# ENVIRONMENT AUDIT REPORT FOR ST. WILFRED COLLEGE OF ARTS, COMMERCE AND SCIENCE

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# Acknowledgement

Elion Technologies and Consulting Pvt Ltd thanks the management of St. Wilfred College of Arts, Commerce & Science, Panvel for assigning this important work of Environmental Audit. We appreciate the co-operation to our team for completion of study.

For giving us necessary inputs to carry out this very vital exercise of Environment Audit. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

# Site Information

| | |
|---|---|
| Name of College | ST. WILFRED COLLEGE OF ARTS, COMMERCE & SCIENCE |
| College Address | Old Mumbai-Pune Highway, near Panvel Toll Plaza, Panvel, Shedung, Maharashtra - 410206 |
| Execution Partner | ELION Technologies & Consulting Pvt Ltd |
| Communication Address | 307, 3rd Floor<br>DDA Lal Market<br>H-Block Vikas Puri, New Delhi - 110018 |
| Date of Audit | 17th January 2024 |
| Year of Audit | 2024 – 2025 |
| Audit Participants | St. Wilfred College of Arts, Commerce & Science |
| Total Covered Area of College | 6765 Square Meter |
| Total Green Area | 2000 Square Meter |

# Concept

The term 'Environmental audit' means differently to different people. Terms like 'assessment', 'survey' and 'review' are also used to describe similar activities. Furthermore, some organizations believe that an 'environmental audit' addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Environmental Audit, many leading companies/ institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:
"A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects."

The European Commission, in its proposed regulation on environmental auditing, has also adopted the ICC definition of Environmental Audit.

# Introduction

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues.

Environmental Management Systems (EMS) is very popular in the industrial sector, but the general belief is that EMS is something pertaining to industries only. Other parts of the world have started adopting compatible environmental management systems either voluntarily or for promoting standards by external certification. International environmental standards do not suit the existing Indian educational system.

A very simple indigenized system has been devised to monitor the environmental performance of educational institutions. It comes with a series of questions to be answered on a regular basis. Environmental conditions may be monitored from angles that are relevant to Indian requirements, without stress on legal issues or compliance. This innovative scheme is user-friendly and totally voluntary. The environmental monitoring system helps the institution to set environmental examples for the community and to educate young learners. It can be adapted to urban and / or rural situations.

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# Overview of Campus

St. Wilfred's College of Arts, Commerce & Science stands as a beacon of excellence in Mumbai's educational landscape. Affiliated with Mumbai University, our institution prides itself on fostering a dynamic learning environment that cultivates not just academic prowess but also critical thinking, creativity, and effective communication skills. Through our interactive teaching approach, we inspire students to explore beyond textbooks, encouraging them to delve into the realms of innovation and problem-solving. With a keen eye on nurturing future entrepreneurs and globally competent individuals, our curriculum is designed to instill a sense of adaptability and resilience. Whether pursuing a Bachelor of Arts, Bachelor of Science, Master of Science, Bachelor of Management Studies, Bachelor of Commerce, or any other program, students are provided with holistic education that prepares them for the challenges of the modern world.

At St. Wilfred's, education extends beyond the confines of classrooms. Our state-of-the-art facilities, including a well-stocked library, seminar hall equipped with cutting-edge technology, spacious auditorium, and provisions for various sports activities, complement the academic journey by providing avenues for holistic development. The library serves as a treasure trove of knowledge, offering resources spanning various disciplines to aid students in their quest for learning. Our seminar hall serves as a platform for interactive sessions, guest lectures, and workshops, facilitating the exchange of ideas and experiences. The auditorium, with its modern amenities, is the stage for cultural events, seminars, and academic presentations, enriching the college experience.

Furthermore, recognizing the importance of extracurricular activities in shaping well-rounded individuals, we provide ample opportunities for students to engage in sports and other recreational pursuits. Whether it's honing leadership skills through participation in college clubs and societies or showcasing athletic prowess on the field, students are encouraged to explore their interests and talents beyond academics. St. Wilfred's College of Arts, Commerce & Science is not just an institution of learning but a community where students are nurtured, challenged, and empowered to realize their full potential, emerging as confident and competent individuals ready to make a positive impact on society.

### List of courses offered by the institute:
- B.A.
- B. Com
- B. Com
- B. Com
- B.Sc.
- B.Sc. Information Technology
- B.Sc. Computer science
- B.M.S.

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- M.Sc. (physics)
- M.Sc. (Organic Chemistry)
- M.A.

# Audit Objectives

The broad aims/ benefits of the eco-auditing system would be –

- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Reduction in resource use
- Financial savings through a reduction in resource use
- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the college campus and its environment
- Enhancement of university profile
- Developing an environmental ethic and value systems in young people

# Executive Summary

An environmental audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes outdated unless there is some mechanism in place to continue the effort of monitoring environmental compliance.

This is second environmental audit of campus for NACC affiliation; QS Program and doing their bid towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.

# Environmental Audit - Questionnaire

The areas of eco/environmental/green auditing to be followed/practiced by participating institutions:

I.      Waste Minimization and Recycling
II.     Greening
III.    Energy Conservation
IV.     Water Conservation
V.      Clean Air
VI.     Animal Welfare
VII.    Environmental Legislative
VIII.   General Practices

**Is any Environmental Audit conducted earlier?**
No

**What is the total permanent population of the Campus?**

|  | Male | Female | Total |
|---|---|---|---|
| **Students** | - | - | 647 |
| **Teachers** | 7 | 24 | 31 |
| **Non-Teaching Staff** | 3 | 2 | 5 |
| **Sub Total** | - | - | 683 |
| **Approximate Number of Visitors (Per day)** | | | 6-7 |
| **What is the total number of working days of your campus in a year?** | | | 182 |

**Where is the campus located?**
The campus is located in Panvel, Maharashtra.

Which of the following are available in your campus?

| 1 | Garden area | Yes |
|---|---|---|
| 2 | Playground | Yes |
| 3 | Kitchen | Yes |
| 4 | Toilets | Yes |
| 5 | Garbage Or Waste Store Yard | Yes |
| 6 | Laboratory | Yes |
| 7 | Canteen | Yes |
| 8 | Hostel Facility (Numbers) | Yes |
| 9 | Guest House | Yes |

Which of the following are found near your campus?

| 1 | Municipal dump yard | Yes |
|---|---|---|
| 2 | Garbage heap | Yes |
| 3 | Public convenience | Yes |
| 4 | Sewer line | Yes |
| 5 | Stagnant water | Yes |
| 6 | Open drainage | Yes |
| 7 | Industry – (Mention the type) | Yes |
| 8 | Bus / Railway station | Yes |
| 9 | Market / Shopping complex / Public halls | Yes |

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## I - WASTE MINIMIZATION AND RECYCLING

| 1. | Does your campus generate any waste? If so, what are they? | No |
|----|----|----|
| 2. | What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.) | 150 kg/month |
| 3. | How is the waste generated in the campus managed? By<br>1     Composting<br>2     Recycling<br>3     Reusing<br>4     Others(specify) | Composting |
| 4. | Do you use recycled paper in campus? | No |
| 5. | Do you use reused paper in campus? | No |
| 6. | How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify. | No |
| 7. | Can you achieve zero garbage in your campus? If yes, how? | No, but the institute has taken notable steps towards achieving zero garbage |

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## II – GREENING THE CAMPUS

| | | |
|---|---|---|
| 1. | Is there a garden in your campus? | Yes |
| 2. | Do students spend time in the garden? | Yes |
| 3. | Total number of Plants in Campus | 200+ |
| 4. | Provide some names of trees and plants in the campus. | Grass, Mango tree, Pipal Tree, Neem Tree etc. |
| 5. | Is the university campus have any Horticulture Department? | Yes |
| | If yes, number of Staff working in Horticulture Department? | 10 |
| 6. | Number of Tree Plantation Drives organized by institute per annum. (If Any) | 40 |
| 7. | Number of Trees Planted in Last year. | 30 |
| | Survival Rate | 60% |
| 8. | Plant Distribution Program for Students and Community | Yes |
| 9. | Plant Ownership Program | Yes |

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## III – ENERGY

| | | |
|---|---|---|
| 1. | List down ways that you use energy in your campus. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day. | 1. Electricity, LPG, solar.<br>2. Switch off the lights, fans & other electrical appliances when not needed.<br>3. Keep your electronics on a low brightness setting to save energy |
| 2. | Are there any energy saving methods, equipments, techniques employed in your campus? If yes, please specify. If no, suggest some | No |
| 3. | Give an estimate of number of lights installed in your campus along with numbers? | LED bulbs - 150 |
| 4. | Are any alternative energy sources employed/ installed in your campus? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify. | No |
| 5. | Do you run "switch off" drills at campus? | Yes |
| 6. | Are your computers and other equipment's put-on power-saving mode? | Yes |
| 7. | Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours? | Yes.<br>5 hours daily run on standby mode. |

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## IV - WATER CONSERVATION

| | | |
|---|---|---|
| 1. | List all the uses of water in your campus? | 1. Drinking & Cooking in canteen<br>2. Irrigation for Garden<br>3. Washing & Cleaning<br>4. Washrooms |
| 2. | How does your campus store water? (mention tanks with capacity)<br>Are there any water saving techniques followed in your campus? | Institute is having Water storage Tanks with storage capacity of 2000 Ltrs. |
| 3. | If there is water wastage, specify why and how can the wastage be prevented/ stopped? | No - water wastage |
| 4. | Locate the point of entry of water and point of exit of waste water in your campus.<br>Entry-<br><br>Exit- | Entry – 4 points<br><br>Exit – 4 points |
| 5. | Write down few ways that could reduce the amount of water used in your campus? | • By Detecting and repairing the leaks so that wastage of water will get reduce.<br>• By Avoiding flushing the toilet unnecessarily.<br>• Usage of sprinklers while watering the plants and trees. |
| 6. | Record water use from the campus water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many litres of water have been used. | Water meters are currently not installed in the Institute |
| 7. | Does your campus harvest rain water? (Please explain the method and uses) | Yes, ground water recharge through pits and trench for collecting diversion of rain water |
| 8. | Is there any water recycling System. | Yes- Wash Basin waste water |

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### V - CLEAN AIR

| | | | | |
|---|---|---|---|---|
| 1. | Are the Rooms in Campus are Well Ventilated? | Yes | | |
| 2. | Number of windows per room (aggregate value to be provided) | 02 per room | | |
| 3. | What is the ownership of the vehicles used by your institute? (Please Tick ✓ only one) | - | Yes | |
| | | ✓ | Operator-owned vehicles | |
| | | ✓ | Institute-owned vehicles | |
| | | ✓ | A combination of campus-owned and operator-owned vehicles | |

| 4. | Provide details of institute-owned motorized vehicles? | Buses | Cars | Vans | Other | Total |
|---|---|---|---|---|---|---|
| | No. of vehicles | ✓ | - | ✓ | - | - |
| | No. of vehicles more than five years old | - | - | - | - | - |
| | No. of Air-conditioned vehicles | - | - | - | - | - |
| | PUC done | - | - | - | - | - |

| 5. | Specify the type of fuel used by your institute's vehicles: | Buses | Cars | Vans | Other |
|---|---|---|---|---|---|
| | Diesel | ✓ | - | - | - |
| | Petrol | - | - | - | - |
| | CNG | - | - | ✓ | - |
| | LPG | - | - | - | - |
| | Electric | - | - | - | - |

| | | |
|---|---|---|
| 6. | Air Quality Monitoring Program (If Any) | Quarterly –Both by BMC and Institute |
| 7. | Students suffer from respiratory ailments? (If Any) | No |
| 8. | Details of Diesel/Gas Generator. (Rating & Make) | 1 Genset of 125 KVA capacity |

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## VI – ANIMAL WELFARE

| | | |
|---|---|---|
| 1. | List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.) (if any) | Birds and Squirrels are commonly found in campus. |
| 2. | How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)? | No |
| 3. | Does your campus have a Biodiversity Programme or a KARUNA CLUB? | Yes |

## VII - ENVIRONMENTAL LEGISLATIVE COMPLIANCE

| | | |
|---|---|---|
| 1. | Are you aware of any environmental Laws pertaining to different aspects of environmental management? | Yes |
| 2. | Does your campus have any rules to protect the environment? List possible rules you could include. | Yes. |
| 3. | Dose Environmental Ambient Air Quality Monitoring conducted by the Campus? | 75% |
| 4. | Dose Environmental Water and Wastewater Quality monitoring conducted by the Campus? | Yes |
| 5. | Dose stack monitoring of DG sets conducted by the Campus? | Yes |
| 6. | Is any warning notice, letter issued by state government bodies? | No |
| 7. | Dose any Hazardous waste generated by the Campus? If yes explain its category and disposal method. | No |
| 8. | Dose any Bio medical waste generated by the Campus? If yes explain its category and disposal method. | No |

## VIII – GENERAL

| 1. | Are you aware of any environmental Laws pertaining to different aspects of environmental management? | Yes |
|---|---|---|
| 2. | Does your campus have any rules to protect the environment? List possible rules you could include. | Yes.<br>Rules included to protect the environment are –<br>• Conserve water<br>• Planting trees<br>• Usage of LED bulbs<br>• 3 Rs – Reduce, Reuse and Recycle |
| 3. | What is the housekeeping schedule of garden and common areas in your campus? | 3 times in a day |
| 4. | Are students and faculties aware of environmental cleanliness ways? If Yes Explain | Yes - Quarterly drill is conducted |
| 5. | Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. celebrated in your Campus? | Yes |
| 6. | Does Campus participate in National and Local Environmental Protection Movement? | Yes |
| 7. | Does Campus have any Recognition/certification for environment friendliness? | Yes |
| 8. | Does Campus use renewable energy? | YES, 80KW Solar Energy |
| 9. | Does Institution conduct a green/environmental audit of its campus? | Yes |
| 10. | Has the institution been audited/ accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.? | No |

# Recommendations

- Environmental Water and wastewater quality monitoring shall be carried out yearly.

- Water meters shall be installed for better monitoring of water usage in the college

- Water recycling system shall be installed in the campus.

- Water efficient taps shall be used in the campus for saving the water.

- Paper shall be used reused in the campus

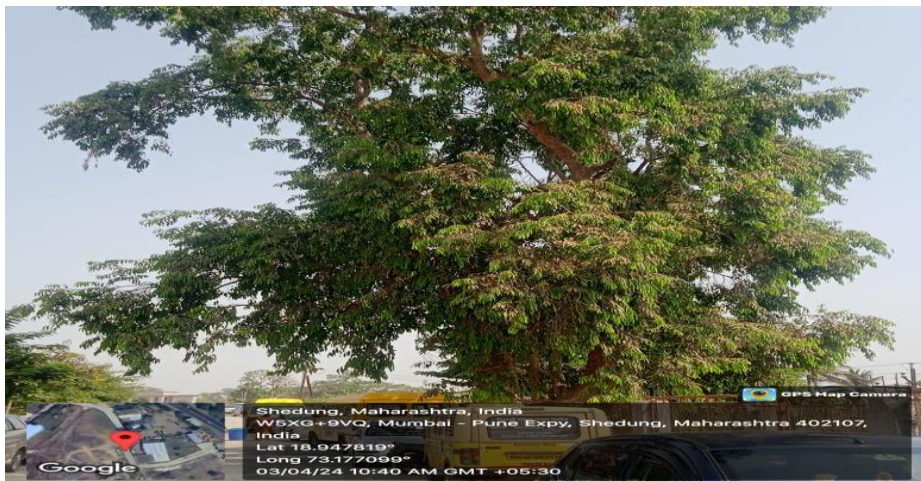# Photographic Evidences



College Main Gate



College Main Gate

Garden Area



Garden Area



Garden Area

Trees



Trees



Overhead Water Tank

# Conclusion

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. Overall, large amount of campus is for landscaping. The audit has identified several observations for making the campus premise more environmentally friendly. The recommendations are also mentioned with observations for university campus team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There are no major observations but recommendation is made in this report which would further strengthen the goal to achieve 100% environment friendly campus.

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# References

- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- The Petroleum Act: 1934 – The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Water [Prevention & Control of Pollution] Cess Act-1977 (Amended 2003) and Rules- 1978
- The Air [Prevention & Control of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices

# End of Report

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