GORUBATHAN GOVERNMENT COLLEGE GREEN AUDIT REPORT

(2021 - 22)





Green Audit undertaken & submitted by Kalimpong Horticulture Society Regd. No. S / 78538 of 1994/95.

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GREEN AUDIT REPORT OF GORUBATHAN GOVERNMENT COLLEGE FOR THE YEAR 21-22.

Green Audit

Green audits, also known as environmental or sustainability audits, offers several benefits for colleges. Here are some key advantages:

- **1. Cost Savings:** Identifying areas where energy, water, and other resources are being wasted can lead to cost savings through efficiency improvements and waste reduction.
- **2. Environmental Impact:** Reducing the college's carbon footprint and overall environmental impact helps contribute to global sustainability efforts.
- **3. Compliance:** Ensuring compliance with environmental regulations can prevent potential fine and legal issues.
- **4. Educational Opportunities:** Provides practical learning experiences for students on environmental science, sustainability, and related fields.
- **5. Reputation:** Demonstrating a commitment to sustainability can enhance the college's reputation and appeal to prospective students and faculty who value environmental responsibility.
- **6. Health and Well-being:** Creating a healthier campus environment by reducing pollution and improving air quality can benefit the health and well-being of students and staff.
- **7. Resource Management:** Improved management of resources like energy, water, and waste can lead to more sustainable campus operations.
- **8. Community Engagement:** Engaging with the local community on sustainability initiatives can strengthen community relations and foster a collaborative approach to environmental issues.
- **9. Innovation and Leadership:** Positioning the college as a leader in sustainability can drive innovation and inspire other institutions to follow suit.
- **10. Long-term Planning:** Helps in developing long-term sustainability plans and policies that align with broader environmental goals and initiatives.

Overall, conducting a green audit can help a college create a more sustainable, cost-effective, and health-conscious environment.

1. Green Audit Executive Summary Report

Constitution for Green Audit

Members for Green Audit

In view of the above, the green auditing process has been initiated for the Gorubathan Government Degree College, Gorubathan, Kalimpong, West Bengal, 735231 India by the Kalimpong Horticulture Society. The letter dated 21st. March, 2022, Memo No. 224/B/GGC/2022 was received by Kalimpong Horticulture Society. To initiate the green auditing in the target college for the year (2021 -22) the expert team members from the recognized organizations surveyed the college on 10th, June, 2022 and interacted with the college

staff (teaching and non-teaching), students and associated persons randomly). The team inspected every corner and/or place of the college.

Also, they checked the control measures as water and waste management, energy consumption and renewable energy uses, health and hygiene, environmental quality and carbon emission.

The following were the Green Audit Team members:

- Dr. Kailash S. Gaira, M. Sc. (Ag.); Ph.D. (Statistics)
 Research Officer,
 G.B. Pant, National Institute of Himalayan Environment,
 Sikkim Regional Centre,
 Pangthang, Gangtok, Sikkim.
- 2. Dr. Pranay Bantawa, M. Sc. (Botany); Ph.D. Assistant Professor, Botany Department, Kalimpong College.
- Mr. Man Chettri, M.Sc. (Sustainable Development),
 Designation: Sustainable Development Goal (SDG's) Activist.
 & Head, North Bengal & Sikkim, Learnet Skills Ltd.
- 4. Mr. Rakesh Rai, M.S.W. General Secretary, Kalimpong Horticulture Society.
- 5. Mr. Pradip Kumar Moktan, B.A., Assistant Treasurer. Kalimpong Horticulture Society Rural Community Finance Expert & Member, Board of Directors, Janta urban Co operative Society Ltd., Kalimpong.

The Kalimpong Horticulture Society Green Audit Committee:

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 Research Officer
 G.B. Pant, National Institute of Himalayan Environment,
 Sikkim Regional Centre, Pangthang, Gangtok, Sikkim.
- Dr. Pranay Bantawa, (Ph.D)
 Assistant Professor, Botany Department, Kampong College.
- Mr. Man Chettri, M.Sc. (Sustainable Development),
 Designation: Sustainable Development Goal (SDG's) Activist.
 Head, North Bengal & Sikkim, Learnet Skills Ltd.
- 4. Mr. Rakesh Rai, M. S. W.;
 General Secretary, Kalimppng Horticulture Society.
 Community Development Co Coordinator.
- Mr. Keshow Chandra Pradhan, B. Sc. (Botany).
 Treasurer, Kalimpong Horticulture Society.
 Plant Breeder and Tissue Culture Specialist.
- 6. Mr. Pradip Kumar Moktan, B.A.; Assistant Treasurer, Kalimpong Horticulture Society. Rural Community Finance Expert & Member, Board of Directors, Janta urban Co operative Society Ltd., Kalimpong.

7. Dr. M. S. Foning, M.Sc. (Ag.); Ph.D. – Horticulture.
President, Kalimpong Horticulture Society, Kalimpong (WB)

Gorubathan Government College:

Gorubathan Government College, affectionately known as Gorubathan Government College, is nestled in the picturesque foothills of Dooars in Kalimpong District, surrounded by lush greenery in Lower Fagu, Gorubathan since its inception. The college's journey began within the premises of Judhabir Higher Secondary School in Sombaray, Gorubathan, on July 20, 2015. By January 2016, all academic and administrative activities had shifted to the new college building in Lower Fagu. Since then, the college has operated independently and completed eight years of its educational journey, a testament to its growth and potential for the future.

Initially, the college had 190 students pursuing honours programs in seven subjects, including literature, arts, and science, along with B.A. and B.Sc. (Bio) courses. Gorubathan Government College offers nine (09) honours courses alongside B.A. and B.Sc. (Bio) general courses. The college currently boasts twenty-five teaching faculties across various streams, one permanent librarian, two non-teaching permanent staff members, and four Data Entry officers (DEOs).

The college building consists of three floors, sixteen (16) classrooms, four (4) laboratories, students' standard rooms, a college canteen, male and female dedicated washrooms, and many other facilities. The college also provides a central library with an extensive collection of books and a spacious reading room. Students also benefit from smart class facilities. Beyond academics, the students actively participate in extracurricular activities. They have excelled in various sports and co-curricular events organized by the University and other institutions.

Objectives

- To ensure the best environmental sustainability practices
- To minimize the risk of health risks and dangers to people on the learning site
- To adhere the number of norms and standards of the environmental management system
- To include water, waste disposal, energy, and health and environmental quality of the organizations
- To identify cost-effective waste management techniques
- To create and promote a sustainable, upgraded learning environment while getting the highest grade under NAAC
- To contribute the trustworthy branding of the HEIs by promoting them as leaders in sustainability

Good Points Observed

- 1. The college has **established an Eco Club** since its inception and has been actively participating in plantation drives in collaboration with local NGO HAMRO GORUBATHAN, Sangathan every year on the environment on 5^{th} June i.e. Environment Day on the college premises as well as in other inhabited areas of Gorubathan.
- 2. Gorubathan Government College is water self-sufficient. The college has its own water source and bore well.
- 3. The College has formed a Team of faculty and students from the **Eco-Club** and NSS, which works to maintain bio-diversity on the campus and also participates in preventing pollution in society through various plantation, cleanliness, and awareness drives.

- 4. The college has installed reverse osmosis water systems, such as Aqua Guard water filters and Blue Star water purifier systems, which offer quality drinking water to its students and staff.
- 5. The College is not just a place of learning but also a sanctuary of greenery. Nestled amidst lush green trees with a good canopy cover and surrounded by tea gardens, it offers a perfect blend of education and environmental bliss.
- 6. The College's electrical system is a testament to its commitment to energy efficiency. Built with modern energy-saving materials such as LED bulbs and efficient wiring, the college is reducing its carbon footprint.

Methodology

The methodology for performing a green audit included different tools, such as preparing a questionnaire, physically inspecting the campus, observing and reviewing the documentation, interviewing key persons, and data analysis, measurements, and recommendations. The study covered the following areas to summarize the present status of environment management on the campus; the following key points were considered for the green auditing.

- Water management
- Waste Management
- Energy Consumption & Renewable Energy Uses
- Health & Hygiene
- Environmental Quality and biodiversity conservation Carbon Emission Check

Key Findings of Green Audit Report of Gorubathan Government College for the Year 21-22

Observed concerns	Causes	Action needs to be taken
1. Water Audit	There is no running water supply in the students' washrooms	 Taps and pipe joints/lines should be checked frequently, and immediate repair is needed for water to flow to the washrooms. All students and college staff should be made aware of the importance of the water system in the washroom.
	Water storage in plastic tanks of 4,000 litres on the roof is sufficient capacity. The water supply from the bore well is not well maintained, but it visibly looks unsafe for human consumption, as observed in the breeding site for mosquitoes.	Tanks should be cleaned regularly on a priority basis and always covered with a lid.
	The drainage system is clogged, which creates water stagnation. The clog is caused by the accumulation of debris inside the drain and growing grasses (weeds).	Waste water should be properly disposed of, and the drain should be cleaned as soon as possible to allow the water to flow freely and avoid stagnation.
	The college has ample scope for rainwater harvesting that can create an alternate clean water source.	Harvested rainwater should be used for washrooms and irrigation after treatment.
	The college has installed multiple reverse osmosis drinking water filters, such as Aquaguard, but only some are adequately functional. However, they need minor fixing/repairs.	Installed water filters need to be mended as soon as possible.
	Minimize wastage of water and use of electricity during the water filtration process was observed.	 As a commercial RO system, an Aquaguard water purifier with a maximum water flow rate of 2000 LPH, needs to be installed. If used, such as RO filtration process, ensure that the equipment used is regularly serviced.

2. Waste Dis	posal Audit	
Minimize Hazardous waste	A proper hazardous waste disposal facility is missing.	A proper hazardous waste disposal system needs to be included.
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	Proper waste management mechanisms are invisible.	 The waste management mechanism needs to be perceptible. It is essential to handle even non-recyclable items responsibly. For instance, damaged and old wooden furniture can be recycled, while non-recyclable iron and plastic furniture can be sent to scrap for proper disposal. The students and staff need to be empowered in waste management.
	The composting (bio and vermicompost) mechanism for all biodegradable wastes generated from college is invisible.	On-site composting in multiple areas needs to be done.
	Yard wastes are not been recycled which is being disposed in municipality dustbins.	Separate dustbins for yard waste and spittoons need to be installed.
	There is an increasing use of packaged food that is not being recycled and directly dumped in municipal bins or collecting vans. Such indications reflect a lack of awareness among the students.	 Awareness of biodegradable and non-biodegradable waste needs to be generated among the students. The waste segregation mechanism (biodegradable and non-biodegradable) must be imposed inside the college premises.
	Make specific arrangements for events, such as cultural events, internal and external seminars, and conferences, where significant recyclable waste is likely to be produced in order to both minimize the waste produced and maximize what is recycled/ reused.	In such events, biodegradable paper cups and plates should be encouraged.
	Promote item reuse and waste recycling among staff, students, and conference guests through training, posters, and incentives.	Minimized the use of paper through promoting soft copy of any documents/papers.
	Currently, all waste, whether solid or wet, is being disposed of without scientific methods, and there is a lack of a proper waste management mechanism within the college.	 It is crucial to strictly adhere to waste segregation practices. Solid waste should be separated into biodegradable and non-biodegradable waste. To facilitate this, every classroom should be equipped with two dustbins. It is crucial to strictly adhere to waste segregation practices. Solid

biodegradable

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biodegradable waste. To facilitate this, every classroom should be equipped with two dustbins. • It is imperative that students are instructed to put biodegradable waste in green dustbins for recycling and non-biodegradable waste in red dustbins for municipal The college's good drainage system is currently hindered by clogged drains, which need to be cleaned immediately to avoid further issues. External drains and sewage systems are Regular maintenance and cleaning good and maintained. should be done 3. Energy & usage of Renewable Energy Audit Reduce consumption There is an only option to use hydel energy There is a need to avoid Hydel for electricity. However, all classrooms are energy unnecessary use well-ventilated and well-lit during the consumption electricity especially during daytime. daytime. Purchasing electricity from a company that LED bulbs are commonly invests in new sources of renewable and used, and this can be carbon-neutral electricity is preferable. encouraged further The college has used modern wiring systems Water seepage on the roofs which are energy efficient. needs to be stopped, which will increase the life of the electrical system and prevent it from getting damaged. Provide energy-efficient heating systems with Installing renewable energy adjustable controls for individual heating sources such as solar energy appliances wherever possible and ensure that is badly needed, and the comprehensible instructions on the use of college can become selfsufficient renewable in heating controls are available to staff and energy. students. Lights and computers and other electronic Lights and computers and gadgets are used by students and staffs. other electronic gadgets are turned off when not in use Some equipment is functional in college, All equipment should be especially in the laboratory and offices. functional on standby mode. Reduce Fossil fuels, the buried flammable geologic energy needed There is to consumption, deposits of organic substances, are the result encourage each other, especially of energy of a long and intricate process. These deposits, whether we're staff, derived from fossil buried under several thousand feet of silt, students, conference or guests, to minimize the use fuels decayed over time and transformed into of energy driven by fossil natural gas, coal, and petroleum due to the fuels

	extreme heat and pressure inside the earth's crust. There are limited possibilities to use fossil fuels energy. However, some staff and students use motor vehicles (Cars and bikes).	 For covering short distances cycling and walking should be encouraged. The college is privilege target Group to promote virtuous energy behaviors in the whole college campus and the community.
4. Environmental (Quality Audit & Bullet carbon counting	
Ensure that improvements, purchases and developments are environmentally sound.	Seek professional advice to minimize the adverse environmental impacts of any new developments and exceed government regulatory requirements. This includes efficient heating and water systems, appropriate space for recycling, and the use of recycled and sustainable building materials. However, college has sufficient area to implement the environmentally friendly practices.	 All designated places should be monitored regularly and encourage them to parked their two- / four-wheeler vehicles at parking areas, not near the classrooms. The honking & exhaust of diesel & petrol should not allow inside the college, which creates sound & air pollution.
Green Spaces	Creating and maintaining green spaces like gardens and parks, nursery to enhance biodiversity and provide ecological benefits where, a banyan tree offers a sound and pleasant environment.	 College must use Chaupal learning system, where students get facilities to learn in the open air under the big banyan tree with sufficient canopy.
Sustainable campus operations	Implementing energy efficient buildings, reducing water usage, promoting waste reduction through recycling and composting programs.	 College has used energy efficient modern wiring and electrical systems. Need for the composting and waste segregation is badly felt.
Renewable energy	Investing in renewable energy sources like solar, wind, or geothermal power to reduce carbon footprints	College has a scope to installed solar energy and become energy self-sufficient leading to reduce use of hydel energy and money saved can be the fund generated by the college.
Green Transportation	Promote car sharing / car pool among the students and faculty members, walking and cycling if travelling from short distances.	College being situated in the foothills of Kampong, cycling can be easily promoted
Curriculum and Research	Offering courses and conducting research focused on environmental science, sustainability and climate change.	College has an Eco-Club which promotes environmental protection and sustainable development. Environmental Science is one of the minor subjects for some students.

Awareness and Engagement	Educating the campus community about the environmental issues through workshops, seminars and sustainability initiatives	s k f i	New plantation of trees, shrubs is visible. Efforts are being made by the college. Nonetheless, wherever there is space more trees, shrubs and plants should be planted.
		i ā	College is also collaborating with organization that are actively working for achieving Sustainable development goals
Policy and Advocacy	Participating in policy advocacy for environmental protection and sustainability at local levels.	F	College Conducts and participate in environmental awareness workshops as a part of the program
Ensure that environmental awareness is created	Conduct events such as plant trees to spread environmental awareness among the students	ķ	Every year college organises plantation drive during World Environment Day.
Ensure that environmental awareness is created	Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.	S	Regular Environment seminars and workshops are conducted
Ensure that environmental awareness is created	Reduce the rate at which the College contributes to the depletion and degradation of natural resources	C	College should involve and collaborate with local communities to restore and protect natural resources
Ensure that environmental awareness is created	Promote environmental awareness as a part of course work in various curricular areas, independent research projects and community service.	r a	Students should be encouraged to take part in mass plantation programs and study of environmental science.
5. Health Audit			
Minimize the use of chemical pollutants	All cleaning products used by college staff have a minimal detrimental impact on the environment, i.e., biodegradable and nontoxic, even where this exceeds the Control of Substances Hazardous to Health (COSHH) regulations.	ι	Hazardous Chemicals are not used that should be maintained.
Minimize the use of chemical pollutants	Minimum use of fertilizers and pesticides in college grounds is observed and they are using compost produced on site for gardening.	a a r f	Minimum use of fertilizers and pesticides should be applied in the college, which needs to be stopped in the auture and promote biocomposting.
Minimize the use of chemical pollutants	Generated the chemical waste from the laboratories in college.	• 7	The generated chemical waste needs to be disposed n scientific manner.

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Minimize the use of chemical pollutants	Burning plastic and other materials are visible that emit harmful gases.	Burning of plastic and other waste should be strictly prohibited in the college.
Minimize the use of chemical pollutants	Garden in the campus is missing	Empty containers need to be disposed in bins. Installation of adequate Bins is badly felt.
Minimize the use of chemical pollutants	College surrounding area is well surrounded by trees and tea garden.	 Encourage the faculties and students to plant trees in the garden.
Minimize the use of chemical pollutants	Reviews periodically the list of trees planted in the garden.	College have started medicinal plant, shrubs and herbs garden, which is regularly maintained.
Ensure that the buildings conform to green standards.	Review architecture of existing buildings and reviews ways, in consultation with experts, to reduce usage of energy for such buildings, offering greatest efficiency for energy and water usage, and reducing carbon emission	 Existing building does not exploit environment and further to enhance energy efficiency wiring system is used.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Establish a College Environmental Committee which includes Teaching, Non – Teaching staff and students that will hold responsibility for the enactment, enforcement and review of the Environmental Policy. The Environmental Committee shall be the source of advice and guidance to staff and students on how to implement this Policy	Need for Environmental Committee is felt, which not only involves Eco-Club but all other stream students and staff should be encompassed.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Ensure that on the Eco Club there will be appropriate representatives of the relevant college departments and authorities – such as catering, gardening, maintenance, cleaning and finance	Environmental committee formed should encompass all the departments and staff. It should conduct regular environment protection activities
Ensure that the Environmental Policy is enacted, enforced and reviewed	Ensure that the Environmental Committee will review the Environmental Policy on a quarterly; bi – annual or annual basis, and will monitor progress and set measurable targets wherever possible	Eco club of the college conducts yearly internal Green audit of the college and writes their findings and submits their recommendations to the Principal
Ensure that the Environmental Policy is enacted, enforced and reviewed	Require that every staff and student member recognize their responsibility to ensure that the commitments in the Environmental Policy are properly put into practice	 College students and staffs should pledge to commit in the Environmental Policies and are practiced in accordance to the policies.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Ensure that an audit is conducted annually and action is taken on the basis of audit report, Recommendation and findings	 Green Audit should be conducted annually. It will automatically strengthen, energize and make the college campus — green, beautiful and a wonderful place of LEARNING and also,

promote to minimize climate change impacts.

Man Chettri, M. Sc. (Sustainable Development), Certified VAM Trainer.

Sustainable Development Goal (SDG's) Activist

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Dr. M. S. Foning, M. Sc. Ag.; Ph.D. (Agri.) - Horticulture resident

Kalimpong Herticulture Society, Kalimpong (WB)

Dated: 24th July 2022

KALIMPONG HORTICULTURE SOCIETY



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Green Audit Recommendations for Gorubathan Government College for the year 2021 – 22.

On inspection of the College Campus by the Audit Team the following are the recommendations

- 1. Number of dustbins should be increased.
- 2. Segregation of wastes should be done.
- 3. More ornamental & foliage plants should be planted around the campus.
- 4. Explore the use of solar energy.
- 5. Make a vermi compost pit or compost pit for use in the college campus. There is plenty of leaves, degradable wastes and canteen wastes that Can be used.
- 6. Clean the drains regularly and do net let water stagnate along the drains as it will be breeding water pools for spread of malaria and dengue.
- Regular cleaning of water tanks is advised and tank lids should be properly used to cover the tank as it will be breeding pools for mosquitoes to spread malaria & dengue.
- 8. The college campus should be frequently cleaned and uprooting the plant species which are hazardous to human health should be eliminated from the campus.
- 9. Para military forces should not be allowed to use the College premises for accommodation as they litter the whole campus. The sincere efforts made by the college and students to keep the campus clean following the environmentally sustainable practices will ultimately discourage the students. And the whole purpose and concept of green and clean college campus will be defeated!!!
- 10. Reverse Osmosis Drinking water should be cleaned and maintained at regular intervals.

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> Dr. Kailash S. Gaira, M. Sc. (Ag.); Ph. D. (Statistics). **Research Officer**

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President
Kalimpong Horticulture Society, Kalimpong (WB)

Dated: 24th July 2022

Some Interesting Photos of Gorubathan Government College



Chemistry Laboratory



Toilets look clean



Reverse Osmosis water Filter Good initiative.





Great Chaupal facility!! Some classes are taken under this banyan tree at times!!

Students cleaning the College Campus

Some Interesting Photos of Gorubathan College



Good green cover around the Campus but needs regular maintenance.



Scope for great opportunity!!
There is a wonderful green
vegetation outside & inside the
College Campus to make this
College one of the best Green
Campus in Eastern India.

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Dated: 24th July 2022