



ENVIRONMENT AUDIT REPORT-2019-20

BACKDROP:

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2016–17 onwards that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

In view of the NAAC circular regarding Green Auditing, the College Management decided to conduct an external Green Evaluation by a competent Green Auditor along with a Green Audit Assessment Team headed by **Prof (Dr.) Sharat Ku. Palita**, Professor of Bio Diversity, Central University, Koraput, Odisha **Major Manjushree Pati**, Principal Nayagarh Autonomous College, Nayagarh cum Associate professor of Zoology.

Green Audit or Environment Audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the College Management. The concept, structure, objectives, methodology, tools of analysis, objectives of the audit are mentioned below.

CONCEPT

The term ‘Environmental audit’ or ‘Green 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 Green 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. However, the outcome of Green Audit should be established with concrete evidence that the measures undertaken and facilities in the institution under green auditing.

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. Hence EHS Alliance has developed a compatible system by developing locally-applicable techniques.

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 THE INSTITUTE:

Salipur College Salipur is a Odisha State Government Aided Educational Institution established and affiliated **on 9th July, 1964**. It is one of the oldest Educational Institution who is addressing the need of Rural Odisha. **The Institution was elevated to Autonomous Status on 19th June 2014** after functioning as a top constituent college of the Utkal University, Vani Vihar for about 50 years. The College is located at a distance of 25 Kms to the north-east of District Headquarter, Cuttack, on the Cuttack-Kendrapara State Highway. Salipur Autonomous College stands elegantly on the bank of Pristine Chitrotpala, a distributaries of river Mahanadi. There has been a steady growth of its student's strength from 83 in 1964-65 to about 3500 in 2019-20. The members of the academic staff have increased from 7 to 83 teachers. The present strength of non teaching and supporting staff is 50. The College has thus carved out a niche for itself in the map of premier educational institutions of higher learning in Odisha. It is now a full fledged Autonomous College with an enviable record of students, commendable success at various levels of examinations and competitions. The College gains momentum in academic excellence by inculcating a unique sense of discipline, punctuality, unity, honesty, accountability and best practices.

Members of NAAC Peer Team visited the College for the first time on 30th November & 1st December, 2005 for accreditation and the College has been accredited B + +. Similarly, Members of NAAC Peer Team visited the College for the Second Cycle on 28th, 29th and 30th October 2014 for accreditation for the second time. The biggest asset of College is its team of dedicated teaching and non teaching staff whose continuous and sincere efforts have helped the College to pass through 56 years in materialising the goals and objectives and give a new direction.

With conferment of Autonomous status to the College and NAAC

accreditation from the 2014-15 academic session, the College aims to create ever expanding opportunities for higher education and research in newly emerging areas for the development of entire society, particularly the economically and educationally backward people of the area. With the opening of Post Graduate Courses in MSW, MFC, and M.A. in Odia, the College has upgraded its status to a Post- Graduate institution. Recently, the College has been declared eligible to receive the Star Status Assistance from Department of Biotechnology (DBT), Ministry of Science & Technology, Govt. Of India.

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 HEI's profile
- Developing an environmental ethic and value systems in young people

EXTERNAL AUDIT EVALUATORS

1. **Prof (Dr.) Sharat Ku. Palita**, Professor of Bio Diversity, Central University, Koraput, Odisha
2. **Major Manjushree Pati**, Principal Nayagarh Autonomous College, Nayagarh cum Associate professor of Zoology.

AUDIT PARTICIPANTS

On behalf of Institute:

1. Mrs. Prakashini Roy, HOD, Chemistry

2. Mr. Prasanna Ku. Jena, HOD, Physics
3. Dr. Prabhasini Devi, HOD, Education
4. Dr Sangita Mishra, HOD, Mathematics
5. Dr Swati Panda, HOD, Zoology
6. Mrs Geeti Baliarsingh, HOD, Botany
7. Mrs Jayantibala Parija, Department of Botany
8. Dr Kshyanaprava Mohanty, Department of zoology
9. Mrs Rina Swain, Department of Chemistry
10. Mrs Laxmipriya Das, Department of Physics

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 environmental audit conducted in between 1.2.2020 and 28.2.2020 in accordance with NACC guidelines; UGC Programme 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.

AREA OF IMPROVEMENTS

- Environment Policy to be adopted by the College Campus.

- Metering of Water from bore well and other sources in different uses are not available.
- Water Meter should be installed and maintain the inventory of water resource
- Stack height should be as per DG Rules
- Storage of chemicals like; paints, gums resins, oils, lubricants, acids etc. in designated place and safety/warning signs should be displayed.
- Internal inspection system should be developed for various equipments available in campus.
- Waste Management plan should be prepared for the campus.
- Environmental drills for response against spillage and leakage of chemicals in the campus
- Plastic usage can be reduces in university campus.
- The monthly inventory of e-waste is required to be maintained in formats on regular basis.

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

Does any Environmental Audit conducted earlier?

No, this is first time a systematic way of monitoring their environmental eminence initiative taken by university for environment protection.

What is the total permanent population of the Institute?

	Male	Female	Total
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Students	824	1168	1992
Teachers	36	40	76
Non Teaching Staff	30	17	47
Sub Total	890	1225	2115
Approximate Number of Visitors (Per day)			50
What is the total number of working days of your campus in a year?			246

Where is the campus located?

The campus is Located in outskirts of Salipur town.

Which of the following are available in your institute?

1 Garden area	Available
2 Play ground	Available
3 Kitchen	Available
4 Toilets	Available
5 Garbage Or Waste Store Yard	Available
6 Laboratory	Available
7 Canteen	Available
8 Hostel Facility (numbers)	two
9 Guest House	Available

Which of the following are found near your institute?

1 Gram Panchayat dump yard	Not in vicinity of institute
2 Garbage heap	No Garbage heaps
3 Public convenience	Yes , public convenience is available
4 Sewer line	1 km sewer line within campus
5 Stagnant water	No stagnant water
6 Open drainage	No
7 Industry – (Mention the type)	No
8 Bus / Railway station	No
9 Market / Shopping complex / Public halls	Yes

I – WASTE MINIMIZATION AND RECYCLING

<p>1. Does your institute generate any waste? If so, what are they?</p>	<p>Yes, Solid waste Canteen waste, paper, plastic, Horticulture Waste etc</p>			
<p>2. What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)</p>	<p>Bio Degradable</p>	<p>Non-Biodegradable</p>	<p>Hazardous</p>	<p>others</p>
<p>3. How is the waste generated in the institute managed? By</p> <p>1 Composting</p> <p>2 Recycling</p> <p>3 Reusing</p> <p>4 Others (specify)</p>	<p>Reuse of one side printed Paper for internal communication. Sewage water is discharged to public Sewer. Domestic Waste is given to Panchayat scavengers.. Two types of Waste bins are provided at campus for biodegradable and non biodegradable waste. Horticulture waste is also given to Panchayat employees.</p>			
<p>4. Do you use recycled paper in institute?</p>	<p>Yes</p>			
<p>5. Do you use reused paper in institute?</p>	<p>Yes</p>			
<p>6. How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.</p>	<p>Not done in locality for awareness of resource crunches.</p>			
<p>7. Can you achieve zero garbage in your institute? If yes, how?</p>	<p>Not yet achieved. Possible through waste management plan.</p>			

II – GREENING THE CAMPUS

8.	Is there a garden in your institute?	Yes, about 7001.62 Sq. Meter areas are developed as Gardens.	
9.	Do students spend time in the garden?	2-4 Hours during winters	
10.	Total number of Plants in Campus	Plant type	Approx. number
		Trees	190
		Ornamental	100
11.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	Ashoka, Ficus Religeosa, Boganvella, Alovera and many more as per geographical regime.	
12.	Is the College campus have any Horticulture Department	No	
	Number of Staff working in Horticulture Department	-----	
13.	Number of Tree Plantation Drives organized by the College per annum. (If Any)	Yes, Two Tree Plantation Drives are Organized Annually. 50 trees and 25 shrubs planted in this financial year.	
14.	Number of Trees Planted in Last FY.	50	
	Survival Rate	50%	
15.	Plant Distribution Program for Students and Community	Yes, Saplings are distributed to Students and visitors at various Occasions. Besides this landscape of some area in city are developed by Institute.	
16	Plant Ownership Program	Various Trees are Planted and owned by Visitors as well as students. The Name plates are also displayed near the plants.	

III– ENERGY

<p>13. List ten ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.</p>	<p>Electricity saves by use of CFL/LED bulbs for illumination, LPG saves by use of Pressure cookers for cooking food. Alternate source of energy i.e. Solar light Installed.</p>
<p>14. Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some</p>	<p>Yes, Renewable source of energy through solar plant (910 KW) in commissioning phase. Messages are displayed at various locations to Aware the Peoples about Energy Savings. Use of Natural Lights and Natural Ventilation are promoted.</p>
<p>15. How many CFL/LED bulbs has your institute installed?</p>	<p>95 % of Total Conventional bulbs are replaced by LED/CFL Lights.</p>
<p>16. Are any alternative energy sources employed / installed in your institute? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.) Specify.</p>	<p>Yes,</p>
<p>17. Do you run “switch off” drills at institute?</p>	<p>Yes</p>
<p>18. Are your computers and other equipment’s put on power-saving mode?</p>	<p>Yes, In Practice</p>
<p>19. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?</p>	<p>No</p>

IV – WATER CONSERVATION

20.	List four uses of water in your institute	<p>Basic use of water in campus:</p> <ol style="list-style-type: none"> 1. Drinking – 3000KL/month 2. Gardening – STP treated water 3. Kitchen and Toilets – 1651KL/month 4. Others – 3140 KL/month
21.	How does your institute store water? Are there any water saving techniques followed in your institute?	<p>Overhead Water Tanks and Underground Water tank installed for storage of water.</p> <p>Avoid overflow of water controlled valves are provided in water supply system. Close supervision for water supply system.</p>
22.	If there is water wastage, specify why and How can the wastage be prevented / stopped?	No
23.	<p>Locate the point of entry of water and point of exit of waste water in your institute.</p> <p>Entry-</p> <p>Exit-</p>	<p>Entry- Water comes from two Submersible Pumps at campus</p> <p>Exit- From Water Drainage System</p>
24.	Write down four ways that could reduce the amount of water used in your institute	<p>Basic Four ways:</p> <ol style="list-style-type: none"> 1. Close the taps after usage 2. Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage 3. Water Conservation awareness for new students
25.	Record water use from the institute 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.	No, Water Meters available for calculation of usage of total quantity only.
26.	Does your institute harvest rain water?	Three number of Modern rain water harvesting system are available.
27.	Is there any water recycling System.	Yes

V – CLEAN AIR

28.	Are the Rooms in Campus are Well Ventilated?	Yes				
29.	Window Floor ratio of the Rooms	Very Good				
30.	What is the ownership of the vehicles used by your College? (Please Tick ✓ only one)		Yes			
			Operator-owned vehicles			
		✓	Institute-owned vehicles			
			A combination of campus-owned and operator-owned vehicles			
31.	Provide details of College-owned motorized Vehicles of the locality?	Buses	Cars	Vans	Other	Total
	No. of vehicles	0	0	0	0	0
	No. of vehicles more than five years old	--	--	--	--	--
	No. of Air conditioned vehicles	0	0	0	--	0
	PUC done	--	--	--	--	--
32.	Specify the type of fuel used by Vehicles of the locality:	Buses	Cars	Vans	Other	
	Diesel				--	
	Petrol	--	--	--	--	
	CNG	--	--	--	--	
	LPG	--	--	--	--	
	Electric	--	--	--	--	
33.	Air Quality Monitoring Program (If Any)	Yes,				
34.	Students suffer from respiratory ailments? (If Any)	No				
35.	Details of Genset	Yes, 2 Numbers of Kirlosker Silent DG Set The capacities of DG's are 125 KVA				

VI– ANIMAL WELFARE

37	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)	Birds and Squirrels are commonly found in campus. A variety of birds species and other flora and fauna available but these are not harmful to human so institute doing their bid for its conservation.
36.	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	Not required
37.	Does your institute have a Biodiversity Programme?	Not Available

VII– ENVIRONMENTAL LEGISLATIVE COMPLIANCE

38.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
39.	Does your institute have any rules to protect the environment? List possible rules you could include.	No
40.	Dose Environmental Ambient Air Quality Monitoring conducted by the Institute?	Yes
41.	Dose Environmental Water and Wastewater Quality monitoring conducted by the Institute?	Yes
42.	Dose stack monitoring of DG sets conducted by the Institute?	Yes
43.	Is any warning notice, letter issued by state government bodies?	No
44.	Dose any Hazardous waste generated by the Institute? If yes explain its category and disposal method	No
45.	Dose any Bio medical waste generated by the Institute? If yes explain its category and disposal method	No.

VIII– GENERAL

46.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
47.	Does your institute have any rules to protect the environment? List possible rules you could include.	No
48.	Does housekeeping schedule in your campus?	Yes, Swatch Bharat movement
49.	Are students and faculties aware of environmental cleanliness ways? If Yes Explain	Yes, Periodically pollution reduction, plantation, energy conservation awareness campaigns carried out by institute
50.	Dose Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?	Yes
51.	Dose Institute participated in National and Local Environmental Protection Movement?	Yes, Swatch Bharat Abhiyan by students at campus.
52.	Dose Institute has any Recognition/certification for environment friendliness?	No
53.	Dose Institute using renewable energy?	Yes
54.	Dose Institution conducts a green/ environmental audit of its campus?	Yes, This is the 2nd environmental audit done by institution. Previous was by IDP.
55.	Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	YES

BEST PRACTICES/INITIATIVES FOR ENVIRONMENT

A	<p>Renewable Energy</p> <p>Solar light (20 Numbers) at SGT campus A clean source of energy is utilized at campus. Efforts towards Carbon Neutrality</p> <p>The capacity of 910 KW Solar plant on building roofs is commissioned and will be operational in a month that will supply approx. 40% of total power in campus.</p>	
B	<p>Biodiversity Conservation</p> <p>Flora and fauna conservation</p>	It is in schedule plan of Campus Environment committee
C	<p>Tree Plantation Drives</p> <p>Two Drives Annually as well as Every Guest is honored by Tree Plantation at Campus.</p>	Yes
d	<p>Ground Water Recharge</p> <p>3 units of Rain Water Harvesting System.</p>	Yes
E	<p>Pollution Reduction Personal Vehicles (Students) not allowed at campus</p>	Reduction in Air Pollution through vehicular emission.
F	<p>E Waste Management</p> <p>Old Computers Donated to Government School</p>	To poor students for its use
G	<p>Solid Waste Management</p> <p>Lifting of garbage from SGT campus on alternate day by Municipal Corporation.</p>	Yes
H	<p>Adoption of Village</p> <p>CSR</p>	Batteswar Village adoption
I	<p>Water Conservation</p>	Yes, The STP treated water used for gardening in campus.

RECOMENDATIONS

- ✓ Formation of Environment Policy and communicated to all faculties and other staff.
- ✓ Environmental Monitoring i.e. (Ambient Air Quality monitoring, Stack Monitoring of DG sets, Water and wastewater monitoring need to be conducted by Odisha State Pollution Control Board, approved laboratory with frequency of six month.
- ✓ Sewage Treatment Plant (STP) and Effluent Treatment Plant (ETP) should be converted to Zero Discharge.
- ✓ E-waste monthly inventory be maintained at campus as per E waste rules 2016.
- ✓ Water Meter should be installed at institute for monitoring of water consumption per capita.
- ✓ Increase in Environmental promotional activities for spreading awareness t campus.
- ✓ Environment/Green committee formation for regulating eco-friendly initiatives at campus premises and periphery.

TEAM MEMBERS OF ENVIRONMENT AUDIT

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