

Date: 22/01/2024

To  
The Vice-Principal  
Netaji Mahavidyalaya  
Arambagh  
Hooghly  
West Bengal

E-mail:


Subject: Environmental Audit Report Submission from Experts

Sir


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

We request you to please acknowledge and oblige.


Yours sincerely,

  
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Date: 22/01/2024

## 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 Netaji Mahavidyalaya, Arambagh, Hooghly is based on the original data collected during the period of 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 College Environmental Committee team members of Netaji Mahavidyalaya, Arambagh 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 University of Burdwan, Burdwan 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 2022 - '23.

  
22/01/2024

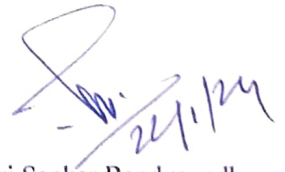
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## Report of Environmental Audit/Green Audit

### 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 Netaji Mahavidyalaya, Arambagh for 2022-'23, the Audit is performed on 22<sup>nd</sup> January, 2024. Netaji Mahavidyalaya, Arambagh started on 1948 and came under the affiliation of University of Calcutta, then they came under the affiliation of the University of Burdwan on 1960. There are 22 UG departments. Presently, College runs one PG Programme in Bengali.

College was first accredited by NAAC in 2007 with B<sup>++</sup> Grade and second on 2015 with B. The College has received a sanction of Rs 2.0 cr through RUSA project. There are two Girls' Hostels, including one SC&ST Hostel and two Boys' Hostel including one SC&ST Hostel accommodating at least 145 and 160 students respectively.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy 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 Statement of Assurance**

This audit has been conducted in accordance with the report submitted by the College Administration. 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.

### **4.0 Summary of Findings**

The main findings of the audit show that, in general, all the departments, faculty and students are to some extent aware about the need for environmental protection at a general level. College has constituted "College Environmental Committee" during the year 2022-'23. It was observed that College has installed solar panel and the electricity generated is distributed through power grid. It was also observed they are following some practices such as sock pits, maintaining an ecogarden with medicinal plants, introducing plastic free zone, *etc.*, are followed in the campus. All biodegradable and non-biodegradable wastes are safely disposed with the help of local Municipality.

On detailed review, it was observed that the college has already taken some measurements to implement the Green Policy with applicable standards. In addition, college is taking care of to improve their efficiency, fairness and consistency.

### GREEN AUDIT WORKING FORMAT

#### 5.0 Audit Framework and detailed findings

The following audit framework is used for conducting Green Audit in 2022-'23. The framework also lists the findings and observations for every criterion.

Control objective	Control(s)	Audit Observation
Green initiatives	Maintenance of green environment	College has taken different initiatives to make aware among the stakeholders through different forms; College has conducted some activities for green environment through plantation programme.
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 college staff offices.	The College is following the method zero discharge technology of wastes through Third Party involvement.
	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.	College intends to prepare a composting pit for composting the all organic wastes, green wastes, <i>etc.</i> , collected from hostel kitchens, gardens, and canteen.
	Recycle or safely dispose of White goods, computers and electrical appliances.	Waste boxes of different colours are maintained for collection of decomposable and non-decomposable waste and finally wastes are safely disposed by Arambagh Municipality.
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	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	College try to use biodegradable materials as much as possible, avoid use of plastic and all the wastes are collected in proper way and safely disposed through Municipality.
	Promote reuse of items and waste recycling among staff, students and conference guests through training, posters and incentives	Yes, the College has taken some initiative to promote reuse of items and waste recycling among staff, students and conference guests through training, posters and 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 or otherwise, 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.	Yes, the College has installed solar grid power and the electricity generated is contributed <i>via</i> power grid.

Control objective	Control(s)	Audit Observation
Green initiatives	Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity	The College has no choice other than WBSEDCL.
	Look into the possibility of on-site micro-generation of renewable electricity.	College has installed one Green Generator for uninterrupted power supply.
	Give preference to the most energy efficient and environmentally sound appliances available, this includes only using energy-saving light bulbs	The College has furnished with LED as much as practicable.
Reduce energy consumption, especially of energy derived from fossil fuels	Provide energy efficient heating systems, with adjustable controls for individual heating appliances wherever possible, and ensure that comprehensible instructions are available to staff and students on the use of heating controls	Considering the local climate heating system is not necessary.
	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	Misuse of electricity is controlled by turning on' the appliances when not required.
	Monitor and understand the importance of different sources of college energy consumption, and set appropriate and measurable targets for a reduction in certain areas of consumption and/or in the overall consumption of energy.	The College is intended to follow the bests to put the main switch off when there is no need of electricity.
	Ensures that all electronic and electrical equipment such as computers, are switched off when not in use, and is generally configured in power saving mode when such option is available	It is practised.
	Laboratory space & status of equipment either running on standby mode, reduce the energy consumption on standby mode or minimize the running of equipment's on standby mode.	Laboratory space in the Physics, Chemistry, Botany, Zoology and Geography is quite enough and equipment are running on standby mode when not in use.
	Purchase efficient and environmentally sound appliances in order to fulfill the commitments in section 2, and consider replacing old stock with 'greener, more efficient alternatives.	College has a positive attitude about increasing greenery by planting in front of the premises.
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.	Most of the members avails local public transport and bus services.

Control objective	Control(s)	Audit Observation
Minimize the use of unsustainable transport	Reduce the proportion of travel on College business carried out in private transport and eliminate unnecessary and inefficient use of College vehicles.	No College vehicle.
	Promote car sharing I car pool among the students and faculty members	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 water wastage.
	Install appliances which reduce water consumption	Practised as much as possible.
	Encourage a decrease in water usage among staff, students and conference guests	Yes, College encourages the staff, students and conference guests for decrease in water usage.
	Use an efficient and hygienic water storage mechanism is to minimize the loss of water during storage	Yes, college has a hygienic water storage mechanism to minimize the loss of water during storage as stored water is provided by local municipality.
	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	College has installed appropriate machinery for supplying the safe drinking water to all the stakeholders.
	Install Water recycling mechanism, such as rainwater harvesting system	<i>Rainwater harvesting system be improved.</i>
	Ensure that all cleaning products used by college 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 washing liquids are used in the College and all the toilet cleaners are Eco friendly
	Minimize the use of fertilizers and pesticides in college grounds, opting for the use of compost produced on site- wherever possible	Organic fertilizers are used in the College. No pesticides are used.
	Dispose the chemical waste generated from the laboratories in a scientific manner	No toxic chemicals are included in the syllabus of practical curriculum of the University of Burdwan. Most of the wastes generated are water-soluble. Measure has been taken to minimize chemical wastes to drain-off using sock pit.

Control objective	Control(s)	Audit Observation
	Reduce the practice of burning plastic and other material that emits harmful gas on burning is prevented in the campus.	No such burning.
	Establish a Garden in the campus	College maintains greenery environment all round.
	Encourage the faculties and students to plant trees in the garden.	NSS and students of Plant Protection, Botany and other departments are taking part.
Ensure that environmental awareness workshops are conducted	Conduct environmental awareness workshops as a part of the program.	College is advised to form an Eco-club for better monitoring the Campus.
	Conduct events such as plant trees to spread environmental awareness among the students	Few programmes have undertaken in this regard.
	Reduce the rate at which the College contributes to the depletion and degradation of natural resources.	College does not directly or indirectly participate in depletion and degradation of natural resources.
	Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service	Compulsory ENVIS paper of 100 marks in the University Syllabus for all the students of all streams to develop Environmental Awareness (80 written + 20 Project).
Ensure that the buildings conform to green standards.	Review architecture of existing buildings and reviews way, in consultation with experts, to reduce usage of energy for such buildings, offering greatest efficiency for energy and water usage, and reducing carbon emission	All building with big spacious rooms is well-equipped with sunlight and fresh air. College has taken some actions for face-lifting.
Ensure that the Environmental Policy is enacted, enforced and reviewed	Establish a College 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 Environment Committee is working satisfactorily.
	Require that every staff and student member recognizes their responsibility to ensure that the commitments in the Environmental Policy are properly put into practice	College is trying to create awareness programmes to motivate the students.
	Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings	This Report is based on data of the session 2022-'23.



## 6.0 Recommendations

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

Criteria	Recommendations
Publication of Audit Report	<ol style="list-style-type: none"> <li>1. The College should go for ISO 9001:2015 Certification.</li> <li>2. Resolutions of the "College Environmental Committee" along with audit report be published in the College website.</li> </ol>
Maximize the proportion of waste that is recycled & minimize the quantity of non-recyclable refuse	<ol style="list-style-type: none"> <li>1. Advanced Composting system may be developed for bio-wastes.</li> <li>2. College may go for partnership with Arambagh Municipality in monitoring of disposal of solid wastes through providing outreach program.</li> </ol>
Reduce energy consumption, especially of energy derived from fossil fuels	<ol style="list-style-type: none"> <li>1. Use energy efficient lighting fully in and around the campus; outdoor lighting be managed and followed in the order of eco-friendly system.</li> <li>2. Number of Energy and flow meters to be installed for monitoring of energy and water consumption building wise/department wise.</li> </ol>
Maintenance of Campus and biodiversity	<ol style="list-style-type: none"> <li>1. PUC (Pollution under control) certificate for all the vehicles entering the campus to be made mandatory and to be checked by security.</li> <li>2. Students be aware importance of Medicinal Gardens and PBR for different locations.</li> </ol>
Proper maintenance of wastes	<ol style="list-style-type: none"> <li>1. Total wastes including solid, liquid, etc., wastes be managed carefully.</li> <li>2. E-wastes be disposed through as per State Govt. Rules.</li> </ol>
Project-based learning on Environment related subjects	<ol style="list-style-type: none"> <li>1. More number of projects be initiated to start with technical, skill-oriented and hands-on-training programmes for environmental monitoring.</li> </ol>
Use of Rainwater harvesting system	<ol style="list-style-type: none"> <li>1. It is recommended for improvement and fruitful use of Rainwater harvesting system.</li> </ol>

## 7.0 Objectives and Scope

The purpose of this audit was to ensure that the Green Policy is 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 16th of December 2023 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: 22/10/2024

Place: Netaji Mahavidyalaya, Arambagh



Signed by 22/01/24

College Vice-Principal with Seal

Vice-Principal  
Netaji Mahavidyalaya  
Arambagh, Hooghly



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