KHALISANI MAHAVIDYALAYA Khalisani, chandannagar, hooghly ESTD. 1970

ENVIRONMENTAL/GREEN AUDIT REPORT [ACADEMIC YEAR: 2022-'23]

Prepared by The Audít Commíttee The Uníversíty of Burdwan

Date: 20/04/2024

To The Principal Khalisani Mahavidyalaya Khalisani, Chandannagar Hooghly West Bengal

Website: www.khalisanicollege.ac.in E-mail: khalisanimahavidyalaya@gmail.com

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.

Professor & Head Deptt. of Business Administration The University of Burdwan Burdwan Dr. Tanmoy Dasgupta

Dept. Of Business Administration The University of Burdwan Burdwan - 713104, W.B.

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

Professor & Head Deptt. Enviornmental Sc. The University of Burdwan Burdwan, W.B. Yours sincerely,

Dr Gouri Sankar Bandyopadhyay Principal Syamsundar College Dr. Gouri Ganta Bandhaman Principal Syamsundar College P.O.Shyamsundar, Dist. Purta Bardhaman W.B. 713424

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 Khalisani Mahavidyalaya, Khalisani, 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 Khalísaní Mahavidyalaya, Khalisani 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.

Professor & Head Deptt. of Business Administration The University of Burdwan Burdwan Dr. Tanmoy Dasgupta

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Dr. Gouri Sankar Bandyopadhyay Principai Syamsundar College P.O.-Shyamsundar, Dist.-Purba Bardhaman W.B. 713424 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 Officer-in-Charge, IQAC Coordinator, Coordinator of the College Environmental Committee and also members of the Committee.

Physical Inspection

Physical inspection was made on 20th 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: 20/04/2024 Place: Khalisani Mahavidyalaya Khalisani, Chandannagar, Hooghly



Signed College Principal with Seal KHALISANI MAHAVIDYALAYA

Dr Tanmov Dasgupta

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ENVIRONMENTAL/GREEN AUDIT REPORT [ACADEMIC YEAR: 2022-'23]

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Annexure-1

Report of Environmental Audit/Green Audit

I.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.

II.0 Executive Summary

In accordance with the "Format of Green Audit: Questionnaire" of Khalisani Mahavidyalaya, Khalisani for 2022-'23, the Audit is performed on 20th April, 2024. Khalisani Mahavidyalaya, Khalisani started on 1970 and came under the affiliation of University of Burdwan. Presently, there are 15 UG departments. The College has received a RUSA grant of Rs. 2.0 cr during the year 2017-18.

College was first accredited by NAAC in 2008 with B Grade and second on 2016 with B++. The College has received a sanction of Rs 2.0 cr through RUSA project. Now College is preparing for the Third Cycle of accreditation.

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

III. Observations

a. General

The College possesses a total campus area of 2.502 acres with a built-up area maintaining a green area of 1.80 acres (approx.). College has taken some efforts for sustainable development in the College campus and to maintain greenery.

1. College has constituted a team of members to help the Audit Team members.

2. Some of the best practices such as maintaining tree plantation, introducing plastic free zone, celebration of World Environment Day, World Ozone Day, Waste to Wealth, Mountain Day, etc., are followed in the campus organized by the different departments.

3. College organises Tree Plantation Programs on regular basis; entire campus is divided into five plots for maintain the greenery as well as giving exposure to the students about biodiversity index.

4. College has storing-cum-dumping pit. Disposal of all degradable and non-degradable solid wastes is followed through Local Municipal Corporation.

5. College has conducted Environmental Awareness programmes on regular basis for faculty and students, and involved the students in maintaining the cleanliness of the campus.

6. College maintains the ecological balance in the campus through maintaining gardens in different places for beautification, fruit-plantation, etc.

7. Rainwater is collected in specific water tank and used for cleaning and gardening purposes.

8. College has taken initiative for preparation of composting pit/vermicomposting pit.

9. Proposal of preparation of definite Butter Fly Garden is initiated.

10. College is following Noise Monitoring System, Air Quality Measurement, etc.

11. College may initiate a practice of Mushroom Cultivation maintained by the students.

12. College has installed solar panel of 5KW; College has procured one Green Generator for uninterrupted power supply.

14. On detailed review, it was observed that the college has already taken some measurements constitute "College Environmental Committee" to implement the Green Policy with applicable standards and for preparation of the internal GREEN Audit-'Sanjiban'. In addition, College is taking care of to improve their efficiency, fairness and consistency.

Suggestions

1. College has constituted the "College Environmental Committee". College is requested to reframe the Green/Environmental Policy. During formation of "College Environmental Committee" College should follow the composition, where Principal will act as Chairman instead of Convenor and inclusion of student members from SEM I, III & V.

2. College is requested to maintain the gardens at different locations through students of different departments.

3. Medicinal Garden should be maintained properly.

4. Butterfly Garden be prepared properly.

5. Students should be trained to handle the PBR through workshop *etc.*, mapping of plants be done accordingly.

6. E-waste be disposed through proper/authorized License holder party; safe disposal methods should be adopted for other electrical wastes, printer cartridges, etc., through proper disposal methods.

7. Existing composting be managed properly.

8. Formal MoUs with Local Municipal Corporation be maintained for long-term basis and periodical monitoring.

9. College may maintain 'Green Budget' for the said purposes.

10. Plantation program be monitored and periodical maintenance of plants be followed.

IV. Statement of Assurance

This audit has been conducted in accordance with the report submitted by the team members of the College. 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.

AUDIT FRAMEWORK AND DETAILED ANALYSIS

V. Detailed findings & Analysis

The following audit framework is used for conducting Green Audit during the period of 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. 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.	The College has used some control measures to reduce the absolute amount of waste that it produces from the departments, staff offices, inside Campus, <i>etc</i> . Segregation method is followed properly. College is disposing all wastes through Local Municipal Corporation.
	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. Recycle or safely dispose of white goods, computers and electrical appliances.	The College uses different bins for disposal of different types of wastes. The fallen dead leaves from the garden be managed properly in the composting/cistern pit. Safe disposal methods should be adopted for electrical wastes, printer cartridges, etc., through proper disposal methods.
	Use reusable resources and containers and avoid unnecessary packaging where possible	College is following some steps for management of vegetable, food wastes produced from canteen.
	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, <i>etc.</i> , be disposed through Local Municipal Corporation.

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 follows environment friendly disposal management 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, generate 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	College maintains sources of renewable energy and carbon-neutral electricity like solar street panels.
	Look into the possibility of on-site micro- generation of renewable electricity.	College has installed 5.0 KW 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 full LED light.
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 through MCP. All the stakeholders are aware and doing their bests and practices to save electricity.
	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 replacing all the tube lights with LEDs, <i>etc.</i> , 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 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 two cycle stands 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 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 uses 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. Advanced Sensor-based system be introduced to minimize the loss of water during storage, as well as in some places for effective saving of electricity.
	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 six Aqua guards, and two water cooler & purifier installed in the strategic location for the students and other members.
	Install Water recycling mechanism, such as rain water harvesting system	Rainwater harvesting system is used for gardening and cleaning; College may develop groundwater recharge system.

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. College may maintain 'Green Budget' for the said purposes.
	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 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. Drainage of liquid wastes from wash rooms, labs and other similar sources may be managed properly.
	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 People 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. Choice-plantation and fruit-plantations be followed on regular basis considering the suitability of the region.
	Reviews periodically the list of trees planted in the garden periodically	Periodical maintenance of gardens/plants is done through student members along with teachers.
Ensure that environmental awareness is created	Conduct environmental awareness workshops as a part of the program.	College celebrates World Environment Day, Earth Day, World Ozone Day, <i>etc</i> .
	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 ENVS paper as per University guidelines for all the students of all streams are mandatory to have awareness on Environmental. Students are used to prepare one dissertation/Project paper for the said purpose.
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.
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 should reframe College Environmental Committee as well as Green Policy properly.
	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 may constitute one 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	Committee, one Green Officer may be included in this Committee for
	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	Beautification and cleanliness be maintained involving students.
	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 team constituted by the College authority 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 by University audit team on 20 th of April 2024 based on the report of year 2022-'23, apart from other previous Green audits executed by expert individuals.

VI. Recommendations

Criteria	Recommendations	
Publication of Audit Report	1. Formation of proper "College Environmental Committee"	
	2. Resolutions of the "College Environmental Committee" along with audit report be	
	published in the College website.	
Maximize the proportion of	1. Composting system be developed for degradable/bio-wastes in a proper way.	
waste that is recycled &	2. College may go for partnership with <i>Local Body</i> in monitoring the disposal of	
minimize the quantity of non-	solid wastes through sharing some outreach programs also.	
recyclable refuse	4. Composting/Vermicomposting should be prepared considering its vegetable	
	wastes, food wastes from canteens and campus litters.	
	5. E-wastes be managed properly through License holder.	
Reduce energy consumption,	1. Use energy efficient lighting/solar light fully in and around the campus; Ecological	
especially of energy derived	street may be developed in and around the campus.	
from fossil fuels,	2. The control switch, MCP for monitoring of energy and sensor-based system for	
	water consumption building wise/department wise be maintained through the	
	involvement of student members.	
	3. Ecological Street may be developed in and around the campus; Pedestrian access	
	be marked.	
Maintenance of Campus and	1. PUC (Pollution under control) certificate for all the vehicles entering the campus	
biodiversity	to be made mandatory and to be checked by security.	
	2. Students be aware importance of Medicinal Gardens and PBR for different	
	locations. Proper training, workshop on maintenance of PBR for local villages and	
	different locations as an outreach program be initiated.	
	3. Choice-plantation, fruit-plantation, artificial nesting, etc., be followed to maintain	
	attract birds and other animals within the campus.	
	4. Proposal of Butterfly Garden may be initiated.	
Proper cleaning of water	1. Proper cleaning of the water tanks for fruitful uses be followed; management of	
storage Tanks	dead leaves, litters of trees inside the campus be taken care off on regular basis.	
	2. Sensor-based system be maintained for checking of wastage of tank water.	
Project-based learning on	1. Creation of opportunity to start with technical, skill-oriented and hands-on-training	
Environment related subjects	programmes for environmental monitoring.	
2	2. Recognition/Awards on green & clean campus from authorised	
	persons/organisations.	

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

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 the College Environmental Committee and also members of the Committee.

Physical Inspection

Physical inspection was made on 20th 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: 20/04/2024 Place: Khalisani Mahavidyalaya Khalisani, Chandannagar, Hooghly

College Principal with Seal

Principal KHALISANI MAHAVIDYALAYA Khalisani, Chandannagar Hooghly, W.B., Pin:712138

