

ENVIRONMENT AUDIT REPORT

(Feb, 2024)



Institute of Applied Medicines and Research

9th Km Mile Stone, NH-58, Delhi-Meerut Road, Duhai, Ghaziabad



ENGINEERING FACILITY SERVICES

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Energy Service Companies empaneled with Bureau of Energy Efficiency (BEE)

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Engineering Facility Services is special thankful to Dr. Pradeep Kumar Vashistha (Director) for providing us an opportunity to conduct an Audit of their college & providing the coordination with officers and staff.

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3 INTRODUCTION

Environment Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience. Environment audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

4 OVERVIEW OF INSTITUTE

Institute of Applied Medicines and Research today is unique in terms of its dynamism and is one of the best management institutes to come across. The institute has been able to consistently create multi-dimensional experiences for students that transform them into becoming professional assets who hit the ground running. It has innovative engagements with its industry partners that allow our faculty and students to work in close collaboration with marquee companies. With a world-class infrastructure supported by state-of-the-art technology, IAMR has emerged as one of the best colleges in Ghaziabad. It continues to look far beyond the routine, in its endeavor to produce leaders capable of a new hallmark in the world of business.

The organization encompasses an enthusiastic team of experts who help in the development and growth of potential students. IAMR Group is a self-financed, vibrant, young group of institutions established to meet the aspirations of the youth in the foregoing areas. While the sciences, health care and management institutions are located on Delhi – Meerut highway, the Engineering colleges are located on Meerut-Baghat Road in lush green sprawling campuses. IAMR today is unique in terms of its dynamism and is one of the best educational group of Institutions to come across. The Group has been able to consistently create multi-dimensional experiences for students that transform them into becoming professional assets who hit the ground running. It has innovative engagements with its industry partners that allow our faculty and students to work in close collaboration with marquee companies. With a world-class infrastructure supported by state-of-the-art technology, IAMR continues to look far beyond the routine, in its endeavour to produce leaders capable of a new hallmark in the world of business.

Located in the industrial city of Ghaziabad, IAMR is known for quality technical and management education, centers of excellence, innovative teaching pedagogy, discipline, and other creative efforts.

5 OBJECTIVES

The Environment Audit of an institution is becoming a paramount important these days for self-assessment of the institution, which reflects the role of the institution in mitigating the present environmental problems. The college has been putting efforts to keep the environment clean since its inception. But the auditing of this non-scholastic effort of the college has not been documented. Therefore, the purpose of the present environment audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

1. To document the quality drinking water
2. The document the quality of recycled waste water for gardening
3. To document the solid Waste disposal system
4. To document the ambient environmental condition of air, water and noise in the campus.
5. Benchmarking for environmental protection initiatives
6. Reduction in resource use
7. Financial savings through a reduction in resource use

6 AUDIT TEAM

Audit was conducted by the EFS team:

Name	Position	Qualification
Deepak Bajpai	Lead Auditor	B. Tech (Mechanical Engineering) Bureau of Energy Efficiency Certified Energy Auditor, Chartered Engineer
Sandeep Sharma	Safety Auditor	Certification in Industrial Hygiene, NEBOSH National General Certificate. Advance Diploma in Fire & Safety Engineering and Environmental Management
Om Pal	Auditor	B. Tech
Gaurav Pratap	Auditor	B. Tech

7 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 environmental audit of institute for NAAC affiliation; QS 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.

8 AREA OF IMPROVEMENTS

- Water Meter should be installed and maintain the inventory of water resource
- 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

9 ENVIRONMENTAL AUDIT -QUESTIONARE

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

Dose any Environmental Audit conducted earlier?

No, this is first time a systematic way of monitoring their environmental eminence initiative taken by INSTITUTE OF APPLIED MEDICINES AND RESEARCH, GHAZIABAD for environment protection.

What is the total permanent population of the Institute?

Particulars	Total
Students	1300
Teachers	60
Non-Teaching Staff	35
Sub Total	1395
Approximate Number of Visitors (Per day)	15

Where is the campus located?

It is situated on 9th Km Mile Stone, NH-58, Delhi-Meerut Road, Duhai, Ghaziabad.

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)	Yes
9 Guest House	Available

Which of the following are found near your institute?

1 Municipal dump yard	Not in vicinity of institute
2 Garbage heap	No Garbage heaps
3 Public convenience	Yes , public convenience is available
4 Sewer line	Not installed
5 Stagnant water	No stagnant water
6 Open drainage	No
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 institute generate any waste? If so, what are they?	Yes, Solid waste Canteen waste, paper, plastic, Horticulture Waste etc	
2.	What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	Dry Waste	Wet Waste
		1800 kg	600 Kg
3.	How is the waste generated in the institute managed? By 1 Composting 2 Recycling 3 Reusing 4 Others (specify)	Reuse of one side printed Paper for internal communication. Sewage water used for gardening. Two types of Waste bins are provided at campus for biodegradable and non-biodegradable waste. Horticulture waste is also disposed by the Ghaziabad Authority.	
4.	Do you use recycled paper in institute?	Yes	
5.	Do you use reused paper in institute?	Yes	
6.	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.	Done in locality for awareness of resource crunches	
7.	Can you achieve zero garbage in your institute? If yes, how?	Not yet achieved. Possible through waste management plan.	

II – GREENING THE CAMPUS

8.	Is there a garden in your institute?	Yes, about Approx. 30% 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 & Ornamental	30 trees and 400 Ornamental
11.	Suggest plants for your campus. (Trees, vegetables, herbs, etc.)	Fycer Riznald, Black Fycus, Nerofoliya, Boganvilia Boganvilia Kezreena and many more as per geographical regime.	
12.	Is the university campus have any Horticulture Department	Yes	
	Number of Staff working in Horticulture Department	four Gardeners, One Supervisor and Services of External Experts are also taken	
13.	Number of TreePlantation Drives organized by college per annum. (If Any)	Yes, Two Tree Plantation Drives are Organized Annually. 10 trees and 50 shrubs planted in this financial year.	
14.	Number of Trees Planted in Last FY.	12	
	Survival Rate	80%	
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

17.	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.	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 plant Installed.
18.	Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some	Yes, Renewable source of energy through solar plant (60 KW). Messages are displayed at various locations to Aware the Peoples about Energy Savings. Use of Natural Lights and Natural Ventilation are promoted.
19.	How many CFL/LED bulbs has your institute installed?	100 % of Total Conventional bulbs are replaced by LED/CFL Lights.
20.	Are any alternative energy sources employed / installed in your institute? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.) Specify.	Yes, photovoltaic cells for solar energy, energy efficient stoves
21.	Do you run “switch off” drills at institute?	Yes
22.	Are your computers and other equipment’s put on power-saving mode?	Yes, In Practice
23.	Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?	Yes (5 to 7 Hr)

IV – WATER CONSERVATION

24.	List four uses of water in your institute	Basic use of water in campus: 1. Drinking – 450 KL/month 2. Gardening – 300 KL/month 3. Kitchen and Toilets – 400 KL/month 4. Others – 500 KL/month
25.	How does your institute store water? Are there any water saving techniques followed in your institute?	28 Nos of Overhead Water Tanks installed for storage of water. Avoid overflow of water float valves are provided in water supply system. Close supervision for water supply system. Rain water harvesting pit 01 Nos
26.	If there is water wastage, specify why and How can the wastage be prevented / stopped?	No
27.	Locate the point of entry of water and point of exit of waste water in your institute. Entry- Exit-	Entry- Water comes from Submersible Pumps at campus Exit- From Water Drainage System to Ghaziabad Municipal Drain
28.	Write down four ways that could reduce the amount of water used in your institute	Basic Four ways: 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 4. Rain harvesting water use for gardening
29.	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 liters of water have been used.	No, Water Meters available for calculation of usage of total quantity only.
30.	Does your institute harvest rain water?	One number of rain water harvesting system are available.
31.	Is there any water recycling System.	No

V – CLEAN AIR

32.	Are the Rooms in Campus are Well Ventilated?	Yes				
33.	Window Floor ratio of the Rooms	Very Good				
34.	What is the ownership of the vehicles used by your school? (Please Tick ✓ only one)	Yes				
		Operator-owned vehicles				
		✓	School-owned vehicles			
		A combination of campus-owned and operator-owned vehicles				
35.	Provide details of school-owned motorised vehicles?	Buses	Cars	Vans	Bike +Other	Total
	No. of vehicles	1	6	0	0	7
	No. of vehicles more than five years old	1	3	0	0	4
	No. of Non Air conditioned vehicles	1	1	0	0	2
	PUC done	Yes	Yes	Yes	Yes	Yes
36.	Specify the type of fuel used by your school's vehicles:	Buses	Cars	Vans	Other	
	Diesel	1	3	0	0	
	Petrol+CNG	0	0	0	0	
	CNG	0	0	0	0	
	LPG	0	0	0	0	
	Petrol	0	3	0	0	
	Electrical	0	0	0	0	
37.	Air Quality Monitoring Program (If Any)	No				
38.	Students suffer from respiratory ailments? (If Any)	No				
39.	Details of Genset	Yes, 03 Numbers of Silent DG Set The capacities of DG's are 125 KVA, 62.5 KVA& 20 KVA.				

VI – ANIMAL WELFARE

40	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.
41.	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	Not required
42.	Does your institute have a Biodiversity Programme or a KARUNA CLUB?	Not Available

VII – ENVIRONMENTAL LEGISLATIVE COMPLIANCE

43.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
44.	Does your institute have any rules to protect the environment? List possible rules you could include.	No
45.	Dose Environmental Ambient Air Quality Monitoring conducted by the Institute?	No
46.	Dose Environmental Water and Wastewater Quality monitoring conducted by the Institute?	Yes
47.	Dose stack monitoring of DG sets conducted by the Institute?	No
48.	Is any warning notice, letter issued by state government bodies?	No
49.	Dose any Hazardous waste generated by the Institute? If yes explain its category and disposal method	Yes (Disposal of hazardous waste by dilution method)
50.	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
55.	Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	No

10 BEST PRACTICES/INITIATIVES FOR ENVIRONMENT

A	Renewable Energy A clean source of energy is utilized at campus. Efforts towards Carbon Neutrality	The capacity of 60 KW Solar plant on building roofs is already installed.
B	Biodiversity Conservation Flora and fauna conservation	It is in schedule plan of Campus Environment committee
C	Tree Plantation Drives Two Drives Annually as well as Every Guest is honored by Tree Plantation at Campus.	Yes
D	Ground Water Recharge 01 units of Rain Water Harvesting System.	Yes
E	Pollution Reduction Personal Vehicles (Students) not allowed at campus	Reduction in Air Pollution through vehicular emission.
F	E Waste Management	Handover Authorized recycler
G	Solid Waste Management Lifting of garbage from INSTITUTE OF APPLIED MEDICINES AND RESEARCH, GHAZIABAD campus daily by Ghaziabad Authority.	Yes
H	Adoption of Village School CSR	No
I	Water Conservation	Yes, rain harvesting water used for gardening in campus.
J	Corporate Resource Center (CRC)	INSTITUTE OF APPLIED MEDICINES AND RESEARCH, GHAZIABAD College Corporate Resource Center (CRC) is dedicated to nurturing future leaders
K	Mitigation measures for Air pollution at construction stage and operation stage by developing adequate green belt.	Yes
L	Mitigation measures for noise pollution by isolation of noise generation activities	Yes
M	Disaster management plan	No
N	Fire protection system	Yes

11 RECOMENDATIONS

- Environmental Monitoring i.e. (Ambient Air Quality monitoring, Stack Monitoring of DG sets, Water and wastewater monitoring need to be conducted by Haryana State Pollution Control Board, approved laboratory with frequency of six month.
- Water Meter should be installed at institute for monitoring of water consumption per capita.
- Environment/Green committee formation for regulating eco-friendly initiatives at campus premises and periphery as already Unnat Bhrat Abhiyan and NSS team exists.

12 CONCLUSION

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. The INSTITUTE OF APPLIED MEDICINES AND RESARCH, GHAZIABAD has Environmental Committee for sustainable use of resources. The audit has identified several observations for making the campus premise more environmental friendly. The recommendations are also mentioned with observations for college campus team to initiate actions.

The audit team opines that the overall site is maintained well from environmental perspective. There is no major observations but few things are important to initiate urgently are waste management records by monthly inventory of hazardous waste, water balance cycle and periodic inspection of buildings and initiation of composting at campus.

13 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

14 ANNEXURE – PHOTOGRAPHS OF ENVIRONMENT CONSOIOUSNESS





THANKS

