

**THAKUR PANCHANAN MAHILA
MAHAVIDYALAYA
ESTD. 1981**

CERTIFICATE

This is to certify that the Environmental Audit/Green Audit Report and Energy Monitoring & Management System followed at Thakur Panchanan Mahila Mahavidyalaya, Cooch Behar is based on the original data collected during the period of 2021-22 & 2022-23. This has been assessed and is applicable to provide quality ambience for continued Higher Education, Training and Mental health to the students for their smart future and career. Further, it is certified that the earlier data was prepared by internal Committee team members of Thakur Panchanan Mahila Mahavidyalaya, Cooch Behar and submitted to the

**consolidated
ENVIRONMENTAL AUDIT/
GREEN AUDIT REPORT
ACADEMIC YEAR: 2021-22 & 2022-23**

Dr. Dipankar Pal
Inspector of Colleges

Cooch Behar Panchanan Barma
University
West Bengal

Dr. Dipankar Pal
Inspector of Colleges
Cooch Behar Panchanan Barma University

**Prepared by
The Audit Committee**

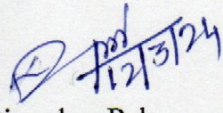
Dr. Ananda Kumar Ghosh
Professor & Head
Dept. of Environmental Science
The University of Burdwan
West Bengal

Date: 12/03/2024

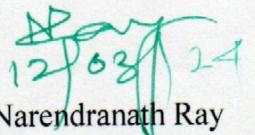
AUDIT REPORT ON ENVIRONMENTAL AUDIT/ GREEN AUDIT

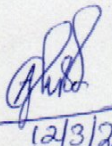
CERTIFICATE

This is to certify that the Environmental Audit/Green Audit Report and Energy Monitoring & Management System followed at Thakur Panchanan Mahila Mahavidyalaya, Cooch Behar is based on the original data collected during the period of 2021-'22 & 2022-'23. This has been assessed and is applicable to provide quality ambience for continued Higher Education, Training and Mental health to the students for their smart future and career. Further, it is certified that the baseline data was prepared by internal Committee team members of Thakur Panchanan Mahila Mahavidyalaya, Cooch Behar and submitted to us. The content of the baseline data of the study and Energy Monitoring & Management System has been personally verified by the Expert Team constituted by the Administrator of the College and Principal of the College for validity and reliability. The data used in the study are original in nature and have not been presented or published elsewhere. Data & Photographs used in the report are taken by the College Environmental Committee team members during preparing their Report of the concerned year 2021-'22 & 2022 - '23.


Dr Dipankar Pal
Inspector of Colleges
Cooch Behar Panchanan Barma
University
West Bengal

Dr. Dipankar Pal
Inspector of College
Cooch Behar Panchanan Barma University


Dr Narendranath Ray
Principal
Baneswar Sarathibala Mahavidyalaya
CoochBehar
West Bengal
Baneswar, Cooch Behar


Dr Apurba Ratan Ghosh
Professor & Head
Deptt. of Environmental Science
The University of Burdwan
Burdwan, West Bengal

Date: 12/03/2024

To
The Principal
Thakur Panchanan Mahila Mahavidyalaya
Cooch Behar
West Bengal

Website: <http://tpmm.org.in>

E-mail: tpmmcob81

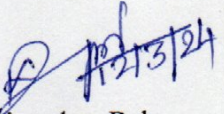
Subject: Green Audit Report Submission from Experts


Sir

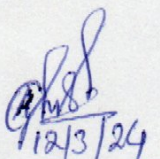
After verification of all the aspects in the College and necessary assessment of the report on "Green Audit" mentioning the "Energy Monitoring & Management System" submitted by your College for the periods of 2021-'22 & 2022-'23, here, we are submitting the Audit Report of "Environmental/Green Audit" of your College of the periods of 2021-'22 & 2022-'23 for your kind perusal in the attached sheet.

We request you to please acknowledge and oblige.

Yours sincerely,


Dr Dipankar Pal
Inspector of Colleges
Cooch Behar Panchanan Barma
University
West Bengal
Dr. Dipankar Pal
Inspector of College
Cooch Behar Panchanan Barma University


Dr Narendranath Ray
Principal
Baneswar Sarathibala Mahavidyalaya
CoochBehar
West Bengal
Principal
Baneswar Sarathibala Mahavidyalaya
Baneswar, Cooch Behar


Dr Apurba Ratan Ghosh
Professor & Head
Deptt. of Environmental Science
The University of Burdwan
Professor & Head
Dept. of Environmental Science
The University of Burdwan
Burdwan, West Bengal

Report of Environmental Audit/Green Audit

1.0 Introduction

The Environmental Audit or Green Audit is a systematic identification, quantification, recording, reporting and analysis of the different components of environmental diversity. The 'Environmental Audit'/'Green Audit' aims to assess the various parameters involved in environmental practices in and around the HE Institutional campus, actually, it means to impress the congenial and environment-friendly atmosphere for the all stakeholders. It is formulated with an objective of looking after the practices performed by the authority within the institution, otherwise which may cause risk to the health of dwellers and the environment. Under the present format of AQAR and SSR Environmental Audit/Green audit is a mandatory parameter as per requirement of National Assessment and Accreditation Council (NAAC) which is a self-governing organization of India which declares the Institutional Grade.

2.0 Executive Summary

In accordance with the "Format of Green Audit: Questionnaire" of Thakur Panchanan Mahila Mahavidyalaya, Cooch Behar, West Bengal for the periods of 2021-'22 & 2022-'23, the Audit is performed on 12th of March, 2024. Thakur Panchanan Mahila Mahavidyalaya is named after the great personality of Ray Saheb Thakur Panchanan Barma and is the only girls' college in the Cooch Behar district. Thakur Panchanan Mahila Mahavidyalaya, Cooch Behar started on 1981 and came under the affiliation of University of North Bengal, then they came under the affiliation of the Cooch Behar Panchanan Barma University on 2015. Presently, there are 10 UG departments. College is running with only Arts stream, with eight Honours and two General streams.

College was first accredited by NAAC in 2004 with C⁺ Grade, now preparing for the process of Cycle II of NAAC accreditation.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the green practices adopted by the Institution. With this in mind, the specific objectives of the audit were to evaluate the adequacy of the management control framework of Environment Sustainability as well as the degree to which the departments are in compliance with the applicable regulations, policies and standards.

The analysis was based upon a physical examination of the different sectors including labs *etc.*, and standards that govern the environmental sustainability, on data analysis, and on the results of preliminary interviews with personnel considered key in the environmental management in the campus.

The methodology used included the physical inspection of the campus, review of the relevant documentation and interviews.

3.0 Observations

a. General

College has a total campus area of 0.595 acre and green area of 1000.0 sq.ft.

1. College has taken some efforts for sustainable development in the College campus and to maintain greenery.

2. College has formed the team of faculty as members of Committee, since 2021 which work to maintain greenery on the campus and also participate in preventing pollution in and around the campus.
3. College is requested to adopt 'Green Policy' as early as possible to organize different green initiatives. College Eco Club, formed since 2021 is working in collaboration with NSS, NCC of the College.
4. Some of the best practices such as maintaining tree plantation, introducing "plastic free zone", celebration of World Environment Day, World Ocean Day, etc., are followed in the campus.
5. College has one dumping pit. Disposal of all degradable and non-degradable solid wastes is followed through its own system.
6. College conducts Environmental Awareness programmes for faculty and students through NSS & NCC; campus cleaning is done by NSS.
7. NSS & NCC participate in *Swachh Bharat Mission*.
8. NSS has adopted one village Guriahati CT in nearby areas.
9. NSS conducts bird watching session in Salbagan.

b. Suggestions

1. College should constitute the College Environmental Committee with proper composition of Committee, where Principal will act as Chairman/Chairperson and inclusion of student members of SEM I, III & V.
2. College will be requested to prepare the Environmental Policy.
3. College is requested to maintain the open space properly; cleanliness be maintained properly.
4. Medicinal Garden should be maintained properly.
5. Butterfly Garden can be prepared.
6. Students may be trained for keeping the records of biodiversity in the campus.
7. College has to develop a mechanism of rainwater harvesting process for groundwater recharge through recharge system.
8. Confirm the use of LED as much as practicable by replacing the tube light, etc.
9. Existing dumping pit be managed properly.
10. E-waste be disposed through proper/authorized License holder party.

3.0 Statement of Assurance

This audit has been conducted in accordance with the report submitted by the College Environmental Committee. On the basis of the data and physical inspection audit procedure was completed and evidence gathered to support the accuracy of the conclusions reached and contained in this report. The conclusions are based on a comparison of the situations as they existed at the time of the audit with the established criteria.

GREEN AUDIT WORKING FORMAT

5.0 Audit Framework and detailed findings

The following audit framework is used for conducting Green Audit during the periods of 2021-'22 & 2022-'23. The framework also lists the findings and observations for every criterion.

Control objectives	Control(s)	Audit Observations
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	Reduce the absolute amount of waste that it produces from the Institute & Staff offices.	The College has used some control measures to reduce the absolute amount of waste that it produces from the departments, staff offices, inside Campus, etc. <i>Segregation method to be followed.</i>
	Make full use of all recycling facilities provided by City Municipality and private suppliers, including glass, cans, white, coloured and brown paper, plastic bottles, batteries, print cartridges, cardboard and furniture.	College is managing its all wastes through its own system. <i>Formal Agreement/MoU may be signed with Cooch Behar Municipality.</i>
	Compost, or cause to be composted, all organic waste, green waste and un-recycled cardboard produced in or collected from kitchens, gardens, offices and rooms.	The College uses different bins for disposal of different types of wastes. <i>Food-wastes from canteen, and the fallen dead leaves from the garden be managed in the composting/cistern pit.</i>
	Recycle or safely dispose of white goods, computers and electrical appliances.	<i>Safe disposal methods should be adopted for electrical wastes, printer cartridges, etc., through proper disposal methods.</i>
	Use reusable resources and containers and avoid unnecessary packaging where possible	<i>College has to take some initiatives for solid waste management and reusable resources and containers and unnecessary packaging where possible.</i>
	Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated	The College has limited scope of accessible and well-publicized collection points for recyclable waste.
Minimize the quantity of wastes during special events/occasions	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	Amount of wastes generated during special events or occasions, such as Cultural Events, International and National seminars and Conferences, etc., are disposed through Local Municipality.

Control objectives	Control(s)	Audit Observations
	Promote reuse of items and waste recycling among staff, students and conference guests through training, posters and incentives	The College has limited scope of reuse of items and waste recycling among staff, students and conference guests through some incentives.
	Dispose all waste, whether solid or otherwise, in a scientific manner and ensure that it is not released directly to the environment	Yes, the College disposes all wastes, whether solid, liquid or otherwise, through its own collection system and ensures that it is not released directly to the environment.
Reduce energy consumption, especially of energy derived from fossil fuels	Support renewable and carbon-neutral electricity options on any energy-purchasing consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.	College follows paper-less communications through using digital media like Website notice, Whatsapp, cent percent e-notice for academic/administrative purposes.
	Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity	<i>College has to install new sources of renewable and carbon-neutral electricity.</i>
	Look into the possibility of on-site micro-generation of renewable electricity.	College has to take initiative to install SOLAR PANNELS.
	Give preference to the most energy efficient and environmentally sound appliances available, this includes only using energy-saving light bulbs	The College is using LED as much as possible.
Effective energy consumption and management practices	Encourage staff, students and conference guests to save energy through visible reminders, incentives and information to increase awareness. This particularly concerns turning off electrical appliances when not in use in both communal and residential rooms	College has a mechanism to reduce the misuse of electricity by turning off the appliances when not required. <i>All the stakeholders are to be aware and doing their best and practices to save electricity.</i>
	Ensure that all electronic and electrical equipment's, such as computers, are switched off when not in use, and is generally configured in power saving mode when such option is available	Students and all the members are used to follow this practice.
	Ensure that the equipment's running on standby mode, reduce the energy consumption on standby mode or minimize the running of equipment's on standby mode	Maintaining energy saving mechanism for most of the instruments; some of the equipment's are running on standby mode.

Control objectives	Control(s)	Audit Observations
	Purchase efficient and environmentally sound appliances and consider replacing old stock with 'greener', more efficient alternatives.	Presently, College is using environmental-friendly appliances as much as possible and taking initiative to replace the tube lights with LEDs, etc., as effective alternatives.
Minimize the use of unsustainable transport	Make available information about bicycle and pedestrian routes, public transport services and car share schemes to staff and students.	The College is well connected through rail, bus services; usually, most of them avail rail and bus services.
	Reduce the proportion of travel on the University/Institute business carried out in private transport and eliminate unnecessary and inefficient use of the University/Institute vehicles	College does not have any common bus services to all stakeholders. College has one cycle stand for all stakeholders.
	Promote car sharing / car pool among the students and faculty members	No, the College does not promote car sharing/car pool among the students and faculty members.
Minimize consumption of water	Repair sources of water leakage, such as dripping taps and showers as quickly as possible.	Regular checking and maintenance of pipelines are done to control the water wastage through dedicated personnel.
	Install appliances which reduce water consumption	Practised as much as possible.
	Encourage a decrease in water usage among staff, students and conference guests	All the stakeholders of the College are encouraged in judicious use of water.
	Use an efficient and hygienic water storage mechanism is to minimize the loss of water during storage	College is taking some steps to aware about use of hygienic water, proper storage of water. <i>Sensor-based system be introduced to minimize the loss of water during storage.</i>
	Minimize wastage of water and use of electricity during water filtration process, if used, such as RO filtration process and ensure that the equipment's used for such usage, are regularly serviced, and the wastage of water is not below the industry average for such equipment's used in similar capacity	Inside the Campus building, there are four Aqua guards under AMC at the strategic location for the students and other members, and one Water Purifier and Cooler.
	Install Water recycling mechanism, such as rain water harvesting system	<i>Rainwater harvesting mechanism be installed for the purpose of groundwater recharge.</i>

Control objectives	Control(s)	Audit Observations
Minimize the risk of environmental health	Ensure that all cleaning products used by the University/Institute staff have a minimal detrimental impact on the environment, i.e., are biodegradable and non-toxic, even where this exceeds the Control of Substances Hazardous to Health (COSHH) regulations	Negligible amount of cleaning/washing liquids are used in the College. <i>College may maintain 'Green Budget' for the said purposes.</i>
	Minimize the use of fertilizers and pesticides in the University/Institutional gardens, opting for the use of compost produced on site wherever possible	College uses mostly organic fertilizers, and herbicides are used for maintenance of gardens, infected plants as and when required basis.
	Dispose the chemical waste generated from the laboratories in a scientific manner	Disposal of solid wastes are managed.
	Reduce the practice of burning plastic and other materials that emit the harmful gas on burning is prevented in the campus.	No such burning.
Maintenance of green campus	Ensure the green environment	College is positive about increasing greenery. Tree plantation programmes are followed in different occasions on year-wise.
	Establish a Garden in the campus	Students should be trained to handle Biodiversity Register.
	Encourage the faculties and students to plant trees in the garden	College conducts tree plantation programmes through students and staff members on year-wise. <i>Choice-plantation, fruit-plantation like palm, dates etc., may be encouraged mostly considering the suitability of the region.</i>
	Reviews periodically the list of trees planted in the garden periodically	<i>Periodical maintenance of plants be followed.</i>
Ensure that environmental awareness is created	Conduct environmental awareness workshops as a part of the program.	College celebrates World Environment Day, World Ocean Day, etc.
	Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.	College conducts environmental awareness programmes to ensure environmental sustainability.
	Reduce the rate at which the University/Institute contributes to the depletion and degradation of natural resources	College is not directly or indirectly responsible in depletion and/or degradation of natural resources.

Control objectives x	Control(s)	Audit Observations
	Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service	Compulsory ENVIS paper as per University guidelines for all the students of all streams are mandatory to have an awareness on Environmental.
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	Presently, there is no proposal of new construction. <i>New constructions be followed in compliance with green standard in near future.</i>
Ensure that the Environmental Policy is enacted, enforced and reviewed	Establish the University/Institute Environmental Committee 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	College has an Environmental Audit Committee and conducted so far six meetings during the period of 2021 to 2023. NSS units are actively engaged in different community services.
	Ensure that on the Nature Club/Environmental Committee there will be appropriate representatives of the relevant university departments and authorities – such as catering, gardening, maintenance, cleaning and finance	College constituted one Eco-Club for better functioning, since 2021.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Ensure that on the Environmental Committee there will be the Green Officer from an external agency who is engaged in the profession of providing guidance on environmental impact	College has Coordinator, but no Green Officer as such in the Environmental Committee.
	Ensure that the Environmental Committee will review the Environmental Policy on an annual basis, and will monitor progress and set measurable targets wherever possible	College campus is declared as 'Plastic Free Zone'.
	Ensure that the Environmental Policy is enforced regardless of whether its requirements exceed the mandate of the law	<i>College beautification and cleanliness be maintained; the Green Policy of the College be framed.</i>
	Require that every staff and student member recognizes their responsibility to ensure that the commitments in the Environmental Policy are properly put into practice	Members of the Committee are actively engaged in maintaining green practices.
	Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings	First 'Green Audit' is conducted on March 2024 and is based on the report of years 2021-'22 & 2022-'23.

6.0 Recommendations

Considering the audit, following recommendations were made to the management.

Criteria	Recommendations
Publication of Audit Report	Resolutions of the present Committee along with audit report be published in the College website.
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	1. The College should go for ISO 9001:2015 Certification. 2. Composting system be developed for degradable/bio-wastes in a proper way. 3. College may go for partnership with Local Municipality in monitoring the disposal of solid wastes through sharing some outreach programs also. 4. Vermicomposting may be developed in the College Campus.
Reduce energy consumption, especially of energy derived from fossil fuels,	1. Use energy efficient lighting/solar light fully in and around the campus; ecofriendly street may be developed in and around the campus. 2. Installation of number of control switch, MCP for monitoring of energy and sensor-based system for water consumption building wise/department wise be followed.
Maintenance of Campus and biodiversity	1. PUC (Pollution under control) certificate for the vehicles entering the campus to be made mandatory and to be checked by security. 2. Students be aware importance of Medicinal plants and biodiversity; different training, workshop on maintenance of PBR for campus and different locations as an outreach program be initiated. 3. Choice-plantation, fruit-plantation, artificial nesting, <i>etc.</i> , be followed to maintain attract birds and other animals within the campus. 4. Proposal of Butterfly Garden may be initiated.
Proper cleaning of water storage Tanks	1. Proper cleaning of the water tanks for fruitful uses be followed. 2. Wastage of water be managed properly. 3. It is recommended for installation of proper Rainwater harvesting system.
Project-based learning on Environment related subjects	1. Creation of opportunity to start with technical, skill-oriented and hands-on-training programmes for environmental monitoring.

7.0 Objectives and Scope

The purpose of this audit was to ensure that the Green Management Practices are followed and implemented in the campus, across all departments, administrative bodies and students.

8.0 Methodology

The methodology includes - preparation and filling up of questionnaire, screening of the report, physical interaction with the members in presence of Principal and the Members of the College Environmental Committee as well as Members of IQAC, record checking and review of the submitted documentations, interviewing key persons and data analysis, measurements and recommendations. It works on the several aspects of 'Green Audit' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity.

a. In order to meet these objectives, this audit was based on report submitted by the College authority and reviewing of relevant documents as far as possible and interviews with authority, Coordinator and staff members physically.

b. Review of the Documentations

c. For the purpose of this audit the Green Policy of the institute was reviewed. Other relevant standards, Green audit framework *etc.*, was also considered.

Interviews

Interviews were conducted with the Principal, IQAC Coordinator, Coordinator of College Environmental Committee and also members of the Committee.

Physical Inspection

Physical inspection was made on 12th of March 2024 and report was prepared based on the physical verification and validation and interaction with the members of the College.

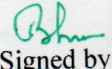
9.0 Declaration

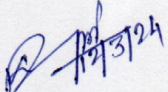
I agree with all the recommendation and observations mentioned in this report.

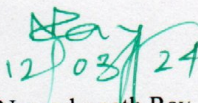
Date: 12/03/2024

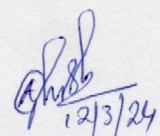
Place: Thakur Panchanan Mahila Mahavidyalaya

Cooch Behar

 12/03/24
Signed by
College Principal with Seal
Principal
T.P.M. Mahavidyalaya
Cooch Behar

 12/3/24
Dr Dipankar Pal
Inspector of Colleges
Cooch Behar Panchanan Barma
University
West Bengal
Dr. Dipankar Pal
Inspector of College
Cooch Behar Panchanan Barma University

 12/03/24
Dr Narendranath Ray
Principal
Baneswar Sarathibala Mahavidyalaya
CoochBehar
West Bengal
Principal
Baneswar Sarathibala Mahavidyalaya
Baneswar, Cooch Behar

 12/3/24
Dr Apurba Ratan Ghosh
Professor & Head
Deptt. of Environmental Science
The University of Burdwan
Burdwan
Professor & Head
Dept. of Environmental Science
The University of Burdwan
Burdwan, West Bengal