



SIDHO-KANHO-BIRSHA UNIVERSITY

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Green Audit - Nistarini College, Purulia

CERTIFICATE

This is to certify that the Green Audit Report of Nistarini College, Purulia is based on the original data collected during the period of study. This has been independently assessed and is applicable to the service range of providing quality Education, Training and Mental Support to the students for their enriched future and career. Further, it is certified that the baseline data was prepared by internal Green Audit Team of Nistarini College, Purulia and submitted to us. The content of the baseline data of the study has been personally verified by the Green Audit Team constituted by Sidho-Kanho-Birsha University, Purulia including one external expert member from other university, 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 either taken by the Audit Team or are provided by the Internal Audit Team.

Certificate Memo No.: *R/Cent/250/SKBU* Dt:- *17-02-2023*

Date of Issue of the Certificate: 17th February, 2023.

The certificate is valid for one year from the date of issue.



X. Bandyopadhyay
 Dr. Nachiketa Bandyopadhyay,
 Registrar
 Sidho-Kanho-Birsha University, Purulia

Registrar
 Sidho-Kanho-Birsha University
 Purulia-723104

Date: 15/02/2023

To
The Principal
Nistarani College
Purulia
West Bengal

Ph: 9434009555

Website: www.nistarinicollege.ac.in

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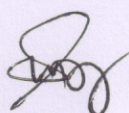
Subject: Audit Report Submission from Experts

Sir

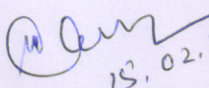
After verification of all the aspects in the College and necessary assessment of the report on "Green Audit" / "Environmental Audit" submitted by your College for the periods of 2020-'21 and 2021-'22, here, we are submitting the Audit Report of "Environmental Audit/ Green Audit" of your College of the periods of 2020-'21 and 2021-'22 for your kind perusal in the attached sheet.

We request you to please acknowledge and oblige.

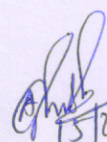
Yours

 15/2/23

Dr. Subrata K. Dey
Professor, Dean of Science
Sidho Kanho Birsha University
Purulia

 15.02.2023

Tapan Kumar Hazra
Inspector of Colleges
Sidho Kanho Birsha University
Purulia

 15/2/23

Dr Apurba Ratan Ghosh
Professor, Environmental
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Report of Environmental Audit/Green Audit

1.0 Introduction

Environmental Audit or Green Audit is a systematic identification, quantification, recording, reporting and analysis of the different aspects as well as components of the environmental status of the HE Institutes. The objectives of 'Environmental Audit'/'Green Audit' are to evaluate the various parameters linked with environmental practices in and around the HE Institutional campus, actually, it can help in creating the congenial and environment-friendly atmosphere for the stakeholders. It is framed 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 proposed by NAAC Environmental Audit/Green audit is a mandatory parameter. It is one the key components of Criteria VII.

1.1 About the College

Nistarini College, located at Purulia was established in 1957 under the initiative of the then Chief Minister Dr. Bidhan Chandra Roy and request of the eminent leaders and social workers of this district for the propagation of women's education in the rural sector of West Bengal.

Initially, it was affiliated to the University of Burdwan, but recently it is under the affiliation of Sidhu-Kanho-Birsha University since 2011. Bearing both 2(f) & 12(B) of UGC Act. The motto of this Institute is to equip the women students with professional efficiency and social competencies by providing latest teaching technology, use of ICT, etc.

College started with subjects like Bengali, Economics, Education, English, Geography, History, Political science, Philosophy, Sanskrit and Mathematics. In course of time altogether they have 10 additional subjects including PG in Bengali in 2017.

It was first accredited by NAAC with Grade B⁺⁺ on 2004; and Second accreditation was held during 2016 with Grade of A (3.13). The College has a lush green garden containing few very rare old and heritage plants, more than 70 years, sprawling over a vast expanse of land inside the campus. The canopy of the trees provides carbon neutrality also hosts a wide variety of wild creatures. Including different types of butterflies and insects. There is no sponsored project in this College.

There is three UGC Girls Hostel inside the College campus.

2.0 Executive Summary

During the initial planning of the audit, an analysis was conducted in order to identify, evaluate and prioritize the risks associated with the environmental sustainability.

In accordance with the Format of Green Audit and Evaluation Plan, Nistarini College, Purulia, West Bengal has prepared it for the year 2021-'22 and audit was conducted in the month of February 2023. College, is concerned and believes on the students' appropriate knowledge, experience, guidance and skills for development of teaching ability and art. The College has initiated 'The Green Campus' programs since Dec 2015 under the Green Policy.

The purpose of the audit is to ensure that the practices followed in the campus are in accordance with the green campus adopted by the institution. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environmental 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 an examination of the status,



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manuals 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 criteria and methods used in the audit were based on the identified risks. The methodology used included physical inspection of the campus, review of the relevant documentation, and interviews.

3.0 Significant Observations

1. College has a good green ambience covering approx. 2.0 acres.
2. They have constituted the Environmental Committee and Eco-club including the NSS units. They have conducted so far eight meetings during the year 2021-'22 and has taken efforts for maintaining greenery in the College campus.
3. College maintains one Butterfly garden with the help of students. Students are trained to study the behavior of insects, birds, and plant diversity in the campus.
4. College has adopted some practices to dispose the solid and liquid wastes of laboratories.
5. College has taken initiative to install the solar panels.
6. College is maintaining the disposal of all sorts of wastes. E-wastes are managed through licensed vendors.
7. College started vermicomposting, medicinal plants and aromatic plant cultivation.
8. All teaching and non-teaching staff members, students are advised to use recyclable materials for storing their food, water *etc.*, to reduce the wastes.
9. College is conducting some environmental awareness programmes, taking initiative in making bird-nests on some trees in the campus.
10. College has so many heritage plant species inside the campus and one deep-well fully inhabited by Indian pipistrelle
11. College has 7 solar street lamps.

However, after detailed paper examinations and physical verification it is noted that, some of the practices are required to be followed by the College in implementing the Green Policy of the institution and the applicable environmental standards. In addition, certain processes could benefit from further review in order to improve their efficiency, fairness and consistency.

4.0 Statement of Assurance

As far as possible and appropriate audit procedures 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 in the Year 2021-'22. 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 wastes.
	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 has been advised to take initiative for disposal of wastes through Purulia Municipality and formal MoU may be initiated.
	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 bins for disposal of differently wastes.
	Recycle or safely dispose of white goods, computers and electrical appliances.	Electrical wastes, printer cartridges etc., are negligible, and disposed through E-License holder for collection of E-wastes particularly.
	Use reusable resources and containers and avoid unnecessary packaging where possible	No, the College has not so far used reusable resources and containers.
	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.
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	The College practices a few environment-friendly arrangements for such events, such as Cultural Events, International and National seminars and Conferences.
	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 and students.
	Dispose all waste, whether solid or otherwise, in a scientific manner and ensure that it is not released directly to the environment	It is advised to College to dispose all wastes, whether solid or otherwise, through Purulia Municipality and ensures that it is not released directly to the environment.
Reduce energy consumption,	Support renewable and carbon-neutral electricity options on any energy-purchasing	College has taken the initiatives for production of Solar electricity.



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especially of energy derived from fossil fuels	consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.	College is dependent on energy-purchasing consortium.
	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 State Electricity Board.
	Look into the possibility of on-site micro-generation of renewable electricity.	Proposal of Solar Panels is initiated.
	Give preference to the most energy efficient and environmentally sound appliances available, this includes only using energy-saving light bulbs	The College is using mostly mostly dependent on tube light, CFL and LED; producing 70% e-notice for academic & administrative purposes.
Reduce energy consumption, especially of energy derived from fossil fuels	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	Students be engaged to check misuse of electricity. All the stakeholders be aware in 'switch off drill' to save electricity.
	Ensures 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	Less number of electrical appliances/equipments, so regular monitoring system is rarely required.
	If there are equipment's running on standby mode, reduce the energy consumption on standby mode or minimize the running of equipment's on standby mode	There is no such equipments.
	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 huge natural greenery; cleanliness is maintained by the students. Tree plantation programmes are followed in different occasions.
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 has its own Cycle Stand, Bike Stand and is well connected through train and bus services, so all of them mostly avail bus/train services, etc.
Minimize the use of unsustainable transport	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 to 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



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		because of other conveyance.
Minimize consumption of water.	Repair sources of water leakage, such as dripping taps and showers as quickly as possible.	Misuse and wastage of water from sources are taken care of.
	Install appliances which reduce water consumption	Practised as much as possible.
	Encourage a decrease in water usage among staff, students and conference guests	College inspires a decrease in water usage among staff, students and conference guests.
	Use an efficient and hygienic water storage mechanism is to minimize the loss of water during storage	Department of Environmental Science is engaged in testing/monitoring the quality of drinking water to maintain the hygienic water on regular basis.
	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 all together 17 Aqua Guards - nine in Girls Hostels and eight in the college campus.
	Install Water recycling mechanism, such as rain water harvesting system	There is a system of collection of rain water from the S N Bose Building.
	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.
	Minimize the use of fertilizers and pesticides in the University/Institutional gardens, opting for the use of compost produced on site wherever possible	Negligible amount of fertilizers and pesticides are used in the campus for maintenance of garden, etc.
	Dispose the chemical waste generated from the laboratories in a scientific manner	Minimum use of hazardous chemicals in the laboratory.
	Reduce the practice of burning plastic and other materials that emit the harmful gas on burning is prevented in the campus.	No such burning.
	Establish a Garden in the campus	College has already started to prepare a garden within the Campus. College has a small medicinal plants' garden.



	Encourage the faculties and students to plant trees in the garden.	Students are engaged in tree plantation programme in different occasion like WED etc. Choice-plantation, fruit-plantations are practised in the campus.
	Reviews periodically the list of trees planted in the garden periodically	Periodical maintenancebe followed as observed in the accounts.
Ensure that environmental awareness is created	Conduct environmental awareness workshops as a part of the program.	Environmental awareness programmes organized for conservation of nature and natural resources, wildlife, and biodiversity, Unnat Bharat Abhiyan on water quantity and quality conservation.
Ensure that environmental awareness is created	Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.	College conducts seminars and awareness programmes; and involvement of students is encouraging.
	Reduce the rate at which the University/Institute contributes to the depletion and degradation of natural resources	College is not directly or indirectly participating 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 50 marks (4 credits) in the syllabus as per University guidelines is followed.
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	During new constructions are furnished by PWD.
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 constituted anEnvironmental Committee and conducted so far eightmeetings during 2021-'22. College has a vast areas of natural plants contribute in carbon neutrality.
	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	Environmental Committee is constituted by the representative from all such sections to maintain the campus.
Ensure that the Environmental Policy is enacted, enforced	Ensure that on the Environmental Committee there will be the Green Officer from an external agency who is engaged in the	College has constituted“Environmental Committee” headed by Principal



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and reviewed	profession of providing guidance on environmental impact	as Chairperson and one Convener.
	Ensure that the Environmental Committee will review the Environmental Policy on an annual basis, and will monitor progress and set measurable targets wherever possible	Environmental Committee has taken the responsibility to follow the environmental policy.
	Ensure that the Environmental Policy is enforced regardless of whether its requirements exceed the mandate of the law	Initiative has been taken to adopt the Green policy.
	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 Environmental Committee are following the practices of maintaining Biodiversity Register, developing greenery, man-made nests for birds, <i>etc.</i>
	Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings	This 'Green Audit' for the year 2021-'22 is conducted on February 2023.



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6.0 Recommendations

Following the audit, several recommendations were made to the management.

Criteria	Recommendations
Publication of Audit Report	Resolutions of the “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	<ol style="list-style-type: none">1. College may initiate for getting accreditation from ISO 9001 (2015)2. The College should go for MoU with local Municipality.3. Composting system may be developed for bio-wastes including food wastes, vegetables and organic wastes.4. College may intensify the partnership with local bodies in creating different awareness campaigning through outreach programmes.
Reduce energy consumption, especially of energy derived from fossil fuels	<ol style="list-style-type: none">1. Use energy efficient lighting fully in and around the campus; outdoor lighting be managed and followed in the order of eco-friendly system.2. Number of Energy and flow meters to be installed for monitoring of energy and water consumption building wise/department wise.
Maintenance of Campus and biodiversity	<ol style="list-style-type: none">1. PUC (Pollution under control) certificate for all the vehicles entering the campus to be made mandatory and to be checked by security.2. Correct measure of maintenance of PBR year wise for different locations by students.3. College is advised to develop the Butter-fly garden inside the campus.
Proper maintenance of wastes	<ol style="list-style-type: none">1. Total wastes including solid, liquid, <i>etc.</i>, wastes be managed carefully.
Project-based learning on Environment related subjects	<ol style="list-style-type: none">1. Teachers may be encouraged to start with technical, skill-oriented and hands-on-training programmes for environmental monitoring.

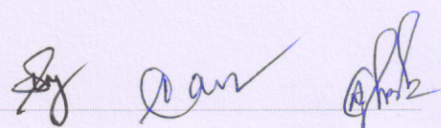
7.0 Objectives and Scope

The purpose of this audit was to ensure that the Green 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

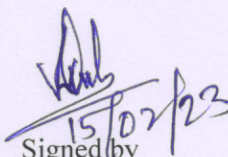
Physical inspection was made on 15th of February 2023 and report was prepared based on the physical verification and validation and interaction with the members of the College.

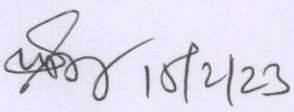
9.0 Declaration

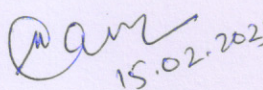
I agree with all the recommendation and observations mentioned in this report.

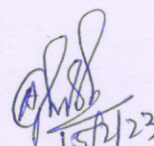
Date: 15/02/2023

Place: Nistarini College, Purulia


Signed by
College Principal with Seal
Principal
Nistarini College, Purulia


Dr. Subrata K. Dey
Professor, Dean of Science
Sidho Kanho Birsha University
Purulia


Tapan Kumar Hazra
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