertical gardens for beautification.
- ❖ **Health related provisions** – There should be provisions for a dedicated health centre and 24x7 available ambulance services inside the premises.
- ❖ **Sanitary vending and incinerator** - There should be provision for sanitary vending, incinerator machine and incinerator in every ladies common room, and toilet on the premises.
- ❖ **Signboards** – The Institute should have multiple signboards about 'No smoking' and 'Healthy premises' at every nook and corner of the Institute.
- ❖ **Compound wall** – The compound wall should have awareness messages about 'No Smoking' and 'No Tobacco'
- ❖ **Toilet hygiene** – There should be facilities such as potpourri, camphor tablets in the toilet to avoid smell and health related issues.

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**On-site investigation and physical verification**  
**Audit Team during the visit and other photos collected during data documentation**



Induction, exit meeting and group photo with the team



On site investigation with the team in washrooms, classrooms and general areas



On site investigation with the team in administrative and library areas



On site investigation with the team in the outdoor and rooftop areas



*R. Patel*  
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## 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.

- 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
- 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
- Images on site by Coordinators of the both teams
- Icon images used by <https://www.vecteezy.com/free-vector/security-camera-icon> and <https://www.vecteezy.com/free-vector/electric-car-icon>

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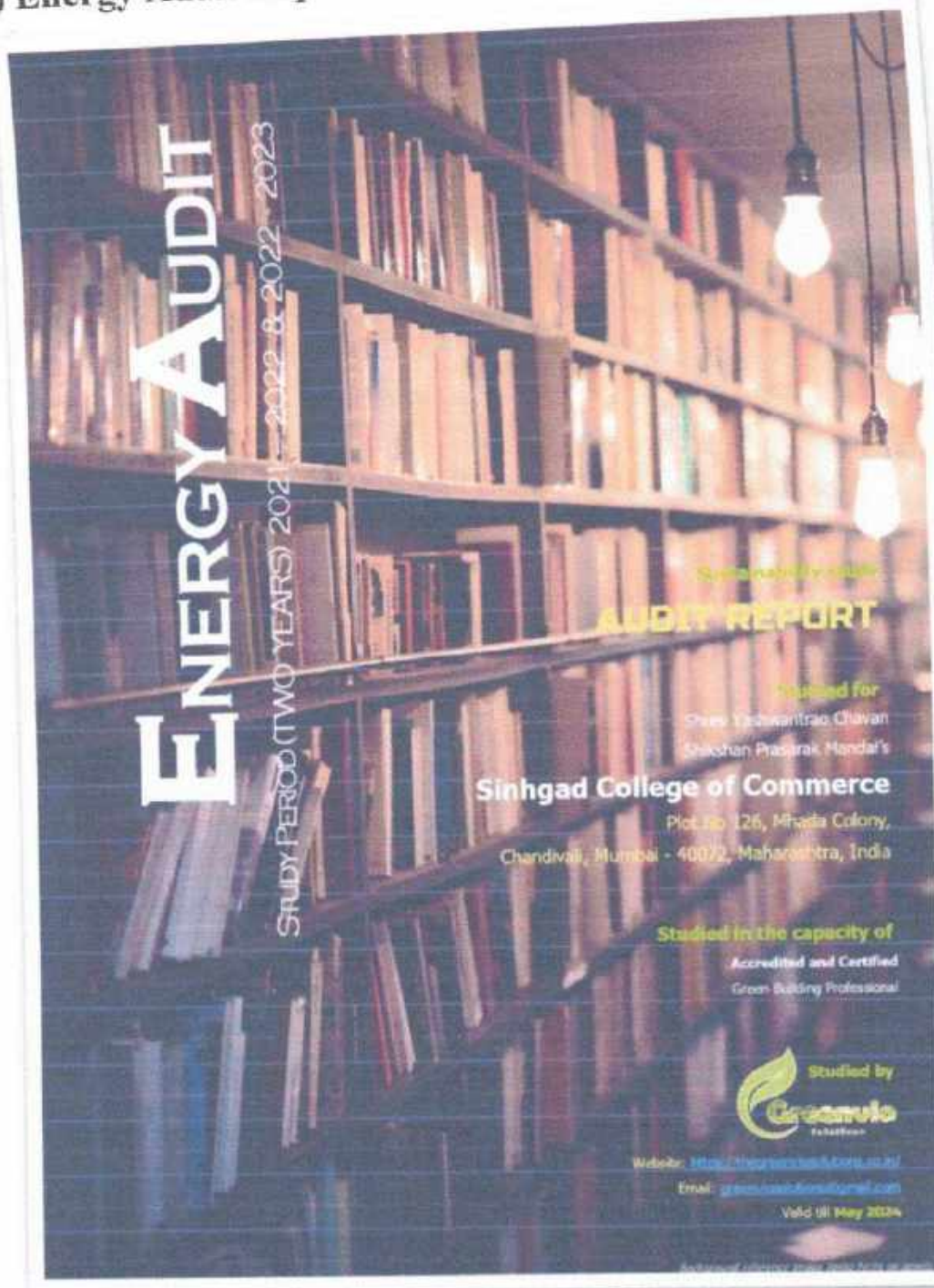
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## 2) Energy Audit Report



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## Disclaimer

The Audit Team has prepared this report for the **Shree Yashwantrao Chavan Shikshan Prasarak Mandal's Sinhgad College of Commerce** located at Plot No 126, Mhada Colony, Chandivali, Mumbai - 40072, Maharashtra, India based on input data submitted by the Institute analysed by the team to the best of their abilities.

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

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

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

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

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

### Greenvio Solutions

*Developing Healthy and Sustainable Environments*

We are an Environmental and Architectural Design Consultancy Firm

*Sustainable Academe* is our department for conducting Audits

Pelghar District, Maharashtra- 401208

[sustainable@greenvio.com](mailto:sustainable@greenvio.com)

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**SINHGAD COLLEGE OF COMMERCE**  
Chandivali, Mumbai-400 072.







## Acknowledgement

The Audit Assessment Team extends its appreciation to the **Shree Yashwantrao Chavan Shikshan Prasarak Mandal's Sinhgad College of Commerce, 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 **Prof. M. N. Navale** and everyone from the Management.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Ritika Hemdev**, Principal for the valuable inputs.

We are also thankful to Institute's Task force the faculty members who have played a major role in data collection Mr. Suhas Kamble, Assistant Coordinator.

We highly appreciate the assistance of Mr. Amol Karande, Clerk and 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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*R. J. J. J.*

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**Evidence of the on-site investigation**

Evidence of the visit on **Saturday, 17 June 2023**

1 | Page

**Evidence documents for Site visit of external audit team**

Audit team formed by external expert - At Sinhgad College  
Approved & Certified Single Building Audit June 2023 (GRII)  
NAAC Objective: Green building certification of the premises

Audits covered: ☒ Green audit ☒ Energy audit ☒ Environment audit

Institute: **Sinhgad College of Commerce**

Date: **17 June 2023**

**Document objective: Inferences of the Site visit**

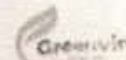
Observations (Positive aspects)	Suggestions (Improvement aspects)
<b>Green Audit</b>	
- Pest control initiatives undertaken to maintain hygiene of premises.	- Undertake water conservation facilities such as aerator etc. - Undertake waste management
<b>Energy Audit</b>	
- Well ventilated spaces for thermal & visual comfort. - less nos. of air conditioning load	- Undertake energy conservation & management facilities
<b>Environment Audit</b>	
- Fire & life safety measures have been undertaken	- Recharge green water - green & break out zones



Signature & stamp of  
Name: **A. L. Heavler**  
Designation: **I/C Principal**  
For the said Institute



Signature & stamp of  
Name: **Shaykh**  
Designation: **Project Coordinator**  
For The Greenio Solutions



Website: [greeniosolutions.in](https://greeniosolutions.in) Email: [greenio@greeniosolutions.in](mailto:greenio@greeniosolutions.in)



**A. L. Heavler**  
**I/C PRINCIPAL**





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## Evidence of the on-site investigation

Evidence of the visit on **Saturday, 17 June 2023**

2 | Page

### Evidence documents for Site visit of external audit team

Audit team headed by external expert - Mr. Fakhra Akshay  
 Accredited & Certified Green Building Professional, ISO 14001 (245)  
 Audit objective: Green Building upgradation of the premises

Audits covered ☒ Green audit ☒ Energy audit ☒ Environment audit

Institute: Sinhgad College of Commerce

Date: 17 June 2023

### Document objective: Proof of the Site visit



### Meeting with the core team



### Investigation of the systems

Signature & name of the Principal  
 Name: Dr. Ramesh Kumar  
 Designation: I/C Principal  
 For the said Institute

Signature & name of the Project Coordinator  
 Name: Mr. F. Akshay  
 Designation: Project Coordinator  
 For The Greenvio Solutions

Website: <http://greenviosolutions.co.in> Email: [greenviosolutions@gmail.com](mailto:greenviosolutions@gmail.com)



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## 1. Introduction

### 1.1 About the Institution

Shri Yashwantrao Chavan Shikshan Prasarak Mandal (SYCSPM) was established in the year 1985 with an objective of providing quality education in the fields of Arts, Commerce, Vocational subjects and basic school. It is registered under the Societies Registration Act 1860 and BPT Act, 1950

There are 6 institutes under the aegis of the Mandal offering full-fledged School/College education and training in vocational courses. All the Institutes under the Mandal are recognized by the concerned statutory authorities and meticulously fulfil the norms and standards laid down by them.

Sinhgad College of Commerce was established with a view to conducting undergraduate Commerce & Management courses of the University of Mumbai. The College conducts the following three-year integrated degree courses:

- Bachelor of Commerce (B.Com.)
- Bachelor of Management Studies (B.M.S.)

### 1.2 Statements of the Institution

#### 1.2.1 Vision

The Institute proposes *"To shape & carve management experts & professionals by institutionalizing dissemination of relevant knowledge through structured learning systems."*

#### 1.2.2 Mission

The Institute adheres and focuses *"To nurture and transform young talent into world class managers. Inculcate the values of perseverance, coherence, endurance and encourage discovering the competencies of students."*



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## 1.3 Assessment of the Institute

### 1.3.1 Affiliation

The Institute is affiliated to **Mumbai University**, a collegiate state-owned public university in Mumbai and one of the largest university systems in the world.

### 1.3.2 Certification

The College has received the code under **All India Survey of Higher Education (AISHE)** wherein the code is C-34216.

## 1.4 Facilities

Some of the key facilities are listed below.

- ☐ Well stocked library
- ☐ Computer laboratory with latest softwares
- ☐ Conference hall
- ☐ State of the art Seminar hall
- ☐ Hygienic canteen and mess



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## 2. Overview

### 2.1 Summarised Populace analysis for 2022-2023

#### 2.1.1 Students data

The data (shared by the Institute) shows there were a total of **182 male and 153 female students.**

#### 2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	03	03	06
2	Teaching staff	01	04	05
3	Non-Teaching staff	05	00	05
Total Staff Members		09	07	16

Table 1: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had a total of **16 Staff Members.**

### 2.2 Summarised Populace analysis for 2021-2022

#### 2.2.1 Students data

The data (shared by the Institute) shows there were a total of **175 male and 149 female students.**

#### 2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	03	03	06
2	Teaching staff	01	04	05
3	Non-Teaching staff	05	00	05
Total Staff Members		09	07	16

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had a total of **16 Staff Members.**



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## 2.3 Site Area & Institute Building Spread Area

The site area is 0.15 acre for an approx. 351 footfalls.

## 2.4 Institute Infrastructure

### 2.4.1 Establishment

The Institute was established in 2008.

### 2.4.2 Spatial Organisation

The Institute is located in a pollution free and healthy environment.

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

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

## 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 College is working for 280 days beginning at 07:30 hours up to 17:30 hours.



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## 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



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## Evidence of the on-site investigation

Evidence of the visit on **Saturday, 17 June 2023**

3 | Page

### Evidence documents for Site visit of external audit team

Audit type: Internal or External report: ☒ External  
 Audited by: ☒ External ☐ Internal (if applicable)  
 Audit report: ☒ Internal ☐ External (if applicable)

Audits covered: ☒ Green audit ☐ Energy audit ☐ Environment audit

Institute: Sinhgad College of Commerce Date: 17 June 2023

Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shaikh	External	Project Coordinator	
2.	Ar. Nahida Abdullah	External	Project Head	
3.	Dr. Rutika Hendre		Principal	
4.	Prof. Samanta Ghosh		I & A Coordinator	
5.	Prof. Shivani Akhane		Teaching faculty	
6.	Prof. Aparna Motekar		"	
7.	Mr. Kamble		Non Teaching	
8.	Mr. Amol		"	



Signature in round seal  
 Name: DR. RUTIKA HENDRE  
 Designation: I & A Coordinator  
 For the said Institute



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

Website: [greenviosolutions.com](http://greenviosolutions.com) Email: [greenvioindia@gmail.com](mailto:greenvioindia@gmail.com)



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## 4. Investigation

### 4.1 Observations

The following points were observed during the investigation.

- ☐ **Lights** - All lights are in working conditions. There was **no fuse defect observed**.
- ☐ **Fans** - All fans are in working conditions. Windows **do not** have cracks and are caulked appropriately.
- ☐ **Air conditioners** - The Outdoor units were cleaned maintained and had **no dust collection problems**.
- ☐ **Equipment** - All equipments are in working conditions and **daily monitoring is done by the maintenance staff** and admin staff in an excellent manner.
- ☐ **General** - **No defect** was found in any appliance of electrical consumption.

### 4.2 Energy efficiency analysis

#### 4.2.1 Energy efficient practices for alternative sources

Additional provisions that can be introduced in the near future are noted below:

- ☐ Solar tree
- ☐ Solar parking

#### 4.2.2 Energy efficient equipment

- ☐ The premise has LED Lights in multiple spaces.
- ☐ The air conditioners are BEE star labelled appliances, the old ones are supposed to be replaced as and when required.
- ☐ There are no energy efficient fans in the premises.



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## 5. Documentation

### 5.1 Primary sources of energy consumption

- **Electrical (Metered)** – Light, Fans, Equipments, Pumps comprise these sources.
- **Renewable energy** – There are 'NO' sources of renewable energy available in premises.

### 5.2 Secondary sources of energy consumption

The premise uses batteries, UPS 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	12

Table 3: Details of secondary sources of energy consumption

### 5.3 Actual Electrical Consumption as per Bills

The College spends a substantial amount on electricity bills every month. However, we would like to recommend the use of alternate sources of energy to harness the electrical loads and reduce the monetary expenses.

S. No.	Month	Year	Amount	Units consumed
<b>Academic year 1</b>				
1	June	2021	81,620	4,776
2	July	2021	54,950	5,840
3	August	2021	51,270	5,448
4	September	2021	55,020	5,840
5	October	2021	58,500	6,208



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6	November	2021	53,660	5,688
7	December	2021	53,840	5,704
8	January	2021		5,680
9	February	2021		4,848
10	March	2021		6,544
11	April	2021	1,01,010	4,048
12	May	2021		3,904
<b>Academic year 2</b>				
13	June	2022	87,210	9,192
14	July	2022	1,08,770	10,288
15	August	2022	1,38,960	13,144
16	September	2022	1,12,010	10,592
17	October	2022	1,06,830	10,080
18	November	2022	1,15,210	10,864
19	December	2022	1,17,440	10,832
20	January	2022	1,01,660	4,480
21	February	2022	92,820	5,880
22	March	2022	1,22,220	10,200
23	April	2022	1,04,800	11,016
24	May	2022	81,930	5,656

Table 4: Details of the electrical consumption

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### 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.

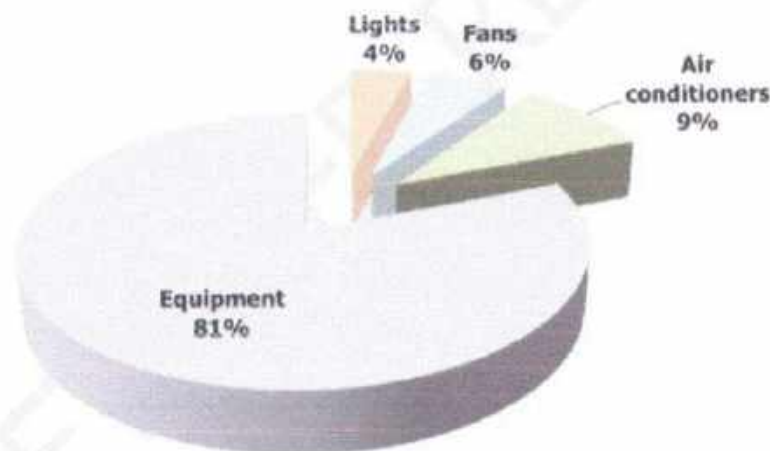


Figure 1: Summary of the calculated electrical consumption as per inventory

The above graph shows that equipment consumes 81% whereas the air conditioners consume 9% while the fans consume 6% and the lights consume 4% of the total calculated electrical energy.



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## 5.5 Lights

### 5.5.1 Types of lights based on the numbers

There are a total of **93 lights on the premises**; the following table shows the various types of lights on the premises.

S. No.	Type	Nos.
1	<b>LED lights</b> (Energy efficient appliance)	07
2	<b>CFL lights</b> (Non-Energy efficient appliance)	86

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 **4,675 kWh** of energy.

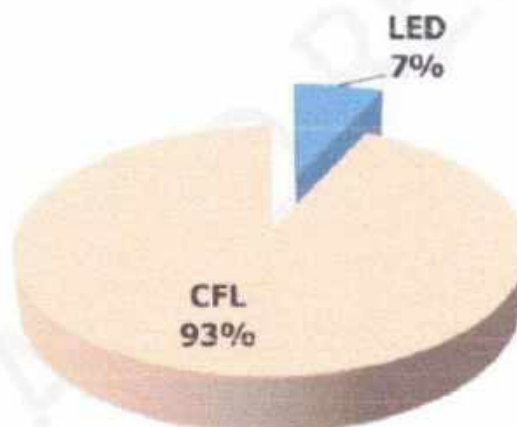


Figure 2: Energy consumed by types of lights in the premise based on the usage study

The analysis of the types of Lights on-premises shows **CFL lights consume 93%** while the **LED lights consume 7%** of the total power consumed by lights.



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## 5.6 Fans

### 5.6.1 Types of fans based on the numbers

There are a total of **74 ceiling fans** in the premises.

### 5.6.2 Types of fans based on the power consumption

The energy consumption of ceiling fans is **6,205 kWh** of the energy being 100% of the total power consumed by fans.

## 5.7 Air conditioners

### 5.7.1 Types of air conditioners based on the numbers

There are **6 air conditioners** on the entire premises.

### 5.7.2 Building-wise consumption analysis

The energy consumption of air conditioners is **10,469 kWh** of energy.

### 5.7.3 About the replacement of current air conditioners

- The current air conditioners are well maintained.
- Though there is not an immediate requirement for replacement.
- Whenever the Institute undergoes redevelopment there can be provisions for replacement with energy-efficient appliances or new air conditioners that require less power consumption.

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## 5.8 Equipment

### 5.8.1 Types of Equipment

There are **126 nos. of equipment** in the Educational sector.

### 5.8.2 Types of equipment as per their energy contribution

The energy consumption of equipment is **89,324 kWh** of energy.

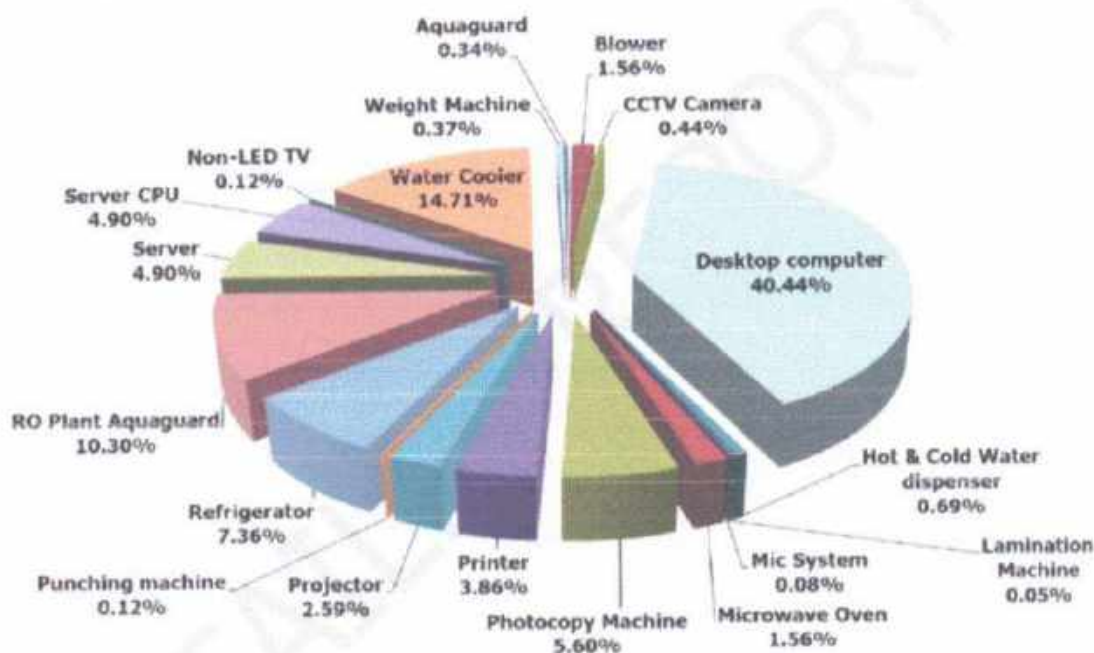


Figure 3: Energy consumed by types of equipment in the educational sector based on the usage study

The above summary shows that the **desktop computer** consumes more energy at **40.44%** while the **water cooler** consumes **14.71%** whereas the **RO plant Aquaguard** consumes **10.30%** and the **photocopy machine** consumes **5.60%** these are the maximum consumers as compared to other equipment.



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## 6. Suggestion

### 6.1 Section-wise suggestions

The following suggestions are to be considered as a **first priority** for implementation. These 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.

#### 6.1.1 Electromechanical systems - Electrical and Lighting

##### Section 1 - Non-LED lights

The current light analysis shows that Non-LED lights consume anywhere between 50W to 54W and even more when in use; these should be replaced with LED lights which consume on an average 12-16W when in use.

Our technical research shows that there would be a reduction of an average of **67% reduction** in energy consumption if replaced with energy efficient appliance.

It will be suggested to either replace these now if the Institute can have certain plans else the replacement can be done when fans get damaged or are not in working condition.

##### Section 2 - Ceiling fans

The current Fans are in proper working conditions and maintained well. The ceiling fans are in more quantity and consume at least 45W when in use. These should be replaced with energy efficient fans consuming 14W when in use.

Our technical research shows that there would be a reduction of an average of **69% reduction** in energy consumption if replaced with energy efficient appliance.

It will be suggested to either replace these now if the Institute can have certain plans else the replacement can be done when fans get damaged or are not in working condition.

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## 6.2 General suggestions

The following details are consolidated study recommendations related to 'entire Institute' and should be considered as **second priority** for implementation, once the section wise recommendations are implemented. The following recommendations should be **implemented within 2.5 to 3.5 years from the date of the Report submission.**

### 6.2.1 Alternatives towards Smart premises mechanisms

#### 6.2.1.1 Facility management systems, controls

(Includes electromechanical systems – Electrical, Water)



Light switch



Photo sensor



Occupancy sensor  
(ultrasonic, infrared)

Plate 1: Understanding the lighting concepts

Source: <https://www.scribd.com/document/404226416/Smart-Lighting-Concepts>

The above diagram provides a detailed study of how the system controls should be incorporated in the premises as far as lighting systems are considered. The suggestions for this sub-section are listed below.

- Install PIR control of the lighting in the toilet areas.
- Install low flow taps with automatic shut off in the toilets.
- Install push button timer control in all rooms lighting and ceiling fans.
- Install Power Electronics control of the Foyer notice board lighting.
- Installation of intelligent lighting controller will help in controlling the lighting energy.
- Use of photo sensor switch for street light controlling helps in conserving the lighting energy.

*R. J. J.*

VC PRINCIPAL



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**6.2.12 Smart gardening**

The Institute can undertake a Smart Gardening system using IoT Technology. This will result in saving time by scheduling time for watering; saving money through automated water schedules tracking dampness of soil to know when, how much water garden needs.



Plate 2: Solar farm concept for the Institute (For reference purpose only)

Image source: <https://www.123rf.com/photo/144144144-smart-gardening.html>

Data source: <https://www.researchgate.net/publication/318444444-What-is-smart-gardening>

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SINHGAD COLLEGE OF COMMERCE

Chandivali, Mumbai - 400 072.





## On-site investigation and physical verification

Audit Team during the visit and other photos collected during data documentation



Induction, exit meeting and group photo with the team



On site investigation with the team in washrooms, classrooms and general areas



On site investigation with the team in administrative and library areas



On site investigation with the team in the outdoor and rooftop areas



*R. K. Kulkarni*  
I/C PRINCIPAL



## 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://housing.com/news/smart-gardening/>
- Inference study reference image

[https://seors.unfccc.int/applications/seors/attachments/get\\_attachment?code=NG125PFE4WHMWSYAK8TCAKIHMWX0F4QD](https://seors.unfccc.int/applications/seors/attachments/get_attachment?code=NG125PFE4WHMWSYAK8TCAKIHMWX0F4QD)



*[Signature]*  
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Lined area for writing.

Greenvio Solutions | Sustainable Academe | Developing Healthy and Sustainable Environments | [sustainablecademe@gmail.com](mailto:sustainablecademe@gmail.com)



*R. Hemant*

**L.C. PRINCIPAL**

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Chandivali, Mumbai - 400 072

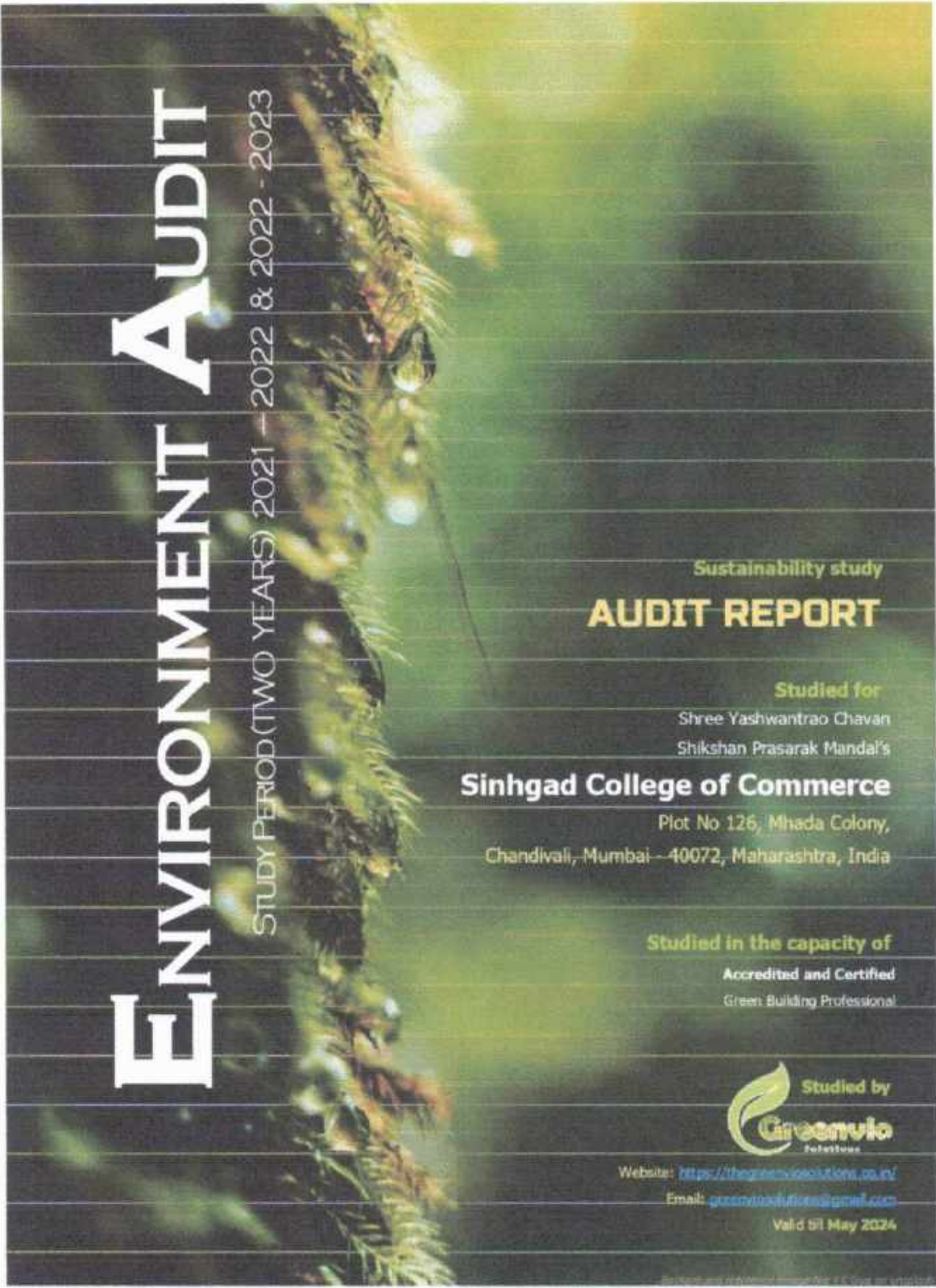


SHRI YASHWANTRAO CHAVAN SHIKSHAN PRASARAK MANDAL'S

# SINHGAD COLLEGE OF COMMERCE

(Affiliated to University of Mumbai)

## 3) Environment Audit Report




**ENVIRONMENT AUDIT**

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

**Sustainability study**  
**AUDIT REPORT**

**Studied for**  
Shree Yashwantrao Chavan  
Shikshan Prasarak Mandal's  
**Sinhgad College of Commerce**  
Plot No 126, Mhada Colony,  
Chandivali, Mumbai - 40072, Maharashtra, India

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

**Studied by**  
  
Website: <https://thegreenvisionsolutions.co.in/>  
Email: [greenvisionsolutions@gmail.com](mailto:greenvisionsolutions@gmail.com)  
Valid till May 2024



*R. K. Kulkarni*  
**I/C PRINCIPAL**

SCOC, Plot No. 126, MHADA Colony, Gandivali, Mumbai - 400 072. Tel.: 022-28572094 / 93  
Chandivali, Mumbai - 400 072.





## Disclaimer

The Audit Team has prepared this report for the **Shree Yashwantrao Chavan Shikshan Prasarak Mandal's Sinhgad College of Commerce** located at Plot No 126, Mhada Colony, Chandivali, Mumbai - 40072, Maharashtra, India based on input data submitted by the Institute analysed by the team to the best of their abilities.

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

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

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

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

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

### 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

[sustainable@greenvio.com](mailto:sustainable@greenvio.com)

**I/C PRINCIPAL**

**SINHGAD COLLEGE OF COMMERCE**







## Acknowledgement

The Audit Assessment Team extends its appreciation to the **Shree Yashwantrao Chavan Shikshan Prasarak Mandal's Sinhgad College of Commerce, 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 **Prof. M. N. Navale** and everyone from the Management.

Our heartfelt thanks are extended to the Chairperson of the entire process **Dr. Ritika Hemdev**, Principal for the valuable inputs.

We are also thankful to Institute's Task force the faculty members who have played a major role in data collection Mr. Suhas Kamble, Assistant Coordinator.

We highly appreciate the assistance of Mr. Amol Karande, Clerk and 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



*R Hemdev*

**HC PRINCIPAL**

SINHGAD COLLEGE OF COMMERCE  
Chandivali, Mumbai - 400 072.





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*[Signature]*

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**Evidence of the on-site investigation**Evidence of the visit on **Saturday, 17 June 2023**

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**Evidence documents for Site visit of external audit team**

Audit team knowledge & expertise report - 17 June 2023  
Approved & Certified Project Building Professional (PBBP) ISO 26001  
Audit report form Green Audit for the registration of the premises

Audits covered: ☒ Green audit ☒ Energy audit ☒ Environment auditInstitute: Sinhgad College of CommerceDate: 17 June 2023**Document objective: Inferences of the Site visit**

Observations (Positive aspects)	Suggestions (Improvement aspects)
<b>Green Audit</b>	
- Pest control initiatives undertaken to maintain hygiene of premises.	- Undertake water conservation facilities such as aerobes etc. - Undertake waste management
<b>Energy Audit</b>	
- Well ventilated spaces for thermal & visual comfort - Less nos of air conditioning load	- Undertake energy conservation & management facilities
<b>Environment Audit</b>	
- Fire & life safety measures have been undertaken	- Retriekt green water - green & break out zones

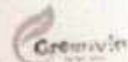


Signature & round seal  
Name: P. R. H. H. H.  
Designation: I/C Principal  
For the said Institute



Signature & round seal  
Name: A. Shikh  
Designation: Project Coordinator  
For The Greenvio Solutions

Website: [greenvio.com](http://greenvio.com) Email: [greenvio@greenvio.com](mailto:greenvio@greenvio.com)



Signature  
I/C PRINCIPAL



**Evidence of the on-site investigation**Evidence of the visit on **Saturday, 17 June 2023**

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**Evidence documents for Site visit of external audit team**

Audit team headed by external expert - Mr. Pashika Ashoka  
Accredited & Certified Green Building Professionals (S&S) (S&S)  
Audit objective: Green Building upgradation of the premises

Audits covered: ☒ Green audit ☒ Energy audit ☒ Environment auditInstitute: Sinhgad College of CommerceDate: 17 June 2023**Document objective: Proof of the Site visit****Meeting with the core team****Investigation of the systems**

Signature & stamp of the  
Name: Dr. Pashika Ashoka  
Designation: I/C, Mumbai  
For the said Institute

Signature & stamp of the  
Name: Mr. P. Ashoka  
Designation: Project Coordinator  
For The Greenvio Solutions

Website: [greenviosolutions.com](http://greenviosolutions.com) Email: [greenviosolutions@gmail.com](mailto:greenviosolutions@gmail.com)

P. Ashoka  
I/C PRINCIPAL



## 1. Introduction

### 1.1 About the Institution

**Shri Yashwantrao Chavan Shikshan Prasarak Mandal (SYCSPM)** was established in the year 1985 with an objective of providing quality education in the fields of Arts, Commerce, Vocational subjects and basic school. It is registered under the Societies Registration Act 1860 and BPT Act, 1950.

**There are 6 institutes under the aegis of the Mandal offering full-fledged School/College education and training in vocational courses.** All the Institutes under the Mandal are recognized by the concerned statutory authorities and meticulously fulfil the norms and standards laid down by them.

**Sinhgad College of Commerce was established with a view to conducting undergraduate Commerce & Management courses of the University of Mumbai.** The College conducts the following three-year integrated degree courses:

- ☐ Bachelor of Commerce (B.Com.)
- ☐ Bachelor of Management Studies (B.M.S.)

### 1.2 Statements of the Institution

#### 1.2.1 Vision

The Institute proposes *"To shape & carve management experts & professionals by institutionalizing dissemination of relevant knowledge through structured learning systems."*

#### 1.2.2 Mission

The Institute adheres and focuses *"To nurture and transform young talent into world class managers. Inculcate the values of perseverance, coherence, endurance and encourage discovering the competencies of students."*



*[Signature]*  
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### 1.3 Assessment of the Institute

#### 1.3.1 Affiliation

The Institute is affiliated to **Mumbai University**, a collegiate state-owned public university in Mumbai and one of the largest university systems in the world.

#### 1.3.2 Certification

The College has received the code under **All India Survey of Higher Education (AISHE)** wherein the code is C-34216.

### 1.4 Facilities

Some of the key facilities are listed below.

- Well stocked library
- Computer laboratory with latest softwares
- Conference hall
- State of the art Seminar hall
- Hygienic canteen and mess



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## 2. Overview

### 2.1 Summarised Populace analysis for 2022-2023

#### 2.1.1 Students data

The data (shared by the Institute) shows there were a total of **182 male and 153 female students**.

#### 2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	03	03	06
2	Teaching staff	01	04	05
3	Non-Teaching staff	05	00	05
Total Staff Members		09	07	16

Table 1: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises had a total of **16 Staff Members**.

### 2.2 Summarised Populace analysis for 2021-2022

#### 2.2.1 Students data

The data (shared by the Institute) shows there were a total of **175 male and 149 female students**.

#### 2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Admin staff	03	03	06
2	Teaching staff	01	04	05
3	Non-Teaching staff	05	00	05
Total Staff Members		09	07	16

Table 2: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had a total of **16 Staff Members**.



*[Signature]*  
HOD PRINCIPAL



### 2.3 Site Area & Institute Building Spread Area

The site area is 0.15 acre for an approx. 351 footfalls.

### 2.4 Institute Infrastructure

#### 2.4.1 Establishment

The Institute was established in 2008.

#### 2.4.2 Spatial Organisation

The Institute is located in a pollution free and healthy environment.

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

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

### 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 College is working for 280 days beginning at 07:30 hours up to 17:30 hours.



*[Signature]*  
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### 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



*[Signature]*  
Principal

**Evidence of the on-site investigation**Evidence of the visit on **Saturday, 17 June 2023**

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**Evidence documents for Site visit of external audit team**

Audit team headed by external expert - Dr. Nikhita A. Shalkh  
Accredited & Certified Green Building (Greenstar) ISO 14001  
Audit objectives: Capture feedback on all problems of the premises

Audits covered: ☒ Green audit ☐ Energy audit ☒ Environment auditInstitute: Sinhgad College of Commerce Date: 17 June 2023Document objective: Induction Meeting attendance sheet

S. No.	Name	Committee	Designation	Signature
1.	Mrs. F. A. Shalkh	External	Project Coordinator	
2.	Ar. Nehida Abdulla	External	Project Head	
3.	Dr. Ritika Hemdev		Principal	
4.	Prof. Samita Ghosh		IQA coordinator	
5.	Prof. Shivani Akhane		Teaching faculty	
6.	Prof. Aparna Motekar		"	
7.	Mr. Kamble		Non Teaching	
8.	Mr. Ingle		"	



Signature &amp; round seal

Name: DR. RITIKA HEMDEVDesignation: Principal

For the said Institute



Signature &amp; round seal

Name: Mrs. F. A. ShalkhDesignation: Project Coordinator

For The Greenvio Solutions

Website: <http://greenviosolutions.co.in> Email: [greenviosolutions@gmail.com](mailto:greenviosolutions@gmail.com)**VC PRINCIPAL**



## 4. Documentation

Environment is an essential part for human survival. We co-exist with the environment and it cannot be termed as a separate entity. The Ecological audit helps to understand the flora, fauna that exists and steps that can be taken to improve the same. To denote if there are problems related to sound in and around the surrounding. In terms of the carbon footprint it helps in keeping a tab on the eco-friendly habits incorporated by the inhabitants of the premises.

### 4.1 Open Spaces

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

### 4.2 Flora audit

A flora survey was carried out to identify the total numbers of plants and trees. Some of the common plantations include the following:

S. No.	Plant name	Type	Nos.	Planted by
1	Hibiscus	Tree	3	Staff members
2	Java Plum	Tree	1	Staff members
3	Areca Nut	Tree	14	Staff members
4	Coconut	Tree	9	Staff members
5	Ashoka tree	Tree	24	Staff members
6	Mango	Plant	3	Students
7	Almond	Tree	4	Students
8	Cluster Fig	Tree	3	Students
9	Peepal Tree	Tree	2	Students
10	Guava	Tree	3	Students
11	Moringa	Plant	2	Students

Table 3: Details of the Flora in the premises

**At present there are 68 numbers of plantations in the premises.**







### 4.3 Noise Audit

On a macro level the College is surrounded by huge educational and residential blocks **thus there is a peaceful and noise free arena observed within the premises.**

### 4.4 Carbon Footprint Audit

#### 4.4.1 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.

#### 4.4.2 Heat Island Reduction

The external temperature is well under control owing to shaded walkways and huge nos. of plantations all over the premises.

### 4.5 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 of blocks with Handrails for support
- ⇒ Lifts for vertical circulation

### 4.6 Fire Safety

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. **Provisions such as extinguishers, sand buckets are available.**



*[Signature]*  
**V.C. PRINCIPAL**

## 5. Investigation

*A site visit was conducted at the premises on **Saturday, 17 June 2023** and the following observations were noted as part of the physical investigation.*

### 5.1 Improvement aspects

The following suggestions are to be considered as a **first priority** for implementation. These **should be executed within the next 1 year from the date of the Report submission.** The Institute can execute a plan after discussion with Project Head.

#### • Extra care for the rooftop areas

- Introduce the signboards about 'No students are allowed to enter this area'
- Upgrade the space as cool roof by painting it with cooltop material.
- Undertake feasibility study of before and after temperature reading.
- Take precautions to keep terrace areas free of any kind of storage materials

#### • General aspects (Outdoor areas)

- Increase in green cover on rooftop
- Placards and manuals for awareness
- Development of breakout zones at relevant locations
- Develop plantations around the vertical garden areas
- Increase sensitization programmes

#### • Messages in the all buildings

Include quotes and messages from eminent personalities all over the premises on beam for inspiration and beautification.



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## 6. Suggestion

The following suggestions are to be considered as a **second priority** for implementation. These **should be executed within the next 3.5 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.

### 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.

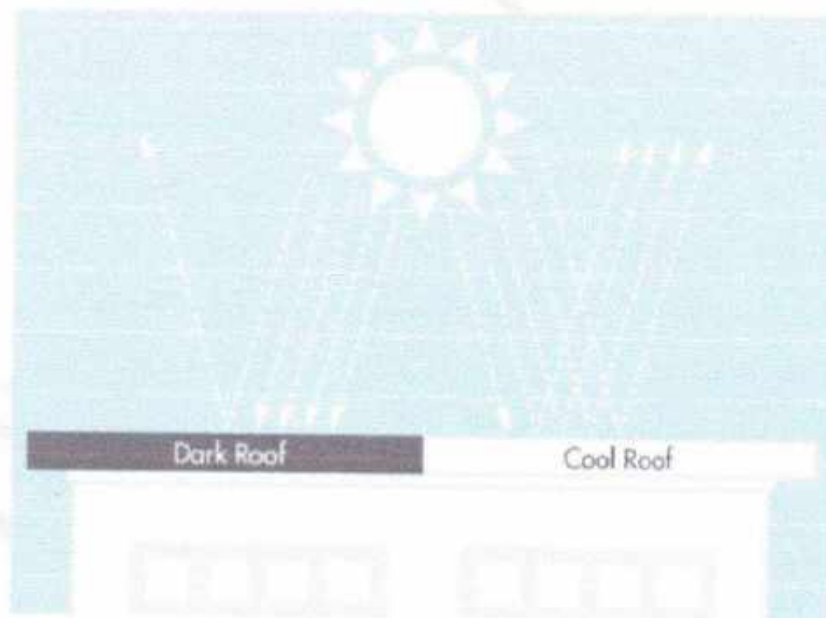


Plate 1: Cool roof comparative analysis (For reference purpose only)

Source: Image by <https://www.gettyimages.com/detail/stock-photo/cool-roofs-281574992105287>





### 6.3 Universally accessible premises

- **Universal Toilet** - There should be a minimum of 1 toilet in every block for the specially-abled people as per guidelines prescribed by the National Building Code 2016.
- **Resting places** - There should be increased provision for resting places on-premises outdoor and indoors.
- **Provisions for visually impaired - Audio Visual Section** - There should be dedicated section for their visually impaired students to listen to the audio books; Abrar the audio book reader should be available.

### 6.4 Life safety

- **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

- **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.
- **Bicycles as a gift** - As an appreciation gesture maybe the student's toppers/ staff best performers can be awarded a bicycle occasionally.





## On-site investigation and physical verification Audit Team during the visit and other photos collected during data documentation



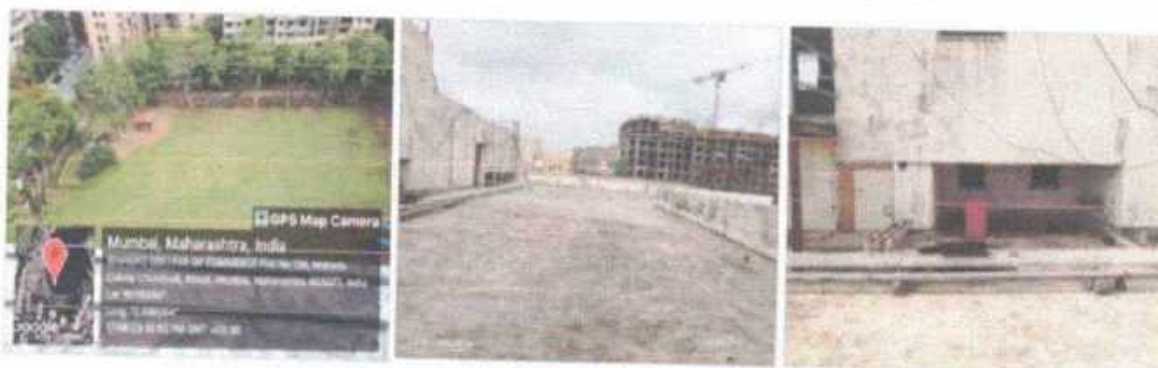
Induction, exit meeting and group photo with the team



On site investigation with the team in washrooms, classrooms and general areas



On site investigation with the team in administrative and library areas



On site investigation with the team in the outdoor and rooftop areas



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## 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/heatislands/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>



*[Signature]*  
H.C. PRINCIPAL

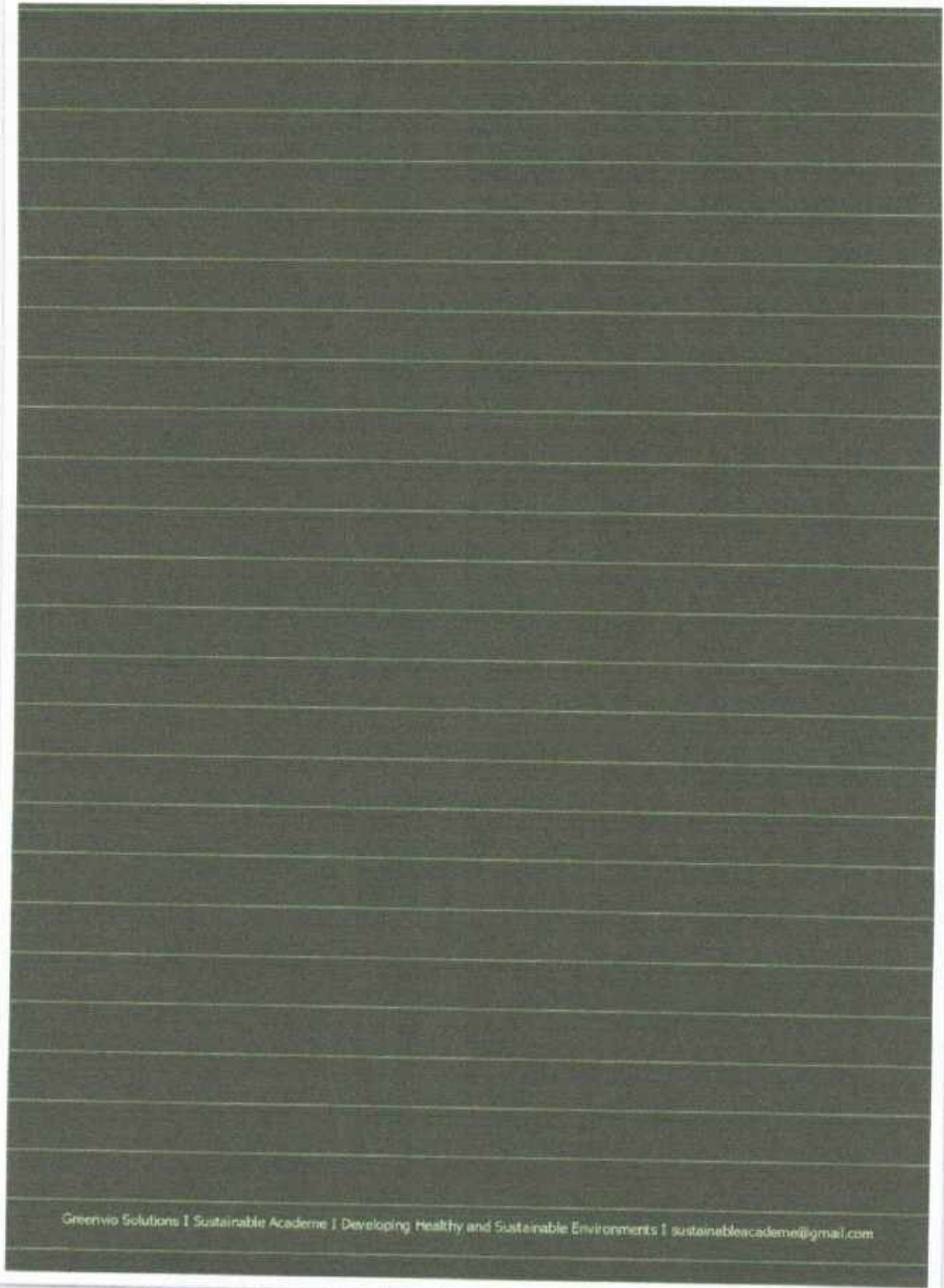




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Greenvio Solutions | Sustainable Academe | Developing Healthy and Sustainable Environments | sustainablecademe@gmail.com



*R. K. Kulkarni*

I/C PRINCIPAL

SCOC, Plot No. 126, MHADA Colony, Chandivali, Mumbai - 400 072. Tel.: 022-28572094/93  
SINHGAD COLLEGE OF COMMERCE  
Chandivali, Mumbai - 400 072.