

Green Audit Report for 2019-2020

**MURALIDHAR GIRLS' COLLEGE**

Affiliated to Calcutta University (Re-Accredited by NAAC Grade B++)

P-411/14, Gariahat Road, Ballygunge, Kolkata-700019



Attested

*[Signature]*  
Principal

Muralidhar Girls' College

## ACKNOWLEDGEMENT

We would like to express a deep sense of gratitude to the authorities of Muralidhar Girls' College, P-411/14, Gariahat Road, Ballygunge, Kolkata-700029 for giving us opportunity to carry out the Green Audit of the college campus. We also acknowledge with much appreciation the crucial role of faculty members and Principal of this college during the preparation of audit report.

The green audit aims to analyze environmental practices within Muralidhar Girls' College, West Bengal campus which will have an impact on the eco-friendly atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college environment. It was initiated with the motive of inspecting the effort within the institutions whose exercises can cause threat to the health of inhabitants and the environment. Through the green audit, a direction is provided as how to improve the structure of environment and there are several factors that have determined the growth of the green audit.

Muralidhar Girls' College, P-411/14, Gariahat Road, Ballygunge, Kolkata-700029 has assigned Global EHS Consultant, Kolkata to conduct green audit as per the Criteria 7 of NAAC. Global EHS Consultant (GEHSC), Kolkata is the foremost provider of country-specific and industry-academic specific EHS (environment, health, and safety) regulatory analysis. GEHSC, Kolkata is a research and advisory firm with country experts and partners over outside India. GEHSC, Kolkata has delivered critical business and regulatory intelligence to corporate managers and decision-makers around India.

Dr. Susanta Podder (Grad IOSH, PhD, M. Tech, Lead Auditor of ISO 14001, ISO 45001, and ISO 9001) Chief advisor of Global EHS Consultant, Kolkata and Adjunct Associate Professor, Lincoln University, Malaysia along with Ms. Lopamudra Das (Associate Environmental Auditor) visited Muralidhar Girls' College campus on 26.08.2020 and carried out the assessment.

The aim of the Green Audit is to survey the existing environmental practices and to assess the significance of the features found to facilitate the development of Environment Action Plan (EAP) with clear, long-term objectives and the program for implementation.

The overall environment of the college campus is being safe guarded with various activities. The utilization of the renewable resources is being observed through rainwater harvesting unit, reuse of wastewater and green coverage across the college campus.

Waste Management is also effectively managed through safe disposal systems of wet and dry waste. Apart from the implementation of the above, the college management has also been very keen on involving students continuously in creating awareness through several activities.

*SPOD*  
26.08.2020

## Introduction

**Name** Muralidhar Girls' College

**Address** :P-411/14, Gariahat Road,Ballygunge,Kolkata-700029

**Mail Id** :

**Website** : [www.muralidhargirlscollege.ac.in](http://www.muralidhargirlscollege.ac.in)

**Phone Number** : +91 33 2464-1312/4371

**Latitude and Longitude** : 22°31'03.52" N & 88°21' 55.31" E

**Available area of the recreation facility (Green Canopy):** 255.488 square meters

**Population:**

Teaching and non-teaching staff : **117**

Students : **1686**

**Facilities**

a. Total built-up area around **1021.9526** square meters and the total constructed area is about **3134.5** square meters.

b. Numerous classrooms (**37**) and office rooms (**2**) are available for variety of the classes.

c. Adequate number of sanitary facilities (**17**) separate for male candidates and female candidates, staff-members, students are available.

d. Numerous staff-rooms (**3**), **One** auditorium, **One** conference room are available in the campus.

e. **One** library is available with lots of books, story books and popular magazines.

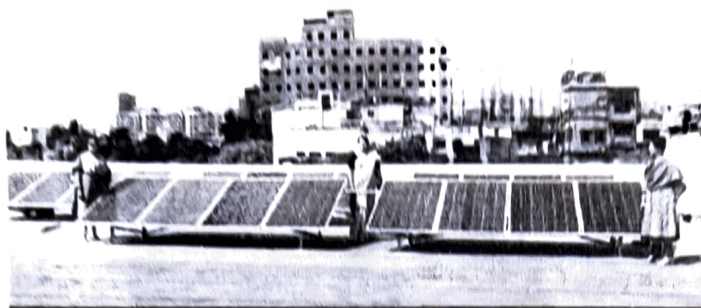
f. **Two** water-coolers of **500 L** capacity,**3** water purifiers and **3** overhead water tanks of **1500 L** each are available.

g. Solar panel of **5KWP** capacity and **2 LED** street lights are available in the campus.

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Muralidhar Girls' College Solar Panel - An Initiative to save Energy

h. 2000 L storage capacity of 2 rainwater harvesting system are available in the campus.



i. One bio-safety cabinet in microbiology lab is available within the campus.

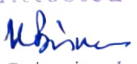
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j. The college campus area, including the canteen is regarded as "plastic free zone."

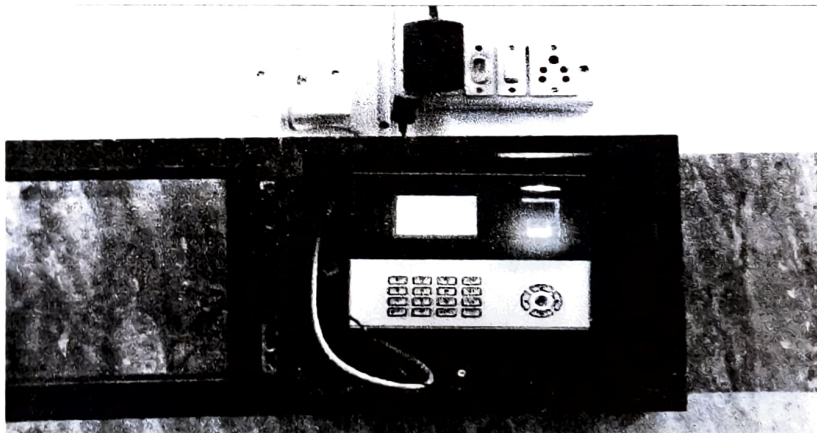


k. Two waste segregation bins are available in the campus for proper waste disposal.

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l. The college campus has installed **one** computerized staff attendance system i.e. biometric machine system.



m. The college has an electronic data processing (**EDP**) unit which provides curricular facilities to the students of the different departments.

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Muralidhar Girls' College, P-411/14, Gariahat Road, Ballygunge, Kolkata-700029, West Bengal shows its sensitivity towards the environment by establishing its environmental policy.

### The aims of the policy


The policy aims to eliminate or reduce all forms of environmental pollution and encourages all faculty members, staff, students and other stakeholders to do the same. The college always raises awareness of environmental issues among its staff/ students/ stakeholders, especially plastic pollution and encourages initiatives leading towards a clean environment. Its academic departments, NSS and NCC unit, Union Cell works towards this aim collectively.

The policy promotes the 3R's for waste in the following order: Reduce, Reuse and Recycle and provide convenient waste collection points and guidance for the disposal of ----

- a. Paper
- b. Cardboard
- c. Glass
- d. Plastic
- e. Electrical items and white goods
- f. Hazardous waste
- g. E-waste.

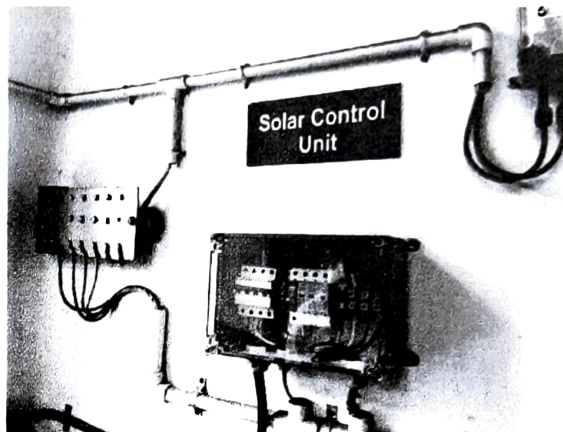
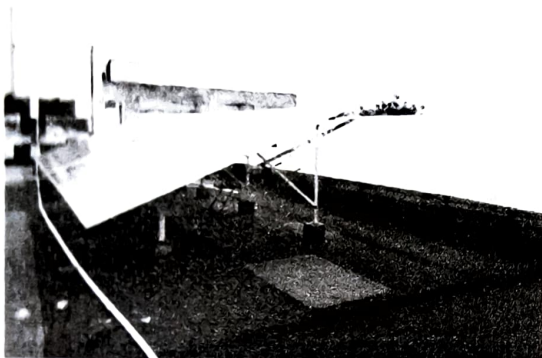
The college aims to minimize the consumption of water and electricity and mainly solid waste disposal and thereby contribute to the proper use of the natural resource by the following ways:

- a. Encourage reporting leaks and rectifying them promptly.
- b. Progressively replacing/supplementing water-taps in staffroom, washroom etc. if needed.
- c. Establishing rainwater harvesting schemes in the buildings of the campus.
- d. Progressive replacement of light bulbs with energy efficient ones.
- e. Encouraging staff, mainly students to turn off electrical appliances when not in use.
- f. Conserving energy by promoting the use of daylight.
- g. Conducting frequent preventive and corrective maintenance.

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a. The college adapts health, safety, and environment-based codes of practice and relevant guidance and complies with legislation.

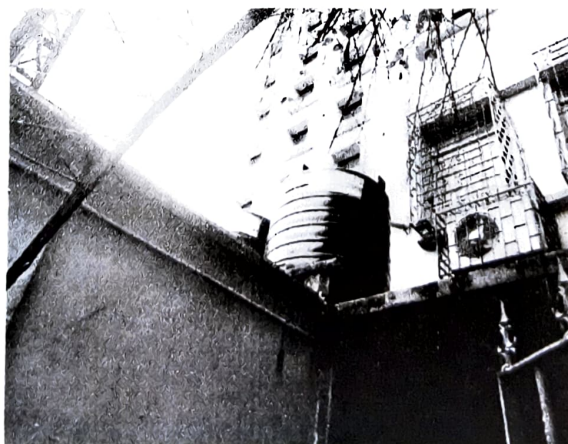
b. The college has planned for Solar panel systems on the campus.



c. The college campus maintained completely free from plastic bags and cups.

d. Waste bins are placed at appropriate sites to maintain a clean and tidy campus.

e. The college has adopted "Roof Top Rain Water "harvesting system to reuse and recycle water.



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Principal  
Muralidhar Girls' College



e. Green initiatives are taken by developing medicinal plantation through adequate plantation by the college(N.S., NCC Unit and the maintenance cell).



f. The arrangement to set off the fire causing environmental damage by setting the fire extinguishers at different places on the premises.



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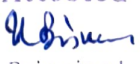
The audit is carried out for the activities at Muralidhar Girls' College, P-411/14, Gariahat Road, Ballygunge, Kolkata - 700029, West Bengal.



- a. Applicable guidelines of NAAC
- b. Applicable Environmental Legislation
- c. Best environmental practices

In line with the audit definition, the objective of the audit is to have systematic, periodic, planned evaluation against objective evidence and reporting the results to the management as per the focus of the audit. Green Audit focus on the environmental sustainability in terms of applicable environmental elements like Air, Water, Land, Flora, Fauna, Natural resources, and Human being. The very objective of this audit is to evaluate the institutes green performance based on the focus indicators as stated above in view of the goal towards environmental sustainability, applicable legislation, environmental policies and standards. The green audit objectives can be stated as follows.

- a. To review the knowledge and awareness concerns of the institute for the journey of sustainability.
- b. To review the efforts made to protect the environment by preventing pollution and conserving the natural resources being used in the campus.
- c. To establish a baseline data to assess future sustainability and avoid heavy environmental tolls.
- d. To bring out a status report on environmental compliance.
- e. To assess the environmental performance and report it to management/authorities.

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The scope of the audit is divided into various environmental areas like Land use, water, effluent, sewage, energy etc. Each such area is analyzed based on the evidence produced by the institute. The evidence is collected in form of discussions or interactions, documents and records, practical site conditions and photographs of it.

#### 6. Observations and Recommendations

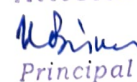
##### 6.1 Land Use

##### 6.1.1 Land Use Policy

Available land in the whole campus is with a limit of 255.488 square meters of which 61.5 ft by 8.5 ft occupies the garden area. 41 is the total number of plants in the garden area. Due to high crowds and shortage of enough space as the college is situated in residential area, it is very difficult to have proper green belt development for noise and pollution reduction within the campus. However, the college has few trees with large canopy cover like Mango, Bakul, Chhatim and Peepal which enhance green cover. In addition, Go Green Club of the college procures and maintains medicinal plants and some ornamentals pots for rich green effect. The garden area is devoid of any threatened plant species. Approximately, 500 litres of water is used in the garden area of the campus whose source is the rainwater harvesting tanks.

Medicinal plants should be planted in increase number for its value. Common species can be used for plantation since they are more suitable to the local environment and habitat, thus it will become a habitat of the native birds, animals and insects and will help in biodiversity conservation and reclamation. It can be treated as a structural biodiversity creation effort for achieving substantial positive results. Plantation of trees, shrubs and herbs in best possible way according to available space. Indoor plants like snake plant, money plant etc. should be placed at the corner of each corridor of the campus to reduce indoor air pollution and to enhance beautification also.

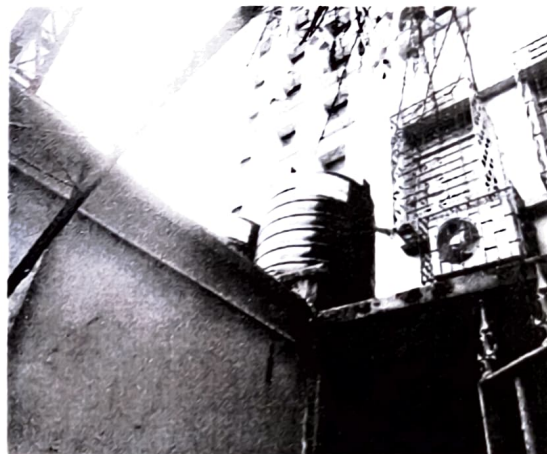
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The main source of water supply in the institute are three well built, overhead tanks of each 1500 L capacity i.e. 4500 litres in total. The water supplied from Kolkata Municipal Corporation is stored in underground reservoir for supply in the college campus. Institute has installed two rainwater harvesting system for about 2000 litres capacity. The drinking water of approximately 1000 liters/day is provided through water treatment facility and thereafter to the dispensers at various locations for the ease of access to the students and staff. The non-toxic water gets discharged into underground water. Total quantity of water pumped every day is around 2000 litres. 200 litres and 500 litres of water are used respectively from water-tap for human use and for garden use.



#### Recycling water

Specific efforts for conservation of fresh water through installing of push taps, auto water taps based on occupancy sensing mechanism. Periodic water audits can be planned and initiated in regular intervals

#### Energy

##### Conservation of water

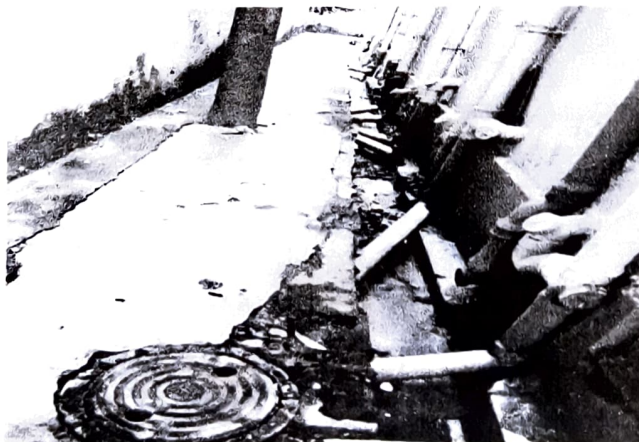
Major source of electricity in the college campus include electric stove, kettle, microwave, LPG cylinder at canteen, refrigerator, incubator, digital balance(2 in number), centrifuge, autoclave, spectrophotometer, pH meter, 2 LED bulbs of 10 units(9 watt each), 12 AC, 89 computers, 2 Xerox machines, 2 cooling apparatus, 250 ceiling fans and 17 wall fans etc. Machineries like computer, AC and printer are kept in stand by mode when not in use for only 2 hours. Annual electric bill come around 2 lakh 50 thousand. The college adapted some energy conservation methods such as installation of solar light (panel) of 5 KWP capacity to reduce impact of non-renewable energy on light and LED lights. The college runs switch off drills at the premise. One generator is available in the college campus.

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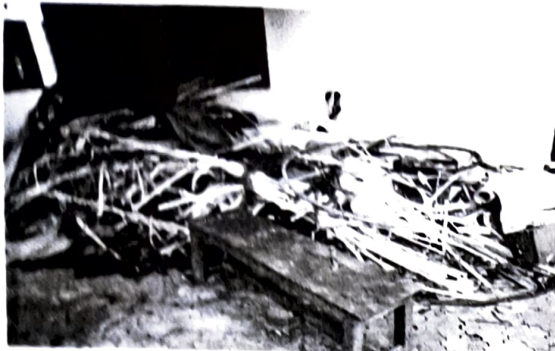
Periodic energy audits can be planned and initiated in regular intervals.

Sewage is generated by the use of water for sanitary (2000 litres/day) from 17 washrooms and canteen (200 litres/day) from 2 water taps. The sewage generated after the use is connected to the municipal sewer lines through the underground tanks and some get mixed with underground water table.



Specific water audit can be conducted to know the water inflow and out flow along with the losses, leakages, wastages etc. to plan actions for water conservation.

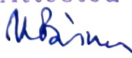
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Muralidhar Girls' College



Institute has started measuring GHG(Green House Gas) emission in terms of considering fuel consumption per students or staff of college. Carbon footprint is the total amount of Green House Gases (GHGs) emitted in terms of carbon dioxide by a person, institute. Carbon Footprint is typically given in tons of CO<sub>2</sub> equivalent per year. Maximum students use public transport system (50 in number), 15 cars by teachers, and 2 times parent-teachers' meeting held in a year. Annual carbon footprint of the college is near about 228105 (Co<sub>2</sub>) equivalents.

Good number of visitors visits the campus every year. Institute offer warm and green welcome to them and describes the green initiatives as a part of the induction to them on their visit. Institute has Go Green Club and NSS group which mainly take part in "**Biodiversity and its Conservation**" programme by UGC.

1. Field visit are organized for students and staff members for acquaintance with biodiversity.
2. Introduction of medicinal plants with students.
3. Encourage students to save and plant trees by poster presentation, quiz competition and drawing competition.
4. Nature tours are also conducted for the students.
  
5. Every year, tree plantation program is organized on World Environment Day.
6. Promote sapling plantation.
7. Regular environmental awareness campaign.
8. Monitoring the amount of water collected from rainwater harvesting and watching the use of this water by the gardener for watering plants.
9. Arrange exhibition and seminar, frequently.
10. Arrange class for fresher's students to make them aware about environment.
11. Distribution of saplings among students and staff members by NSS team to increase awareness and importance of plant kingdom.

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12. Green club and NSS team plant neem sapling (medicinal plant) at the front garden of the college.



The institute thrives hard and sincere efforts are taken towards conservation of environment. Starting with the environmental awareness programs and implementing the practical changes like solar panel installation to conserve energy and use of alternative energy resource. The institute has put effort in the water management system also by installing rainwater harvesting system in the campus. It is noteworthy that the college premise is kept free from plastic pollution within the premise. It shows commitment and responsibility towards the Mother Nature. Institute takes care of the students and staffs as well. The rooms are well ventilated, and premise has enough space and well-equipped.

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*K. B. Srinivas*  
Principal  
Muralidhar Girls' College

There are always opportunities for improvements which are noted in the different sections for making the activities robust. These would help in the journey of sustainable development which already have been started and reached at a remarkable height.

Attested  
*U. Srinivas*  
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