ENVIRONMENT AUDIT REPORT
FOR
SWAMI SHRADDHANAND COLLEGE

Elion Technologies & Consulting Private Limited

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Acknowledgement

Elion Technologies and Consulting Pvt Ltd thanks the management of Swami Shraddhanand College 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	Swami Shraddhanand College
College Address	Swami Shraddhanand College, University of Delhi, Alipur, Delhi, 110036
Execution Partner	Elion Technologies & Consulting Pvt Ltd
Communication Address	307, 3rd Floor DDA Lal Market H-Block Vikas Puri, New Delhi-110018
Date of Audit	20th June 2023
Year of Audit	2022 – 2023
Total Area of College	37667 Sq. Meter
Build up area	7783 Sq. Meter
Total Green Area	12399 Sq. 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.

Overview of Campus

Swami Shraddhanand College, a constituent College of Delhi University, is run under the trusteeship of Delhi Govt. It is a co-educational institution and imparts instructions in various subjects at both undergraduate and post-graduate levels. Situated in the sylvan ambience of North Delhi, the College has completed 56 years of its existence. From the humble beginning in the Gandhi Ashram building in Narela, the college is now one of the premier institutions of Delhi University. It is equipped with qualified teaching staff, specialized laboratories and adequate library facilities. It is an autonomous body.

The college has extensive playgrounds, which provide an excellent opportunity for budding sportsmen and athletes to participate in various games and sports and to improve their skills and capabilities. Scholarships and freeships are given to deserving students. Every year a number of prizes are awarded to students on their meritorious achievements in academic and extra-curricular activities.

The students' societies / associations play a vital role in improving the academic environs of the college. For each subject, there is a society to stimulate the interests of the students in the subject and establish its interlinking with the society at large. The societies/associations sponsor lectures, seminars, exhibitions etc., and undertake programmes and activities to make the subject more interesting and more relevant for societal need.

List of courses offered by the institute:

- B.Sc. (H) Botany
- B.Sc. (H) Zoology
- B.Sc. (H) Physics
- B.Sc. (H) Chemistry
- B.Sc. (H) Microbiology
- B.A. (H) English
- B.A. (H) Hindi
- B.A. (H) Geography
- B.A. (H) History
- B.Com. (H)
- B.Com. (P)
- B.Sc. (P) Physical Science
- B.Sc. (P) Life Science
- B.Sc. (P) Agrochemical and Pest Control
- B.A (P)

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	2911	1163	4074
Teachers	91	66	157
Non-Teaching Staff	85	24	109
Sub Total	3087	1253	4340
Approximate Number of Visitors (Per day)			40 - 50
What is the total number of working days of your campus in a year?			245

Where is the campus located?
The campus is Located at Alipur, Delhi.

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)	No
9	Guest House	No

Which of the following are found near your campus?

1	Municipal dump yard	No
2	Garbage heap	No
3	Public convenience	Yes
4	Sewer line	No
5	Stagnant water	No
6	Open drainage	Yes
7	Industry – (Mention the type)	No
8	Bus / Railway station	Yes
9	Market / Shopping complex / Public halls	Yes

I – WASTE MINIMIZATION AND RECYCLING

1.	Does your campus generate any waste? If so, what are they?	• Paper Waste. • Garden Waste. • E-waste. • Scrap.
2.	What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	50-60Kg/day.
3.	How is the waste generated in the campus managed? By 1 Composting 2 Recycling 3 Reusing 4 Others(specify)	Composting, Recycling and Reusing of waste is practiced in the campus.
4.	Do you use recycled paper in campus?	Yes
5.	Do you use reused paper in campus?	Yes
6.	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.	Yes, Awareness programmes, Cleanliness drives, seminars, workshops etc. are organized on a regular basis.
7.	Can you achieve zero garbage in your campus? If yes, how?	Yes

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	More than 400.
4.	Provide some names of trees and plants in the campus.	Neem, Ashoka, Peepal etc.
5.	Is the university campus having any Horticulture Department?	No
	If yes, number of Staff working in Horticulture Department?	NA
6.	Number of Tree Plantation Drives organized by institute per annum.(If Any)	7-10
7.	Number of Trees Planted in Last year.	1000 - 1200
	Survival Rate	70-80%
8.	Plant Distribution Program for Students and Community	No
9.	Plant Ownership Program	No

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 supply from Distribution Company. 2. LPG.
2.	Are there any energy saving methods, equipments, techniques employed in your campus? If yes, please specify. If no, suggest some	1. Use of LED lights. 2. Awareness signages on electricity. 3. Purchase of 3 & 5 star rated ACs and Refrigerator. 4. Solar Power plant of capacity 50KW.
3.	Give an estimate of number of lights installed in your campus along with numbers?	500-600
4.	Are any alternative energy sources employed/ installed in your campus? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify.	1. Solar power plant. 2. Solar powered street lights.
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, 2-4 hours.

IV – WATER CONSERVATION

1.	List all the uses of water in your campus?	- Drinking water - Gardening - Sanitary Purpose
2.	How does your campus store water? (mention tanks with capacity) Are there any water saving techniques followed in your campus?	Water is stored in number of overhead and underground tanks.
3.	If there is water wastage, specify why and how can the wastage be prevented/ stopped?	No wastage as such.
4.	Locate the point of entry of water and point of exit of waste water in your campus. Entry- Exit-	Entry- Near Main Gate of College Exit- Near bank and then exit from the canteen side
5.	Write down few ways that could reduce the amount of water used in your campus?	1. By installing water meters. 2. Awareness signages. 3. Rainwater harvesting.
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.	NA
7.	Does your campus harvest rain water? (Please explain the method and uses)	Yes

8.	Is there any water recycling System.	No, but septic tank is available for storage and treatment of wastewater.

V - CLEAN AIR

1.	Are the Rooms in Campus are Well Ventilated?	Yes				
2.	Number of windows per room (aggregate value to be provided)	5 per room.				
3.	What is the ownership of the vehicles used by your institute? (Please Tick ✓only one)		No vehicles owned.			
			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)	Yes			
7.	Students suffer from respiratory ailments? (If Any)	No			

8.	Details of Diesel/Gas Generator. (Rating & Make)	125KVA DG set for backup power supply.

VI – ANIMAL WELFARE

1.	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.) (if any)	Squirrels, Birds, Insects, Stray Dogs near main gate etc.
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?	Biodiversity program is there in the campus.

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, Code of conduct (Eco club, Garden Committee, NSS)
3.	Does Environmental Ambient Air Quality Monitoring conducted by the Campus?	No
4.	Does Environmental Water and Wastewater Quality monitoring conducted by the Campus?	No
5.	Does stack monitoring of DG sets conducted by the Campus?	No

6.	Is any warning notice, letter issued by state government bodies?	No
7.	Does any Hazardous waste generated by the Campus? If yes explain its category and disposal method.	Not as such/ Laboratory waste is disposed via autoclaving and Land disposal.
8.	Does any Bio medical waste generated by the Campus? If yes explain its category and disposal method.	Very few, from microbiology and Zoology Lab/ Autoclaving

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
3.	What is the housekeeping schedule of garden and common areas in your campus?	Daily cleaning by the housekeeping staff.
4.	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes
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?	
8.	Is Campus using renewable energy?	Yes
9.	Does Institution conduct a green/environmental audit of its campus?	This is the first time.

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| 10.	Has the institution been audited/ accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	No, the process is in progress.

Recommendations

- Equipment's' or electrical appliances when not in use shall be switched off and should not run in standby modes or ideal.
- Testing for indoor air quality and drinking water should be carried out on a regular basis and supporting documents for the same shall be kept.
- Stack monitoring of the DG sets should be carried out.
- Green and Energy Audit should be carried out on a regular basis.

Photographic Evidences
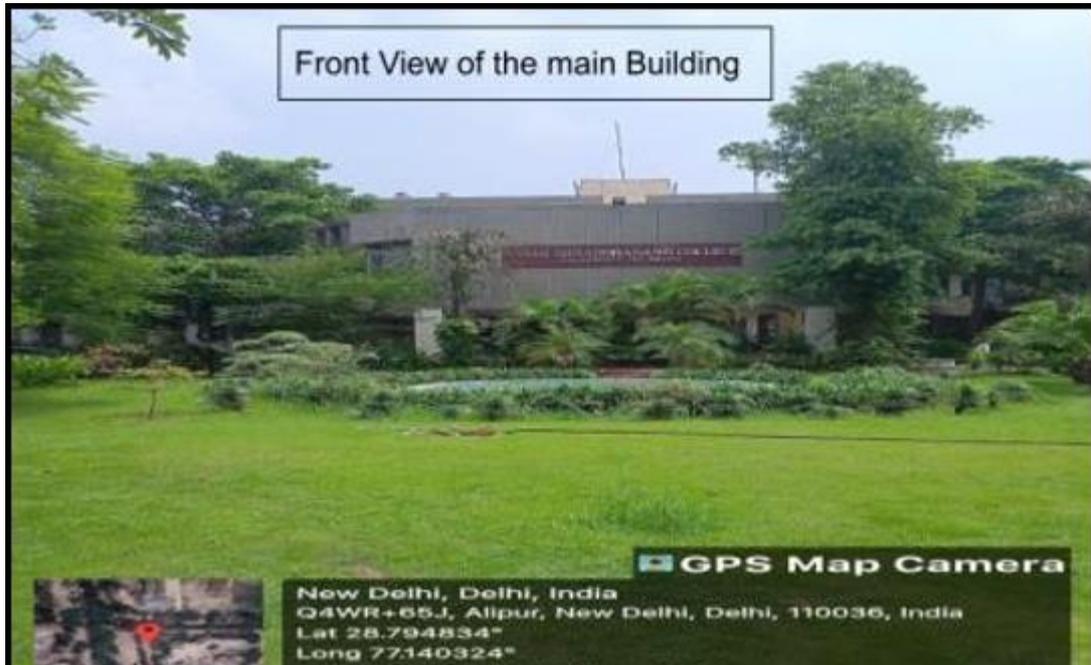
Tree Plantation around main building

Marking and numbering of trees
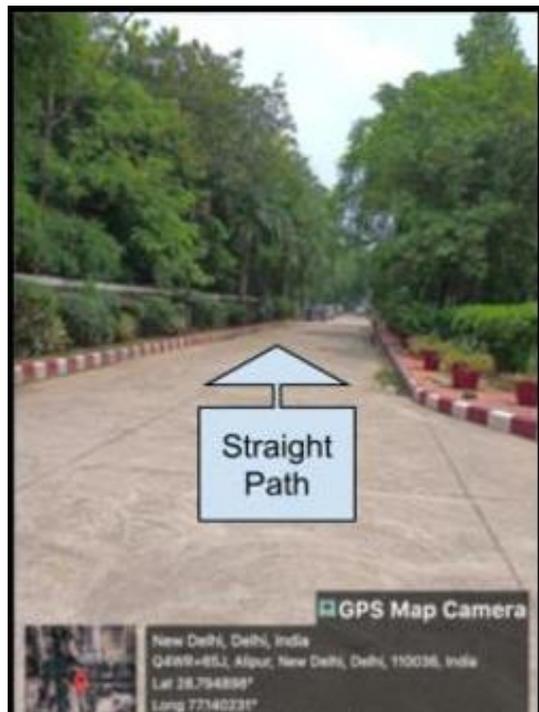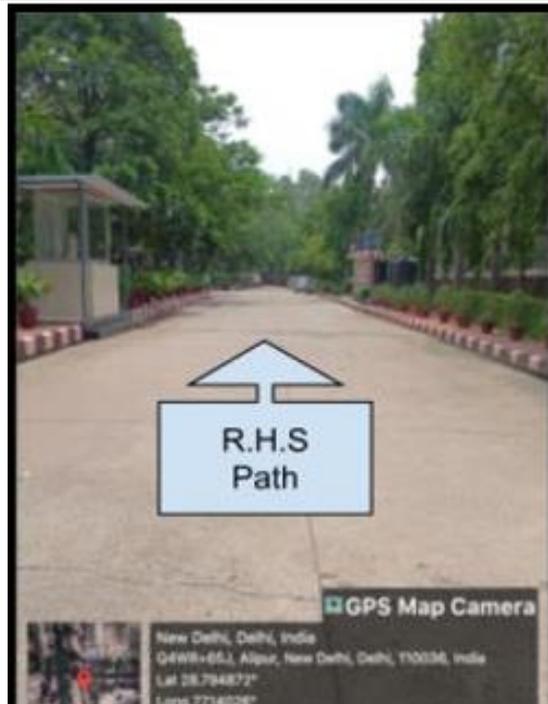
Green Campus

Solar Power Plant
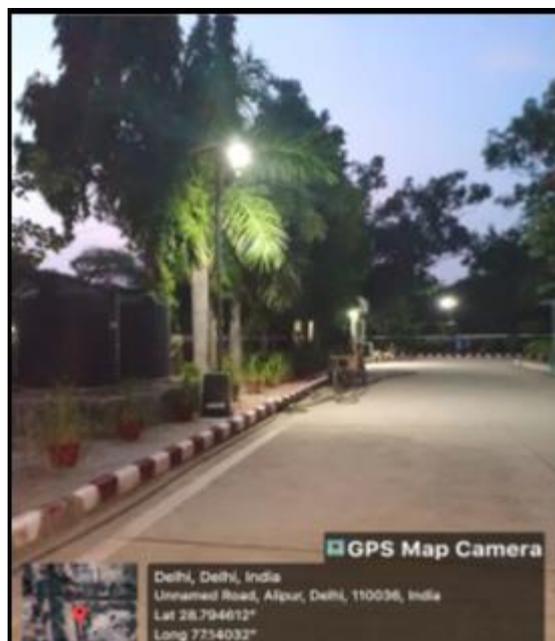
Solar powered lights

Tree Plantation

Cleanliness Drives

Conclusion

This audit entailed thorough consultations with the entire campus team and engaging with key personnel to discuss various environmental aspects. A significant portion of the campus is dedicated to landscaping. The audit has highlighted numerous findings aimed at enhancing the campus's environmental sustainability. These observations are accompanied by recommendations for the university campus team to take actionable steps.

According to the audit team, the site is generally well-maintained in terms of environmental considerations. While no significant issues were observed, the report includes recommendations that can reinforce the objective of attaining a completely environmentally friendly campus.

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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