

7.1.6 The institutional environment and energy initiatives are confirmed through the following 1. Green audit 2. Energy audit 3. Environment audit 4. Clean and green campus recognitions/awards 5. Beyond the campus environmental promotional activities

Sr. No.	Title	Page No.
1	Green Audit Certificate and Report	1
2	Energy Audit Certificate and Report	7
3	Environment Audit Certificate and Report	41
4	Clean And Green Campus Initiatives	48-50
	4.1 Green Cover Policy	48
	4.2 Notice for Restrictions on use of Plastic in Campus	50
5	Beyond The Campus Environmental Promotion Activities	51-63
	5.1 Beyond The Campus Environmental Promotion Activities 2022-23	51
	5.2 Tree Plantation Drive at Talegaon Dabhade	56

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reen Hudit Certificate

is awarded for 2019-20 and 2020-21 (Analysed for 2 years) to the Esteemed Institution

Shree Chanakya Education Society's

Indira College of Engineering & Management

Gat No 276, Tal. Maval, S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra 410506

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

Issued on Wednesday, 15 June 2022 valid till June 2023

Ar. Nahida Shaikh Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS) Assocham GEM Certified Professional (Regn. No. 22/718)

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PERIOD (TWO YEARS) 2019-20 & 2020-21

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Sustainability study

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Indira College of Engineering & Management

Gat No-276, Tal. Maval, S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra 410506



Valid till June 2023

Disclaimer

The Audit Team has prepared this report for the **Shree Chanakya Education Society's Indira College of Engineering and Management** located at <u>Gat No 276, Tal. Maval,</u> <u>S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra</u> <u>410506</u> based on input data submitted by the College and analyzed 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 a 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 while 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.

Greenvio Solutions

Developing Healthy and Sustainable Environments We are an Environmental and Architectural Design Consultancy firm <u>Sustainable Academe</u> is our department for conducting Audits Palghar District, Maharashtra- 401208 <u>sustainableacademe@gmail.com</u>



Introduction

About Shree Chanakya Education Society

It was established in February 1994, under the visionary leadership of Dr. Tarita Shankar, to provide top-quality post-graduate education in the fields of Business Management, International Business, and Information Technology. By consistently providing quality education over the past few decades, institutes at Indira Group are now considered one of the best institutes in Pune.

Assessment of the College

- The College has all its courses approved and affiliated with the Savitribai Phule Pune University, <u>a collegiate public state university located in the city of Pune</u>, <u>Maharashtra.</u>
- **AISHE** The code is <u>*C-41944.*</u>
- NIRF The College has been *participating in the NIRF rankings every year.*
- **NAAC** The College had received a CGPA of 2.92 with a 'B++' Grade in its First cycle of Accreditation in2019.

Total College Area & College Building Spread Area

The total site area is 10 acres and the total Built-up area of the College is 1,70,803 sq. ft. for a total of 1,428 footfalls.



Green Practices Audit

The Institution has undertaken the following initiatives toward saving environment measures.

- 1. **The solar workshop** was organized by Mechanical Department on the occasion of Gandhi Jayanti on 02/10/2019
- 2. NSS performed a cleanliness drive at Somatane Village on 23/01/2020
- 3. NSS team planted plants on ICEM premises on 1/10/2020
- 4. Village Cleaning at Parandwadi Village on 11/03/2021
- 5. ICEM celebrated World Environment Day with a tree Plantation campaign on 5/6/2021
- 6. NSS and Student Council jointly organized a tree plantation at ICEM premises on 15/09/2021
- 7. NSS and Student Council Organized Swachata Abhiyan in Parandwadi Village on 22/10/2021
- Experts session on energy efficiency was conducted by Prof. Pratima Gaikwad on 14/10/2020
- 9. Prof. Shreyas Satpute from the Civil department, ICEM conducted the Session on Green Construction and Design.
- 10. Prof. Shubhangi Manwatkar attended ATAL FDP on "Energy Engineering" during 9-13 November 2020
- 11. Prof. Shubhangi Nanwatkar attended ATAL FDP on "Green Technology" during 16-20 November 2020





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Gat No 276, Tal. Maval, S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra 410506

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

Issued on Wednesday, 15 June 2022 valid till June 2023

Ar. Nahida Shaikh Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS) Assocham GEM Certified Professional (Regn. No. 22/718)

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Sustainability study

AUDIT RE

Studied for Shree Chanakya Education Society's **Indira College of Engineering & Management**

2019-20 & 2020-21

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t No 276, Tal. Maval, S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra 410506



Valid till June 2023

Background reference image Janko Ferlic on pexels

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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 an Accredited and Certified Green Building Professional-Architect; I.A.(IMS) 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 incapacity of an Accredited & Certified Green Building Professional with extensive experience.

Greenvio Solutions

Developing Healthy and Sustainable Environments We are an Environmental and Architectural Design Consultancy firm <u>Sustainable Academe</u> is our department for conducting Audits Palghar District, Maharashtra- 401208 <u>sustainableacademe@gmail.com</u>



Acknowledgment

The Audit Assessment Team thanks the **Shree Chanakya Education Society's Indira College of Engineering and Management** for assigning this important work of Energy Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are due to **Dr. Tarita Shankar**, Chairperson; **Prof. Chetan Wakalkar**, Group Director; **Mr. Adesh Gaekwad**, Trustee and Director – Projects; **Mr. Sandip Gaekwad**, Trustee & Director HR and everyone from the Management- Indira Group of Institutes.

Our heartfelt thanks to the Chairperson of the entire process **Dr. Sunil B. Ingole**, Principal, for the valuable input.

We are also thankful to **College's Taskforce and the faculty members** who have collected data required **Dr. Kiran D. Devade**, HoD First-Year Engineering and Associate Professor Mechanical Engineering Department **(Special mention for the excellent coordination)**

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



Contents

1.	Introduction	.4
2.	Institution overview	.7
3.	Green Building Study Audit	.9
4.	Energy Audit	10
5.	Towards a Healthy & Sustainable Institution	29
6.	References	29



1. Introduction

1.1 About Shree Chanakya Education Society

It was established in February 1994, under the visionary leadership of Dr. Tarita Shankar, to provide top-quality post-graduate education in the fields of Business Management, International Business, and Information Technology. By consistently providing quality education over the past few decades, institutes at Indira Group are now considered one of the best institutes in Pune. At a time when India was struggling to put its economy back on its feet, after the nation having pawned the "family jewels" just to keep afloat, Dr. Tarita Shankar sensed that education too would have to become more broad-based and more vocational if India was to stand up to the world competition in quality and price for its products.

The then Finance Minister had prescribed for the economy and so, in 1994, began a saga of growth and quality in education; a story that is just reaching its zenith with 14 full fledged Institutes registering a strong presence on Pune's educational horizon. Since its inception, the Institutes managed by SCES, have maintained high academic standards and have successfully provided trained manpower to the industrial and services sector of the country. These institutes are now listed among the top colleges not just in Pune, but also in Maharashtra and India. With a modest strength of 60 students pursuing a single course, SCES has grown steadily and today boasts of 14 Institutes, having more than 8000 students from all over India pursuing multi-disciplinary, graduate & post-graduate programs. The objective of the institute is to provide 'Management education in a corporate environment', which has been possible due to the sincere and dedicated efforts of the members of SCES, who have invaluable experience in varied areas like academics, industry, service, and the social world.

1.2 Statements of the Institution

1.2.1 Vision

"The institute envisions to "*develop itself into a center of academic excellence in the field of Engineering and Management education to develop future technocrats and managers having the right knowledge, skill, and attitude to serve the society and industries to fulfill their ever-changing requirements.*"



1.2.2 Mission

The College seeks to realize its Vision with a Mission to:

- 1. To train our students to become the best Engineering Entrepreneurs today, who will lead the organizations successfully into the future; locally, nationally, and globally.
- 2. To provide an environment that fosters continuous improvement & innovation with related technical support & facilities to enhance student and faculty effectiveness.
- 3. To provide programs focusing on the holistic development of the individual with an emphasis on personality grooming, physical fitness, and a strong sense of social and environmental responsibility.
- 4. To improve logic & scientific reasoning and develop a global mindset amongst the students and prepare them to work in a heterogeneous environment.

1.3 About the Institution

The College has a motto of **"Empowering minds to elevate lives."** It is affiliated with the Savitribai Phule Pune University and provides the following programs:

- Graduation It offers the following courses Bachelor of Engineering (B.E.)
 - Civil Engineering
 - Computer Engineering
 - Mechanical Engineering
- **Post-Graduation** It offers the following courses
 - Masters of Business Administration (MBA)
 - Masters of Computer Application (MCA)

The College works towards training young men and women to be competent, committed, and compassionate, and lead in all walks of life.



1.4 The surrounding premises around the Institution

The Premises is situated amidst the landscape serene **Pune region of Maharashtra state** with immense peace and calmness in the surroundings as there are residential areas around the premises. The location of the College is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens, and Police Station which are not too close but nearby.

1.5 Assessment of the College

1.5.1 Affiliations and approvals

The College has all its courses approved and affiliated with the **Savitribai Phule Pune University**, <u>a collegiate public state university located in the city of Pune, Maharashtra.</u>

1.5.2 Certification

- **AISHE** The code is <u>*C-41944.*</u>
- NIRF The College has been *participating in the NIRF rankings every year.*

1.5.3 Accreditation

NAAC - The College had received a CGPA of 2.92 with a 'B++' Grade in its First cycle of Accreditation in2019.

1.6 Achievements of the College

The College has a tremendous track record of excellence for the educational services provided, below are some of the achievements.

- Outstanding Engineering Institute (West) 2015
- <u>ABP News Educational Award for best academy and Industry Interface -</u> <u>2017</u>
- <u>Outstanding Engineering College -2017</u>
- Top Private Engineering Institute (Western Region) 2020
- Top Private Business School (Western Region) 2020
- Best Educational Institute -2021
- Best Campus Placement and Industry academia Interface -2022



2. Institution overview

2.1 Populace analysis for the Academic year 2019-20

2.1.1 Students data

The student data (shared by the College) shows there were a total of **1,176 Boys and 192 Girls students,** thus there were **a total of 1,368 students** on the premises.

2.1.2 Staff data

Туре	Male	Female	Total
Admin Staff	23	4	27
Teaching Staff	45	41	86
Non-Teaching Staff	20	2	22
Total Staff Members	88	47	135

 Table 1: Staff data of the Institution for 2019-20

The staff data shows the premises had a total of **135** Staff Members.

2.2 Populace analysis for the Academic year 2020-21

2.2.1 Students data

The student data (shared by the College) shows there were a total of **985 Boys and 493 331 students,** thus there were **a total of 1,316 students** on the premises.

2.2.2 Staff data

Туре	Male	Female	Total
Admin Staff	22	2	24
Teaching Staff	41	34	75
Non-Teaching Staff	11	2	13
Total Staff Members	74	38	112

Table 2: Staff data of the Institution for 2020-21

The staff data shows the premises had a total of **112** Staff Members.



2.3 Total College Area & College Building Spread Area

The total site area is 10 acres and the total Built-up area of the College is 1,70,803 sq. ft. for a total of 1,428 footfalls.

2.4 College Infrastructure

2.4.1 Establishment

The College was established in 2007. The college 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.

2.4.2 Spatial Organisation

The overall ambiance of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The color palette not just helps the building to stand out but also provides an Institutional arena. There are provisions for lifts and a staircase for accessibility on the premises, whereas there are amenities such as CCTV, Fire extinguishers, smoke detectors, a first aid box, etc.

2.4.3 Operation and Maintenance of the premises

The interview session was held with the staff regarding the operation and working hours. The Institution is open from Monday to Saturday. The first and third Saturdays are off. The schedule is mentioned below.

S. No.	Section	Spaces	Time	Hours/ day	Days in a year
1	Main Institutional College	Student areas and Teaching faculty	09:30 a.m. to 05:30 p.m.	7	280
2	General areas	Admin areas and library, Passage, staircase, toilet	09:00 a.m. to 05:00 p.m.	8	300

Table 3: Schedule of the timings of the premises



3. Green Building Study Audit

3.1 About the Green Building Study Audit

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

3.2 Analysis of the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit Analysis of the current water consumption of campus; Scope to include Rainwater harvesting and Wastewater treatment on the premises.
- Waste Audit Current waste produced, its segregation, and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of the premises
- Analysis of the flora and fauna of the premises
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of the premises.

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 Timeline of the activities for the Green Building Study Audit

– Induction Meeting

- 23 March 2022
- Allotment and Initiation by the College

- Survey of students and staff completed

- 29 March 2022
- 03 April 2022
- 29 April 2022
- 27 May 2022
- Submission of the Draft Report

– Data submitted by College

- 15 June 2022
- Submission of the Main Report



4. Energy Audit

4.1 Sources of Energy consumption

The sources of energy consumption in a building comprise Lighting, Refrigeration, Ventilation, Cooling, Computers, Office equipment, cooking, space-eating, water heating, and others.

For study purposes, the sources are divided into primary and secondary sources, where the primary is considered for the generation and consumption purposes and secondary sources are additional sources used as an alternative backup. The study emphasizes the consumption patterns, strategies adopted at present, and recommendations that can be implemented to improve the power consumption and utilization pattern.

4.1.1 Primary sources

These are the sources that are consumption and production

- **Electrical (Metered)** This source studies the elements which are connected through a metered system of electrical consumption. Light, fans, air conditioners, equipment, and pumps are the consumers that comprise this category.
- **Renewable (Solar or other)** There are no energy sources available at present.

4.1.2 Secondary sources

The college is located in an urban area and has minimal to zero power cuts, thus there are minimal secondary sources of energy supply at present.

- **1. Inverter, UPS** These are utilized in the administrative areas; amounting to Rs. 2,29,500/- is spent annually on an average towards annual maintenance charges.
- **2. Battery** These are utilized in the administrative areas; amounting to Rs. 1,10,000/- is spent annually on an average towards annual replacement charges.
- **3. Gas cylinders** These are utilized in the chemistry laboratory; amounting to Rs. 2,000/- is spent annually on an average.
- 4. Diesel Generator There are no diesel generators available at present.



4.2 Site investigation analysis

The data investigated and collected through interviews are summarised below:

- The **switch-off drills are practiced at present**, and the maintenance staff and Lab Attendants put off switches of all equipment regularly.
- All the **computers are shut off after use** and also put on power-saving mode.
- There are **Ultra-violet lights used only in the scientific labs for experiment purposes, apart from these any other harmful lights used** in the premise.

4.3 Utility bill audit

Actual Billed Electrical Consumption (2019-22)

The admin department had shared the bills for the Meters connected to Buildings which is the main source of energy supply. The supplier is Maharashtra State Electricity Distribution Limited.

Sr. No.	Month	Units Consumed	Amount
1	Jun-19	18,040	3,96,925
2	Jul-19	27,100	4,09,823
3	Aug-19	26,340	4,67,138
4	Sep-19	29,525	5,97,907
5	Oct-19	26,448	4,72,332
6	Nov-19	26,222	4,68,742
7	Dec-19	24,307	4,47,643
8	Jan-20	25,729	4,71,754
9	Feb-20	26,233	4,82,777
10	Mar-20	26,233	4,73,762
11	Apr-20	9,419	2,64,028
12	May-20	8,152	2,48,744
13	Jun-20	8,622	2,54,110



14	Jul-20	8,227	2,49,464
15	Aug-20	9,683	2,60,054
16	Sep-20	9,540	1,85,102
17	Oct-20	9,858	1,88,986
18	Nov-20	11,145	2,03,693
19	Dec-20	10,557	1,97,123
20	Jan-21	11,034	2,02,810
21	Feb-21	11,145	2,04,251
22	Mar-21	11,714	2,10,642
23	Apr-21	8,810	1,81,343
24	May-21	7,871	1,69,987
25	Jun-21	8,481	1,77,810
26	Jul-21	7,692	1,79,952
27	Aug-21	9,143	1,86,441
28	Sep-21	9,559	1,91,436
29	Oct-21	9,723	1,93,314
30	Nov-21	9,987	1,96,128
31	Dec-21	12,435	2,25,882
32	Jan-22	12422	2,25,507
33	Feb-22	14142	2,46,910
Total		4,85,538	95,32,520

 Table 4: Billed electrical consumption in 2019-22

The above data was studied further and thus it was found that the amount spent by the College on outer electrical supply was **Rs. 95,32,520/- annually for 4,85,538 units. On an average (monthly basis) Rs. 2,88,864/- was spent for 14,713 units.**



Student

Staff Member

4.4 Survey Results

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

4.4.1 Participation

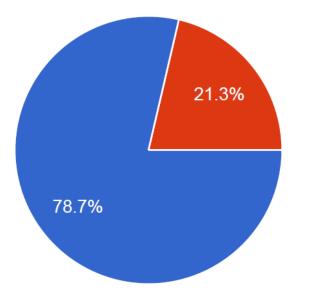


Figure 1: Participation analysis in the survey

A total of **89 responses** were received out of which 79% were students.

4.4.2 Review of the Energy management practices on the premises

Note: The Participants were asked to review the practice on a scale of 1-5 with scale components as follows:

- Scale 1 Poor
- Scale 2 Satisfactory
- Scale 3 Good
- Scale 4 Very good
- Scale 5 Excellent

The figures in each of the columns of the graph depict the Number of participant's responses in numerical (Percentage of the participant response) – For example 101 responses (44.5%)



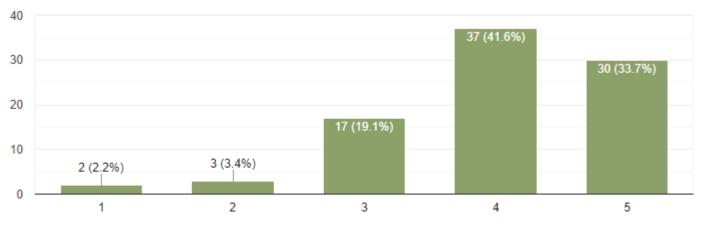


Figure 2: Energy management practices in college

The students and staff (almost 34%) of the respondents found the practices to be excellent and 42% found the practices to be very good.



4.5 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 collection 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 conditioners, and equipment. The inventory and data collection for sources of energy consumed in the premise are summarised in the following sections.

Note: The following analysis is combined for the entire premise taking into consideration the duration before the pandemic to understand the consumption pattern on a regular day.

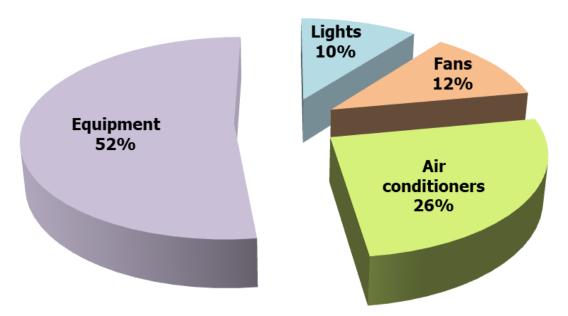


Figure 3: Summary of the calculated electrical consumption as per inventory

The above graph shows that equipment consumes 52% followed by air conditioners at 26% the fans at 12% and the lights consume 10% of the total calculated electrical energy.



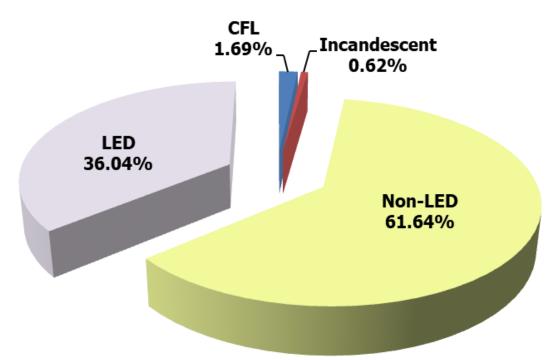
4.6 Lights

4.6.1 Types of lights based on the numbers

There are a total of **1,375 lights on the premises;** the following table shows the various types of lights on the premises.

S. No.	Туре	Nos.
1	CFL	39
2	Incandescent	6
3	Non-LED	449
4	LED	881
Total		1,375

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



4.6.2 Types of lights based on the power consumption

Figure 4: Energy consumed by types of lights in the premise based on the usage study

The analysis of the types of Lights on-premises shows **Non-LED lights 61.64%** followed by **LED lights consuming 36.04%**; the **CFL lights consuming 1.69%** and the **Incandescent lights consuming 0.62%**



4.6.3 Block-wise consumption analysis

The energy consumption of lights is **34,589 kWh** of energy; the following graph shows the block-wise consumption.

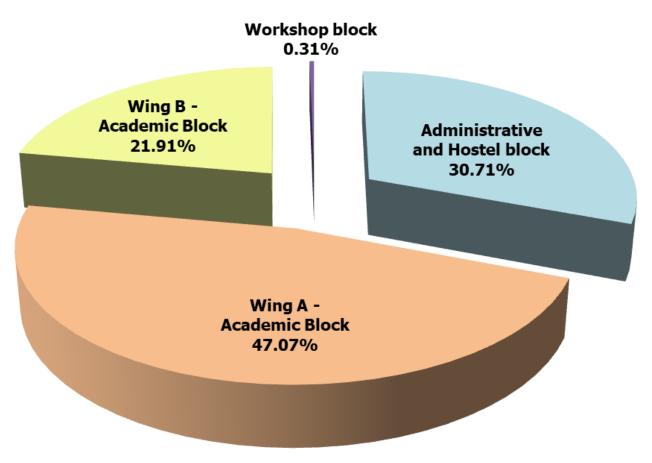


Figure 5: Energy consumed by lights block-wise

The above analysis shows the lights on the **Wing A - Academic Block consume 47.07%** and the ones on the **Administrative and Hostel blocks consume 30.71%**; the **Wing B - Academic Block consume 21.91%** and the ones on the **Workshop block consume 0.31%** of the total power consumed by lights.

4.6.4 Requirement of NAAC

4.6.4.1 Alternative energy initiative

Percentage of power requirement met by renewable energy sources – There are no solar panels at present, thus zero percent of the power requirement is met by solar energy.



4.6.4.2 Percentage of lighting power requirement met through LED lights

The premise has LED Lights to contribute to 64% in terms of number and **36.04% of the power requirement** is met through the same. As per our study, we could conclude that both of these are the highest contributions among all the types of lights.

4.6.5 Site investigation observations

Some of the points noticed are as follows:

- 1. All lights are in working conditions
- 2. Daily monitoring and check are done by the maintenance staff.
- 3. There was no fuse defect observed.



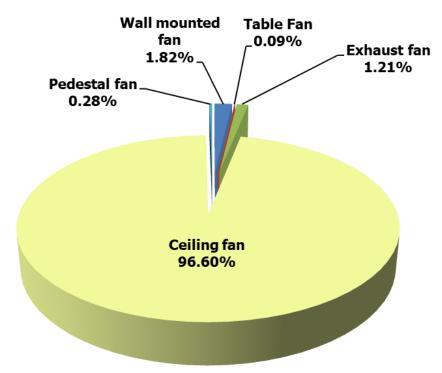
4.7 Fans

4.7.1 Types of fans based on the numbers

There are a total of **631 fans** on the premises. The following table shows the various types of fans on the premises.

S. No.	Туре	Nos.
1	Wall mounted fan	10
2	Table Fan	1
3	Exhaust fan	10
4	Ceiling fan	609
5	Pedestal fan	1
Total 631		

 Table 6: Summary of the types of fans on-premise



4.7.2 Types of fans based on the power consumption

Figure 6: Energy consumed by types of fans in the premise based on the usage study

The analysis of the types of fans on-premises shows **ceiling fans consume 96.60%** and the **wall-mounted fans consume 1.82%;** the **exhaust fans consume 1.21%;** the **pedestal fans consume 0.28%** and the **table fans consume 0.09%**



4.7.3 Block-wise consumption analysis

The energy consumption of fans is **38,065 kWh** of energy; the following graph shows the floor-wise consumption.

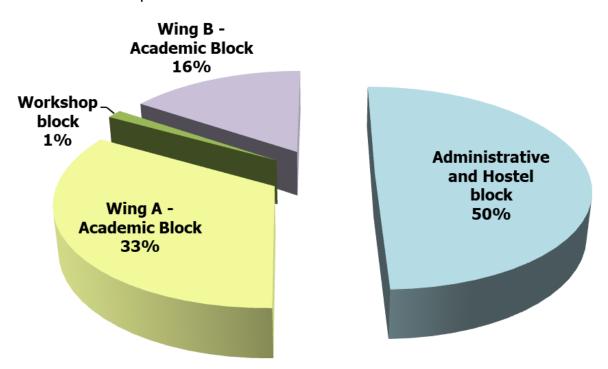


Figure 7: Energy consumed by fans block-wise

The above analysis shows the fans on the **Administrative and Hostel blocks consume 50%** and the ones on the **Wing A - Academic Block consumes 33%;** the **Wing B - Academic Block consume 16%** and the ones on the **Workshop block consume 1%** of the total power consumed by fans.

4.7.4 Site investigation observations

Some of the points noticed are as follows:

- 1. All fans are in working conditions
- 2. Daily monitoring and check are done by the maintenance staff and admin staff excellently.



4.8 Air conditioners

4.8.1 Types of air conditioners based on the numbers

There are **9 air conditioners** on the entire premises.

4.8.2 Block-wise consumption analysis

The energy consumption of air conditioners is **85,316 kWh** of energy; the following graph shows the block-wise consumption.

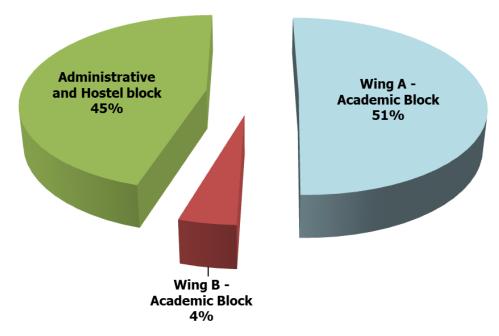


Figure 8: Energy consumed by air conditioners block-wise

The above analysis shows the air conditioners on the **Wing A - Academic Block consume 51%** and the ones on the **Administrative and Hostel blocks consume 45%** and the **Wing B - Academic Block consume 4%**; of the total power consumed by air conditioners.

4.8.3 Site investigation observations

Some of the points noticed are as follows:

- 1. Daily monitoring and check are done by the maintenance staff and admin staff skillfully.
- 2. The Outdoor units were not properly cleaned and maintained and had dust collection problems.



4.8.4 About the replacement of current air conditioners

The current air conditioners are well maintained, though there is not an immediate requirement for replacement however, whenever the college undergoes redevelopment or a new floor is constructed there can be provisions for replacement with energy-efficient appliances or new air conditioners that require less power consumption.



4.9 Equipment

4.9.1 Types of equipment based on the numbers

There are a total of **61 types of equipment totaling 821 numbers** on the premise.

The various types are mentioned in the table below.

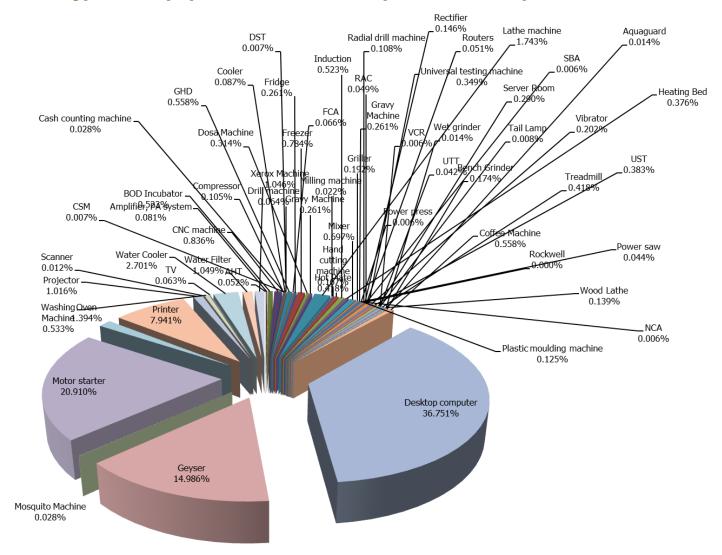
S. No.	Name of the equipment	kwh
1	AHT	1
2	Amplifier, PA system	1
3	BOD Incubator	1
4	CNC machine	1
5	Compressor	1
6	Cash counting machine	1
7	CSM	1
8	Cooler	1
9	Drill machine	2
10	DST	1
11	GHD	1
12	FCA	1
13	Fridge	1
14	Freezer	3
15	Dosa Machine	1
16	Gravy Machine	1
17	Lathe machine	25
18	Milling machine	1
19	Hand cutting machine	1
20	Hot Plate	1
21	Induction	1
22	Heating Bed	3
23	Mixer	4
24	Griller	1
25	Gravy Machine	1
26	NCA	1
27	Power press	1
28	Power saw	1
29	Plastic moulding machine	2



31 Rockwell 1 32 Rectifier 1 33 SBA 1 34 RAC 1 35 Routers 29 36 Universal testing machine 1 37 Vibrator 1 38 UST 1 39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 <	30	Radial drill machine	1
33 SBA 1 34 RAC 1 35 Routers 29 36 Universal testing machine 1 37 Vibrator 1 38 UST 1 39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 4 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 <th>31</th> <th>Rockwell</th> <th>1</th>	31	Rockwell	1
34 RAC 1 35 Routers 29 36 Universal testing machine 1 37 Vibrator 1 38 UST 1 39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine	32	Rectifier	1
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36 Universal testing machine 1 37 Vibrator 1 38 UST 1 39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler <	34	RAC	1
37 Vibrator 1 38 UST 1 39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	35	Routers	29
38 UST 1 39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3	36	Universal testing machine	1
39 Server Room 1 40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	37	Vibrator	1
40 VCR 1 41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	38	UST	1
41 UTT 1 42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Projector 18 55 Projector 3 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	39	Server Room	1
42 Tail Lamp 1 43 Treadmill 2 44 Wood Lathe 2 45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3	40	VCR	1
43Treadmill244Wood Lathe245Wet grinder146Aquaguard247Bench Grinder248Coffee Machine249Desktop computer45750Geyser8651Mosquito Machine452Motor starter353Oven254Printer3055Projector1856Scanner357Washing Machine658TV359Water Cooler5	41	UTT	1
44Wood Lathe245Wet grinder146Aquaguard247Bench Grinder248Coffee Machine249Desktop computer45750Geyser8651Mosquito Machine452Motor starter353Oven254Printer3055Projector1856Scanner357Washing Machine658TV3	42	Tail Lamp	1
45 Wet grinder 1 46 Aquaguard 2 47 Bench Grinder 2 48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	43	Treadmill	2
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48 Coffee Machine 2 49 Desktop computer 457 50 Geyser 86 51 Mosquito Machine 4 52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3	46	Aquaguard	2
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50Geyser8651Mosquito Machine452Motor starter353Oven254Printer3055Projector1856Scanner357Washing Machine658TV359Water Cooler5	48	Coffee Machine	2
51Mosquito Machine452Motor starter353Oven254Printer3055Projector1856Scanner357Washing Machine658TV359Water Cooler5	49	Desktop computer	457
52 Motor starter 3 53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	50	Geyser	86
53 Oven 2 54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	51	Mosquito Machine	4
54 Printer 30 55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	52	Motor starter	3
55 Projector 18 56 Scanner 3 57 Washing Machine 6 58 TV 3 59 Water Cooler 5	53	Oven	2
56Scanner357Washing Machine658TV359Water Cooler5	54	Printer	30
57 Washing Machine 6 58 TV 3 59 Water Cooler 5	55	Projector	18
58 TV 3 59 Water Cooler 5	56	Scanner	3
59 Water Cooler 5	57	Washing Machine	6
	58	TV	3
60 Water Eilter 86	59 Water Cooler		5
	60	Water Filter	86
61 Xerox Machine 4	61	Xerox Machine	4

Table 7: Types of equipment in the premise as per the quantity





4.9.2 Types of equipment based on the power consumption

Figure 9: Summary of energy consumed by equipment on the premises

The above summary shows that the **desktop computer consumes more energy at 36.751%** while the **motor starter consumes 20.910%** the **geyser consumes 14.986%** and the **printer consumes 7.941%** these are the maximum consumers as compared to other equipment. <u>The lift pumps are excluded in this calculation since these</u> <u>are used by the shared Institutions on the premises.</u>

4.9.2 Block-wise consumption analysis

The energy consumption of Equipment is **1,71,715 kWh** of energy; the following graph shows the block-wise consumption.



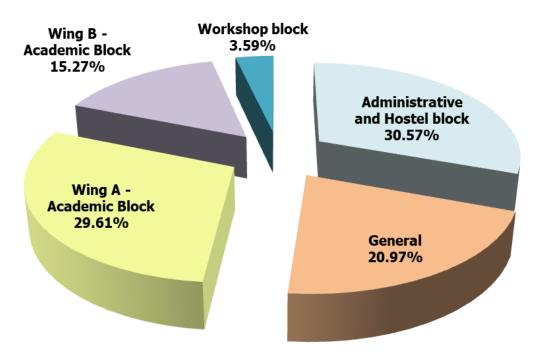


Figure 10: Energy consumed by equipment block-wise

The above analysis shows the equipment on the **Administrative and Hostel blocks consume 30.57%;** and the ones on the **Wing A - Academic Block consume 29.61%;** the **General block consumes 20.97%;** the **Wing B - Academic Block consume 15.27%** and the ones on the **Workshop block consume 3.59%** of the total power consumed by equipment.

4.9.3 Site investigation observations

Some of the points noticed are as follows:

- 1. All types of equipment are in working conditions and daily monitoring and check are done by the maintenance staff and admin staff skillfully.
- 2. No defect was found in any equipment of electrical consumption.



4.10 Recommendations for a Sustainable Habitat

Over time energy-efficient appliances have been a boon not only to the energy-saving parameters they adhere to but also to the eco-friendly habits it helps to inculcate. An institution such as Schools and Colleges is the best way to implement these initiatives. It creates awareness among the students at a young age. The Institutions also act as a symbol and representative of being an energy-efficient premise.

Following the analysis, we found some of the suggestions which can be implemented for an energy-efficient Institution. This would help in the reduction of the current electrical consumption by a major percentage.

4.10.1 Electromechanical systems - Electrical and Lighting Section 1 - Lights

Non-LED, CFL, and Incandescent lights

The current light analysis shows that Non-LED tube lights consume anywhere between 24W, 36W, and 40W and the mercury lights consume 100W when in use; these should be replaced with LED lights which consume on an average 16-20W when in use.

Our technical analysis shows that there would be a reduction of an average of **71% reduction** in energy consumption through lights specifically as a part of the electromechanical system if all **Non-LED**, **CFL**, **and Incandescent lights** are replaced on all floors and blocks = with an energy-efficient appliance whenever the college undergoes renovation.

Section 2 - Fans

Ceiling fans

The current Fans are in proper working conditions and maintained well. The ceiling fans are in more quantity and consume at least 60W when in use. These should be replaced with energy-efficient fans consuming 32W when in use. Our detailed study states that all the **ceiling fans on all floors** if replaced with star-rated appliance results in a reduction of an average of **47% reduction** in energy consumption if replaced with an energy-efficient appliance. It will be suggested to either replace these now if the college can have certain plans else the replacement can be done when fans get damaged or are not in working condition.



Section 3 - Equipment

Desktop computers to laptops

Among all equipment, it suggested replacing the desktop computers with laptops as this would be energy efficient. A normal desktop computer consumes an average of 250W and it is to be connected all time when it has to be used. On the contrary, a laptop consumes 40W and has a battery backup that lasts up to 4 hours.

There is **an average 84% reduction** in energy consumption if replaced with an energyefficient appliance which is a laptop in all the areas of Educational and Residential areas.

This replacement is however dependent on a variety of factors as follows.

- Some of the senior staff members may be more convenient with computers, replacement with a laptop might result in a change of the working patterns and hours which may affect the productivity.
- Laptops in the case are not handled with care such as if dropped unintentionally might result in data imbalance.
- Students who are not day scholars can use a laptop at their convenience, whereas in common areas there can monitoring of the usage hours hence computers may be a preferable option then laptops in certain spaces.
- Similarly, depending on the pandemic situation in case it might be possible due to irregular usage the device might have issues while functioning.

Thus the University should analyze the above points and then devise a strategy for the replacement, essentially when the devices get damaged or are not in working condition they can surely be replaced.

As well as once they are not in working condition the proposed strategy should be linked to e-waste management as well.











5. Towards a Healthy & Sustainable Institution

5.1 **Recommendations based on the study**

In addition to the recommendations provided in each section; the College can adopt the following strategies for Healthy and Sustainable Institution practices.

- a) Cutlery in the Canteen The regular plastic and steel plates, and spoons used in the Canteen can be replaced with eco-friendly/ organic leaves, paper straws, disposable plates, and edible spoons made out of sugarcane waste or bamboo.
- **b) Eco clubs** There can be an eco-club with students working on pilot projects toward the environment and surrounding up-gradation.
- **c) Terrace farming -** There can be a provision for terrace farming; this would enhance the biodiversity, increase awareness, and food grown can be used in Canteen.
- **d) Signages** In addition to the signages being in regular language there can be additional signages in braille language for the specially-abled students.

5.2 Survey Results

An online survey was conducted to analyze the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity. **Some of the suggestions are listed below:**

- Use of student-built technology for waste and resource recycling.
- To increase tree cover & promote a clean environment in our college.
- To conduct more and more programs to aware the students of the greeneries and beauty of nature.
- They should conduct one session a week for awareness of the green environment.

However, it should be noted that the College has taken up multiple initiatives and because of the pandemic, the students have not practically visited the premises so some of these points are not mandatory at the moment.



6. References

- 1. Uniform Plumbing Code India, 2008
- IGBC Green Existing Buildings Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
- 3. 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.
- 6. U.S. Energy Information Administration





GV/ENVT/06-22/91

Environment Hudit Certificate

is awarded for 2019-20 and 2020-21 (Analysed for 2 years) to the Esteemed Institution

Shree Chanakya Education Society's

Indira College of Engineering & Management

Gat No 276, Tal. Maval, S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra 410506

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

Issued on Wednesday, 15 June 2022 valid till June 2023

Nin-

Ar. Nahida Shaikh Architect, IGBC Accredited Professional, ISO Certified I. A. (IMS) Assocham GEM Certified Professional (Regn. No. 22/718)

Project Head and Green Building Professional-Consultant

Sustainable Academe

Sustainability Department of Greenvio Solutions, Naigaon An environment Design and Consultancy developing Healthy and Sustainable Environments sustainableacademe@gmail.com I greenviosolutions@gmail.com



NIRONMEN

STUDY PERIOD (TWO YEARS) 2019-20 & 2020-21

Sustainability study AUDIT REPORT

Studied for

Shree Chanakya Education Society's

Indira College of Engineering & Management

Gat No 276, Tal. Maval, S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra 410506



Valid till June 2023

Disclaimer

The Audit Team has prepared this report for the **Shree Chanakya Education Society's Indira College of Engineering and Management** located at <u>Gat No 276, Tal. Maval,</u> <u>S.NO 64,65, Indira College Road, off Pune Mumbai Expressway, Parandvadi, Maharashtra</u> <u>410506</u> based on input data submitted by the College and analyzed 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 a 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 while 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.

Greenvio Solutions

Developing Healthy and Sustainable Environments We are an Environmental and Architectural Design Consultancy firm <u>Sustainable Academe</u> is our department for conducting Audits Palghar District, Maharashtra- 401208 <u>sustainableacademe@gmail.com</u>



Introduction

About Shree Chanakya Education Society

It was established in February 1994, under the visionary leadership of Dr. Tarita Shankar, to provide top-quality post-graduate education in the fields of Business Management, International Business, and Information Technology. By consistently providing quality education over the past few decades, institutes at Indira Group are now considered one of the best institutes in Pune.

Assessment of the College

- The College has all its courses approved and affiliated with the Savitribai Phule Pune University, <u>a collegiate public state university located in the city of Pune</u>, <u>Maharashtra.</u>
- **AISHE** The code is <u>*C-41944.*</u>
- NIRF The College has been *participating in the NIRF rankings every year.*
- **NAAC** The College had received a CGPA of 2.92 with a 'B++' Grade in its First cycle of Accreditation in2019.

Total College Area & College Building Spread Area

The total site area is 10 acres and the total Built-up area of the College is 1,70,803 sq. ft. for a total of 1,428 footfalls.



Environment Audit

A flora survey was carried out to identify the total number of plants and trees. The detailed study of each type of plantation is as follows.

S. No.	Plant Name	Туре	Nos.
1	Duranta	Shrub	8
2	Areca Palm	Plant	18
3	Royal Poinciana	Tree	37
4	Neem Tree	Tree	29
5	Pluviosa	Tree	12
6	Red Frangipani	Tree	9
7	White Frangipani	Tree	15
8	stereospermum	Tree	15
9	Ashoka Tree	Tree	14
10	Rain Tree	Tree	26
11	Euphorvia	Plant	2
12	bunflower tree	Tree	12
13	Hemiparasitic	Tree	22
14	Foxtail Palm	Tree	43
15	Dyera costulata	Tree	12
16	Blackboard tree	Tree	53
17	Custard Apple	Tree	4
18	Раруа	Tree	2
19	Kapok Tree	Tree	16
20	Chinaberry	Tree	41
21	Banyan Tree	Tree	2
22	Teak wood	Tree	23
23	Befude tree	Tree	18
24	Fragrant Champaca	Tree	6
25	Jasminum	Shrub	1
26	pongam oil tree	Tree	12
27	Mango	Tree	13



28	Punong	Tree	3
29	Sacred fig	Tree	6
30	Acalypha	Shrub	8
31	Red Cedar	Tree	18
32	Guava Tree	Tree	7
33	Jamun Tree	Tree	2
34	Moringa	Tree	15
35	Date Palm	Tree	1
36	Jackfruit	Tree	1
37	Bamboo Tree	Tree	19
38	simarouba glauca	Tree	14
39	Nirgundi	Tree	4
40	Kinai	Tree	11
41	Christmas Tree	Plant	2
42	Besbeschorneria	Shrub	11
43	Shoeblack Plant	Plant	3
44	Red Bullet wood tree	Tree	15
45	Tree Pot	Small Plants	80
46	Small Tree	Small Tree	40

Table 1: Details of the Trees on the premises

At present, there are more than 46 types and 725 numbers of platations on the premises.





Greenvio Solutions I Sustainable Academe I Developing Healthy and Sustainable Environments I sustainableacademe@gmail.com



GREEN COVER POLICY

Indira College of Engineering and Management is one of the prime institutions in Maval region offering Engineering and Management Education at UG & PG level.

Policy Mission:

- 1. To establishing viable committee, within the organization structure of the institute.
- To sweep away wasteful inefficiencies and using conventional sources of energies for its daily power needs, correct disposal handling, purchase of environment friendly supplies and effective recycling program.
- To incorporate the strategies into the institutional planning and budgeting processes with the aim of developing a clean and green campus.
- 4. To work with all stakeholders and the local community to raise awareness and seek the adoption of environmental good practice and the reduction of any adverse effects on the environment.
- 5. To conduct environmental and energy audits from time to time.

Organization and Management:

The duties and supervisory arrangements for this policy lie with a variety of manpower within the Campus.

* Advisory Committee

- a) Chairperson / Principal
- b) Deputy Director Admin
- c) IQAC Coordinator
- d) Institute Faculty Coordinator
- e) Student Representative
- f) Parent Representative
- g) Industry Representative (Alumni Student).

+ Functions of Committee

- a) Seek views of all the Stakeholders to make the green campus initiative functional throughout the year.
- b) Conduct the Campus environmental impacts to identify the targets for improvements.
- c) Conduct an Annual Green, Environment and Energy Audit.

Shree Chanakya Education Society's Indira College of Engineering & Management Parandwadi, Pune.



- d) Develop a strategic plan and create student teams to carry out specific tasks of the strategic plan.
- e) Establish public/private partnerships with personnel from federal, state, and local environmental agencies, utilities, and the business community.

Plan of Action:

- Clean Campus Initiatives
 - a) Generating mass awareness on cleanliness and hygiene amongst students and staff members by holding regular cleanliness drives. The idea is to motivate them to contribute in a proactive manner.
 - b) Activities under 'Swachh Bharat Abhiyan' will be a key component of all the community work being done by NSS, NCC and Green Society volunteers of the college.
 - c) Staff Members will be encouraged to participate in the cleanliness drive in the college campus.
 - d) Events such as poster and slogan competitions, essay writing, spoken word poetry, speeches, and skits on 'Swachh Bharat' will be organised.
 - e) Rallies on themes connected with 'Swachh Bharat Abhiyan' in and around the college campus will be conducted to create mass awareness.
 - f) Remove all kinds of waste material like broken furniture, unusable equipment etc.
 - g) Administer of the pledge by students and staff members to maintain cleanliness of the college campus and its surrounding areas on an annual basis.
 - h) Conduct workshops on the 3Rs: Reduce, reusing and recycling of waste.
 - Commit to manage waste and maintain clean campus especially during college events.

Landscaping Initiatives

- a) The campus landscape, like its buildings, can be seen as the physical embodiment of a college's values. It is a vital part of the life of a campus, providing space for study, play, outdoor events, relaxation and aesthetic appreciation.
- b) Green campus landscapes also manage runoff, help recharge groundwater, and clean and cool the air on campus. The landscape serves as visual representation of the campus community's commitment to sustainability.
- c) As campus landscapes are so visible and accessible, landscaping initiatives are a great way to build awareness around the environment.

Shree Chanakyn - Ucation Society's India Joneye of Engineering & Management Parent + edi Pone



25/06/2022

<u>Notice</u>

All teaching, Non-teaching staff and students are hereby informed that as part of green initiatives campus and prevent environmental hazard generated from plastic usage. Plastic usage is restricted in college campus. Plastic carry bags and other non-recyclable plastic material should not be used. Bags made up of paper, cloth and biodegradable material should be used and promoted.



Dr. Sunil B Ingole Principal NC Principal Indira College of Engineering & Management, Pune

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Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University

Beyond The Campus Environmental Promotion Activities 2022-23

"Plastic Day"

On Plastic Day students actively participated for plastic garbage collection at Parandwadi on 19th October 2022. For this student prepared creative posters displaying slogans and giving message a to create awareness among thepeople about Plastic Day. Many students showed their participation.





Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University



"Tree Plantation"

Indira College of Engineering and Management organized Tree Plantation drive on 26th December 2022 from 02 PM – 04 PM at, Parandwadi. Students were divided into different groups for planting different saplings like Neem tree, Pimpal, Vaad, Peru, and palm.





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"Fort Cleaning"

Date: 16/03/2023 Venue: Visapur Fort

Cleaning of Visapur fort was done by students during trekking. Many plastic bags, chips wrappers, clothes, biscuit wrappers, plastic bottles were collected by students on 16 March 2023 from 10:00am to 3:00pm. For this student prepared creative posters displaying slogans and giving message a to create awareness among the peopleabout fort cleaning.



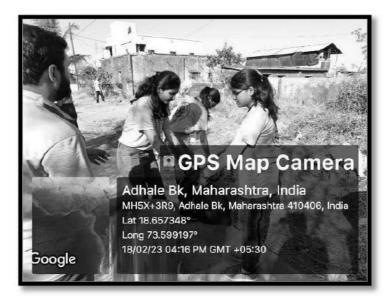




Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University

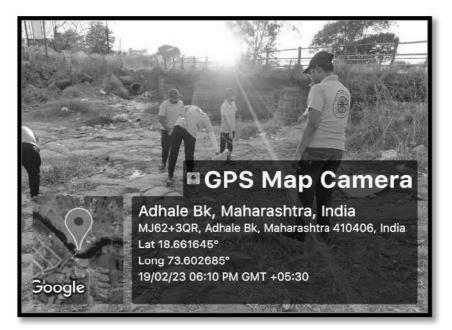
"Gram Swachata Abhiyan"

Indira College of Engineering and Management organized gram swachata abhiyan on in Adhale(BK). Students were divided into different groups to clean the different areas of the village.



"Jalstrot Cleaning Drive"

Indira College of Engineering and Management organized Jalstrot Cleaning drive near water source in Adhale(BK). Students were divided into different groups for cleaning Jalstrot.



SHREE CHANAKYA EDUCATION SOCIETY'S

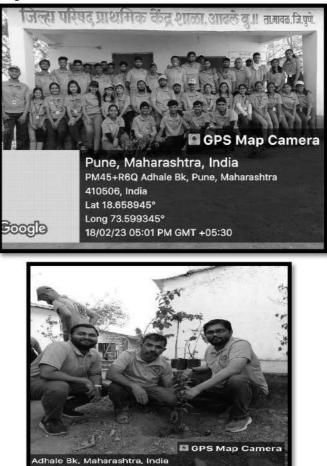
INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT



Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University

"Tree Plantation Drive"

Indira College of Engineering and Management organized Tree Plantation drive Adhale(BK). Students were divided into different groups for planting different saplings like Neemtree, Pimpal, Vaad, Peru, and palm.



Adhale Bk, Maharashtra, India MJ62+30R, Adhale Bk, Maharashtra 410406, India Lat 18.661984° Long 73.602543° 20/02/23 06:24 PM GMT +05:30

Should Programme Officer

Programme Officer Indira College of Engineering & Management



Seal) Sign

Shree Chanakya Education Society's India allege of Engineering & Management Parandwadi, Pune.

Approved By AICTE New Delhi, DTE (MS), Affiliated to Savitribai Phule Pune University and Accredited by NAAC with B++ Grade AISHE Code : C-41944



दिनांक: 18th April 2013

Avirat Campus

प्रति.

मुख्य अधिकारी नगरपरिषद तळेगाव दाभाडे, ता. मावळ, पूणे

विषय : वृक्षरोपण करण्यास परवानगी बाबत

अर्जदार : स्थापत्य अभियांत्रिकी विभाग, इंदिरा कॉलेज ऑफ इंजीनियरिंग अँड मॅनेजमेंट, परंदवार्ड

महोदय,

इंदिरा कॉलेज ऑफ इंजिनीअरिंग अँड मॅनेजमेंट ही पुण्यातील सर्वात प्रतिष्ठित अभियांत्रिकी संस्था आहे आणि शैक्षणिक आणि सह-अभ्यासक्रम उपक्रमांमध्ये उत्कृष्ट रेकॉर्डसाठी ओळखली जाते. महाविद्यालय सावित्रीबाई फुले पुणे विद्यापीठ (SPPU) अंतर्गत स्थापत्य अभियांत्रिकीमध्ये बॅचलर पदवी प्रदान करते.

वरील विषयास अनुसरून विनंतीपूर्वक अर्ज करतो कि, आमच्या स्थापत्य अभियांत्रिकी विभाग, इंदिरा कॉलेज ऑफ इंजीनियरिंग अँड मॅनेजमेंट नी २२ एप्रिल २०२३ (आंतरराष्ट्रीय धरणीमाता दिनाच्या), निमित्ताने तळेगाव अँड तळेगाव लगतच्या डोंगर, टेकडी, गायरान, इ. ठिकाणी वृक्षलागवड करण्याचे ठरविले आहे. त्यासाठी झाडे लावण्यापासून त्याचे सर्व संगोपन आम्ही करणार आहे.

आम्ही ५० झाडे लावण्याचा मानस केला आहे. तरी त्यासाठी आम्हाला आपल्या कार्यक्षेत्रात येणाऱ्या डोंगर. टेकडी, गायरान आणि इतर परिसरात वृक्षरोपण करण्याची परवानगी द्यावी हि विनंती.

कृपया वरील विषयास अनुसरून आपण आम्हाला परवानगी द्यावी हि विनंती.

निखिलं मळीक सविता जंगले डॉ. सनीले इंगोर्ल सहायक प्राध्यापक प्रभारी विभाग प्रमुख संचालक neering H.O.D. Dept. of **संपर्क व्यक्तीचे नाव:** - Prof. Nikhil Mutik Mail ID: tikhihmulik@indiraicem.ac.in, Mobile: 8796255083

Sr. No. 64 65 Gon Vo. 276, Parandwadi, off Pune – Mumbai Highway, near Somatane Phata, Taluka Maval, - Pune 410 506, India Tel. : +91 2114 661500 Fax : +91 2114 661666 e-mail: - info@indiraicem.ac.in www.indiraicem.ac.in



तळेगाव दाभाडे नगरपरिषद

तळेगाव दाभाडे , ता. मावळ , जि. पुणे दूरध्वनी क्र : १८००-२३३-२७३४ ई-मेल : talegaondabhademc@gmail.com संकेतस्थळ : www.talegaondabhademc.org WhatsApp क्र.: ९८९०६१६०८९



जा.क्र.उद्यान-१६/୭*९६′*Ӌ /२०२२ प्रति,

दिनांक: 29 /०४/२०२३

इंदिरा कॉलेज ऑफ इंजिनीअरिंग अँड मॅनजमेंट, परंदवडी, ता.मावळ, जि. पुणे.

> विषय:- वृक्षलागवड करणेस व जागा उपलब्ध करून देणेबाबत. संदर्भ:- आपला दि.१९/०४/२०२३ रोजीचा प्राप्त अर्ज.

विषयांकित प्रकरणी याद्वारे आपणास कळविण्यात येते की, आपण केलेल्या संदर्भीय अर्जास अनुसरून आपणास तळेगाव दाभाडे नगरपरिषद हद्दीतील स्टेशन तळे परिसरात मुंबई पुणे हायवे लगत वृक्षलागवड करणेस परवानगी देण्यात येत आहे.

अटी व शर्ती:-

- वृक्षलागवडीसाठी वृक्षरोपे आपल्या संस्थेकडूनच आणावयाची आहेत.
- २. वृक्षरोपे ही देशी प्रजातीची व कमीत कमी ६ फुट उंचीची असावी.
- वृक्षलागवडीसाठी खड्डे खोदण्याची जबाबदारी आपल्या संस्थेची असेल.
- ४. वृक्षलागवडीदरम्यान कोणताही अपघात अथवा दुर्घटना घडल्यास त्याची जबाबदारी आपल्या संस्थेची राहील.
- ५. सदर कामासाठी नगरपरिषदेकडून मनुष्यबळ / साहित्य पुरवठा केले जाणार नाही.
- ६. केलेल्या वृक्षलागवड उपक्रमाचे Gio Tag फोटो कार्यालयास सादर करावे.
- ७. कोणत्याही अपरिहार्य कारणामुळे समस्या उद्भवल्यास परवानगी रद्द करण्याचे अधिकार नगरपरिषदेने राखून ठेवलेले आहेत.
- ८. उपरोक्त अटींचे उल्लंघन होणार नाही याची दक्षता घ्यावी.



(सुप्रिया शिंदे) उप मुख्याधिकारी तळेगाव दाभाडे नगरपरिषद

भिं<mark>ष रोखीं गल</mark>ा/ शलिपिक् पा_{लिप्स} 20120 - स. <u>पर पते डा</u> (संतोधीः) KIK 444 I'C'E M CIVIL यांजकडून अक्षरी रुपये -1 3, 21 याबद्दल रोख / चेकने मिळाले. 5. 49004 लेखापाल <u> श्री. / मे.</u>— हर्स्स हर्स्स *

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Ref. No: ICEM/Civil Department/2022 -23/Ste 🕬

Date: 18 April 2023

DEPARTMENT OF CIVIL ENGINEERING

NOTICE

This is to inform the students that Civil Engineering Students Association has organized a Tree Plantation Drive on the occasion of International Earth Day on 22nd April 2023, Saturday.

Following are the Instructions to be followed:

Date & Day	_	22 nd April 2023, Saturday
Venue		Talegaon Dabhade Lake
Dress Code		Long Trousers and T-shirts
Timing		08:00 AM

Other

- Carry college ID
- Footwear: sport shoes / Safety Shoes (Accordingly)
- Min 1 L water bottle
- Cap

For further details, Contact

Raj Kuwar

- 9604404300

Omkar Dabhade – 7218761878

Prof. Nikhil Mulik Faculty Coordinator



:

Prof. Savita Jangale I/C Head of Department



Parandwadi, Pune - 410506, Ph. 02114 661500, www.indiraicem.ac.in

Ref. No: ICEM/Civil/2022-23/CESA

Date: 13 Feb 2023

CESA ACTIVITY REPORT

Title	-	Earth Day Celebration
Date	-	22 nd April 2023.
Location	-	Talegaon Lake
Time	-	7:00 AM Onwards

EARTH DAY is celebrated around the world with a beautiful message - "Our continuing efforts in our everyday lives will make this beautiful planet thrive." Earth Day is a proof that even one person can make a global impact in a positive way. Echoing the same, Department of Civil Engineering celebrated "The Earth Day" through Tree Plantation activities on 22nd April 2023 in coordination with **Talegaon Dabhade Nagar-Parishad**.

The Ministry of Environment, Forest and Climate Change (MoEFCC) is implementing plantation/afforestation schemes in the forest areas with participatory approach. The plantation species under the schemes is selected by the implementing agencies/the members of Joint Forest Management Committees (JFMC) on the basis of their needs, ecological conditions and other local factors in consultation with the Forest Department. The conservation and development of forest primarily involves three strategies – afforestation through natural/artificial regeneration, protection and management. The ministry is implementing three major schemes for development of forest areas *i.e.* National Afforestation Programme (NAP) scheme, National Mission for a Green India (GIM) and Forest Fire Prevention & Management Scheme (FFPM). In which NAP is being implemented for afforestation of degraded forest lands.

All this is to achieve the goals set by National Forest Policy of India, i.e. the ideal percentage of total geographical area under forest should be atleast 33% to maintain ecological stability.

Keeping everything in mind we selected such plants which are most popular oxygen - producing tree. Trees like Peepal, Banyan, Mango and Tamarind were selected.

Students were very enthusiastic about the whole program and arranged the complete drive by their selves. We purchased 50 Saplings (Peepal -15, Banyan -15, Mango -10 and Tamarind -10) from Government as well as Private nurseries.



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Prepared By -

Prof. Nikhil Mulik CESA Coordinator

inconi H.O.D. Dept. of Prof. Savita Jangale Civil Engg H I/C HOD *Pune-41

INDIRA

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ATTENDANCE

Following Faculties attended the Tree Plantation Drive

- 1. Prof. Sachin Ingle
- 2. Prof. Nikhil Mulik
- 3. Mr. Atul Talashikar

Following are the students who attended the Tree Plantation Drive

Sr. No.	Name of the Student	Class
1	Raj Kuwar	BE Civil
2	Nikhil Bhosale	BE Civil
3	Dipak Shinde	BE Civil
4	Venkatesh Kamble	BE Civil
5	Maroti Shirfule	BE Civil
6	Rahul Bhavsar	BE Civil
7	Sumedha Takalkar	BE Civil
8	Abhilasha Bhoj	BE Civil
9	Kundar Bendale	BE Civil
10	Ranjeet Kardule	BE Civil
11	Omkar Dabhade	SE Civil
12	Smruti Patankar	TE Civil
13	Harshal Khakare	TE Civil
14	Abhishek Khakare	SE Civil
15	Radhesh Tayade	SE Civil
16	Sanket Shinde	SE Civil

Prof. Nikhi Mulik CESA Coordinator

ita Jangale I/C HOD



तळेगाव दाभाडे नगरपरिषद

तळेगाव दाभाडे , ता. मावळ , जि. पुणे दूरध्वनी कः १८००-२३३-२७३४ ई-मेलः talegaondabhademc@gmail.com संकेतस्थळः www.talegaondabhademc.org WhatsApp क्र.: ९८९०६१६०८९



OUTWARD NO:GARDEN-16/1983 /2023

DATE: 24 /04/2023

Appreciation Letter

On behalf of <u>Talegaon Dabhade Municipal Council</u>, I Thank The Entire Student Team From Indira College of Engineering and Managment Parandwadi, Pune for active and whole hearted support in conducting the Tree Plantation Camp has been organized on the occasion of World Earth Day On 22 April 2023 in Talegaon Dabhade's Station Lake Area, Near Old Mumbai Pune Highway. You have planted 50 No's of indigenous trees we are hopeful of similar Co-operation in all the future endevors too.

Name	: <u>Supriya Shinde</u>
Designation	: <u>Dy.c.o</u>
Organization	: <u>Talegaon Dabhade Municipal Council, Talegaon Dabhade</u>
Sign	:
Stamp	: SOM DAORAGONE
Date	: 24/04/2023