



Hon. Shri. Babanrao Pachpute Vichardhara Trust's Group of Institutions
Faculty of Pharmacy

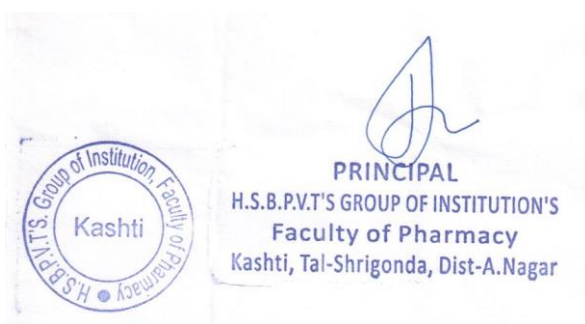
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Vision – 'To serve with high quality education for development of students as competent pharmacy professionals for the upliftment of socio-economic status in rural areas'



7.1.6.1 - The institutional environment and energy initiatives are confirmed through the following

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**GREEN AUDIT REPORT
FOR
HSBPVT's GOI FACULTY OF PHARMACY**



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Acknowledgment

Elion Technologies and Consulting Pvt Ltd places on record it's thanks to HSBPVT's GOI Faculty of pharmacy, Ahmednagar for entrusting the task of conducting green audit study.

We acknowledge with gratitude the whole hearted support and cooperation extended by all team members while carrying out the study.



Site Information

Name of College	HSBPVT's GOI Faculty of pharmacy
College Address	A/P-Kashti, Tal-Shrigonda, Dist-Ahmednagar, Pin- 414701
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	07 th February 2024
Year of Audit	2023 – 2024
Audit Participants from Site	520
Total College Area	110 acer
Total Green Area	50 acer



Overview of Institute

HSBPVT's GOI Faculty of pharmacy College, established under the esteemed HSBPVT's GOI Faculty of pharmacy Trust, is a premier educational institution dedicated to nurturing the next generation of pharmacy professionals. Located in a vibrant academic hub, the college is part of the Group of Institutions, which has a rich history of excellence in education, innovation, and community service. With a commitment to academic rigor, research, and industry collaboration, Shri BVP Pharmacy College aims to become a leading institution in the field of pharmaceutical sciences.

Vision

To become a centre of excellence in pharmacy education, research, and innovation, fostering highly skilled professionals who will contribute to the healthcare sector globally. Our vision is to provide a holistic learning experience, integrating theory with practical applications, and empowering students to take on leadership roles in the evolving pharmaceutical industry.

Academic Programs

Shri BVP Pharmacy College offers a range of undergraduate and postgraduate programs designed to provide students with both theoretical knowledge and hands-on experience. The courses are aligned with industry standards and meet the requirements set forth by the Pharmacy Council of India (PCI) and the All-India Council for Technical Education (AICTE).

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A four-year undergraduate program that provides foundational knowledge in pharmaceutical sciences, including pharmaceutics, pharmaceutical chemistry, pharmacology, and pharmacognosy.

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A two-year postgraduate program offering specialized courses in areas such as Pharmaceutics, Pharmaceutical Chemistry, Pharmacology, and Pharmaceutical Management.

List of courses offered by the institute:

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- M Pharmacy



Introduction

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyse environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. 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.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO₂ from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory 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.

Advantages of Green Audit:

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. Some main advantages of green Audit are:

- It helps to shield the environment.
- Minimizing the waste and managing the cost.
- Authenticate conformity with the implemented laws.
- Minimizing the energy consumptions and focus on green and clean energy.
- Ambient Environmental Condition.
- Awareness and Training on Sustainability for Students.
- Awareness about environmental guidelines and duties.



Environment Setting

The land use around the campus is mix of commercial and residential use. Schools, Restaurants, Commercial complexes, restaurants, Industries etc are present around the campus.



HSBPVT's GOI Faculty of pharmacy



Location of HSBPVT's GOI Faculty of pharmacy



Green Audit

For Green Audit following 13 major areas (including their subsections) were covered and compliance/ initiatives under these areas were verified/ validated.

- a) Good Daylight Design and Ventilation
- b) Water Efficiency
- c) Wastewater Management
- d) Indoor Air Quality
- e) Energy Efficiency
- f) On-site Energy Generation
- g) Temperature and Acoustic Control
- h) Paper Waste Management
- i) E-Waste Management
- j) Canteen and Solid Waste Management
- k) Universal Access and Efficient Operation and Maintenance of Building
- l) Green Belt
- m) Green Programs (Green initiatives)

3.1 Good Daylight Design and Ventilation

- a) Corridors are wide with good ceiling height. All the corridors receive good daylight.
- b) Classrooms and Library have large windows. Adequate daylight is received through the windows during daytime.
- c) Classroom walls, corridors and other areas are white-washed, this enhances the daylight received.
- d) Curtains are provided on some of the windows to avoid glare.
- e) Stair cases receive daylight through windows provided at various levels.

3.2 Water Efficiency:

- a) Groundwater is the source of water supply in the campus.
- b) Approximately per day 4 hours Groundwater (Bore well) is running.
- c) Groundwater is stored in following tanks:

Location	Tank Capacity	Type (Underground/Overhead)
TARACE	10000 LTR	Overhead

- d) Normally mops are used for floor cleaning and hose is used for cleaning once a week.
- e) For drinking water, Water Cooler are available in Institution.



- f) Sensor based water taps are provided in the washrooms.
- g) Dual flushing system is not provided in the washrooms.
- h) Signages are provided in washrooms emphasizing water conservation.



3.3 Wastewater Management:

- a) Sewage water treatment plant or water recycling plant is available in the campus.





3.4 Indoor Air Quality;

Indoor Air Quality (IAQ) refers to the air quality within and around buildings and structures, as it relates to the health and comfort of building occupants. Some common indoor pollutant are listed as below:

- Molds and other allergens – This may arise from water seeping into the building envelope or skin, plumbing leaks, condensation due to improper ventilation, or from ground moisture penetrating a building part.
- Carbon monoxide – Sources of carbon monoxide are incomplete combustion of fossil fuels.
- Volatile organic compounds (VOCs) – VOCs are emitted by paints and lacquers, paint strippers, pesticides, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions etc.
- Carbon dioxide – Due to human respiration
- Particulate matter – Due to construction and maintenance activities

Major observations under indoor air quality are as below:

- a) Indoor plants are present in the campus. Indoor plants can be plotted not only for the aesthetic appearance but also for health benefits. Refer Annexure 1 for details.
- b) Indoor air quality tests are not carried. It is recommended to get air quality tested once a year.
- c) Exhaust fans are provided in washrooms to dissipate heat and odour.





3.5 Energy Efficiency:

Power is supplied by Local Electrical Distribution Company. The major electricity consuming equipment installed in the campus are Air Conditioners, Water Coolers, Lighting, Desktop, Printers etc.

It was observed that:

- a) LED lights are installed in the entire campus.

3.6 On Site Energy Generation (usage of LPG/ Natural Gas):

- a) LPG and Induction is not used for cooking in canteen/pantry.
- b) Back Up diesel generator is not available in the campus.

3.7 Temperature and Acoustic Control

- a) The campus has done tree plantation all around the boundary walls.
- b) There is no noise pollution inside and around the campus.





3.8 Paper Waste Management:

Being academic institution, waste paper is the main solid waste generated in the premises. The College has taken steps to minimize and avoid paper usage. It was observed that:

- a) Prints and photocopies are taken on both sides of the pages to avoid excess paper usage. Rather than photocopy, digitalization (scanning) is practiced.
- b) Internal notices and communications are through E-mail/Whatsapp.
- c) Faculty and administration staff uses old papers and envelopes for internal usages as rough work, file markers, page separators etc.
- d) Old papers and answer sheets are kept in a separate storage room and disposed off as per college policy.

3.9 E-Waste Management:

- a) E-waste is disposed off or discarded after approval from committee and is disposed by certified vendors.

3.10 Solid Waste Management:

It was observed that:

- a) Wet waste and dry waste segregation is practiced in the premises. Separate bins are not provided for wet biodegradable and dry recyclable waste.
- b) Compost pit is also available for composting of dry waste such as leaves, flowers etc.
- c) The daily waste is collected and disposed off through contractual vendors.



d) Biodegradable waste is mainly generated in canteen.



3.11 Universal Access and Efficient Operation and Maintenance of Building:

It was observed that:

- College is easily accessible. Staircase and ramps are provided for staff and students.
- Since the access and staircases are wide and uncluttered, it is possible to have a safe evacuation during emergency.
- Fire extinguishers and Fire hose reel are provided for emergency. They are inspected and serviced by fire protection Service Company annually.
- Directional exit signages and floor markings are present on every floor of the



campus.

- e) Regular Fire Safety Trainings is given to staff and students on annual basis.



3.12 Green belt/ Landscaping:

- a) Large trees and plants are planted in the premises. Plantation also helps maintaining lower temperatures of the area.

3.13 Green Initiatives:

College is regularly celebrating important days such as Environment Day, Yoga Day, Earth Day etc as well as other cultural programs. Solar Power Plant are available in the Campus.



Tree Plantation



Yoga Day



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Recommendations/Suggestions

Good Daylight Design and Ventilation

- Maintain the practice of ensuring corridors and staircases receive ample daylight through windows.
- Use light-colored paints for walls and ceilings to enhance natural light reflection.
- Install adjustable curtains or blinds on windows to manage glare effectively.
- Conduct regular maintenance of windows and exhaust fans to ensure optimal ventilation and light distribution.

Water Efficiency

- Install dual-flush systems in washrooms to reduce water wastage.
- Reuse reject water from water purifiers and air conditioning units for gardening or cleaning purposes.
- Use signage and awareness programs to encourage water conservation among students and staff.
- Explore installing water-efficient mopping systems and hose alternatives to further reduce water usage.

Wastewater Management

- Ensure the sewage treatment plant is regularly maintained to treat and recycle wastewater efficiently.
- Consider reusing treated water for non-potable purposes such as landscaping.

Indoor Air Quality

- Conduct annual indoor air quality testing and address any identified issues promptly.
- Increase the use of indoor plants for improved air quality and aesthetic value.
- Regularly inspect and maintain exhaust fans in washrooms and other enclosed spaces.

Energy Efficiency

- Expand the use of energy-efficient lighting such as LED lights across campus.
- Install motion sensor-based lighting systems in low-traffic areas to reduce unnecessary energy consumption.



- Conduct energy awareness sessions for students and staff to promote energy-saving practices.

On-Site Energy Generation

- Explore alternative energy solutions, such as solar panels, to supplement energy requirements.
- Develop an energy management plan to ensure efficient use of available resources.

Temperature and Acoustic Control

- Continue planting trees around the campus to reduce temperature and create natural sound barriers.
- Ensure regular maintenance of green belts to maximize their environmental benefits.

Paper Waste Management

- Promote further digitization for notices, assignments, and communication to minimize paper usage.
- Establish a paper recycling program to collect and reuse discarded papers effectively.
- Encourage staff and students to reuse paper for internal use such as rough work or file dividers.

E-Waste Management

- Strengthen the e-waste disposal policy by partnering with certified vendors for safe recycling.
- Maintain records of disposed e-waste and ensure adherence to environmental compliance standards.

Solid Waste Management

- Provide separate bins for wet biodegradable and dry recyclable waste in classrooms and common areas.
- Expand composting practices to include more biodegradable waste from canteens and gardens.
- Educate students and staff about proper waste segregation through workshops and signage.

Universal Access and Building Maintenance

- Regularly inspect fire safety equipment and ensure compliance with fire safety norms.



-
- Continue conducting annual fire safety training for staff and students.
 - Maintain wide and clear access routes and staircases to ensure safe emergency evacuation.

Green Belt and Landscaping

- Organize tree plantation drives to further enhance the green cover.
- Focus on planting native and drought-tolerant species to conserve water.




Green Initiatives

- Continue celebrating important environmental days and integrating sustainability into campus culture.
- Utilize the solar power plant effectively and explore further renewable energy opportunities.
- Form a "Green Committee" to track progress and implement additional initiatives for campus sustainability.







Annexure 1 – Indoor Gardening Details





Indoor plants are commonly used for their aesthetics benefits but they also have vital role reducing airborne pollution. The right choice of plants can be an excellent way of improving indoor air quality and general health. Local landscape contractor can be contacted for supply and rotation of these plants.

Plants	VOC it removes	Indoor source of VOC's	Plant care
 Aloe Vera	Formaldehyde, Trichloroethylene and Benzene	Chemical based cleaners and paints	Easy to grow with enough sunlight
 Bamboo Plant	Formaldehyde, Trichloroethylene and Benzene	Paints, Plastics, Wood products etc.	Thrives under low light conditions as well as easy to maintain
 Chinese Evergreen	Benzene	Paints	Low maintenance plant that prefers low light conditions.




 <p>English Ivy</p>	<p>Formaldehyde, Benzene, Air borne fecal matter particles</p>	<p>Wood, Paper products, Air borne fecal – matter particles from pests</p>	<p>Easy to maintain</p>
 <p>Janet Craig</p>	<p>Formaldehyde, Benzene and Trichloroethylene</p>	<p>Paints, Plastics, Wood products etc.</p>	<p>Medium to low light tolerant plant. Requires little water for growth.</p>
 <p>Golden Pothos or Devils Ivy</p>	<p>Formaldehyde, Cleanses air</p>	<p>Exhaust fumes, carpeting materials, panelling and furniture products made with particle board</p>	<p>Extremely easy to maintain under low to bright light conditions. Fast growing and grows well under Fluorescent light.</p>
 <p>Mass Cane</p>	<p>Formaldehyde, benzene and trichloroethylene</p>	<p>Paints, Plastics, Wood products etc.</p>	<p>Medium to low light tolerant plant. Requires little water for growth.</p>



 <p>Snake plant</p>	<p>Formaldehyde and trichloroethylene</p>	<p>cooking fuels, wood products, facial tissues, personal care products and waxed papers</p>	<p>Drought resistant and Tolerates a variety Of light conditions. Hard to damage or kill.</p>
 <p>Peace Lily</p>	<p>Formaldehyde, benzene and trichloroethylene</p>	<p>Paints, Plastics, Wood products etc.</p>	<p>Relatively easy to maintain. Survives in low light conditions.</p>
 <p>Red-edged Dracaena</p>	<p>Formaldehyde and trichloroethylene</p>	<p>cooking fuels, wood products, facial tissues, personal care products and waxed papers</p>	<p>Drought resistant and Tolerates a variety of light conditions. Hard to damage or kill.</p>
 <p>Spider Plant</p>	<p>Formaldehyde, benzene, carbon monoxide and xylene</p>	<p>cooking fuels, wood products, Printing</p>	<p>Easy to maintain under medium to bright light condition.</p>



	Purifies indoor air	-	Easy to maintain
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Parlor Palm



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DISCLAIMER

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No warranty, guarantee, or representation, either expressed or implied, is made as to the correctness or sufficiency of any representation contained herein. This report may not address every possible loss potential, violation of any laws, rules or regulations, or exception to good practices and procedures. The absence of comment, suggestion, or recommendation does not mean the property or operation(s) is in compliance with all applicable laws, rules, or regulations, is engaging in good practices and procedures, or is without loss potential. No responsibility is assumed for the discovery and/or elimination of hazards that could cause accidents or damage at any facility that is subject to this report.



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Executive Summary

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List of courses offered by the institute:

- D Pharmacy
- B Pharmacy
- M Pharmacy

The energy audit included detailed data collection, analysis of data and identification of specific energy saving proposals.



Chapter 01: Introduction

M/S HSBPVT's GOI Faculty of pharmacy, Ahmednagar evinced interest in availing the services of Elion Technologies and Consulting Pvt Ltd for conducting energy audit of their premise.

Elion Technologies and Consulting Pvt Ltd team conducted the Detail Energy audit on 07th July 2024.

This report is on the energy audit carried out M/S HSBPVT's GOI Faculty of pharmacy, Ahmednagar. The detailed energy audit comprised of the following activities:

- Data collection of power consuming equipment's.
- A brief session on energy management was conducted to seek more inputs from the personnel engaged in operation and maintenance of electro mechanical services.
- Analysis of collected data.
- Discussion with the officials on the identified proposals.
- Discussion and reporting of the findings of energy audit with the Engineers and management staff.

All the identified energy savings proposals have been discussed with the executives concerned before finalizing the projects.

The contents of the report are based solely on the data provided by HSBPVT's GOI Faculty of pharmacy, Ahmednagar officials during the energy audit.

The management should implement the suggestions made in the report after verifying requisite safety aspects.

Methodology for Energy Audit:

The following is a list of general procedure and information undertaken during the energy audit:

- General information of the site.
- Baseline energy description.
- Past energy consumption bills which includes electricity bills.



- On site data collection
- Energy analysis of different sectors.
- Recommendation of energy conservation measures.

The primary goal of the energy audit was to identify sources and areas of potential energy savings and cost saving throughout the campus by measures of optimization, replacement, retrofitting, and on the other hand, to also provide recommendations on operational and maintenance practices improvements.



Chapter 02: Energy Consumption Details

The main areas of energy consumption as observed during the audit are as follows:

- Air Conditioners
- Lighting
- Fans
- Motors & Pumps
- Desktops & Printers

The main sources of energy to meet the required consumptions are as follows:

- Electricity supply from Power Distribution Company.
- Backup power from DG Set.



Chapter 03: Lighting System

Following is the summary of lights installed at various locations of the college campus:

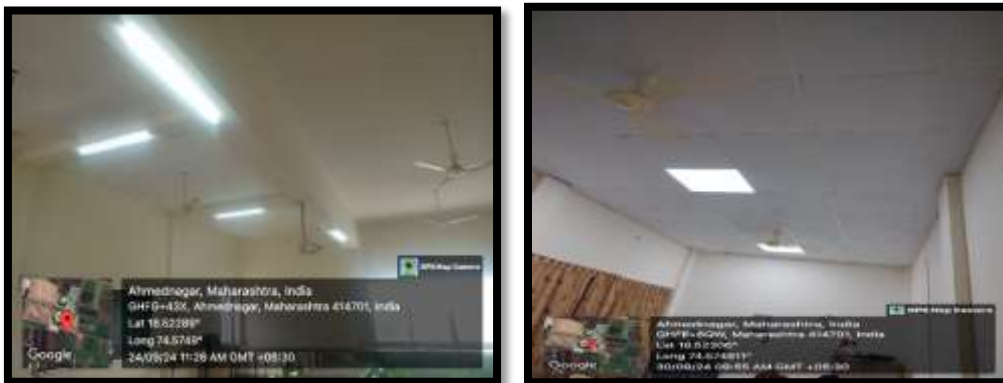
Type of lights (LED/CFL/Conventional Bulb/Tube Light)	Location	Rating	Quantity	Number of Hours being turned on
LED	FC ROOM	10W	10	2
LED	CLASSROOM	10W	05	3
LED	LAB	10W	05	3

Observation:

- Most of the lights used in the campus are LEDs. Campus has replaced all the conventional lights with energy efficient LED lights which is a good practice.

Recommendation:

- Regular cleaning of light fixtures to be done to get maximum lux level.
- Stickers emphasizing "Save Electricity" or "Switch Off" shall be displayed near sockets or switches.



LED Lights



Chapter 04: Air Conditioning

Split, and Ductable Air Conditioners are used in facility for air conditioning. Following is the list of ACs present in the campus:

Type of AC (Windows/Split/Package and Location)	Capacity in Ton	Whether any star rating available	Set Temperature	Running Hours	Whether AC performance is satisfactory (Yes/No)
WINDOWS LAB	1.5	4	26	4	YES
SEMINAR LALL	1.5	4	26	2	YES

Observation:

- All air conditioners are found to be functioning properly and well maintained.
- Regular servicing and maintenance of air conditioners are done with proper cleaning.

Recommendation:

- All doors to be kept closed while using the air conditioners and regular annual service of AC's should be carried out.
- Set Temperature of Air Conditioner shall be maintained at 26°C.
- A reduction in 1°C set point temperature, the energy cost comes down by 5%. By carefully selecting the seasonal temperature in different areas as per requirement considerable saving on account of power consumption can be achieved.
- Whenever Air Conditioners are replaced in future, BEE 5 star rated air conditioners shall be considered which are energy efficient.
- Installation of AC energy savers can be considered for air conditioners having longer running hours.



Chapter 05: Pumps and Motors

Name of Pump and make	Running Hours	Any VFD	Rated Capacity in KW	Flow Rate	RPM
TEXMO	5	2.2	0.75KW	100LPM	2800 RPM

Observation:

- These pumps are strategically placed to ensure efficient water distribution and management throughout the Campus. All pumps and motors are functioning properly and well maintained.

Recommendation:

- Proper maintenance and upkeep of pumps and motors to be done.



Conclusion

The energy audit performed at HSBPVT's GOI Faculty of pharmacy showcased commendable efforts towards sustainability within the college. The replacement of conventional lights with energy-efficient LED alternatives marks a significant stride in reducing energy consumption.

Despite these advancements, there remains untapped potential for further enhancing energy efficiency. The audit report likely contains specific recommendations aimed at maximizing sustainability efforts. Implementing these suggestions could significantly bolster the college's energy-saving initiatives, continuing the positive trajectory towards a more environmentally conscious campus.

End of Report

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Elion Technologies and Consulting is not liable for any damages incurred by the organization through implementation of the energy saving proposals either to it or to any third party getting impacted by the implementation of this report.

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Acknowledgement

Elion Technologies and Consulting Pvt Ltd thanks the management of HSBPVT's GOI Faculty of pharmacy, Ahmednagar 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.



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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

HSBPVT's GOI Faculty of pharmacy, established under the esteemed HSBPVT's GOI Faculty of pharmacy Trust, is a premier educational institution dedicated to nurturing the next generation of pharmacy professionals. Located in a vibrant academic hub, the college is part of the Group of Institutions, which has a rich history of excellence in education, innovation, and community service. With a commitment to academic rigor, research, and industry collaboration, Shri BVP Pharmacy College aims to become a leading institution in the field of pharmaceutical sciences.

Vision

To become a centre of excellence in pharmacy education, research, and innovation, fostering highly skilled professionals who will contribute to the healthcare sector globally. Our vision is to provide a holistic learning experience, integrating theory with practical applications, and empowering students to take on leadership roles in the evolving pharmaceutical industry.

Academic Programs

Shri BVP Pharmacy College offers a range of undergraduate and postgraduate programs designed to provide students with both theoretical knowledge and hands-on experience. The courses are aligned with industry standards and meet the requirements set forth by the Pharmacy Council of India (PCI) and the All-India Council for Technical Education (AICTE).

Bachelor of Pharmacy (B.Pharm)

A four-year undergraduate program that provides foundational knowledge in pharmaceutical sciences, including pharmaceutics, pharmaceutical chemistry, pharmacology, and pharmacognosy.

Master of Pharmacy (M.Pharm)

A two-year postgraduate program offering specialized courses in areas such as Pharmaceutics, Pharmaceutical Chemistry, Pharmacology, and Pharmaceutical Management.

List of courses offered by the institute:

- D Pharmacy
- B Pharmacy
- M Pharmacy



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.

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

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	-	-	-
Teachers	9	15	24
Non-Teaching Staff	22	06	28
Sub Total	31	21	52
Approximate Number of Visitors (Per day)			100
What is the total number of working days of your campus in a year?			264

Where is the campus located?

Kashti, Tal-Shrigonda, Dist-Ahmednagar



Which of the following are available in your campus?

1	Garden area	Yes
2	Playground	Yes
3	Kitchen	No
4	Toilets	Yes
5	Garbage Or Waste Store Yard	Yes
6	Laboratory	Yes
7	Canteen	No
8	Hostel Facility (Numbers)	Yes
9	Guest House	No

Which of the following are found near your campus?

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



I - WASTE MINIMIZATION AND RECYCLING

1.	Does your institute generate any waste? If so, what are they?	No
2.	What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	80kg Per Month
3.	How is the waste generated in the institute managed? By 1 Composting 2 Recycling 3 Reusing 4 Others(specify)	Composting
4.	Do you use recycled paper in institute?	No
5.	Do you use reused paper in institute?	No
6.	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.	By Campus Cleaning And Nss Activity
7.	Can you achieve zero garbage in your institute? If yes, how?	No

II – GREENING THE CAMPUS

1.	Is there a garden in your institute?	Yes
2.	Do students spend time in the garden?	No
3.	Total number of Plants in Campus	More Than 500
4.	Provide some names of trees and plants in the campus.	Coconut, Neem, Herbal Plant Etc
5.	Is the university campus have any Horticulture Department?	No



	If yes, number of Staff working in Horticulture Department?	No
6.	Number of Tree Plantation Drives organized by School per annum.(If Any)	04
7.	Number of Trees Planted in Last year.	38
	Survival Rate	34
8.	Plant Distribution Program for Students and Community	Yes
9.	Plant Ownership Program	No

III – ENERGY

1.	List down 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
2.	Are there any energy saving methods, equipments, techniques employed in your institute? If yes, please specify. If no, suggest some	Yes, Solar System
3.	Give an estimate of number of lights installed in your campus along with numbers?	-
4.	Are any alternative energy sources employed/ installed in your institute? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.,) Specify.	Solar
5.	Do you run "switch off" drills at institute?	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?	No



IV - WATER CONSERVATION

1.	List all the uses of water in your institute?	Laboratory, Drinking, Irrigation
2.	How does your institute store water? (mention tanks with capacity) Are there any water saving techniques followed in your institute?	10000 Ltr Tank
3.	If there is water wastage, specify why and how can the wastage be prevented/ stopped?	
4.	Locate the point of entry of water and point of exit of waste water in your institute. Entry- Exit-	Entry From Tank Exit From Drainage
5.	Write down few ways that could reduce the amount of water used in your institute?	Avoid Unnesesory Flushing Close Tap Tightly After Use
6.	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.	Yes
7.	Does your institute harvest rain water? (Please explain the method and uses)	Yes
8.	Is there any water recycling System.	Yes



V - CLEAN AIR

1.	Are the Rooms in Campus are Well Ventilated?	Yes				
2.	Number of windows per room (aggregate value to be provided)	4				
3.	What is the ownership of the vehicles used by your school? (Please Tick <input type="checkbox"/> Only one)	Yes				
		Operator-owned vehicles				
		School-owned vehicles				
		A combination of campus-owned and operator-owned vehicles				
4.	Provide details of school-owned motorized vehicles?	Buses	Cars	Vans	Other	Total
	No. of vehicles	20	2	-	-	-
	No. of vehicles more than five years old	20	-	-	-	-
	No. of Air conditioned vehicles	-	-	-	-	-
	PUC done	Yes	Yes	-	-	-
5.	Specify the type of fuel used by your school's vehicles:	Buses	Cars	Vans	Other	
	Diesel	-	-	-	-	
	Petrol	-	-	-	-	
	CNG	-	-	-	-	
	LPG	-	-	-	-	
	Electric	-	-	-	-	
6.	Air Quality Monitoring Program (If Any)	PUC				
7.	Students suffer from respiratory ailments? (If Any)	No				
8.	Details of Diesel/Gas Generator. (Rating & Make)	No				



VI – ANIMAL WELFARE

1.	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.) (if any)	Dogs, Cats, Squirrels, Birds, Insects etc.
2.	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC - AR)?	15
3.	Does your institute have a Biodiversity Programme or a KARUNA CLUB?	No

VII - ENVIRONMENTAL LEGISLATIVE COMPLIANCE

1.	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	No
2.	Does your institute have any rules to protect the environment? List possible rules you could include.	Say No To Plastic
3.	Does Environmental Ambient Air Quality Monitoring conducted by the Institute?	No
4.	Does Environmental Water and Wastewater Quality monitoring conducted by the Institute?	No
5.	Does stack monitoring of DG sets conducted by the Institute?	No
6.	Is any warning notice, letter issued by state government bodies?	No
7.	Does any Hazardous waste generated by the Institute? If yes explain its category and disposal method.	No
8.	Does any Bio medical waste generated by the Institute? 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 institute 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 institute?	Yes
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 Institute participated in National and Local Environmental Protection Movement?	Yes
7.	Does Institute has any Recognition/certification for environment friendliness?	No
8.	Does Institute using renewable energy?	No
9.	Does Institution conducts a green/environmental audit of its campus?	No
10.	Has the institution been audited / accredited by any other agency such as NABL, NABET, TQPM, NAAC etc.?	No



Recommendations

- Increase the use of recycled and reused paper for administrative tasks and introduce a formal recycling program to manage the 80 kg of monthly waste effectively.
- Implement waste segregation at the source and expand composting efforts to achieve better waste management outcomes.
- Launch community-wide awareness campaigns, including campus cleaning and NSS activities, to promote sustainable waste practices.
- Encourage student engagement in campus greenery through participation in garden maintenance and tree plantation activities.
- Establish a horticulture team to manage the garden systematically and ensure the survival of newly planted trees.
- Promote a "Plant Ownership Program" for students and staff to enhance care for campus greenery.
- Regularly conduct "switch-off" drills and encourage responsible energy use behaviors among students and staff.
- Educate users on minimizing water wastage through measures like avoiding unnecessary flushing and ensuring taps are properly turned off.
- Set up water usage monitoring systems to detect wastage and improve recycling practices.
- Establish an air quality monitoring program to periodically assess indoor and outdoor air conditions.
- Conduct workshops and training sessions to raise awareness about environmental laws among students and staff.
- Initiate ambient air, water, and wastewater quality monitoring to comply with environmental standards.
- Develop comprehensive environmental policies such as banning single-use plastics and promoting green initiatives.
- Seek environmental certifications like NABL, NABET, or NAAC to enhance the institute's eco-friendly image.
- Celebrate World Environment Day, Earth Day, and similar events to engage the community in environmental activities.
- Conduct regular green audits to assess and improve the campus's environmental practices.
- Expand renewable energy use by exploring additional sources like wind energy to supplement the solar power system.



Photographic Evidences









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, a large are 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.



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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DISCLAIMER

All information contained in this report is based on the data available and observations made during the audit. All recommendations made in this audit report should be duly evaluated by the management before implementation.

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Certificate

This is to certify that Energy Audit at HSBPVT's GOI Faculty of pharmacy, A/P-Kashti, Tal-Shrigonda, Dist-Ahmednagar 414701 was carried out for the year 2023 - 24.

It is found that sustainable measure are taken by the campus in reduction in energy consumption. Several measures are taken by college management for promoting energy efficiency. In-house solar power plant is also installed.

Audit Date – 07/02/2024
Valid Up to – 06/02/2025



Audit Officer

Certificate Number
EA/2024/SBPV

Elion Technologies & Consulting Pvt Ltd

Certificate

This is to certify that Green Audit at **HSBPVT's GOI Faculty of pharmacy, A/P-Kashti, Tal-Shrigonda, Dist-Ahmednagar 414701** was carried out for the year **2023 - 24.**

College has submitted necessary data and credentials for scrutiny. The activities and measures carried out by the college have been verified. The efforts taken by the college towards environment and sustainability is highly appreciated and commendable.



Audit Date – 07/02/2024
Valid Up to – 06/02/2025

Audit Officer

Certificate Number
GA/2024/SBPV

Elion Technologies & Consulting Pvt Ltd

Certificate

This is to certify that Environment Audit at HSBPVT's GOI Faculty of pharmacy, A/P-Kashti, Tal-Shrigonda, Dist-Ahmednagar 414701 was carried out for the year 2023 - 24.

Campus has submitted necessary data and credentials for scrutiny. The college has ample amount of greenery and plantation which helps in maintaining the good quality air all around the campus and also helps in preventing soil erosion.

Audit Date – 07/02/2024
Valid Up to – 06/02/2025



Audit Officer

Certificate Number
ENV/2024/SBPV