



Badri Narayan Mukteshwar College, Barhiya

(A Constituent Unit of Munger University, Munger, Bihar)
Address : Barhiya, Lakhisarai, Bihar – 811302

ENVIRONMENT AUDIT REPORT

2022-23

PREPARED BY
GREEN INDIA MISSION
POWERED BY LOK SEWA SANGH, PATNA

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Ramesh Kumar
08.05.2024
IQAC
Co-ordinator
B.N.M. College, Barhiya

Green India Mission

let's go green

(Running under Lok Sewa Sangh, Patna, Bihar)
Registration under the Societies Registration Act 21, 1860 with government of Bihar



Audit Certificate



Badri Narayan Mukteshwar College, Barhiya

Barhiya, Lakhisarai, Bihar – 811302
(A Constituent Unit of Munger University, Munger-Bihar)

Has been assessed by Green India Mission, Patna for the comprehensive study of Environmental impacts on institutional working framework to fulfill the requirement of

ENVIRONMENT AUDIT

ACADEMIC YEAR 2022-23

The environmental legal compliances and initiatives carried out by the institution have been verified in the report submitted and were found to be satisfactory.

The efforts taken by the management and the faculty towards all type of environment and sustainability highly appreciated and noteworthy.

The institution is credited with score 8.88/10 Certificate No. GIM/EAR/29/2022-23

Expert Auditor
BEE & BIS Certified Auditor
UIN: EM-7832 SIM - 14231

President
Green Indian Mission, Patna

General Secretary
Green Indian Mission, Patna

President
Green India Mission
Patna (Bihar)



General Secretary
Green India Mission
Patna (Bihar)

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ACKNOWLEDGEMENT

GREEN INDIA MISSION would like to thank the management of Badri Narayan Mukteshwar College, Barhiya for assigning this important work of Environment Audit. We appreciate the co-operation to the teams for completion of assessment.

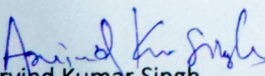
First of all, we would like to thank *Dr. Ashutosh Kumar -Principal & Dr. Ramesh Kumar, IQAC Coordinator* for giving us an opportunity to evaluate the environmental performance of the campus.

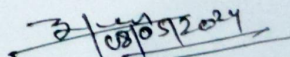
We would also like to thank *Dr. Abhimanyu Kumar- Audit Coordinator*, for his/her continuous support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

We are also thankful to

1. *Dr. Anandi Kumar*
2. *Dr. Murlidhar Prasad Singh*
3. *Dr. Pramod Yadav*
4. *Mr. Chunnu Kumar*




Dr. Arvind Kumar Singh
BEE & BIS Certified Auditor
ID No.EM-7059/2017 SIM-14595


General Secretary
Green India Mission Patna
General Secretary
Green India Mission
Patna (Bihar)

DISCLAIMER

GREEN INDIA MISSION Audit Team has prepared this report for the institution based on data submitted by the representatives of College complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

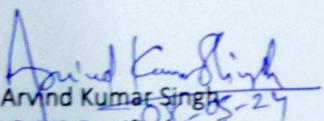
It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express or implied is made available and no responsibility and liability is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

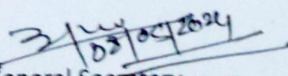
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Dr. Arvind Kumar Singh
BEE & BIS Certified Auditor
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General Secretary
Green India Mission
Patna (Bihar)

CONCEPT AND CONTEXT

Environment Protection Act, 1986 by the Ministry of Environment of forests on 13th march, 1992. As per this act, every person owning an industry or performing an operation or process needs a legal consent and must submit an environmental report or statement.

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the sustainable environment.

In view of the NAAC circular regarding environment auditing, the College management decided to conduct an external environment assessment study by a competent external professional auditor.

The term 'Environmental audit' means differently to different people. Terms like 'assessment', 'survey' and 'review' are also used to describe similar activities. Furthermore, some organizations believe that an 'environmental audit' addresses only environmental matters, whereas others use the term to mean an audit of health, safety and environment-related matters. Although there is no universal definition of Environment Audit, many leading companies/institutions follow the basic philosophy and approach summarized by the broad definition adopted by the International Chambers of Commerce (ICC) in its publication of Environmental Auditing (1989).

The ICC defines Environmental Auditing as:

"A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects."

This audit focuses on the environment legal compliances and implementation of rules defined by MOEFCC or state pollution control board. The concepts, structure, objectives, methodology, tools of analysis, and objectives of the audit are discussed below.



INTRODUCTION

Nature is God gifted precious gift for all of us. Disturbance in the nature causes environmental Problems. These are increasing day by day as a result of development of urbanization and industrialization on earth. Because of unplanned utilization of resources, our planet is facing tremendous pressure results a sharp rise in temperature. Therefore, there is an urgent need to plan the consumption of the resources in sustainable manner in order to conserve natural resources for future generation.

Sustainable development is becoming popular in the world for saving the earth. Utilizing resources in judicially can save the earth's precious resources. Measurement of environmental components is the most effective step to conserve and protect natural resources.

Environmental auditing had begun in the early 1970s with provision of civil lawsuits for non-compliance with environmental regulations. Environment auditing involves on site visit, collection of samples, performing analyses, and report results to competent authorities.

Industry, the corporate world is initiating auditing for saving natural resources. Academic institutions also can contribute to the preservation and conservation of resources within their premises.

In this "Environment Audit" report would help everyone to think about preserving resources, show willingness to learn their importance, adopt steps to minimize resource use and set an example for others to follow the path of eco-friendly practices to achieve the goal of sustainable development. Effective implementation of environmental auditing helps in minimization of environmental risks at low cost.



OVERVIEW OF THE COLLEGE

The Institution is a constituent unit of Munger University, Munger, Bihar. It was established in the year 1958. The college possesses a campus of 2.425 acre and bulid up area 3810.67 sq.mts. with a student strength of 1501 and 16 strong core faculty members along with visiting / guest faculties.



As an institution of learning it has a commanding presence both in the University as well as in the capital of the state while maintaining its exemplary record in University examinations.



MISSION

- The college aims to foster intellectual curiosity and the pursuit of knowledge within an atmosphere of academic freedom.
- This mission is deeply imbued in the institution's daily activities, encouraging students to interact freely with faculty members and seek their counsel as needed.

VISION

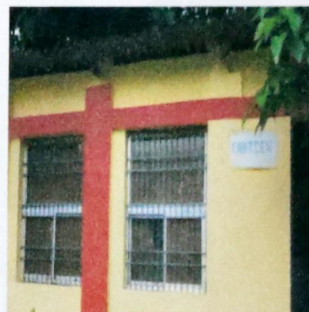
- The vision of the college is to shape young minds with a spirit of creativity, tolerance, and scientific temper.
- This vision is aimed at equipping students to cope with the changing needs of society and the economy.
- Post-independence, the institution was driven by noble thinkers who sought to uplift the ecological and educational standards of the Barhiya village and its surrounding areas.
- The visionary efforts of late Gopeshwar Pd. Singh, a freedom fighter and landlord of the region, were crucial in establishing this co-educational institution.
- His goal was to associate the vast rural population with the power of knowledge, contributing to the literacy and development of the nation



Classroom



Laboratory



Canteen



AUDIT PARTICIPANTS

On behalf of college

Name	Designation
Dr. Ashutosh Kumar	Principal <i>Ashutosh Kumar 03.05.2024</i>
Dr. Ramesh Kumar	IQAC Coordinator <i>Ramesh Kumar 08.05.24</i>
Dr. Abhimanyu Kumar	Audit Coordinator <i>Abhimanyu Kumar 08.05.2024</i>
Dr. Anandi Kumar	Member <i>Anandi Kumar 08.05.2024</i>
Dr. Murlidhar Prasad Singh	Member <i>M. 08.05.24</i>
Dr. Pramod Yadav	Member <i>Pramod Yadav 08.05.2024</i>
Mr. Chunnu Kumar	Member <i>Chunnu Kumar</i>

On behalf of GREEN INDIA MISSION

Name	Position	Qualifications
Dr. Arvind Kumar Singh	BEE & BIS Certified Auditor	Ph.D., MSc. (Environment & Management)
Dr. Mirza H. Abbas	Co-Auditor	M.Sc. (Physics), Field Expert

EXECUTIVE SUMMARY

The environment assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes out-dated unless there is some mechanism in place to continue the effort of monitoring environmental compliance. Our approach to promote a Green Campus to inculcate the sustainable value systems among the students, so that they carry the learning and practices them in their future endeavours. This will ensure that Sustainability and Environmental practices get embedded in all the institutions and organizations in the country.

A Green Campus is a place where environmentally friendly practices and education combine to promote sustainability in the campus which ultimately offers an institution the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind.



This is first environment audit of the institution for doing their bit towards environmental protection and environmental awareness at local and global front. Audit criterion is environmental cognizance, waste minimization and management, biodiversity conservation, water conservation, energy conservation and environmental legislative compliance by the campus. A questionnaire is used during audit. This audit report contains observations and recommendations for improvement of environmental consciousness.



WASTE MANAGEMENT

TYPES OF WASTE ON COLLEGE CAMPUS

To create effective waste management plans, College first need to know the types of waste they produce. Below, we have compiled a list of various kinds of waste commonly generated on institutional campus:

1. **Food Waste** - College campus generates food waste. The average mess and canteen generates approximately 5 kg of food waste a day. The reasons for food waste on an educational campus may be over purchasing food to ensure a sufficient supply and then throwing it away, especially in canteen/cafeteria where plentiful stores are essential. And in the cafeteria, students may pile food on to their ample trays, find it unappealing once they sit down and dutifully scrape it into the garbage. Immediate attention is given to the food waste minimization techniques.
2. **Recyclable Paper, Cardboard, Plastic, Glass and Cans** -Campus tends to produce vast quantities of these recyclables. Even in the digital age, many students, professors and staff members still prefer handwritten notes and end up with piles of unwanted paper once their courses and projects are complete. The snacks so essential for socializing tend to come in recyclable plastic, glass or aluminum containers. And shipments of necessary items throughout the year are likely to arrive in recyclable plastic and cardboard packaging. The same is sold/auctioned to the scrap vendors time to time.
3. **Student Clothes and House wares**- As we have mentioned above, many students find it more convenient to throw away their clothes and dorm furnishings at the end of the year than donate or recycle them.
4. **E-Waste-Student and facility electronics often form a large portion of a campus's waste**
— As campus continually upgrade their computing facilities and office computer stoke pup with the latest technology, the old computers have to go somewhere. Same is the case with old printers, phones, copy machines and other electronics that receive upgrades over the years. Discarded student electronics often become part of a College's waste stream as well. Students may throw away old phones, TVs, tablets, laptops and printers, along with cords and other accessories. Recycling is a much more eco-friendly option — the metals in old electronics often have a high reuse value. College has tie-up with external authorized agency details mentioned in legislation compliances.
5. **Maintenance Waste**- In the maintenance department, spent paints, solvents, adhesives and lubricants all form potentially hazardous waste. Because they are difficult to recycle, spent incandescent light bulbs usually become landfill waste. Spent fluorescent light bulbs, which contain small amounts of mercury, typically require special handling because of the environmental and health risks they pose.

6. **Furniture** - Furniture waste on a college campus has a couple different sources. The campus itself may also get rid of old furniture as it modernizes its classrooms, cafeterias, computer labs and study spaces. Annually sold to junk dealer.
7. **Books/Magazines/Newspapers** - Books accounted for solid waste generation and College often generate tons of textbook waste. As courses upgrade to new editions, they may end up throwing their newly obsolete textbooks into the garbage if donation programs cannot use them. Students of the College donate their text books and notes to junior students, or else are auctioned to reseller.
8. **C & D Waste** - Expansion of college campus building and renovation works result significant amount of construction and demolition waste that should be either used for back filling or disposed off through authorized dumping site by CPCB/SPCB.
9. **Solid Waste** - The College is managing solid waste by providing it to the Municipal Corporation.

ENERGY CONSERVATION

1. List ten ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.

- Using Energy efficient appliances
- Switching off the electrical equipment when not in use
- Use of Air conditioners at optimum temperatures as per the utilization schedule
- LED lights installed

2. Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some

Yes, B. N. M. College institution has adopted energy saving techniques

- LEDs installed
- Use of Air conditioners at optimum temperatures

3. How many % CFL/LED bulbs has your institute installed?

Institution has replaced almost 99% of the conventional bulbs and tube lights with LED Lights.

4. Do you run "switch off" drills at institute?

Yes

5. Are your computers and other equipment's put on power-saving mode?

Yes, institution put the equipment on power saving mode

WATER AND WASTE-WATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

Drinking— 22.43KL/month

Gardening—5.0KL/month

Kitchen and Toilets —29.44KL/month

Others — 40.02KL/month

Total = 96.89KL/Month

Note: Water calculations are carried out on basis of National Building Code 2016

2. How does your institute store water? Are there any water saving techniques followed in your institute?

Institution stores water in terrace tanks.

Saving Techniques

Avoid overflow of water-controlled valves are provided in water supply system.

Close supervision for water supply system.

Rain water harvesting pits are there for ground water recharge.

3. Locate the point of entry of water and point of exit of waste water in your institute.(Entry and Exit)

Entry- Water comes from Municipal Corporation, Borewell and Rain water Harvesting.

Exit- From Canteen, Toilets, and bathrooms through covered drainage which is connected to sewage line and Soak pit.



AIR QUALITY MANAGEMENT

1. Are the Rooms in Campus Well Ventilated?

Yes, as per National Building Code, guidelines

2. Window Floor ratio of the Rooms?

Very Good, ample daylight utilization because of big windows.

3. What is the ownership of the vehicles used by your campus?

Institution have no own Vehicles.

4. Provide details of college-owned vehicles?

Details of college-owned vehicles	Buses	Cars	Vans	Other	Total
No. of vehicles	0	0	0	0	0

5. PUC done?

NA

6. Specify the type of fuel used by your campus's vehicles

NA

8. Air Quality Monitoring Program (If, Any)

No monitoring is being done



ENVIRONMENT LEGISLATIVE COMPLIANCE

1. Are you aware of any environmental Laws Pertaining to different aspects of environmental management?

Yes

2. Does your institute have any rules to protect the environment? List possible Rules you could include.

Yes, the NSS cell of institution is conscious of the environmental protection and takes proper measures in terms of awareness campaigns, activities, etc.

3. Does Environmental Ambient Air Quality Monitoring conducted by the Institute?

No

4. Does Environmental Water and Waste water Quality monitoring conducted by the Institute?

No

5. Does stack monitoring of DG sets conducted by the Institute?

No

6. Is any warning notice, letter issued by state government bodies?

No

7. Does any Hazardous waste generate by the Institute?

Yes, computer scrap is generated by the Institute



GENERAL INFORMATION

1. Does your institute have any rules to protect the environment? List possible rules you could include.

Yes, Institution's eco club carries out various programs for environment protection periodically on the campus.

2. Are students and faculties aware of environmental cleanliness ways? If Yes Explain

Yes, college organizes various activities for environment cleanliness

- *Reduce carbon footprints by opting energy saving methods and using public commutes.*
- *Recycling of waste products*
- *Avoid single use plastic*
- *Less use of paper*

3. Does Important Days Like World Environment Day, Earth Day, and Ozone Day etc. eminent in Campus?

Yes, World Environment Day and more are celebrated by campus. Furthermore, Institution organizes different activities like Donation drive, cleanliness drive, awareness on Namami Gange project, plantation drive and many more.

4. Does Institute participate in National and Local Environmental Protection Movement?

No

5. Does Institute have any Recognition or certification for environment friendliness?

Yes

6. Does Institution conduct a green or environmental audit of its campus?

Yes, this is third time environmental audit carried out by the Institution.

BEST PRACTICES



- There is ban on single use plastic and plastic crockery in the campus.
- Institution has a separate storeroom for the safe storage of electronic waste. After a certain interval of time college disposes of the E-waste to concerned agencies through the auction process.
- Institution has two types of containers for disposing the waste material – (i) Green Color for Wet organic waste material, (ii) Blue Color for dry waste material.
- Installation of rain water harvesting systems in campus buildings.
- Students are involved in 'Best out of waste projects' such as paper-bag making, cardboard dustbin making etc. for recycling of waste materials. Old newspapers, magazines, answer books etc. are periodically sold to recycling agents.
- Vermi-compost pits present in the Herbal Garden that effectively uses organic plant waste to produce manure that is then used in the college gardens.

The Institution is actively engaged in coordinating cleanliness activities within and beyond the campus, aligning with the vision of the Swachh Bharat Abhiyan. This includes raising awareness about cleanliness and hygiene through regular drives, rallies, and the active participation of students and staff in cleanliness efforts.



RECOMMENDATIONS

- Institution should run Conservation awareness campaigns like online sessions and webinars for students and staff.
- Institution should get permission from Govt agency for existing bore wells.
- Provide sanitary waste disposal facility as per the CPCB guidelines for management of sanitary waste (as per Solid Waste Management Rules, 2016). Installation of Incinerator is recommended in campus
- Green building guidelines with ECBC compliance should be adopted for future expansion projects of the College.
- Environmental Monitoring i.e. (Ambient Air Quality monitoring, Stack Monitoring of DG sets, Water monitoring need to be conducted by State Pollution Control Committee, approved laboratory) should be conducted periodically.
- Agreement with third party authorised vendors should be done for different types of waste management, such as paper recycling, e-waste, BMW, Plastic waste, etc.
- Eco-friendly parameters should be included in the purchase of articles and goods for the campus.



CONCLUSION

This audit involved extensive consultation with all the campus team, interactions with key personnel on a wide range of issues related to Environmental aspects. Institution has an eco-club for sustainable use of resources.

The audit has identified some observations for making the campus premise more environmental friendly. The recommendations are also mentioned with observations for the college campus team to initiate actions. The audit team opines that the overall site is well maintained from an environmental perspective.

Few things that are important to initiate urgently are waste management plan and agreement with third party authorized vendors for waste management.

REFERENCES

- The Environment [Protection] Act–1986 (Amended1991) & Rules-1986 (Amended2010)
- The Petroleum Act:1934– The Petroleum Rules: 2002
- The Central Motor Vehicle Act: 1988 (Amended2011) and The Central Motor Vehicle Rules: 1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control of Pollution] Act –1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control of Pollution] Act –1981 (Amended1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules–2016 (Replaces the Gas Cylinder Rules–1981
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code Practices



ANNEXURE I – PHOTOGRAPHS



Eco-Friendly Campus



Dustbins



Eco-Friendly Campus



Generator 1



Generator 2



Rain Water Harvesting

*****END OF THE REPORT*****