

THE GREEN AUDIT REPORT



MUGBERIA GANGADHAR MAHAVIDYALAYA

Academic session 2018-19



ACKNOWLEDGEMENT

The green audit conducted by the Mugberia Gangadhar Mahavidyalaya is an internal audit that aims towards looking after a healthy environment. The audit aims at environmental sustainability, eco friendly campus and reducing carbon footprints.

Sincere thanks to all for providing us necessary amenities and co-operation during the audit that helped in making the audit, a success.

THE AUDIT TEAM

| | | |
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| 2. | Dr. Bidhan Samanta | HOD Chemistry, Coordinator research cell |
| 3. | Dr. Goutam Barman | Assistant Professor, Bengali |
| 4. | Koushik Mondal | Faculty, Zoology, Member of waste management cell |
| 5. | Irani Banerji Chatterjee | HOD Geography, Coordinator Green Campus |
| 6. | Kingshuk Karan | HOD Education |
| 7. | Manas Khalua | HOD Botany |
| 8. | Sougata Bera | Clerk and Secretary, Non Teaching Staff |
| 9. | Sourav Sen | General Secretary, Students Union |

Audit Key Steps

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| Planning completed | August 2018 |
| Field work completed | January 2019 |
| Draft report completed and sent for management response | March 2019 |
| Management response received | April 2019 |
| Final report completed | July 2019 |
| Report presented to the Management | August 2019 |

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EXECUTIVE SUMMERY

In accordance with the Green Campus Evaluation Plan, as suggested by the Internal Quality Assessment Cell (IQAC) of the college, Mugberia Gangadhar Mahavidyalaya planned for conducting a green audit of the college in August, 2017. After the field work and other formalities, the report was finally send for approval to the authority (principal and IQAC) in August 2018.

Following the prior Green Audit assessment, the management focused at the internal audit system and in the following academic session, 2018-19, another internal audit was prepared, that was finally sent for approval in 2019, August.

The previous audit report (2017-18) was aimed at healthy and environment friendly campus. The present audit, however, along with the previous year criteria, went ahead with the purpose of incorporating sustainable practices inside the campus. With this in mind, the specific objectives of the audit were not only to evaluate the degree to which the Departments are in compliance with the applicable regulations, policies and standards and to ensure that the development of the college aims, but also to foster practices that the campus observes.

The methodology used included physical inspection of the campus and review of the relevant documentation.

STATEMENT OF ASSURANCE

This audit is been conducted for the second time in the college. The audit procedure tried to meet the terms of International Standards of Internal Auditing.

In our decision, sufficient and appropriate audit procedures were completed and evidence gathered to support the precision 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.

SUMMARY OF FINDINGS

The main findings of the audit show that, in general, all the departments and students are aware about the need for environmental protection at a general level, though however, some practices will be more efficient in maintaining sustainability inside the campus. It was also observed that a number of best practices such as maintaining garden, planting trees in the campus, vermicompost to ensure a proper waste management technique, etc. are followed in the campus.

Also, on detailed review, it was observed that, the practices followed in the previous year inside the campus requires further nurture. In addition, certain processes could benefit from further review in order to improve their efficiency, fairness and consistency.

Being a rural college, Mugberia Gangadhar Mahavidyalaya, has the benefit of having a well managed lush green campus. However, a more meticulous management of the campus can bring about sustainable practices in the college. The present report seeks to investigate the effort essentials with proper management techniques.

OBJECTIVE AND SCOPE

Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside (not in our purview) the college campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Later on, it is implemented as a measure to enhance a healthy environment to almost all the organizations. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit. Green audit is assigned to the criteria 7 of NAAC, National Assessment and Accreditation Council which is a self governing organization of India which declares the institutions as Grade A, B or C according to the scores assigned during the accreditation.

The present Audit is conducted in view of assessing all necessary environmental components of Mugberia Gangadhar Mahavidyalaya.

ABOUT THE COLLEGE

Mugberia Gangadhar Mahavidyalaya was established on 2nd of July, 1964 as a co-education college by a society of the same name in a village in Contai Subdivision of Purba Medinipur District (Erstwhile Midnapore District) after the name of Medinipur pride- Late Raisaheb Gangadhar Nanda - a great lover and patron of education. The college is situated in a culturally rich locale, and it is the only college in the vast area of Bhagwanpur-II block. It was founded with the help of the donations collected from the local people with the aim to serve the poor inhabitants of the area who were unable to send their wards to distant places for higher education. Gradually the college gained eminence, not only from Mugberia but also from faraway places.

Mugberia Gangadhar Mahavidyalaya, Bhupatinagar, Purba Medinipur, is a NAAC (B Grade) and 50 years old college having four streams- Arts, Commerce, Science and Physical Education. The college also has a Hotel Management discourse. This is a government aided UGC-approved and NCTE recognized college affiliated by the Vidyasagar University. The college is situated on a beautiful campus of 4.59 acres inside and 1.2 acres outside the college. The college building is located in a rural backdrop amidst lush green surroundings. The college has 7 academic buildings and 3 hostel buildings. The college has an intention to adopt the 'Green Campus' system for environmental conservation and sustainability. The goal is to reduce CO₂ emission, energy and water usage, while creating an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The 'Green Campus' has been a very new concept adopted by this college. The college administration is still working on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, carbon footprints and Alternative Energy.

| | ATTRIBUTES | VARIABLES |
|-----------------|---------------------|------------------|
| COLLEGE AREA | CAMPUS AREA | 4acre 59 decimal |
| | BUILT UP AREA | 2acre 37 decimal |
| POPULATION | STUDENTS | 2339 |
| | TEACHERS | 104 |
| | NON TEACHING STAFFS | 37 |

AUDIT GOALS OF THE COLLEGE

The college, with the advice of the Internal Quality Assessment Cell (IQAC) has set up an environmental quality assessment body (GREEN CAMPUS) that aimed at performing the green audit of the institution. The main objectives of the audit are:

- More efficient resource management
- To provide basis for improved sustainability
- To create a green campus
- To enable waste management through reduction of waste generation, solid- waste and water recycling
- Recognize the cost saving methods through waste minimizing and managing
- Point out the prevailing and forthcoming complications
- Impart environmental education through systematic environmental management approach and Benchmarking for environmental protection
- Financial savings through a reduction in resource use
- Enhancement of college profile

METHODOLOGY

The Green Audit taken up by the Mugberia Gangadhar Mahavidyalaya had been divided into three stages:

The Pre Audit Stage:

In the pre-audit stage, meetings provide an opportunity to support the capacity and objectives of the audit and enable discussions on the feasibility associated with the audit. The meeting provides the first opportunity to meet the audit and deal with several practical knowledge and concerns. The meeting provided the chance to gather information that the audit team can study before arriving on the site. The audit procedure and audit plan was handed over at this meeting and discussed in advance of the audit itself. In Mugberia Gangadhar Mahavidyalaya, the planning of audit processes was discussed in the pre-audit meeting. Audit team was also selected in this meeting with the help of staff and the college management. The audit protocol and audit plan were handed over at this meeting and discussed in advance of the audit itself.

The Management of the college has shown the commitment towards the green auditing during the pre-audit meeting. They were ready to encourage all green activities. It was decided to promote all activities that are environment friendly such as awareness programs on the environment, campus farming, planting more trees on the campus, etc., after the green auditing. The management of the college was willing to formulate policies based on green auditing report

The Audit Stage:

The Audit Stage encompasses of the team selection and the field works performed. Looking after the unique structure, location and ambiance of the college, the Green Audit Team focused on Material Issues pertaining to college which have the highest influence on the Green Attributes of the College. The Audit stage also focused on the Methodology adopted. Checklist approach is adopted for transparent evaluation of the topics and increase readability for independent reader.

The Post Audit Stage:

The post-audit stage ensures formulation of Draft findings and sent to management response. Since the audit is done internally, it was important to ensure management approval for the draft. After getting draft approval, the audit team went for final report formulation.

AUDIT FRAMEWORK AND DETAILED FINDINGS

The following audit framework is used for conducting Green Audit in 2017-18. The framework also lists the findings and observations for every criterion.

| Control objective | Control(s) | Audit Observation |
|----------------------|---|---|
| WATER MANAGEMENT | Repair sources of water leakage, such as dripping taps. | Regular checking and maintenance of pipelines are done to control water wastage. |
| | Minimize wastage of water and use of electricity during water filtration process, if used, such as Aquaguard filter. | Yes, the college has aquaguard filters installed in all departments. |
| | Use an efficient and hygienic water storage mechanism to minimize the loss of water during storage | The college has three (03) tube wells and a pond to ensure emergency water use other than the pump. |
| | Encourage to decrease excess water usage. | Though water is used nominal in the college, but to ensure a further minimal rate, placards and warnings are set up in the college premise. |
| | Install water recycling mechanism. | No such mechanism is adopted. |
| ENERGY MANAGEMENT | Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity | The college does not have any choice other than WBSEB for electric supply. The college also has 3 ecofriendly generators for the supply of emergency electricity to save our ecosystem. |
| | Look in to the possibility of on-site micro-generation of renewable electricity. | The college is planning for introduction of 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 LED lights as much as practicable. |

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| | 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 | Yes, the college has put several posters and reminder notes in classrooms and other relevant places to turn off electric appliances when not in use. |
| | Monitor and understand the importance of different sources of college energy consumption. | The college tries to put the main switch off when there is no need of electricity. |
| | Ensures that all electronic and electrical equipments, such as computers, are switched off when not in use and is generally configured in power saving mode when such option is available | It is practiced. |
| GREEN CAMPUS | Establish a Garden in the campus | College already has a well maintained garden. |
| | Encourage the faculties and students to plant trees in the garden. | The college celebrates “Bana Mahotsab”, an annual tree plantation program in the campus where students and teachers plant trees in the campus. |
| | Minimize the use of fertilizers and pesticides in college grounds, opting for the use of vermin compost produced on site wherever possible | Moderate amounts of bio-fertilizers are used in the college. |
| | Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e. are biodegradable and non-toxic | Negligible amounts of washing liquids are used in the college and all the toilet cleaners are eco-friendly. |
| | Dispose the chemical waste generated from the laboratories in a scientific manner | Non toxic chemicals are included in Vidyasagar University practical curriculum. Most of the waste generated is water-soluble and ultimately disposed through normal sewage system, diluted largely so biomagnifications is negligent. |
| WASTE MANAGEMENT | Make full use of all recycling facilities provided by Gram Panchayat and private suppliers, including glass, cans, white coloured and brown paper, batteries, print cartridges, cardboard and furniture. | No, the college doesnot have any such recycling device to carry on the procedure. |
| | Compost, or cause to be composted, all organic | The college has set up a vermi |

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| | waste, green waste and non-recycled collected from kitchens, gardens, offices and rooms. | compost plant that ensures proper treatment of all organic wastes. |
| | Recycle or safely dispose of dry wastes, computers and electrical appliances. | All dry wastes (paper, metal, glass, other dry waste, e-waste, etc.) are separated in different bins in the college and resell to the local vendor |
| | Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated | The college has set up separate bins to ensure proper segregation and collection of the various wastes. The responsibility of recyclable waste is however still not taken up the college. |
| | Make specific arrangements for events, such as community events, seminars and conferences in order to both arise consciousness among students and others and also to minimize the waste produced and maximize what is recycled/reused | The college organized several seminar and community program by the departments to ensure both consciousness and awareness among students and community members. |
| | Dispose all waste, whether solid or otherwise, in a scientific manner and ensure that it is not released directly to the environment | Yes, the college disposes all wastes, whether solid or otherwise, in a scientific manner and ensure that it is not released directly to the environment. |
| | To recycle and reuse of kitchen wastes (from canteen and hostels) and garden waste | Kitchen wastes and garden wastes commonly are recycled to form nutrient rich quality organic manure for agricultural purpose. |
| CARBON FOOTPRINT | Ensure use of eco friendly transport option | About 90% of the students and teaching and non teaching staffs of the college use bicycle as the main mode of transport. The college also encourages transport by bicycle to students. |
| | Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service | UGC projects on sustainable development/ natural resources. Compulsory ENVIS paper of 100 marks in the University Syllabus for all the students of all streams to develop Environmental Awareness (70 MCQ + 30 Project). |
| | Reduce the rate at which the College contributes to | College does not directly or indirectly |

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| | the depletion and degradation of natural resources | participate in depletion and degradation of natural resources. |
| | Create awareness of environmental sustainability and takes actions to ensure environmental sustainability. | Seminars and awareness programmes are conducted periodically on nature and natural resources. |
| | 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. | New constructions are in compliance with green standard. |
| | Conduct environmental awareness posters and seminars as a part of the programme. | Yes, the college places several posters and placards in the campus to ensure that environmental awareness is conducted. Also, seminars are organized on environmental theme in the college. |

RECOMMENDATIONS

| Criteria | Recommendation |
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| Maximize the renewable flow energy to initiate healthy and continuous flow of energy | To set up solar panel in the college to ensure continuous renewable energy flow. |
| To channelize flow resource | To initiate rainwater harvesting by digging wells to accommodate rainwater flowing through the roof tops. |
| Maximize the proportion of waste that recycle & minimize the quantity of non-recyclable refuse | <ol style="list-style-type: none">1. Implement a mechanism to recycle plastic waste in a scientific manner.2. To implement measures to recycle dry wastes |
| Reduce energy consumption, especially of energy derived from fossil fuels | <p>All the areas of the campus should be under the preview of solar renewable power control.</p> <p>Also, switch off drills are to be set up in the campus to ensure all the electric devices to be in power off measure.</p> |
| Minimize the use of chemical pollutants | The chemical pollutants from the chemical laboratories are water soluble. So, it is recommended that this water is recycled properly. |

SOME VISUALS OF THE COLLEGE GREEN CAMPUS



Bon Mahostob to encourage planting trees



The dependency on bicycle shows less pollution

Distribution of plants to students



Students taking initiative to protect greenery in campus



Use of green generator to have less pollution.



The departmental garden

The water tap for students use



The waterbody that not only adds to the green campus, but also provides a good ecosystem inside the campus