

Date: 17/04/2024

**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 Kishore Bharati Bhagini Nivedita College (Co.-Ed.), Behala, Kolkata 700 060, West Bengal is based on the original data collected during the periods of 2021-'22 & 2022-'23. It 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 members of Kishore Bharati Bhagini Nivedita College (Co.-Ed.), Behala 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 Governing Body 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 Environmental Committee members during preparing their Report of the concerned years 2021-'22 & 2022 -'23.


17.4.24

Dr Apurba Ratan Ghosh
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Dr Asok Kanti Sanyal
Ex-Chairman
West Bengal Biodiversity Board
Kolkata

Dr. Asok Kanti Sanyal
Ex-Chairman
West Bengal Biodiversity Board
(Dept. of Environment, Govt. of West Bengal)

Date: 17/04/2024

To
The Principal
Kishore Bharati Bhagini Nivedita College (Co.-Ed.)
Behala
Kolkata 700 060
West Bengal

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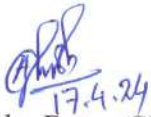
Subject: Environmental Audit Report Submission from Experts

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 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,



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KISHORE BHARATI BHAGINI NIVEDITA COLLEGE
(CO.-ED.)
BEHALA, KOLKATA
ESTD. 2001

**ENVIRONMENTAL AUDIT/
GREEN AUDIT REPORT**
[2021-22, 2022-'23]

Prepared by
The Audit Committee

**Schedule for Environmental Audit/Green Audit
(April 17, 2024)**

Time	Schedule	Venue
11:30 AM	Introductory Meeting with the Principal	Office Chamber of the Principal
12:00 NOON	Meeting with the IQAC Coordinator & Faculty Members	Office Chamber of the Principal
12.30 PM	Meeting with Coordinator of College Environmental Committee & Faculty Members	
12:45 PM – 1.30 PM	Presentation of College Environmental Committee	
02:00 PM	Lunch	
02:30 PM – 05.30 PM	Physical visit and Preparation of Report	
05:45 PM	Tea	



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**Dr. Asok Kanti Sanyal
for Chairman
West Bengal Biodiversity Board
(Dept. of Environment, Govt. of 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

Kishore Bharati Bhagini Nivedita College (Co.-Ed.), Behala, Kolkata, West Bengal, formerly known as Kishore Bharati Bhagini Nivedita Girls' College was founded on 2001 as a General Degree College. College started with three conventional streams like Humanities, Science and Commerce. It is affiliated to the University of Calcutta. College was named as Kishore Bharati Bhagini Nivedita College (Co.-Ed.), Behala, Kolkata to impart quality education and utilization of proper resources that the College have. College maintains a clean and transparent administration and good ambience inside the College Campus.

Now, the College is maintaining its academic and administrative excellence, and has been continuously upgrading the curricula and infrastructure in order to improve the quality of education as well as producing empowered and enlightened individuals. Through its distinctiveness as an academic institution over a long period of time, the authorities of the College believes in continuous improvement. College has 14 subjects with 42 faculty members.

The College is going for First accreditation by NAAC.

In accordance with the "Format of Green Audit: Questionnaire" of Kishore Bharati Bhagini Nivedita College (Co.-Ed.), Behala, Kolkata, West Bengal for the periods of 2021-'22 & 2022-'23 the audit is performed on 17th of April, 2024. The purpose of the audit was to ensure that the green practices followed in the campus are in accordance with the Green Policy & Management 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 6212 sq.ft., open space is of 1462 sq.ft. and green area of 1000 sq.ft.

College has constituted the “College Environmental Committee” and proposed some initiatives for sustainable development in the College campus and to maintain greenery.

1. College celebrates different environmental awareness programmes.
2. College has initiated the proposal of installation of Off Grid Solar Panel with a capacity of 1.0 KVA.
3. Disposal of all degradable and non-degradable solid wastes is followed through its own system and Kolkata Municipal Corporation.
4. Rainwater is readily drain out into the adjacent areas; it may also be used after proper treatment.
5. College has installed the IT facility very recently.
6. Two of the faculty members are running two Projects considering emphasis on conservation of state animal and women well beings respectively.
7. College has constituted Eco Club on 2015 for effective management of clean & safe environment in the College as well as outside the Campus maintaining community services.

b. Suggestions

1. College should follow the composition of Environmental Committee properly with an inclusion of one Convener/Coordinator.
2. College is requested to formulate the ‘Green Policy’ as early as possible to organize different green initiatives.
3. College is requested to utilize the open space properly with green coverage.
6. Students should be educated to handle the PBR through training, workshop *etc.*, every year and be involved in outreach program for studying PBR in nearby places.
7. Increase the use of LED as much as practicable by replacing the tube light, etc.
9. College will maintain ‘Green Budget’ in annual budget.
10. College should have Divyangian Friendly toilets.
11. College Environmental Committee will intend to have campus recognition/award/certification from proper authority.

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 for disposing.</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 Kolkata Municipal Corporation initiating some exchange programmes.</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.
	Recycle or safely dispose of white goods, computers and electrical appliances.	Question of safe disposal methods of E-waste does not arise. College has developed IT facility for academic purposes very recently.
	Use reusable resources and containers and avoid unnecessary packaging where possible	College has taken proper initiatives for solid waste management and reusable resources and containers and unnecessary packaging where possible.
	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., be disposed through KMC.

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, 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, generate 80% 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 is required to install new sources of renewable and carbon-neutral electricity.</i>
	Look into the possibility of on-site micro-generation of renewable electricity.	<i>1.0 KVA off grid system of SOLAR PANNELS is in process.</i>
	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	<i>College has to develop a mechanism to reduce the misuse of electricity by turning off the appliances when not required. 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. <i>Sensor-based system be adopted.</i>
	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 Metro rail & bus services; usually, most of them avail bus as well as Metro 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 require any common bus services for all stakeholders. College has one cycle/Car stand for students as well as staff members.
	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 be followed to control the water wastage through sensor-based mechanism/ 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 existing 9 Aqua guards installed in the strategic location for the students and other members, and two Water Purifier and Cooler.
	Install Water recycling mechanism, such as rain water harvesting system	Rainwater be used for groundwater recharging. <i>Rainwater conservation and uses be developed through an advanced mechanism.</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 may involve the students of different department in maintaining of gardens. <i>Vertical / Hanging garden proposal be initiated.</i>
	Dispose the chemical waste generated from the laboratories in a scientific manner	Disposal of solid wastes are managed. <i>Drainage of liquid wastes from Chemistry and other labs be managed properly.</i>
	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 maintenance of green-clean environment. College conducts 'Tree plantation programmes' in different occasions on year-wise, outside the Campus also.
	Establish a Garden in the campus	<i>Students should be trained to handle People Biodiversity Register.</i>
	Encourage the faculties and students to plant trees in the garden	<i>College has no such scope for plantation of big trees inside the Campus.</i>
	Reviews periodically the list of trees planted in the garden periodically	<i>Periodical maintenance of gardens/plants be followed through student members.</i>
Ensure that environmental awareness is created	Conduct environmental awareness workshops as a part of the program.	College celebrates different environmental awareness programmes like World Environment Day, Earth Day, Water 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	College has submitted a proposal of new construction. <i>In case of new constructions, green standards be followed 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 Committee and has conducted so far two (02) meetings during the years 2021-'22 & 2022-'23.
	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 Environmental Committee may further constituted Eco-Club for better functioning.
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 will propose one Coordinator.
	Ensure that the Environmental Committee will review the Environmental Policy on an annual basis, and will monitor progress and set measurable targets wherever possible	<i>College campus may be declared as 'Plastic Free Zone'.</i>
	Ensure that the Environmental Policy is enforced regardless of whether its requirements exceed the mandate of the law	<i>Beautification and cleanliness be maintained inside the campus; the Green Policy of the College be formulated.</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 College Environmental Committee are active.
	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 17 th of April 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 “College Environmental 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. College may go for partnership with Kolkata Municipal Corporation in sharing some outreach programs. 3. Advancement of Composting pi is highly solicited.
Reduce energy consumption, especially of energy derived from fossil fuels	1. Installation of number of control switch, MCP for monitoring of energy and sensor-based system for water consumption building wise/department wise be operated through the involvement of student members.
Maintenance of Campus and biodiversity	1. Students be aware importance of Medicinal Gardens and PBR. Proper training, workshop on maintenance of PBR for local areas and different locations as an outreach program be initiated. 2. Choice-plantation, fruit-plantation, artificial nesting, <i>etc.</i> , be followed to maintain attract birds and other animals outside the campus. 4. College open space be maintained properly for greenary. 5. Award/Certification from authentic body as Green & Clean Campus
Proper cleaning of water storage Tanks	1. Sensor-based system be maintained for checking of wastage of tank water.
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 proposal of 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 17th of April 2024 and report was prepared based on the physical verification and validation and interaction with the members of the College.

9.0 Declaration

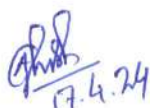
I agree with all the recommendation and observations mentioned in this report.

Date: 17/04/2024

Place: Kishore Bharati Bhagini Nivedita College (Co.-Ed.)

Behala, Kolkata

Signed by
College Principal with Seal



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