Green Audit Report (2022-23)

Of

SIR RASHBEHARI GHOSH MAHAVIDYALAYA

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1. Introduction:

The introduction highlights the goals of the green audit and provides an overview of the college's commitment to sustainability. It also describes the scope of the audit.To evaluate the college's environmental impact, sustainability practices, and areas for growth, the Green Audit Report was conducted at SIR RASHBEHARI GHOSH MAHAVIDYALAYA. This all-encompassing analysis has assessed the college's energy use, waste management, water consumption, transportation options, and general environmental consciousness analysis. The findings and suggestions to strengthen the college's dedication to environmental responsibility and sustainable practices are detailed in this study.

Green Audit Working Team (2022-23):

Sl No	Name of the Members	Designation
1.	Dr Debabrata Ghosh	Principal
2.	Dr Ankur Konar	IQAC Coordinator
3.	Purnabrata Koner	SACT
4.	Tanmoy Ghosh	SACT
5.	Sufal Das	SACT
6.	Koushik Ghosh	Temporary Clerk
7.	Abul Basar Layek	Temporary Peon

2. The Necessity of a Green Audit:

The need for green audits, also known as environmental audits or sustainability audits, is rising in today's society for several reasons.

(a) Effects on the Environment: Green audits help to assess and lessen an organization's harmful environmental impact. They analyse factors such as energy consumption, trash generation, water use, and emissions to find areas that could be improved to decrease environmental harm.

(b) Conformity with Regulations: The environmental regulations and rules established in many countries must be followed by organizations. Green audits help colleges adhere to standards to avoid penalties or other legal implications for non-compliance.

(c) Savings on Expenses: Green audits can identify inefficient practices, providing opportunities for cost savings. By studying energy use, resource consumption, and waste management, businesses can put strategies into practice to reduce operational costs and increase overall efficiency.

(d) Reputation and the Expectations of Stakeholders: Customers and other stakeholders now call organisations to adopt more environmentally friendly

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practices. Green audits promote trust among customers, employees, investors, and communities by demonstrating an organization's transparency and commitment to sustainability.

(e) Risk Management: Environmental hazards can have serious financial and reputational ramifications for firms, including pollution events, regulatory non-compliance, and supply chain interruptions. By evaluating environmental management systems, ensuring sufficient controls are in place, and putting preventative measures in place to deal with possible problems, green audits assist in identifying and mitigating these risks.

(f) Continuous Improvement: Green audits encourage a continuing commitment to sustainability rather than being one-time events. Organizations can see trends, set goals, and implement improvement initiatives by routinely evaluating and tracking environmental performance. This iterative process promotes a culture of sustainability and propels long-lasting transformation.

(g) Sustainable Development Goals (SDGs): An international framework for solving urgent environmental and social issues is provided by the Sustainable Development Goals. Organizations can better align their operations with these objectives with the aid of green audits, paving the way for a more just and sustainable future. Green audits are essential to evaluate, enhance, and confirm environmental performance. They allow companies to control risks, comply with rules, cut costs, improve reputations, and support sustainable development.

3. Methodology for Green Audit:

Audits of an organization's environmental performance and practices are known as "green," "environmental," or "sustainability" audits. They entail assessing the company's influence on the environment, resource usage, waste management, and adherence to environmental legislation. Here is a procedure for carrying out a green audit:

(a) Planning:

(b) Identify audit team and resources:

(c) Develop an audit plan: Create a detailed plan outlining audit activities, timelines, responsibilities, and communication channels.

(d) Data Collection:

(e) Gather information:

(f) Conduct site visits and interviews:

(g) Review documentation:

(h) Evaluation and Analysis:

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(i) Assess environmental impacts:
(j) Evaluate compliance:
(k) Identify strengths and weaknesses:
(l) Quantify results:
(m) Reporting:
(n) Prepare an audit report:
(o) Communicate results:
(p) Follow-up and Improvement:
(q) Develop an action plan:
(r) Monitor progress:
(s) Continuous improvement:

The methodology adopted to conduct the Green Audit of the Institution had the following components.

3.1. On-siteVisit :

The Green Audit Team carried out the five-day field trip. The tour's main goal was to evaluate the Institution's waste management procedures, energy conservation tactics, and other aspects of its green cover. The protocols for sample collection, preservation, and analysis were followed scientifically.

3.2. Focus Group Discussion :

The nature club, staff, and management members participated in focus group discussions on various facets of the green audit. Identification of attitudes and awareness towards environmental issues at the institutional and local levels was the main topic of discussion.

3.3. Energy and waste management Survey:

The audit team evaluated the college's waste generation, disposal, and treatment facilities as well as its energy usage pattern with the assistance of teachers and students. A comprehensive questionnaire survey method was used to carry out the monitoring.

4. Target Areas of Green Auditing:

Energy Consumption:

The college's electrical and HVAC usage trends are dissected in this section. It detects energy-efficient practices and points out places to make improvements,

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such as through lighting retrofits, HVAC system optimisation, and the introduction of energy-saving devices.

Details electrical requirements:

SL	Electrical Devices	Number	Power (Watt)	Usage Time (Hr / Day)
1	Normal Tube light	20	40 watt	10 AM to 5 PM
2	LED Tube light	58	20watt	10 AM to 5 PM
3	Normal Bulb	02	60watt	10 AM to 5 PM
4	LED Bulb	15	09watt	10 AM to 5 PM
5	Ceiling Fan	72	52watt	10 AM to 5 PM
6	Stand Fan	02	160watt	10 AM to 5 PM
7	LED Metal	03	130watt	6 PM to 6 AM
8	Exhaust Fan	01	65watt	10 AM to 5 PM

Details of Energy Consumption:

DESCRIPTION	2021-22	2022-23
Total energy generated on campus, including others (in KWH)	**nil**	**nil**
Total energy consumed based on electricity bill (in KWH)	**2987 KW**	**3504 KW**

Waste Management:

Recycling initiatives, landfill diversion rates, and other waste management practices on campus are all part of the evaluation. It proposes measures to cut down on garbage, boost recycling, and promote eco-friendly behaviour all over campus.

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Vermy compost-

Composting Unit- It is manufactured a composting unit at GHRCE to dispose the brown waste of college campus. The unit comprising of cylindrical barrel with the adjustment of rotation to take out the decomposed matter. The brown waste means dry leaves form the campus is collected and applied to the unit and after 30 days, compost received for the application to gardening of college garden.

Water Usage:

The college's water consumption, conservation initiatives, and opportunities for water savings are all evaluated in this report. It recommends promoting water conservation through the use of water-efficient fixtures, rainwater collection, and educational programmes.

Transportation:

In this section, we take a look at how the college neighbourhood gets around. Bicycle-sharing initiatives, financial incentives for carpooling, and collaborations with public transportation providers are some of the eco-friendly commute solutions investigated.

Green Spaces and Biodiversity:

The report assesses the school's green areas, biodiversity protection initiatives, and landscaping methods. Preserving natural areas, growing native species and supporting programmes that help pollinators are all possible suggestions.

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Curriculum and Awareness:

This analysis considers the ways in which sustainability and environmental studies are taught and discussed on campus. It suggests fostering environmental awareness and green initiatives across all academic fields.

Stakeholder Engagement:

Student, professor, and staff participation in sustainability initiatives is assessed in this report. It suggests ways to increase participation and diversity in environmentally friendly activities.

Future Goals and Targets:

This section establishes attainable sustainability targets for the university based on audit findings. It lays out both immediate and far-off goals for improving the organization's environmental impact.

Conclusion:

The implementation plan details the steps to be taken, who will be responsible for them, and when they will be completed in order to meet the suggested sustainability targets. Budgetary constraints, collaboration with external organisations, and methods for assessing performance are all possibilities.

4.2. Waste Management:

4.2.1. Recycling: Even though recycling containers could be found all throughout campus, the audit discovered that there was insufficient separation of recyclable items and inadequate information regarding products that might be recycled. Raising the recycling rate can be done in a number of ways, including by enhancing the signs, providing clear instructions, and implementing a comprehensive recycling education programme.

4.2.2. Composting: composting facilities might be set up at the organisation. Composting not only reduces the quantity of waste sent to landfills but also produces useful compost that may be utilised for campus landscaping and gardening.

Table: Different types of waste generated in the college and their disposal

Types of waste	Particulars	Disposal method
E-Waste	Computers, electrical and electronic parts	After a while, we can offer these from a separate tank.
Plastic waste	Pen, Refill, Plastic water	Single-use plastic

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	bottles and other plastic containers, wrappers etc	bottles, jars, and bags. Encourage reusable water bottles and other containers. Establish plastic recycling containers, and after a certain time, we can sell the recyclables directly.
Solid wastes	Paper waste, Damaged furniture, paper plates, food wastes	Maintenance energy conversion reuse. College composting systems turn food waste into nutrient-rich compost for campus landscaping and community gardens. Institutions can work with local farms to collect food waste.
Wastewater	Washing, urinals, bathrooms	Soak pits

4.3. Water Usage:

4.3.1. Water Fixtures: Numerous locations within the college had outdated and ineffective water fixtures, which caused excessive water use. Water resources can be saved by swapping these fixtures for low-flow models and encouraging staff and students to practice water-saving habits.

Water management table:

Water Management Tasks	Frequency	Responsible Party
Routine examination of water supplies	Monthly	Green Audit Working Team
Testing for drinking water quality	Half-yearly	Do
Awareness of water conservation	Half-yearly	Green Audit Working Team & various department
Infrastructure for water distribution that needs upkeep and repair	As needed	Caretaker
Reporting and analysis of	Annually	Green Audit Working Team &

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water use		Caretaker
Learn what causes excessive water consumption.	As needed	Caretaker

Tabular data detailing the subject at hand:

Sl No	Parameters	Response
1	Source of water	Underground, & Rain Harvesting Water **Note:** The ground's water serves as a drinking water supply for around 500 people, including students and staff members.
2	Source of Drinking Water	Ground's water, 2 numbers water purifier
3	Any treatment for drinking water	Nil, 2 numbers water purifier **Note:** Water purifiers have been installed in 1-2 numbers on each floor and are maintained for 3–4 months afterward.
4	What is the total number of motors that are used?	02 numbers
5	What is the total number of water tanks? Capacity of tank	4 numbers@ 1000 liters each
6	Tap water	22 numbers
	Quantity of water pumped every day	60 liters/per day
7	Do you waste water, and if so, why?	No
8	How much water is required for gardening purposes?	50 liters/per day
9	How many water coolers are there in total?	01
10	Do you have access to rainwater harvesting?	Yes

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11	Any leaky taps	None
12	Daily amount of water that is lost.	Not applicable
13	Is there any kind of plan for the management of water?	Raise public awareness regarding the importance of water conservation, the prevention of pollution, and the implementation of sustainable water management practices. Unambiguous water rights and equitable water allocation regulations should be established to ensure that water is distributed fairly among the many different users.
15	Have any methods for conserving water been implemented?	Rainwater Harvesting

Details of Water Consumption:

DESCRIPTION	2021-22	2022-23
Capacity of Rain Water Harvesting	NIL	NIL
Total energy generated on campus, including others (in KWH)	1757 lit	1993 lit
Total energy consumed based on electricity bill (in KWH)	Rs 1180/-	Rs 1150/-

Water management (Aquaguard/Water Tap)

Rain water harvesting is carried out in the institute on priority basis. Institutes visionary management identified water scarcity problems in coming future and permitted for RWH for whole campus.

Rain water harvesting tanks- There are 2 tanks constructed in the campus to store the rain water. The capacity of first tank is 50000 litre which is located at garden and capacity of another tank is 50000 litre which is located in front of workshop. A bore well recharge pit is also available in campus to recharge the ground water with rain water & RO rejected water.

4.4. Transportation:

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4.4.1. Public Transport: Cycle, van, Rikhsha, bus, Toto etc.

4.5. Overall Environmental Awareness:

4.5.1. Curriculum Integration: The institution can integrate environmental awareness and sustainability into its curriculum across various subject areas. This strategy will guarantee that students receive instruction and training in environmental stewardship, encouraging sustainable thinking.

Environmental awareness across different subjects	Parameters	Program time
Language Arts	Discuss texts from literature that are in some way connected to topics concerning the environment, such as conservation or environmental advocacy. Compose poetry or essays that argue for the protection of the environment and use persuasion. Conduct research on a variety of environmental topics, then present your findings. Through various awareness programs, they understand the environmental laws and regulations that apply on the local, national, and international levels. Discuss the roles that governments, NGOs, and people play in the effort to solve environmental problems. Investigate the environmental concerns from both a historical and cultural point of view.	Whole year
Arts	Investigate the causes of climate change and possible solutions to the problem.Analyse the impact that human activities have had on different landscapes as well as the distribution of natural resources. Studies should be done on urbanization, logging, and industry's impact on the natural environment. Investigate geographical approaches to resolving environmental issues, such as environmentally responsible land management planning.	Whole year

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NSS	To enhance the amount of green cover and fight deforestation, organizing tree-planting events in local communities and educational institutions is important. To combat littering and to encourage a clean environment, it is important to organi routine clean-up efforts in public places like parks and beaches.To educate both students and members of the general public about environmental issues such as climate change, waste management, renewable energy, and conservation, workshops and seminars should be organized. It should be a priority to create opportunities for individuals to engage with the natural world and develop a sense of ownership over its preservation through participating in hikes and other outdoor activities. To raise awareness about environmental issues and motivate people to take action, you might use social media, posters, and booklets.	Whole year

4.5.2. Student Engagement: A culture of sustainability can be promoted among students by supporting student-led projects, creating environmental groups, and holding awareness events and workshops.

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5. Green Campus:

5.1. Floral Diversity:

The following are some actions to take into account when setting up a plantation programme at your college:

-Organise a group of academics, employees, and students who are interested in managing the plantation programme. Assign roles and duties to make the execution go smoothly.

-Consult with local forestry professionals or environmental groups to discover native or adapted tree species that are well-suited to the climate, soil, and goal of the plantation programme. Research and choose suitable tree species.

-To obtain the necessary approvals or permits for planting trees on campus or in the neighborhood, check with the college administration or other appropriate authorities.

- Look into possible funding options, including grants, sponsorships, or collaborations with nearby companies or environmental organizations. This will aid in defraying the price of buying trees, equipment, and other required supplies.

- Establish the plantation event's date, time, and venue. Plan the delivery of the trees, tools, and equipment to the planting location. Make sure that safety precautions are in place, including appropriate instruction on planting methods and equipment use.

-Promote the planting programme within the campus community by using various communication channels, such as posters, social media, emails, and word-of-mouth, in order to raise awareness and find volunteers. Encourage everyone to volunteer, including alumni, faculty, staff, and students.

-Volunteers should be gathered at the planting site on the appointed planting day. Give them the equipment, instructions, and direction they need to plant trees correctly. Foster a sense of accomplishment and community pride while fostering teamwork.

-Stress the significance of taking care of the freshly planted trees. This could entail routine weeding, mulching, watering, and pest or disease inspection. To guarantee the long-term well-being and survival of the trees, think about setting up a system for volunteers or staff members.

-After the plantation programme, evaluate the impact and accomplishment of the effort. Keep an eye on the trees' growth and survival rate. To determine

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areas for improvement and to organize upcoming plantation programmes, collect participant and stakeholder input.

5.2. Faunal Diversity:

The study of faunal diversity can help raise awareness about the issues facing the environment as well as the relevance of conservation. It is possible that educational institutions that are home to a large number of different animal species may be more likely to implement ecologically friendly policies and methods of operation in order to protect both the campus environment and the people who live there.

Birds Diversity:

A robust and flourishing ecosystem can be inferred from the presence of a large number of distinct bird species within its population. Birds of many various species play a significant role in the preservation of ecological balance by performing a variety of tasks, some of the most important of which are the spreading of seeds, the management of insect populations, and the act of pollination. They provide a contribution to the overall variety of plant and animal life that may be found on the site.

-The Indian Pond Heron (*Ardeolagrayii*), is a species of heron that is very available

-King fisher (*Alcedoatthis*): Very common

-The Common Myna (*Acridotherestristis*), is a species of bird that lives in college premises and is famous for its ability to imitate human speech as well as other sounds.

-Oriental Magpie Robin (*Copsychussaularis*) – Very available at our college campus

-House Sparrow (*Passer domesticus*) – Very common

- Rose-ringed Parakeet (*Psittaculakrameri*)- Rare

- Common Tailorbird (*Orthotomussutorius*)-Very common

-Coppersmith Barbet (*Psilopogonhaemacephalus*)-Very rare

Butterfly:

Seasonally found the following butterflyes-

Peacock Pansy (*Junonia almanac*), Plain Tiger (*Danauschrysippus*), Common Albatrosses (*Appiasalbina*), Blue Mormon (*Papiliopolymnestor*), Grey Pansy (*Junoniaatlites*), Blue tiger (*Tirumalalimniace*), Tailed Jay (*Graphiumagamemnon*), Common Grass Yellow (*Eurema hecabe*), Common

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Mormon (*Papiliopolytes*), Common Caster (*Ariadne merione*), Common Rose (*Pachlioptaaristolochiae*), Palm Fly (*Elymniashypermnestra*) and Common Crow (*Euploea core*).

Plantation of Wild type Medicinal plants:

On the grounds of our college, we planted not one but two different medicinal gardens. Every day, more and more wild medicinal plant kinds are becoming extinct as a direct result of human activity and pollution. Once we have determined the species of these plants, we will work to preserve them in our medicinal gardens by means of multiplication. Through the appropriate method, it is accessible to any and all interested parties or agencies. A medical garden is a specific location on the grounds of an educational institution that is devoted to the growth and maintenance of a large variety of different kinds of medicinal plants. medical gardens are often found on university campuses. Students, staff members, and researchers all have access to it as a resource for teaching and study, which makes it possible for them to investigate and learn about the many different qualities and applications that medicinal plants can have. The cultivation of a medicinal garden on a college campus has the potential to confer significant value and benefits on the surrounding academic community as well as on society.

Most Floral groups are-

Campus: 6.2 Acre

SL	Name	Scientific Name	Number
1	Shirish	*Albizia lebbeck*	16
2	Sonajhuri	*Acacia auriculiformis*	703
3	Neem	*Azadirachta indica*	14
4	Mango	*Mangifera indica*	17
5	Shishu	*Dalbergia sissoo*	34
6	Babla	*Vachellia nilotica*	04
7	Lemon	*Citrus Limon*	05
8	Jujube (Kul)	*Ziziphus mauritiana*	05
9	Palm	*Arecaceae*	10
10	Mehogony	*Swietenia macrophylla*	02
11	Jamun (Jam)	*Syzygium cumini*	02
12	Wild Mango (Amra)	*Spondias mombin*	01

8. **Conclusion:** According to the results of a recent green audit, the SIR RASHBEHARI GHOSH MAHAVIDYALAYA has identified a few sites on campus that may use some work to further sustainability goals. Implementing the offered solutions has the potential to result in a number

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of positive environmental outcomes, including decreased energy consumption, improved waste management, enhanced water use efficiency, expanded sustainable transportation options, and heightened environmental consciousness. By putting these alterations into effect, SIR RASHBEHARI GHOSH MAHAVIDYALAYA will be able to demonstrate to its pupils how to responsibly care for the environment and make a contribution towards a more sustainable future.

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