HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN

Dakshineswar Kolkata-35

Re-accredited with A+ grade by NAAC (3rd Cycle) on 2023

GREEN AUDIT REPORT 2022-23

Phone No: (033) 2564-5148 / 2544-2632
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Re-accredited by NAAC with A+ Grade (3rd Cycle) 2023
DAKSHINESWAR • KOLKATA - 700 035
E-mail : hmmcw35@gmail.com / Website : www.hmmcollege.ac.in

Ref. No. .....

Date .....

Date: 22nd April, 2024

AUDIT REPORT ON ENVIRONMENTAL AUDIT/ GREEN AUDIT/ ENERGY AUDIT

CERTIFICATE

This is to certify that the Green Audit was conducted by the Department of Environmental Science, Hiralal Mazumdar Memorial College for Women, Dakshineswar, Kolkata-35 in accordance with the applicable standards prescribed by the Central Pollution Control Board and Ministry of Environment and Climate Change, Govt. of India the audit has assessed the quality of water and soil in the campus along with fuel consumption, carbon footprint analysis, waste management, renewable energy resources, rainwater harvesting etc. of the concerned year of 2022-23 The data used in the study and photographs taken and provided are original in nature and have not been presented and published elsewhere; The Department and Green Club also requested to provide some suggestions which the institution can follow to improve on the environmental issues and reduce hazards and also ensures the ecofriendly environment.

20/4/24	22/4/24	22/04/2024
Dr. Sharmila De	**Dr. Sampa Datta Sarkar**	**Dr. Indrajit Biswas**
Principal	**Assoc. Professor, Dept of Botany**	**Asst. Prof. & Head**
P.N. Das College	**Sarojini Naidu College for Women**	**Dept. of Envs. Science**

Annexure -

LIST OF ALL ELECTRICAL APPLIANCES & ELECTRONICS OF ALL BLOCKS (A, B, C, D &E) OF COLLEGE CAMPUS 2022-23

SL. NO.	LIST OF ELECTRICAL APPLIANCES	IN USE
1.	Computers	79
2.	AC Machine	12
3.	Fan	312
4.	CCTVs	46
5.	Water Cooler Machine	2
6.	Refrigerators	3
7.	Printers	14
8.	Reprographic Machine	3
9.	Tube lights, LED, CFLs, Vapour lamps	585
10.	Water Pump	3

Co-ordinator
Internal Quality Assurance Cell (IQAC)
Niralal Mazumdar Memorial
for Women
Dakshineswar, Kolkata-700035

19.4.24
Member
Governing body
Niralal Mazumdar Memorial College
for Women
Dakshineswar, Kolkata 700 035

19/4/2024
Member
Governing body
Niralal Mazumdar Memorial College
for Women
Dakshineswar, Kolkata 700 035

Principal & Secretary
Niralal Mazumdar Memorial College
For Women
Dakshineswar, Kolkata-700 035

19/4/24
Principal
P.N. Das College
Sonamagar, Patla
Pin-721122

UNIVERSAL CERTIFICATION SERVICES PRIVATE LIMITED

CERTIFICATE

This is to Certify that the Management System of

HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN

JADUNATH SARVABHOUMA LANE, DAKSHINESWAR, KOLKATA-700035, INDIA

has been assessed and found to be in compliance with the requirements of the standard

ISO 9001: 2015

Quality Management System

This certificate is valid for the following products or service range

HMMCW IS AN INCLUSIVE ACADEMIC HUB THAT WELCOMES STUDENTS FROM ALL SORTS OF DIFFERENT BACKGROUNDS AND INTERESTS, A WEALTH OF DIFFERENT PERSPECTIVES AND SPECIAL TALENTS.

The Validity of Certificate is subject to regular surveillance audit on or before above mentioned dates and it's only valid after successful surveillance with continuation letter issued by UCSPL

Initial Date of Certification : 19/12/2022 Current Date of Certification : 19/12/2022

Date of Expiry : 18/12/2025

1st Surveillance Audit 18 December 2023

2nd Surveillance Audit 18 December 2024

Certification Number : UCS8022-23B10010

Authorised Signatory

KAB-QC-80

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ISO CERTIFICATE OF THE COLLEGE

Acknowledgement

We acknowledge our respected madam Dr. Soma Ghosh, Principal, H.M.M. College for Women, for her unwavering support and direction, by assigning the important work of Green Audit entrusted to us and also without which the project could not be finished.

We would also thank the entire Dept. of Environmental Science, Green Club and IQAC team for their unwavering support and participation. We additionally appreciate the contributions of additional staff members who actively participated in the data collection and students for field measurement procedures.

The Department & Club has been obliged and thankful to our external experts, with their knowledge and a guiding recommendation by leading us to betterment of management and usefulness of natural resources in near future.

We, sincerely thankful to our Expert Members'-

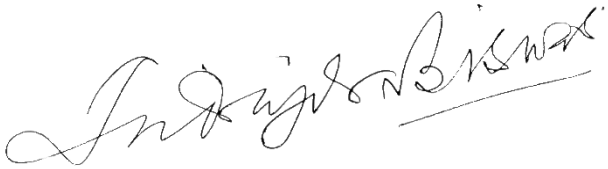
Prof. Sharmila De, Principal, P.N. Das College

Dr. Goutam Das, Associate Professor – Mrinalini Dutta Mahavidyalay and University Nominee of GB Member of HMMCW,

and

Dr. Sampa Dutta Sarkar, Associate Professor, Sarojini Naidu College for Women

On behalf of entire Green Club of HMMCW to dissipated their knowledge and suggestions on Green Audit Environmental Audit and Energy Audit.



Dr. Indrajit Biswas

Asst. Professor & Head, Dept. of Environmental Science
Convenor, Green Club- HMMCW

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Introduction

Humanity's future greatly rests on our ability to alter our way of life, decide to live in a way that consumes less resources than the planet uses, and go back on a path toward sustainable development as soon as possible. Scientists predict that the window of opportunity for returning nature to its long-term status of supporting living forms to thrive under its protective surroundings will only last until 2030.

During this period, coordinated and directed actions should begin with the willing participation of every citizen, wherever they may be. These actions should continue until a stage of balancing is reached, where mitigation efforts to heal the hurts already inflicted and moderate resource use balance favourably toward a sustainable nature.

An environmental audit, commonly referred to as a "green audit," is an assessment that aids in locating implementation gaps, environmental compliance and management system deficiencies, and associated corrective actions. A green audit is a helpful tool for figuring out where and how energy and water resources are being utilized the most, as well as the kind and amount of waste produced. Based on these findings, recommendations for how to make improvements and save costs can then be made. It can raise awareness of environmental issues, health issues, and morality and ethics. In general, it is essential for providing faculty, staff, and students with a deeper comprehension of the green impact on campus.

As a developing country, India grows and spread her wings in science and technology with a deep connection to nature and age-old natural practices with traditional knowledge, following the path and part of a better future with common goals, our country follows the SDGs and the convention signed and protected by her. So, as a part and a leader in sustainability, Green Audit become a part of assessment of quality in industrial sectors as well as academic institutions or local bodies, households, township or cityscapes. The journey had been started with a movement for Clean Air and Water at United States of America and as first Asian country India made mandatory for green audit in industrial sector in 2006 after participating in inspiring Rio Summit in 1992.

Green Audit is analogous to the resource management with proper sustainable plan. It’s also serves as key measurements and indicators for maintain and developing a green campus. It is also an awareness and awakening drive and procedure to faculties or students with anyone associated with areas related to the audit. Green audit categorizes itself and assess through - ENERGY, WATER, CARBON FOOTPRINT, BIODIVERSITY AUDITS WITH CAMPUS-WASTE MANAGEMENT INITIATIVES AND GREEN CAMPUS MANAGEMENT SYSTEM and lastly the role of students and stakeholders to proper resource management and sustainable development of campus.

Our college believe in academic excellence that go hand-in-hand with social & community development through eco-friendly and natural ways and responsibilities with enaction. The college has already started a Green Club and opened an Eco-Club along with students and staff enthusiasts to oversee the green campus management and future endeavours related to environmental issues and programmes.
The new plethora of achievements to our crown would be sincere conducting of Green Audit for us as well as any other institutions as we procured ISO Certificate in the year of 2023.

Importance of the Audit for an Academic Institution- The Context

Importance and the goal of Green Audit may be summarized into collective efforts to save and protect the economic, social and environmental preface and value of a quality assurance of an institution. A proper waste management and right sustainable ways to water, energy uses are crucial duty to practice and essential habit to develop by all with a guidance of academic institutions. Furthermore, ensuring that higher education institutions take steps to reduce their carbon footprint and thus help to mitigate global warming is part of their Corporate Social Responsibility. The term "green audit" refers to the methodical identification, measurement, documentation, reporting, and analysis of college environment components. It was started with the goal of examining the actions taken by the institutions whose operations might compromise the environment's and the people's health. The green audit can provide guidance on how to enhance the environment's structure and incorporate various elements that can conserve the environment. This audit focuses on the institution's implementation of the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management, and Carbon Footprint, among other things. Below is a discussion of the principles, organization, goals, analysis tools, methodology, and audit objectives.

Additionally, it can raise knowledge of health issues and advance environmental awareness as well as values and ideas. Staff and students have a deeper comprehension of the Green impact on the institution. Green auditing maintains cost savings by utilizing less resources. It provides a chance for educators and learners to grow in embracing responsibility for their own personal and social responsibilities.

The National Assessment and Accreditation Council (NAAC), an autonomous body in India, assigns Green Audit to Criterion 7. Based on the scores given at the time of accreditation, the NAAC grants institutional certification. All higher education institutions are required by NAAC to submit an annual Green Audit Report. Furthermore, it is the social responsibility of higher education institutions to make sure that they take steps to reduce their carbon footprint in order to help reduce global warming with green initiatives paved the way of cleaner and greener environment and a proper waste management to reduce pollution with awareness of water, energy uses.

"**Our biggest challenge in this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world's people.**"
Kofi Annan
UN Secretary General, March 2001

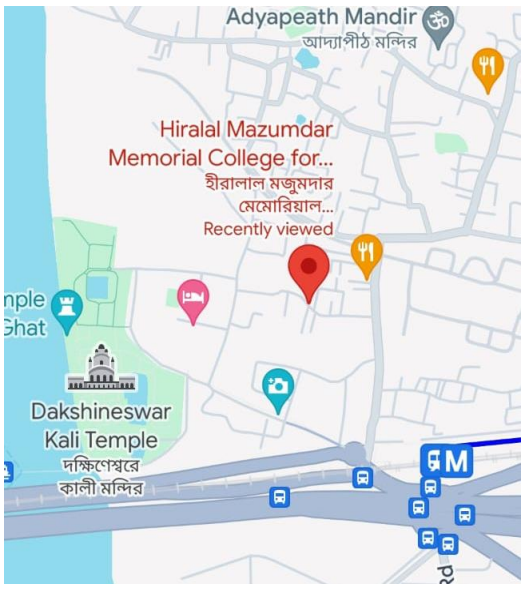
Study for the Green Audit

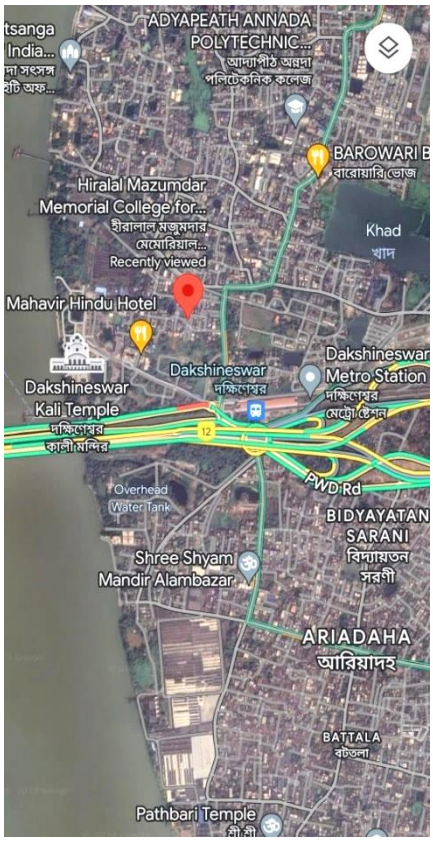
About the Institution:

The Hiralal Mazumdar Memorial College for Women (HMMCW), Dakshineswar was established in 1959 with the admirable goal of educating and empowering women of a semi-urban, religious centre that included the efforts of Harilal Bandyopadhyay, Atindra Nath Chakrabarty, Bijoy Bhushan Bandopahdyay, and Sailesh Chandra Biswas at the heart of Dakshineswar; Continuing around 41 years of progress under the Trust's guidance, the college finally proclaimed University of Calcutta Statute 93 in 2000, embracing democracy. After ten years, the college reopened in 2008 as West Bengal State University, a recently established university. The college currently offers an extensive assortment of programs and courses, with 27 departments offering honours in 18 subjects and 27 general courses. In addition, the institution offers 31 certificate courses, value-added courses, and add-on courses that are designed to enhance student prospects with a guidance, dedication and enthusiasm of more than 100 faculties, staffs, specialists and visiting professionals and resource persons.
It was accredited at C++ grade by NAAC in 2004 (1st Cycle), reaccredited at B++ grade by NAAC in 2016 (2nd Cycle) and reaccredited with A+ grade by NAAC in 2023 (3rd Cycle).

Location of the Institution:

H.M.M. College for women is situated under Kamarhaty Municipal at the Area of Dakshineswar- a holy pilgrimage site to the world, also located within a densely populated near Dunlop Bridge, Bally Bridge with a metro and rail connector (Dakshineswar) and small-scale industrial sectors.





LATITUDE: 22°65’ N & LONGITUDE: 88°36’ E

Executive Summary - Study Preface and period

All of the earlier mentioned processes are standardized by green audit, which also offers an effective method of using natural resources. It is vital to reevaluate the procedures and transform them into green and sustainable ones in the face of resource depletion and climate change. A method for it is provided by green audit. Additionally, it raises general understanding of environmental sustainability among those employed by the organization.

This is the college's second effort and also the first time for self-assessment or conducting the audit solely to ensure that NAAC requirements are met. The primary focus of this audit was on greening indicators, such as the campus's carbon footprint, waste management procedures, soil and water quality, vegetation, and power and fossil fuel consumption.

The study requires a week to conceptualize and analysis the given data by the authority, The study period was concluded at the month of September, 2023 and then proper suggestions were made by the experts of prestigious body and head of the institutions along with our own experts and faculties. Proper questionnaire has been prepared with personal studies and photographic documentation with discussion with the supervisor & convenor of Green Committee and the Principal of the institution.

Green Grass Cover with well ventilated Block B,C & D (the picture taken from the Open Air Stage front)

Green Audit – Result with Analysis

1.1 General Information

1.1.1 Green Auditing History-

This is the 2nd time with the 1st time for self-assessment by the college for academic session- 2022-23

1.1.2 Total Strength of the Institution-

- ✓ No. of Students- 1326
- ✓ No. of Faculties- 89
- ✓ No. of Non-teaching Staff- 25

1.1.3 Infrastructures –

- ✓ Laboratory- Available
- ✓ Toilets- Available
- ✓ Kitchen- Available
- ✓ Canteen- Available
- ✓ Garden area/ open space- Available
- ✓ Common room/ rest room- Available
- ✓ Auditorium/ Conference Room/ Seminar Hall- Available
- ✓ Hostel Facility- Available
- ✓ Health Check-up Centre- Available

1.1.4 Convenience or Facilities and natural resources near the Institution-

- ✓ Municipality Dump Yard- Not at the vicinity
- ✓ Garbage Heap- No Garbage heap
- ✓ Public Conveyances- Available: Railways, Metro-Railways, Ferry & Bus-roads
- ✓ Sewer Line- Secured
- ✓ Public Toilet - Not at the vicinity
- ✓ Stagnant water- No
- ✓ Industry- Paper Mill
- ✓ Market-Centre/shopping Complex- Available
- ✓ Waterbodies/Wetland- Adjacent to a Pond, the Ganges flows by 500 meter
- ✓ Forest patch- No patches present
- ✓ Vegetation – Semi- Evergreen, Dry deciduous
- ✓ Annual Rainfall- 1515.4mm/yr.

1.2 Waste Management

1.2.1 Generation of waste with Type/ Category -

- ✓ Solid, Liquid or Chemical, Bio & e-Waste
- ✓ Biodegradable waste- YES; Non-Biodegradable waste- YES;
- ✓ Radioactive waste-NO

1.2.2 Approximately-

1.2.3 Waste Management System Applied-

- ✓ Solid waste management- Bins Available at every floor of each building for both Biodegradable and Non-Biodegradable waste, maintained by authority and collected by municipality (contracted authority)
- ✓ Chemical Waste management- CHEMICAL TREATMENT-PIT located at the base of Block C &D and solutions are made more diluted when discarded & used after lab work done.
- ✓ Bio-waste management- Kitchen and Garden waste by the VERMICOMPOSTING and paper waste are reduced with two-sided printing and reuse of initially one side discarded papers for internal communications.
- ✓ E-Waste management – e-wastes managed also and collected by a management firm- In 2022-23- 75kgs in a year

1.2.4 Cleanliness Drive- YES, programmed in regularity and Posters put at corridors.

1.2.5 Waste Materials – Category & Quantity

Sl. No.	Category	Quantity (in kg.)
1	Non- Biodegradable- eg, iron, Windows, Lights etc.	16+25.2+61.8+13.8
2	Biodegradable- eg. Papers, Boards Newspaper etc.	119+90.3+182.8
3	e-Waste Materials- eg. Battery, Wire, damaged Electronics etc.	75
Total		**583.9**

1.3 Water Audit

1.3.1 List of Uses-

Drinking, Toilets, Gardening, Kitchens, Laboratories & others**.**

1.3.2 Water Storage System-

Sl. No.	Buildings/Blocks	Storage Capacity	Daily Usages (Approx.)
1.	**A Block**	**1000L**	**1000L**
2.	**B&C Block**	**1000L(2), 500L(2)**	**6000L**
3.	**D Block**	**500L**	**500L**

1.3.3 Water saving Techniques and initiatives -

- ✓ Initiatives with water save campaign and graffiti on wall and daily monitoring.
- ✓ Close supervision to avoid overflow of tanks.
- ✓ Water collected from rain water harvesting system used in gardening & urinals.
- ✓ Close the tap after use and Water Conservation Awareness by NSS and Eco-Club

1.3.4 Water-less Toilet- Not present yet

1.3.5 Rain-Water Harvesting System- **Present, Two**

- ✓ Systems Installed at Block-A And Block- B&C
- ✓ Capacity- 2000L in total
- ✓ Yearly Capacity for harvesting-
- ✓ Annual Avg. Rainfall X Area of Rooftop of Block-A, B&C
  1515.4 mm/yr. X 254 sqm. = 0.385 Lt.
  1515.4mm/yr. X 1002 sqm = 1.52 Lt.

1.3.6 Water supply source and sink – From Municipal pipelines and released after-use at Toilet, Drinking, Canteen, gardening, lab. With subsequent drainage at sewers.

1.3.7 Nearby Waterbodies/Wetland – Adjacent to campus; A pond not in use by the college

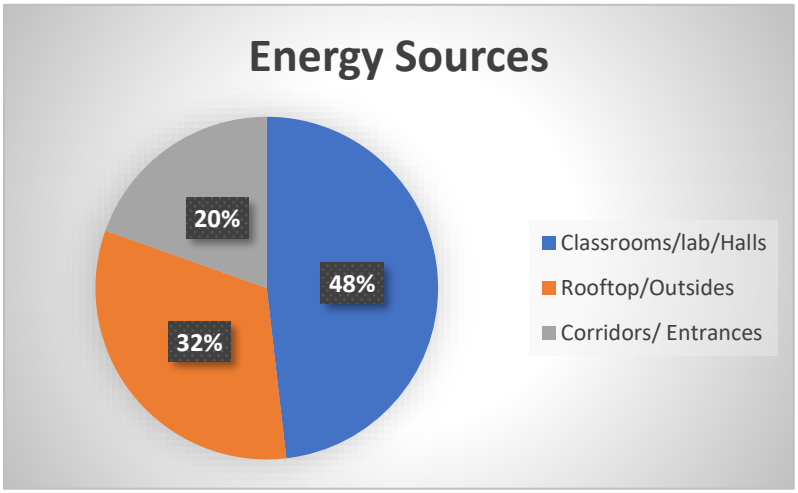
1.4 Energy Audit

1.4.1 Energy used avg. in a month/year- 1250kWh/month (Approx.)

1.4.2 Usages of Renewable Energy sources- Available; Solar Photovoltaic Power Plants

SOLAR PANEL- 80 panels, installed at the rooftop of Block B&C, reducing the monthly bills of Rs.8000(Approx.)

1.4.3 Distribution of Energy Sources (in%) at the Campus



1.4.4 Monitoring Unit- "Save Energy" drive after classrooms and lab use, when not in use Computers and ICTs are gone in "Power Saving Mode", 90% Older and damaged lights or bulbs are replaced with less power consuming or energy saving LEDs always.

1.4.5 Power Usages by Electrical Appliances and Instruments-

Sl. No.	List of Equipment/ Instrument/ Electrical Appliances	Power Usages in Unit
1.	Computer (79)	1 for 3.5hr./ 1 for 24hr.
2.	AC Machine Unit (12)	2/ 2.5 for a hr.
3.	Fan (312)	1 for 12 hr.
4.	CCTVs (46)	1 for 15-16 day
5.	Water Cooler Machine (2)	2 for a hr.
6.	Refrigerators (3)	Approx 2 per day

7.	Printers (14)	1 for half day
8.	Reprographic Machine (3)	1 for 1.5 day
9.	Tube lights, LED, CFLs, Vapour lamps (585)	
10.	Water Pump (3)	1HP 1for 1.5hr
Laboratory Instruments		
11.	Autoclave	1 unit for 1.5 day
12.	Centrifuge	1 for 5days
13.	Rocking Platform	
14.	Gel Apparatus	
15.	Laminar Air-Flow	1 for 1.5 day
16.	Optical Microscope (Binocular)	1 for 15 days
17.	Photo-Colorimeter	1 for 10 days
18.	pH Meter	1 for 30 days
19.	Incubator	1 for 14 days
20.	Hot Water Bath	2 for 1 hr
21.	Vaccum Pump	1 for 30 days
22.	Spectrophotometer	1 for 15 days
23.	Distillation Plant	1 per day
24.	Rescorder	1 for15 day
25.	Pneumolysis	-
26.	Metronome	-
25.	Digital Ossiloscope	1 for 10 days
26.	Operational Amplifier Trainer Kit	1 for 10 days
27.	Stefans Constant Apparatus	-
28.	Mechanical shaker	1 for 10-15days
29.	Refrigerator for Lab.	Approx 2 per day
30.	Kymograph	1 for 10days

1.4.6 Switch Off – drill by **NSS volunteers and Green Club student members**

1.4.7 Workshop - Energy Conservation Talk and Workshop by Retd. Add. Director and Present faculty **Petroleum Conservation Research Association**

1.5 Carbon-Footprint Analysis

1.5.1 Electricity used per yr.- CO_2 emission per yr.

(33,390kWh/1000) x 0.84 = 0.028tonne CO2

1.5.2 LPG/PNG used per yr.- CO_2 emission per yr.

(14.6KG X (4+3)) x 2.99 =0.306tonne CO2

1.5.3 Self-Transportation used by the institute- Not available

1.5.4 Students & stakeholders Vehicle- 6 Four wheelers (Personal) and 6 Two-wheelers (Personal), shared by the stakeholders; generally, most of stakeholders & students' usages of eco-friendly transport and public transport systems.

1080 x 2.68=2894.4 =2.9tonne CO_2

1.5.5 Hostel facility – No current use

1.5.6 Diesel/Kerosene or any fossil fuel usages- Not used

1.5.7 Firewood usages- Not used

Total CO2 emission per year- 0.028+0.306+2.9 =3.234tonne CO_2

Carbon Footprint Budget-

There are 55 full grown trees and 125semi grown trees of different species, on the campus spread over 2510.967 sq. meter or 0.62 acres.

Carbon absorption capacity of one full grown tree 22 kg CO2 Therefore Carbon absorption capacity of 55 full-grown trees **55 x 22 kg CO2 =1.21 tonne of CO2 per yr.**

The carbon absorption capacity of 125 semi-grown trees is 50% of that of full-grown trees. Hence the carbon absorption **125 x 6.8 kg of CO2 = 0.85 tonne of CO2 per yr.**

There are various species of bush hedge and ornamental or grass cover being grown in the campus area. Carbon absorption of these plants varies widely with their species. In the absence of a detailed scientific study, 200g of CO, absorption is taken per bush.

The lawns on the campus have indigenous **grass species and cover a total area** of approx. **4865sq. ft.** Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day Therefore, **carbon absorption by lawn area 4865x 365 x 0.1 g CO_2 = 0.178 tonne CO_2 per year.**

So,

Grand total of carbon absorption capacity of the campus is

1.21tonne + 0.85tonne + 0.178tonne = 2.238Tonne per yr.

Recently build a form of ecosystem 'Vivarium' for Aquatic animals and semi aquatic plants enclosure.

1.6 Biodiversity Audit-

1.6.1 Vegetation type- Semi-Evergreen and Dry-Deciduous with freshwaterbodies

1.6.2 No. of Species- 90 of plant and 73 of animal species (Approx.)

1.6.3 Green Cover Estimation-

1.6.4 Any Animal shelters- Doghouse and Birds-nests (Natural)

1.6.5 Biodiversity Program/Clubs- Eco-club, Sanjeevan Udyan, Kitchen Garden, Orchid Garden, Butterfly Garden

1.6.6 List of Plants Species found at the Campus-Area

Sl. No.	Scientific Name	Common Name	Family Name
1	*Acacia auriculiformis*	Fabaceae	**Akashmoni**
2	*Saraca asoka*	Fabaceae	**Ashoka**
3	*Terminalia arjuna*	Combretaceae	**Arjuna**
4	*Ficus bengalensis*	Moracea	**Banyan / Indian Fig**
5	*Ficus religiosa*	Moracea	**Peepal/ Sacred Fig**
6	*Anthocephalus chinensis*	Rubiaceae	**Kadam**
7	*Azadirachta indica*	Meliaceae	**Neem**
8	*Dypsis lutescens*	Arecaceae	**Areca Palm**
9	*Phoenix sylvestris*	Arecaceae	**Indian Date Palm**
10	*Swietenia mahagoni*	Meliaceae	**Mehogini**
11	*Tectona grandis*	Verbenaceae	**Segun**
12	*Calotropis gigantea*	Apocynaceae	**Giant Calotrope**
Lawn Grass (Ground Cover)			
13	*Zoycia sp.*	Poaceae	**Zoycia Grass**
Ornamental Plant			
14	*Gardenia jasmonioides*	Rubiaceae	**Gandharaj/Cape jasmine**
15	*Hibiscus rosa sinensis*	Malvaceae	**Jaba/ Hibiscus**
16	*Ixora coccinea*	Rubiaceae	**Rangan**
17	*Michelia alba*	Magnoliaceae	**Swet Champa**
19	*Murraya paniculata*	Rutaceae	**Kamini**
20	*Nerium indicum*	Apocynaceae	**Korabi/ Oleander**
21	*Nyctanthes abor tristis*	Oleaceae	**Shiuli/ Night Flowering Jasmine**
22	*Tabernaemontana divaricate*	Apocynaceae	**Togor/Crap Jasmine**
23	*Nelumbo nucifera*	Nelumbonaceae	**Lotus**
24	*Adenium sp.*	Apocynaceae	**Adenium**
25	*Catharanthus roseus*	Apocynaceae	**Periwinkle**
26	*Rosa sp.*	Rosaceae	**Rose**
27	*Helianthus annus*	Asteraceae	**Sunflower**
28	*Bougainvillea spectabilis*	Nyctaginaceae	**Bouganvilliea**
29	*Chrysanthemum coronarium*	Asteraceae	**Chrysanthemum**
30	*Tagetes erecta*	Asteraceae	**Merigold**
31	*Dahlia pinnata*	Asteraceae	**Dahlia**
32	*Dianthus chinensis*	Caryophyllaceae	**Dianthus**
33	*Petunia axillaris*	Petuniodeae	**Petunia**
34	*Aster amellus*	Asteraceae	**Aster**
35	*Zinnia elegans*	Asteraceae	**Zinia**
36	*Cosmos sulphurens*	Asteraceae	**Cosmos**
37	*Viola tricolor*	Violaceae	**Pansy**
38	*Polianthes tuberosa*	Asparagaceae	**Rajanigandha/Indian Tuberose**
39	*Clitoria ternatea*	Fabaceae	**Aparajita/ Pigeonwing**
40	*Impatiens balsamina*	Balsaminaceae	**Balsam/ Gulmehendi / Dopati**

Fruit Orchard			
41	*Psidium guajava*	Myrtaceae	**Guava**
42	*Syzygium cumini*	Myrtaceae	**Black Jamun**
43	*Mangifera indica*	Anacardiaceae	**Mango**
44	*Artocarpus heterophyllus*	Moraceae	**Indian Jackfruit**
	Medicinal Plant (Sanjeevan Udyan)		
45	*Adhatoda vasica*	Acanthaceae	**Vasak**
46	*Thuja occidentalis*	Cupressaceae	**Thuja**
47	*Vitex negundo*	Verbenaceae	**Nishinda**
48	*Hygrophila polysperma*	Acanthaceae	**Indian Swampweed**
49	*Andrographis paniculata*	Acanthaceae	**Kalmegh / Kirayat**
50	*Cymbopogon citratus*	Poacea	**Lemon grass**
51	*Cissus quadrangularis*	Vitaceae	**Asthisamaharaka/ Veld Grape**
52	*Aloe vera*	Asphodelaceae	**Gritokumari**
53	*Piper nigram*	Piperaceae	**Kaali Mirch**
54	*Paederia foetida*	Rubiaceae	**Strikvine**
55	*Althaea officinalis*	Malvaceae	**Marsh Herb**
56	*Eclipta prostata*	Asteraceae	**Bhringaraj/ False Daisy**
57	*Tridax procumbens*	Asteraceae	**Bishalyakarani/ Tridex Daisy**
58	*Cinnamon cassia*	Lauraceae	**Dalchini**
59		Zingiberaceae	**Elaichi**
60	*Gymnema sylvestre*	Apocynaceae	**Gudmar/ Madhunasini**
61	*Withania somnifera*	Solanaceae	**Ashwagandha**
62	*Bacopa monnieri*	Plantaginaceae	**Brahmi**
63	*Centella asiatica*	Apiaceae	**Gotu Kola**
64	*Rauvolfia serpentina*	Apocyanaceae	**Sarpagandha**
65	*Asparagus racemosus*	Asparagaceae	**Shatamuli**
66	*Ocimum sanctum*	Lamiaceae	**Tulsi/ Holy Basil**
67	*Trachyspermum ammi*	Apiaceae	**Ajwain**
68	*Eucalyptus*	Myrtaceae	**Eucalyptus**
Kitchen Garden			
69	*Capsicum frutescens*	Solanaceae	**Green Chili**
70	*Coriendrum sativum*	Apiaceae	**Coriander**
71	*Cucurbita pepo*	Cucurbitaceae	**Pumpkin**
72	*Solanum melongena*	Solanaceae	**Brinjal**
73	*Cucumis sativus*	Cucurbitaceae	**Cucumber**
74	*Fragaria vesca*	Rosaceae	**Strawberry**
75	*Raphanus sativus*	Brassicaceae	**Raddish**
76	*Spinacia oleracea*	Amaranthaceae	**Spinach**
77	*Sinapis alba*	Brassicaceae	**White Mustard**
78	*Solanum lycopersicum*	Solanaceae	**Tomato**
79	*Pisum sativum*	Poaceae	**Chick Pea**
80	*Amaranthus gangeticus*	Amaranthaceae	**Lal Shak**
81	*Solanum tuberosum*	Solanaceae	**Potato**
82	*Chenopodium album*	Amaranthaceae	**Beto Shak /Pigweed**
83	*Trigonella foenum- graecum*	Fabaceae	**Green Amaranth / Fenugreek**

84	*Cinnamomum tamala*	Lauraceae	**Indian Bay Leaf**
85	*Averrhoa carambola*	Oxalidaceae	**Starfruit**
86	*Brassica rapa*	Araceae	**Indian Turnip**
87	*Brassica oleracea*	Araceae	**German Turnip**
88	*Allium cepa*	Amaryllidaceae	**Onion**
Aquatic Plant			
89	*Eichhornia crassipes*	Pontederiaceae	**Common Water Hyacinth**
90	*Pistia stratiotes*	Araceae	**Water Cabbage/ Lettuce**

1.6.7 Checklist of Animal Species found in Campus-Area

Sl. No.	Scientific Name	Common Name	Family Name
Birds			
1	*Streptopelia orientalis*	Oriental Dove	Columbidae
2	*Columba livia*	Rock Pigeon	Columbidae
3	*Corvus corax*	Raven Crow	Corvidae
4	*Amaurornis phoenicurus*	White Breasted Waterhen	Raillidae
5	*Halcyon smyrnensis*	White Breasted kingfisher	Alcedinidae
6	*Eudynamys scolopaceus*	Asian Koel	Cuculidae
7	*Dinopium shorii*	Himalayan Flameback	Picidae
8	*Oriolus xanthornus*	Black-Hooded Oriole	Oriolidae
9	*Cinnyris asiaticus*	Purple Sunbird	Nectariniidae
10	*Leptocoma zeylonica*	Purple-Rumped Sunbird	Nectariniidae
11	*Pycnonotus cafer*	Red Vented Bulbul	Pycnonotidae
13	*Gracupica contra*	Asian Pied Sterling	Passeriformes
14	*Prinia inornata*	Common Prinia	Passeriformes
15	*Apus nipalensis*	House Swift	Passeriformes
16	*Copsychus saularis*	Oriental Magpie Robin	Muscicapidae
17	*Passer domesticus*	House Sparrow	Passeriformes
18	*Dendrocitta vagabunda*	Rufous Treepie	Corvidae
19	*Corvus splendens*	Common Crow	Corvidae
20	*Acridotheres fuscus*	Jungle Myna	Sturnidae
21	*Turdoides striata*	Jungle Babbler	Leiothrichidae
22	*Orthotomus sutorius*	Common Tailorbird	Passeriformes
23	*Milvus migrans*	Bengal Brown/Black Kite	Accipitridae
24	*Accipiter badius*	Little Banded Goshwak/ Shikra	Accipitridae
25	*Megalaima haemacephala*	Coppersmith Barbet	Megalaimidae
Reptiles			
26	*Calotes versicolor*	Garden Lizard	Agamidae
27	*Hemidactylus frenatus*	House Gecko	Gekkonidae
28	*Hemidactylus fluvivirides*	House Lizard	Gekkonidae
29	*Xenochrophis piscator*	Checkered Keelback	Colubridae
30	*Amphiesma stolatum*	Buff Striped Keelback	Colubridae

Mammals			
31	*Canis lupus familiaris*	Indian Pariah Dog	Canidae
32	*Felis catus*	Feral Cat	Felidae
33	*Funambulus palmarum*	Indian Palm Squirrel	Sciuridae
34	*Semnopithecus entellus*	Bengal Sacred Langur /Hanuman Langur	Cercopithecidae
35	*Herpestes edwardsii*	Indian Grey Mongoose	Herpestidae
Invertebrates			
36	*Dysdercus cingulatus*	Cotton Bug	Pyrrhocoridae
37	*Lethocerus americanus*	Giant Water Bug	Belostomatidae
38	*Limnoporus sp.*	Water Skater	Gerridae
39	*Pseudozizeeria maha*	Pale Grass Blue	Lycaenidae
40	*Leptosia nina*	Psyche	Pieridae
41	*Melanitis leda*	Common Evening Brown	Nymphalidae
42	*Eurema hecabe*	Common Grass Yellow	Pieridae
43	*Euploea core*	Common Crow	Nymphalidae
44	*Papilio demoleus*	Common Lime	Papilionidae
45	*Zizeeria karsandra*	Dark Grass Blue	Lycaenidae
46	*Graphium sarpedon*	Common Bluebottle	Papilionidae
47	*Graphium doson*	Common Jay	Papilionidae
48	*Graphium agamemnon*	Tailed Jay	Papilionidae
49	*Ariadne ariadne*	Angled Castor	Nymphalidae
50	*Chilades pandava*	Plains Cupid	Lycaenidae
51	*Danaus chrysippus*	Plain Tiger	Nymphalidae
52	*Hasora chromus*	Common Banded Awl	Hesperiidae
53	*Daphnis nerii*	Oleander Hawk Moth	Sphingidae
54	*Brachythemis contaminata*	Ditch Jewel	Libellulidae
55	*Onychargia atrocyana*	Black Marsh Dart	Platycnemididae
56	*Orthetrum sabina*	Green Marsh Hawk	Libellulidae
57	*Agriocnemis pygmaea*	Pigmy Dart Leg	Coenagrionidae
58	*Rhyothemis variegata*	Common Picture Wing	Libellulidae
59	*Potamarcha congener*	Ashy Skimmer	Libellulidae
60	*Neurothemis tullia*	Pied Paddy Skimmer	Libellulidae
61	*Ceriagrion coromandelianum*	Coromandel Marsh Dart	Coenagrionidae
62	*Tapinoma indicum*	Black Ant	Formicidae
63	*Lesius niger*	Black Garden Ant	Formicidae
64	*Paratrechina longicornis*	Longhorn Ant	Formicidae
65	*Oecophylla smaragdina*	Red Ant/ Kurkut	Formicidae
66	*Lumbricus terrestris*	Indian garden Earthworm	Megascolecidae
67	*Helix aspersa*	Garden Snail	Helicidae
68	-	Spider	Theridiidae
69	*Thomisus spectabilis*	Crab Spider	Araneae
70	*Harpaphe haydeniana*	Yellow Spotted Millipede	Xystodesmidae
71	*Macrochlamys indica*	Horntail Snail	Ariophantidae
72	*Pila globosa*	Apple Snail	Ampullariidae
73	*Achatina fulica*	Giant African Land Snail	Achatinidae

2. Green-Campus Initiatives

- Renewable Energy Sources- Solar Photovoltaic panels (80) of 10KW instilled at Block B&C rooftop
- Rainwater Harvesting system – Two at in operation, one was granted through Gyandhara project performing at two buildings.
- Waste Management- All kinds of waste properly managed at the camp. NSS unit of the college organizes Cleanliness Drive each year and community awareness.
- E-Waste MOU with Pollution Control Board of India certified agency Hulladek for collecting the parentless e-Waste products.
- Tree Plantation- The college celebrates earth day and Environment, International Biodiversity Day celebration with 80% of Plant survival rate. Plants are offered with honourarium and as a token to guests, resource persons or institutions.
- Sanitizations are done regularly with campaigning at nearby slum area (Nivedita colony) with health and hygiene related awareness and monitoring.
- Dept. of Environmental Science and Eco-Club planted the indoor plants.
- Earth Day celebration with Tree-plantation at campus by the staffs and faculties
- Earth Hour Celebration with WWF-India by Dept. of Zoology and Photography Contest by Dept. of Geography
- Seminar Workshops and quizzes on Environment and related topics.
- Energy Conservation Interactive session by KCRA of Govt. of India

Conclusion

A green audit is an official assessment of the environmental impact that a college has and can never be considered as institution's operations' negative influence on the environment. The purpose of the Green Audit is to assess the real-world situation on the campus of the organization. A college can utilize a green audit to find out where and how they are using the most energy, water, or other resources. From there, the institution can decide how to make adjustments and save money.

In case of water audit, water sources are present mostly on Block B&C rather than Block A & D whereas, Block E has only one water sources for drinking purpose. No toilets are waterless. As a Women's Institute but with sufficient numbers of gent's toilet. Block E has no toilets. Rain Water Harvesting System serves as exemplary use of natural resource sand cutdown the energy budget and save water into human benefit.

In regarding of Energy Audit Solar panel is saviour and a celebrated use of renewable energy sources. It is well-noted that campus recorded a great amount of biodiversity in respect of both plant and animal species with many common animals' sightings with common vascular plants along with medicinal, rare orchids and kitchen gardens. Different types of energy sources and their consumption-based chart are prepared recently and we have started to maintain a steady report on that consumption.

In the context of Environmental Audit Carbon footprint analysis recordings are a hopeful one as the institute maintain to low the footprint as possible.
In order to improve waste minimization plans or for recycling projects, it can also be used to ascertain the type and volume of garbage. The College considers the positive environmental impact of most of its operations and makes a concerted effort to act in an environmentally friendly manner. Despite its generally good performance, the College can still strive to enhance its procedures and become a more sustainable organization by following the recommendations in this study. In the institution waste management are done effortlessly throughout the campus.

The green club of HMMCW now includes student members of diverse course and subjects to monitor and create awareness. Students also spread enthusiasm among their community and grow as future leader in the avenues of sustainability and social changes towards better cleaner greener environment for all of the lives present.

The institution has procured an ISO Certificate for quality management (pg. no.1) and can conduct and assess various system and functionals on this process or aspects.

Recommendations

(Based on previous data and suggestion by WWF-India and recent work-done)

- **College should start drip irrigation to save water in campus.**
- **Water Meter should be installed at every building of institute for monitoring of water consumption per capita.**
- **Arrange training programmes on environmental management system and nature conservation for schools and local people.**
- **Green building guidelines for future expansion projects of the campus.**
- **Introduction of Paper Recycling Plant and Developed into proper Vermicomposting Unit.**
- **Introduction of Grey water recycling and rainwater into drinkable.**
- **Automatic power off system**
- **Stock nursery for Sanjeevan Udyan and Kitchen Garden**
- **Plastic free campus and cleaner-smarter technology-based management**
- **Introduction of biogas plant at the campus**
- **Go into collaborations for the proper utilisation of the adjacent pond**

References

- ✓ **The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010)**
- ✓ **Energy Conservation Act 2010**
- ✓ **The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)**
- ✓ **The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981**
- ✓ **E-waste management rules 2016**
- ✓ **Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)**
- ✓ **The Water [Prevention & Control of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975**
- ✓ **Indian Meteorological Department- Climate of West Bengal issued by NATIONAL CLIMATE CENTRE OFFICE OF THE ADDITIONAL DIRECTOR GENERAL OF METEOROLOGY (RESEARCH)**
- ✓ **গাছপালার বৈজ্ঞানিক নাম, জ্ঞানবিচিত্রা প্রকাশনী – ডঃ নলিনীকান্ত চক্রবর্তী**
- ✓ **প্রাণীদের বৈজ্ঞানিক নাম, জ্ঞানবিচিত্রা প্রকাশনী – ডঃ সাধনা সরকার**
- ✓ **A field guide to Indian Mammals, Wildlife Trust of India– Vivek Menon**
- ✓ **A Naturalist's Guide to the Reptiles of India, Prakash Books India Private Limited- Indraneil Das, Abhijit Das**
- ✓ **বাংলার পাখপাখালি, প্রথম খন্ড, বার্ডওয়াচার্স সোসাইটি, - কণাদ বৈদ, সন্দীপ দাশ, শান্তনু প্রশাদ ও ক্ষৌণিশ**

Annexure- I

– Photographs of initiatives of green and environmental matters

Solar Panels at rooftop

Rain Water Harvesting System

Green Cover at Campus

LED installed at campus

Energy Conservation Talk 2023

Well-lit (Natural source) Classroom/ Halls

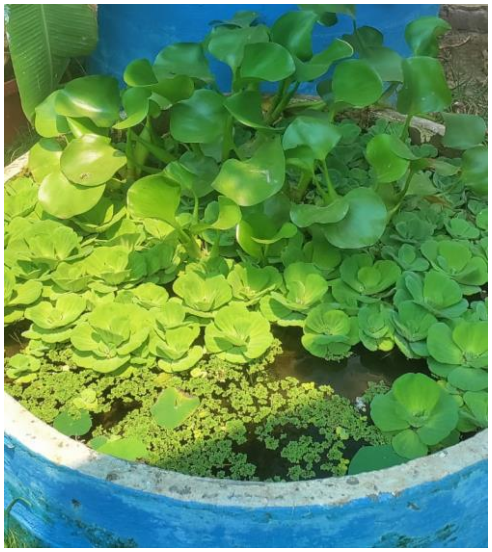
SAVE WATER campaign by NSS Unit

Tree plantation by NSS Unit

Earth Hour Celebration

Kitchen garden at rooftop of Block-E

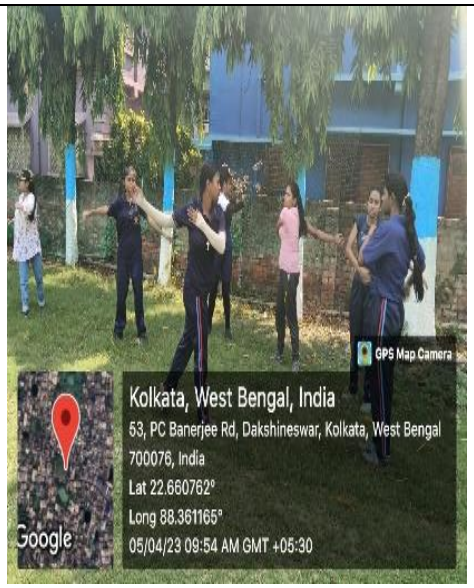
Sanjeevan Udyan



Aquatic Plant

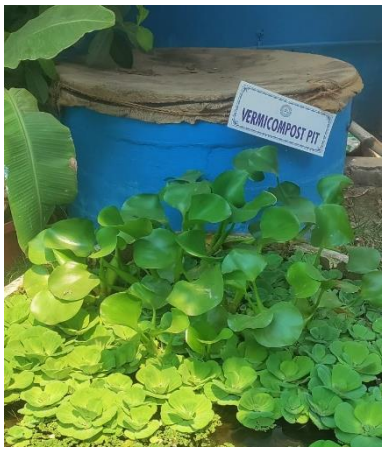
Water Conservation Awareness at slum

Solid Waste Management Bins



Students of NCC Unit at playground

Anti-Mosquito Device developed by Dept. of Physics



Vermicompost Pit With Aquatic Plant

Well-paved way and ramp for Divyang

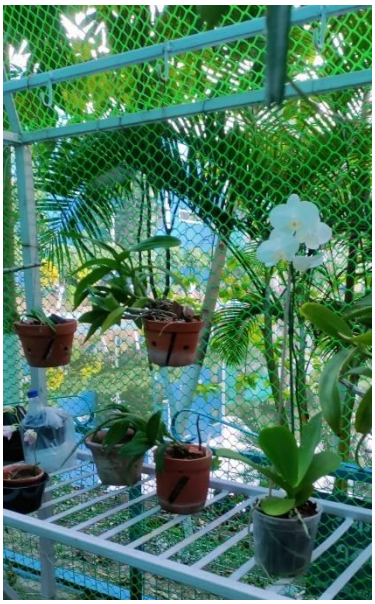
Hulladek- e-Waste management

Chemical Waste Treatment Pit

Cleanliness drive NCC unit

Well ventilated Infrastructure

In-built Butterfly Garden



Orchid Garden

Tree Plantation on International Earth day Celebration at Campus

Sanitary Napkin Vending Machine

Annexure- II

GREEN AUDIT QUESTIONNAIRE

ENERGY AUDIT

1. What is year of the first installation of energy in college?
2. What are the sources/ authority of electricity/ power supply?
3. Who do plan ordered or manage or govern the installation of meter/ power supply?
4. Are any changes or replacement occurred? In which year?
5. Are there any kind of changes of power supply or distribution in locality in recent times?

RECENT (5 YEARS) OR CURRENT YEARS SCENARIO-

1. Is firewood used in your institution? Y/N
   1.1 If yes; then specify its usage_____ (power generation/ lab. Use/ others)
   1.2 If yes; _____ weight of the wood/year and _____ amount spent/ month or year
2. Is any patrol/diesel-based generator used in facilities?
   2.1 If yes; amount of diesel/ patrol used amount spent per year_____
   2.2 If yes; In which sector? Lab./ Whole
3. Is there any 'energy saving methods' employed at the institution? Y/N
4. Is there "switch off" drills or campaign done or measures taken? Y/N
   Details_____
5. Is there 'power saving mode' employed in computer or other IT facilities? Y/N
6. Are there any rooms with natural light scattering windows or skylight? Y/N
   6.1 If yes; specify_____ and number of rooms____
7. Are any other alternative energy sources installed at institution? Y/N
8. Is the institution use or employ any non-conventional energy source for power supply? Specify_____
9. Is there any policy statement regarding non-conventional energy sources installed? Y/N
10. Is any centralized air cooling / conditioning system installed at premises? Y/N
11. Are there any specific energy conservation measures taken? Specify_____
12. Is any HVAC system installed? Y/N
13. Is any heater (room/ water) installed at institution? Y/N, If yes; number_____

WATER AUDIT QUESTIONNAIRE

1. What is the main source of water?
2. In which way water system managed?
3. How does your college store water?

4. Is toilet managed from the main source of water?
5. Are there in any lab. Water usages necessary?
6. How many tanks are used to store water?
7. Is there any other system present with regular system?
8. The installation of water management system governed?
9. Are there any changes of water management system in recent times?
10. Is any kind of water conservation system used?
11. Rain water harvesting system is installed? In which year?
12. Mention the sources of waste water?
13. Whether the waste water is mixed with ground water?
14. Is the waste water used in gardening?
15. Are there any kind of waterbodies or wetlands in the vicinity?
16. Is college house any pond?
17. Is this pond any use? Mention it's purpose
18. Any water management plan used?
19. Are there any signs of people saving water?
20. Is the college has well or deep tubewell? Give details of installation, depth and water level etc.
21. How many water coolers are available?
22. Amount of water usage of water cooler?
23. How many drinking water units present in the college? Do all are functioning properly?
24. How many water-purifier in the college?
25. Amount of water usages by the purifier?
26. How many water fountains in the college? Do they leaky?
27. How many toilet units are there in college?
28. Is there any waterless toilet?
29. Is there any gender-neutral toilet in the college?

GREEN CAMPUS MANAGEMENT

1. What is the dominant vegetation of the area?
2. Is there any datasheet or checklist or record on trees/ plants present at the premises? Y/N
3. Is each year any tree planted? Specify _____
4. Is each year trees are cut down? Y/N
   3.1 Is cut down trees listed? Y/N
5. Is any maintenance system or management practice for green campus? Y/N
6. Is cut down year of a tree is same as planted? Y/N
7. Is any saplings or plants planted after cut down a tree? Y/N
8. Is there a garden in college? Y/N
9. Who do maintain the facility? Name_____
10. Has their name panel on the tree?
11. Is there any vegetable garden in the institution?
12. What are vegetables cultivated in your vegetable garden?
13. Who do maintain the vegetable garden?
14. Are there any plants are with medicinal value? Y/N
    14.1 If yes; please specify_____
    14.2 Do their names are properly displayed? Y/N

15. Is any fertilizers or pesticide used regularly in the garden?
16. Is organic farming practiced? Y/N Specify_____
17. Is any composting/ vermicompost done at college?
18. Is there any botanic garden meant for threatened plant species? Y/N
19. Is there any invasive plant species in vicinity? Y/N
20. Is any herbarium sheet maintain at college?
21. Is the institution own any plantation? Y/N Give Name_____
22. Is college have its own irrigation system? Y/N
23. How much water used per year in your garden area?
24. Mention the source of water for maintain the gardens?
25. How much area is used for garden?
26. Is there any open playground in the institution? Y/N Mention the number_____
27. Is the open ground being grass/green covered? Y/N Give percentage/ratio____
28. Is the institution having any waterbody? Y/N
29. Is the college used any recycled water? Y/N
30. Is any water conservation management practiced?
31. Is rain water harvesting system installed? Y/N if yes in which year_____
32. Is waste water treatment done? Y/N
33. Is there any green or environment awareness program organized every year? Give details____
34. Is environmental awareness poster or wall graffiti at college or outside?
35. Is there a nature club in your college? Y/N if yes; Name & year of establishment_____

CARBON FOOTPRINT QUESTIONNAIRE:

1. Are there any conveyances by the college?
2. Number of stakeholders used the conveyances?
3. In which purpose(s) the transportation being used?
4. Is any diesel or kerosene generator is used? Y/N Numbers of generator_____ & per year/Lt fuel used for generators_____
5. How many LPG Gas cylinders being used in kitchen or lab.? Per year/ Lt fuel used____
6. Is any other fossil fuel being used? Give Details_____
7. Which Transportation being used in carrying office goods and kitchen materials?
8. Is self-transportation being used by the college for official or administrative purpose?
9. Cost/ budget for payment of transportation for official or good carriage each year _____
10. Are any stakeholders used private cars? Give Number_____
11. Average amount of cost for transportation by the stakeholders_____
12. Are any students being used regularly private cars?
13. Is campus having any parking lot facilities? For how many cars?
14. Is hostel facility available by the institution? Y/N if yes, then from which year_____
15. How many students used the facility in each year?
16. Are there any quarters for staff or faculty? If yes then How many used_____
17. Is kerosene used by any lab.?
18. If kerosene used specify the purpose of the lab_____
19. Are there any kind of measures taken for cutting down the usages of fossil fuels?

20. Is there any campaign or awareness or student's interaction done for carbon footprint reduction?
21. How many students are pedestrians?
22. How many Students use eco friendly transportation?
23. How many staffs and faculties are pedestrians?
24. How many staffs or stakeholders use eco friendly transportation or cluster transportation? Give details_____
25. Average number of parent-teacher and alumni meetings are held per year?
26. Average number of increased private vehicles on that said meeting-day?
27. Is any biogas or biofuel used in kitchen canteen or lab. use?
28. Is any plan taken to reduce carbon footprint?

WASTE MANAGEMENT QUESTIONNAIRE

1. What are the sources of waste in the college?
2. Are solid wastes regularly generated at the institution? Y/N
3. Are there specific bins for different solid wastes? Give details of types of bins, number and placement of bins
4. Are there any initiatives taken by the for segregation of solid wastes? Mention the process
5. Which of the following are found near your college? Mark & mention the level of disturbances they create-
   Municipal Dump Yard, Public Convenience, Open drainage, Stagnant water, Sewer line, Industry (Type), Bus-road, Market Place (Type), Railway line or station, Public Halls or Centre
6. Is there any liquid waste? Mention type and cause
7. Is there any waste treatment plan & system? Y/N
8. If no then what is the plan for the future?
9. Is there any treatment for toilet urinal and sanitary napkin waste?
10. Is there sanitary napkin vending machine available at toilet?
11. Whether the waste polluting air or ground? Details if it is a problem
12. Is classroom and laboratories contained bins separately?
13. How many bin boxes to be used in classroom, offices, labs for waste segregation system to be fulfilled?
14. Are recycled papers used in college? Give details
15. Is there waste wealth program initiated at the college? And spread the message in locality?
16. Are there any kind of waste pollute the college premises besides its own waste? From where they are obtained?
17. Can you achieve zero garbage in your college? Recycle/ Reuse/ Refuse
18. Are there plastic wastes in your premises? Give details of sources of plastic waste
19. Is there separate bin for plastic waste? Y/N
20. Is there any plastic recycling process?
21. Do you sell recycled plastic? Or having any future plans for it?
22. Is there any e-waste?
23. Is there any separate box or place for keeping e-waste materials?
24. Is any policy regarding waste management of your campus? Give details if any

BIODIVERSITY AUDIT QUESTIONNAIRE

1. Are there animal species observed at college campus?
2. What type of animal species are spotted?
   Residential/ Invasive/Cultivated/Migratory/Threatened/ Rare
3. What are the frequencies and timings of visibility of species?
4. Is there any food offered to the animals?

Annexure- III

Budget for Green campus Management & Initiatives

The details are attached here – Total Expenditure statement with monthly expenditure details of F.Y. 2022-23

Phone No: (033) 2564-5148 / 2544-2632
(033) 2544-4520

HIRALAL MAZUMDAR MEMORIAL COLLEGE FOR WOMEN

Re-accredited by NAAC with A+ Grade (3rd Cycle) 2023
DAKSHINESWAR • KOLKATA - 700 035
E-mail : hmmcw35@gmail.com / Website : www.hmmcollege.ac.in

Ref. No. ..... *Date* .....

EXPENDITURE STATEMENT OF GREEN CAMPUS INITIATIVES & MANAGEMENT, ELECTRIC(ENERGY) AND WATER SOURCES MAINTENANCE & MANAGEMENT RELATED MATTERS

OF F.Y. 2022-23

SL. NO.	MAINTENANCE / MANAGEMENT OF RESOURCES	EXPENDITURE (AMOUNT IN RS.)
1	TREE PLANTATION & GARDENING	16,110.00
2	MAINTENANCE OF GARDEN	53,825.00
3	INFRASTRUCTURE – KITCHEN GARDEN, BUTTERFLY GARDEN AND ORCHID GARDEN RELATED	1,63,44,403.00
4	ELECTRICAL EXPENSES	1,78,970.00
5	MAINTENANCE FOR ELECTRICAL & SPARE PARTS & SOLAR ENERGY	1,80,725.00
6	INSTALLATION OF ELECTRONICS & ELECTRIC	14,00,946.80
7	ALLOWENCE FOR CONTRACTUAL ELECTRICIAN CUM OFF. ATTD.	71,225.00
8	AMC FOR IRON GUARD (WATER MANAGEMENT)	21,422.00
9	AMC FOR AQUAGUARD (DRINKING WATER)	27,000.00
10	AMC FOR WATER COOLER MACHINE WITH IRON GUARD	80,748.00
TOTAL AMOUNT		18,375,374.80

19/9/24

Co-ordinator
Internal Quality Assurance Cell (IQAC)
Hiralal Mazumdar Memorial
College for Women
Dakshineswar, Kolkata-700035

19.04.2024

Principal & Secretary
Hiralal Mazumdar Memorial College
For Women
Dakshineswar, Kolkata-700 035

19.4.24

Member
Governing body
Hiralal Mazumdar Memorial College
for Women
Dakshineswar, Kolkata 700 035

19/4/2024

Member
Governing body
Hiralal Mazumdar Memorial College
for Women
Dakshineswar, Kolkata 700 035