

Children Welfare Centre's College of Law,
Valnai Village, Marve Road, Orelm Bavdi Stop,
Malad (W), Mumbai – 400604



Environment Quality Audit Report (2022-23)

Audited
By



SIES Indian Institute of Environment Management
(SIES IIEM),
ISO 9001: 2015 certified institute for R&D and Lab Testing Services
in Environment Area

Children Welfare Centre's College of Law

Internal Audit Committee

Sr.	Name	Designation
1.	Dr. Anant Kalse	Principal
2.	Mr. Vishnu Dandekar	Trustee
3.	Mr. Suraj Wadhwa	Management Representative
4.	Prof. Manisha Pathak	IQAC Coordinator
5.	Prof. Sneha Gaur	Faculty Representative
6.	Mr. Rohit Karande	Administrative Representative
7.	Ms. Esha Thakur	Student Representative

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Environmental Quality Audit

A good education helps in the formation of character, strengthens the mind and intellect, and hones the skills of the students. Thus, the college believes in imparting education to students for their all-around development to create ideal citizens of the nation.

Educational institutions nowadays are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly. Environmental audits can be a useful tool for an educational institution to determine how and where they are using the most energy or water or resources; the institution can then consider how to implement changes and make savings.

The Environmental Audit period was synchronized with the academic year 2022-23.

Methodology

Environmental monitoring was done by the team of **SIES Indian Institute of Environment Management (IIEM), an ISO 9001: 2015 certified institute for R&D and lab testing services.** Our institute is recognized by the Department of Scientific and Industrial Research, Government of India. The methodology includes tools such as questionnaires, physical inspection, observation, lab analysis, review of documentation, and interviewing key persons. The study covered the following areas.

- 1. Energy Audit**
- 2. Environment Audit**
 - i. Waste Audit
 - ii. Water Audit
 - iii. Noise Audit
 - iv. Air Pollution Monitoring
- 3. Green Audit**

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About The College

Quality education provides students the knowledge, skills, and confidence to reach their full potential. Children who are blessed with education of the highest quality qualify as better human beings and ensure that the message of universal citizenship remains strong. A few committed persons pledged their efforts and wisdom to set up **Children Welfare Centre Trust** with this very intention. The institution offers advanced education programs within the ever expanding geographical and cosmopolitan extent of the city. Registered under the Public Trust Act 1950, it caters to the holistic development of every student and strives to ensure that the objectives of education percolate into every strata of society. Children Welfare Centre, currently in its 43 year of existence, continues its sustained mission by making laudable inroads in the arena of education.

The progress and success of its students and alumni is testimony to the tremendous efforts of the founder members and teachers in preparing them for lifelong learning with a positive approach. The relationship forged with the parents and the society at large remains the edifice for the progress made by the institution over the years.



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It has also set up the **CWC College of Law** at Malad (West). The institution boasts of infrastructure to suit contemporary teaching and learning needs. Well equipped with an in-house science laboratory, the Centre also has computer labs, audio-visual room, library, as well as recreational facilities. The concern of the management to provide the best facilities is evident from the clean and hygienically maintained rest rooms and canteen. More than 250 trained and proficient teachers contribute immensely to academic and personal development of students through mentoring and coaching. Each of them is equally responsible for building the values of honesty, respect and diligence in the students Children Welfare Centre has a proven track record that leads the present objectives towards better opportunities and prospects. It has been aptly rewarded for its performance.

Students and staff statistics for CWC College of Law

Total students in college	Total Teaching Staff	Total Non-Teaching Staff
818	26	10

College Vision

Carving the youth as dynamic, competent, valued and knowledgeable professionals who shall lead the nation to a better future.

College Mission

We serve the law. We teach it, study it, practice it, and work to make it just. The twin pillars of growth and success are indeed deeply rooted in the formidable edifice of education. Reflecting on India's rich intellectual tradition, one perceives the profound respect accorded to the pursuit of knowledge dating back to our ancient times - a testament to the emphasis on mental cultivation that we proudly carry forward today. In keeping with this noble ethos, revered educationalist and **renowned social worker, Shri Ajay Kaul Sir, has envisioned and established the Children Welfare Centre's College of Law (CWC)**. The goal of this institution is to fuel a passion for learning within its scholars through an array of well-structured programs, including the 5-year B.A.L.L.B, the 3-year L.L.B, the 2-year L.L.M, and various 1-year Post Graduate Diplomas.

Beyond these traditional programs, our institution also offers comprehensive certificate courses. These innovative certificate courses are designed to provide students with a nuanced understanding of upcoming legal fields, court decorum, drafting skills, logical applications in law, interpersonal abilities, English proficiency, and soft skills, all while inculcating a strong sense of ethics. By equipping our scholars with these skills, we aim to prepare them for a successful legal practice, whether at the High Court, Supreme Court, or other judicial entities. We inspire within them a deep commitment to dispense justice, shaping the legal landscape of India. To aid this quest for

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knowledge, our college is outfitted with state-of-the-art infrastructure and a well-stocked library, thus promoting an environment that champions the pursuit of excellence.

The realization of this ambitious vision is brought to life by the concerted efforts of our esteemed Professors and the invaluable non-teaching staff. We persistently strive to elevate our standards, both in terms of student performance and institutional excellence, to make a lasting impact on India's legal domain. We take immense pride in shaping the future leaders of our nation, preparing them to actively contribute to the affairs of our country. Upholding the college's vision, we ensure that our students' interests are at the forefront of our endeavours. In the spirit of the profound adage, "The Foundation of Every State Is The Education Of Its Youth," our institution fervently commits to equip our students with this powerful tool, enabling them to navigate the complexities of life with resilience and wisdom. The College has constituted its own internal audit committee to evaluate the adequacy of the system on internal controls, recommended improvements in controls and assess compliance with policies and procedures at the institute.

Energy Audit

The Energy audit is an effective tool for defining and pursuing comprehensive energy management programs. It helps in energy cost optimization, pollution control, and safety aspects and suggests methods to improve the operating and maintenance practices of the system. It is instrumental in coping with the situation of variation in energy cost, availability and reliability of energy supply, the decision on appropriate energy mix, and the decision on using improved energy conservation measures and technology.

Methodology

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, and appliances. The use of Energy is clearly an important aspect of campus sustainability and thus requires no reason for its inclusion in the assessment.

- The methodology adopted focuses on understanding the existing energy consumption by various electric appliances in the college.
- A walk-through survey was carried out to understand the nature of the installed energy devices (fans, tube lights, AC, etc.)
- A total count of all the energy-consuming devices/equipment was done.

Energy Assessment

The energy source utilized by all the departments and common facility center is electricity and Solar energy. The total electricity utilization of the college for different purposes is approximately **1197.62 kWh/day**. Annual Energy consumption during 2022-23 is **275452.6 kWh**.

Energy assessment details for the year 2022-23

Average monthly electricity consumption (2022-23)	26347.64 KWh
Annual electricity consumption (kWh/year) for 2022-23	275452.6 KWh
The average power factor for electricity consumption (2022-23)	≥ 0.95

The average **power factor (P.F.)** is found to be ≥ 0.95 (as per the electricity bills) during the year 2022-23, which shows efficient usage of energy with minimum wastage.

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Energy saving is achieved through the replacement of tube lights with LED lights which have been proven to be good energy management for the institute. The CFL tube lights were reused on the college campus by replacing them with the damaged tube lights. All Computers are used with power saving mode. Staff, students, and the housekeeping team are encouraged to switch off the lights, monitors, and other equipment when not in use. All the computer labs have been facilitated with fans for reducing the use of Air Conditioners. Regular maintenance of Air Conditioners is carried out. Awareness boards are displayed to save energy.

Observations and Recommendations:

- i. Energy consumption is well under control.
- ii. Installation of solar energy system is highly recommended which will reduce the overall carbon footprint of the college, and be helpful to make the college an ecofriendly campus.
- iii. The facility and appliances wise energy consumption data will help in the identification of areas of excess energy consumption for proper management.



Audited by: Dr. Seema Mishra
Director, SIES IIEM

Environment Audit

1. Waste Audit

Waste is generated out of all sorts of routine activities on campus, including garden waste, garbage, paper, e-waste, etc. The generated waste is segregated at the campus. As per norms, green and blue garbage bins are provided within the campus for wet and dry waste, respectively. There are 2 big garbage bins, and 6 small garbage bins are provided in the campus common area and staff rooms for collection of dry waste, and 2 big garbage bins are provided for wet waste. The segregated waste is handled according to their categories and is handed over to municipal corporations, twice a day.

The biodegradable waste from the college campus is collected in **2 big** waste bins and handed over to the municipal corporation for treatment. At regular intervals, organic waste from college premises, and vegetable and fruit waste collected from the teachers and students, are collected and sent to the municipality for further treatment.

Metal, wood, glass, and plastic scrap generated at the college campus is collected and given to scrap dealers for recycling. Signboards/Posters are displayed on the college campus to encourage ideas of a plastic-free environment.



E-waste collection and disposal

Waste electrical and electronic equipment, whole or in part or rejected from their manufacturing and repair process, which are intended to be discarded.

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With the upgradation in technology, a huge number of electronic devices are used and discarded regularly. Bulky computers, TV sets, Fax machines, Printers, and CD Players top the list. These devices contain harmful materials such as beryllium, cadmium, mercury, and lead which can pose a threat to the environment if not disposed of properly.

The E-waste is collected from all the departments in the college and handed over to municipal corporation, regularly along with the other wastes.

Plastic Waste Management

The institute follows standard plastic waste management practices. The college management supports the complete ban of single-use plastic as per the Plastic Waste Management Rule amendment, 2022. Collected and segregated plastic waste is handed over to the municipal corporation for proper disposal.

Details of different categories of waste generated at the campus.

Sr.	Waste Type	Sources	Approx. waste Quantity (in Kg/day)	Action
1	Paper waste	Office, library, Exams, etc.	8.9	Handed over to Municipality for further treatment (daily)
2	MSW collected from campus	Classrooms, office, library corridor	40.9	Handed over to Municipality for further treatment (daily)
3	Other solid waste (Glass metal, wood, etc.)	Computer labs damaged furniture from campus	6.1	Collect separately and handed over to BMC on regular intervals
4	Biodegradable waste (Garden waste)	Garden and temple waste	24.5	Handed over to Municipality for further treatment (daily)
6	Sanitary solid waste	Ladies' washroom	1.4	Disposed of through BMC for further treatment (daily)

As a part of our environmentally responsible behavior, the college management support "Mission 6 R Campaign" for promoting effective solid waste management and a plastic-free campus.

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Recommendations:

- i. An annual MOU with service provider organizations for waste management (**E-waste and plastic waste**) will help in maintaining the quality of the process as well as a certificate from recyclers (third party) will help in the identification of waste management as per the compliance.
- ii. On-site composting of biodegradable waste on campus is recommended.



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2. Water Audit

The study observed that Municipal water supply is the major source of water in the Mumbai region. Water is used for drinking purposes, toilets, cleaning, and gardening. On average, the total use of water in the college is **20446 L/day**, which includes **20246 L/day** for domestic purposes, and **200 L/day** for gardening. College campus has an active well in the premises and that water is used mostly in washrooms which significantly lessened the burden on fresh water supply.

Water consumption details at the college campus

Activity	Average water used per activity (L)	Average Number of times activity done each day	Total water used by a person each day (L)	Number of people in the College using water	Total water consumption per day (L)
Wash hands	1	5	5	856	4280
Face wash	1.3	3	3.9	856	3338.4
Toilet Flushing	6.6	2	13.2	856	11299.2
Drinking	0.7	2	1.4	856	1198.4
Gardening	200	1	-	-	200
Cleaning/Mopping of floor	65	2	130	-	130
Total (L)					20446

Drinking water analysis report

UV water filters are used for drinking water. Two drinking water samples from water coolers were analyzed to check the potability of water as per IS 10500:2012.

Parameter	Water Cooler Common	Acceptable Limit as per IS 10500: 2012
Odor	Agreeable	Agreeable
pH	6.7	6.5 - 8.5
Conductivity	86.3	300
Turbidity (NTU)	0.4	1.0
Total Dissolved Solids (mg/L)	170	500

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Total Suspended Solid, TSS (mg/L)	300	500
<i>E coli.</i> (/100ml)	Absent	0

Drinking water, as per the given specification, is observed to be **safe for Drinking.**

Water Cooler at the campus



College management hired **Cool Tech Solutions** (Mr. Ramu Gond) for the regular maintenance of water cooler for the period 2022-23.

Rain Water Harvesting

A Rain water harvesting system is recently added in the college infrastructure. The harvested water is stored in storage tank to be used in emergency purposes. The system is functional and the rain water storage tank is well maintained at the campus.

Rain water storage tank at the campus



Recommendations:

- i. The college is maintaining a record of water demand and supply.
- ii. The quality of drinking water is under control. Annual maintenance (AMC) of water coolers will help to maintain the water quality. The maintenance record of water coolers should be maintained.
- iii. Installation of rainwater harvesting system will further support reducing the consumption of municipal supply water.

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3. Noise Environment

The noise level measurements were carried out using a Noise level meter. The noise level survey was carried out at thirteen locations (including the main gate, back gate, office, and classroom). The measured noise levels were found to be higher than the permissible limit.

Noise levels measured at various locations within the campus

Sr.	Location	Minimum Reading in dB	Maximum Reading in dB	Standard Limits* dB
1	Office	60	61.6	50
2	Canteen	65.5	71.1	50
3	Library	44.9	48.7	50
4	Classroom	64.9	78	50
5	Staffroom	59	65.4	50
6	Corridor	49	55.5	50
7	Main gate	54.1	58.6	50
8	Back gate	52.8	61	50

*Standard limits for Noise level as per The Noise Pollution (Regulation And Control) Rules, 2000 50dB (During daytime)

Recommendations:

1. The noise level near the entrance, office, and corridor are little high. The placement of potted plants and rotation of students and faculty as per time will help in reducing the noise level near the office.
2. The noise barrier facade on the boundary walls of the college will help to reduce the noise level in the campus.

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4. Air Quality Assessment

The air quality assessment at the campus was carried out using a personal sampler. The air quality monitoring was carried out at 2 locations, the Front Gate and the Back gate of the college, by assessing the suspended particulate matter (SPM). The air quality on the campus is very good as the SPM level is found within permissible limits ($140 \mu\text{g}/\text{m}^3$).



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Green Audit

The college is putting efforts to create an eco-friendly atmosphere on campus. There are different types of potted plants and trees at campus. Campus ground is comprised of 25 potted plants and 30 big trees. There are total 36 plant and trees grown in the campus. *Tamarindus indica*, *Saraca asoca*, *Syzygium cumini*, *Araucaria columnaris* and *Arecaceae* tree species are prevailing at the campus.

Tress at the campus ground



Potted plants at the campus



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Support of Trees in collegeCampus in Balancing Net Carbon Emission

Sr.	Particulars	Observed value	Units
1	Total energy consumption/day	1197.62	KWh
2	Total energy consumption/month	26347.64	KWh
3	Total energy consumption/year	275452.6	KWh
A	Total carbon emission from electricity	234.13	Tonnes CO ₂ /year
B.	CO ₂ sequestration from trees	0.05	Tonnes/year
C.	Net carbon emission (A - B)	234.08	Tonnes/year

- Recommendations:**
- i. The college is maintaining the green cover efficiently around the campus.
 - ii. The Carbon emission can be substantially reduced by the installation of solar panels on the campus.
 - iii. The campus can be net zero by promoting EV vehicles, increasing solar power generation capacity and installing smart switches.



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