

GREEN AUDIT REPORT, 2023

PATIDARRANG COLLEGE



VILLAGE: NASATRA, P.O: LOCH

DIST: KAMRUP (ASSAM), PIN: 781381

GREEN AUDIT-PATIDARRANG COLLEGE

CERTIFICATE

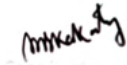
This is to certify that the preparation of Green Audit Report of Patidarrang College takes the documents provided by the college as one of the sources for the making of report. In addition to that, the audit team also visited the College campus in the month of February, 2023 and interacting with the Principal, IQAC Coordinator, faculty members and with the students of the college gathered some information to make the report.

The Green Audit Report presents green initiatives undertaken by the college as well as some suggestions and recommendations given by the Audit team to the College for its adoption to improve it as an environment friendly institute.

We are thankful to the college authority for providing necessary data and information in making the report.



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Counter signed By:



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A BRIEF DESCRIPTION OF THE COLLEGE

Patidarrang college is the premier institute of Higher Education imparting education up to under graduate level in Nasatra near Muktapur, Kamrup (R) district of Assam. It is situated about 44K.M from Guwahati City. It was established on the 31st day of August, 1989 by a team of selfless and untiring social workers and think-tank of the greater locality with the aim to make higher education accessible to students of marginalized section of this locality. Since its beginning at a room in Patidarrang Vidyapith High School in the Kamrup district of Assam the college has grown into a leading higher educational institution with its own campus and infrastructure to accommodate around 1200 students in undergraduate level in Arts Stream.

The eastern part of kamrup district is known as Patidarrang .This area is constituted including 6 Mauza i.e. Barbanshar, Madartola, Pub-Kasari Mahal, Patidarrang, Karara, Betna. The College is situated in Nasatra near Muktapur under Patidarrang Mauza. The college is situated in a place with best road transport connectivity at Nasatra near Muktapur on Baihata Chariali-Goreswar PWD Road which connects district head quarter of Kamrup district. It is a college of excellence in Arts stream.

The College is permanently affiliated to Gauhati University and under 2(f) and 12(B) of UGC Act, 1956. The College at present offers three years Arts undergraduate program of CBCS system under Gauhati University in ten subjects, namely, Assamese, Arabic, Bodo, English, Economics, Education, Geography, History, Philosophy, Political Science. Besides these subjects, the College is running different degree and diploma courses under K.K.Handique State Open University, Assam.

The College has already received various funds from Government of Assam to establish the laboratories of Science subjects and ready for starting the undergraduate program in science.

The number of students enrolled in the college at present is around 1100. There are 24 faculty members and 3 office staffs working against permanent posts. Besides these numbers of Guest faculties and Guest employees are working in the college. The College has different cells to support teaching learning process. There are number of departmental forums dedicated to the promotion of awareness and dissemination of useful knowledge amongst the students and teachers of the college by organizing seminars, popular talks, symposia etc. from time to time. The college is also planning to start the Bachelor of Vocational courses in different field like-Travel and Tourism Management, Cutting and Tailoring, Satriya Dance, Hotel Management and Catering Technology etc.

INTRODUCTION

Green Audit: A Tool for protection of Environment

Green Audit is the most efficient ecological tool to solve such environmental problems. It is a process of regular identification, quantification, documenting, reporting and monitoring of environmentally important components in a specified area.

Earth is the only planet in the universe to sustain life because of its environment. No life can exist without suitable environment and so no human being. Increase in world population, increase in economic activities in the past few decades, enormous advancement in science & technology & globalization are leading to change in the eco system. Green campus audit is a tool of environment management system which is used methodologically for protection and conservation of environment and sustenance of ecosystem. The Green Audit or Green campus audit is a type of assessment to make sure that the institute campus should be green with respect to the existing number of flora and fauna which not only reduce the environmental pollution of the campus but also maintain the biodiversity. This also covers proper waste and water management, energy management etc. This Auditing is an independent assessment performed by different organizations to make sure that the organization is maintaining the Environmental Policies. Now a day's people are getting more familiar to the global issues, such as green house effect, global warming, climate change etc. Considering the present environmental problems, University Grant Commission has mentioned: Green Campus Clean Campus mission mandatory for all higher educational institutes. So, Green Audit can be one of the initiatives for all higher educational institutes to assess their

water, energy resource use, proper management of waste water, solid waste, E-waste and biodiversity conservation etc. Green Audit process can play an important role in promotion of environmental awareness and sensitization about resource use. At last we can say that through Green Audit one can get direction how to improve and maintain environment of an area.

What is Green Audit?

The term of Green Audit is alternative form of term environmental audit. The Green Audit is an assessment of several aspects of environment of organizational or institutional activities. Green Audit is a reviewing process which helps us in the systematic identification, quantification, analysis, and reporting of the critical aspect that matter in the environmental assessment of a site. The audit also suggests the institution to reduce the activities that effect the environment of the campus and make it more environment sustainability because environment sustainability is becoming significant concern across the country. So to maintain the environmental sustainability in all higher educational institute is one of the prime importances as it helps the educational institute for healthy learning environment of everybody involved in it.

The Green Audit in an organization is the right approach for self sustainability, awareness as well as future scope. Because self sustainability enables the institution to asses and adopt the best measures for their campuses as well as self-evaluation and decision-making. Through deliberate and continuous efforts, raises awareness among everyone to promote sustainability with the institution. By

following the standard policies or norms the institute can increase their chances of receiving the good grade of NAAC.

Objectives or benefits of Green Audit:

1. The Green Audit helps the institute to ensure the environmental practices that make the environment sustainable.
2. The Audit helps the institute to know their strength and weakness of the campus.
3. There are number of policies and standards of environmental management and the audit helps the institute to follow and maintain this norms.
4. The audit also helps to reduce the risk of health and dangers to the people on the learning site.
5. The audit enables the institutions to make out cost effective waste management, energy management techniques.
6. The audit not only plays an important role to create and promote a sustainable and up gradation of learning environment, but also helps to get high grade under NAAC.

Green policy of the College:

The Patidarrang College always tries to maintain the environment sustainable in and around the campus with the other developmental activities. The College maintains their own policies to make the campus environment friendly learning sites. The College has done number of activities and also decided to take more initiative to make the environment eco friendly. The students, faculty members as well as College authority maintaining the environment by planting trees, cleaning the campus more frequently and preventing the vehicles to park near the college buildings, proper maintaining of the wastes etc.

Preparations of Audit:

The Principal and IQAC of Patidarrang College is very much interested for conducting Green Audit and is keen in taking up the recommendations suggested by Green Audit team. Therefore the college authority decided to approach the Green Audit team of Dimoria College to help and prepare the report. In response to Patidarrang College, the Green Audit team of Dimoria College agreed to conduct the Green Audit after taking necessary permission from concerned authority of Dimoria College. After this, there was a preliminary visit to the campus to set up different criteria and questions that are necessary for preparing the audit.

The Green Audit team decided to take up the following criteria for preparation of green audit. The main criteria are as follows:

1. Water Management
2. Waste Management
3. Energy Management
4. Air Pollution
5. Noise Pollution
6. Biodiversity of the campus
 - (a) Flora of the campus
 - (b) Fauna of the campus

Methods of Green Audit Preparation:

The following methods were used to prepare the report-

- a. Selection of the different areas of the college.
- b. Activities done by the college.
- c. Planning to visit the campus to collect the necessary information.
- d. Decision to select certain parameters feasible to prepare the report.
- e. Preparation of questionnaire to collect data
- f. Taking of necessary photographs.
- g. Analysis and evaluation of data
- h. Report preparations
- i. Suggestions to improve the campus.

The Green Audit team of Dimoria College visited the Patidarrang College on 17th of February, 2023. The team first met the Principal and IQAC coordinator to get a preliminary idea of the college. The team visited the different sites of the college to determine the parameters

for audit. The team also interacted with different stake holders of the college to collect the data in the already prepared questionnaire. Besides these, the team discussed with IQAC team on various issues related to audit and collected necessary photographs and other documents.

Water Management:

India has about 18% of the world's population and only 4% of the world's water resources. It is severely water stressed; thereby making water management a national priority. Water management is the activity of planning, developing, distributing and managing the optimum use of water resources. Water is a basic necessity. No living creature can live without water. There's a scarcity of water. To avoid this scarcity, water is saved and managed efficiently. Therefore, the audit team visited the different water sources of the college campus and noticed that for consumption of water main source is boring. The water after coming out of the boring stored in the water tank which moves into different buildings. The college authority uses the aqua guard and water cooler for drinking purposes. The water to irrigate the plants and other construction purposes usually collected from ponds. The ponds of the College require proper maintenance as well as cleanness for aquatic animals. The 3500 to 4000 liters (approximately) of boring water is used per day by the college for different purposes. 200 L of water per day is lost through the leaking of pipes. The water consumption in the summer season is significantly high compared to other months. The College authority can install rain water harvesting system to reduce the boring water.

Certain parameters of drinking water:

pH of drinking water: 7.23 (Month of Feb,23)

Temperature : 23⁰ C

EC : 4.40

DO : 6.32mg/L

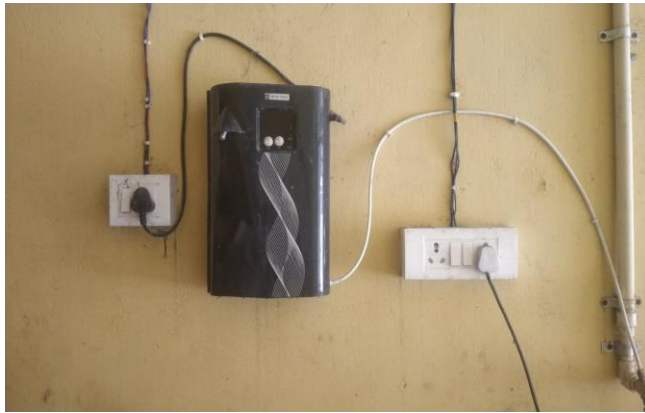
Details of boring water consumption per day:

Type of activity	Water uses/ person / day/Avg(L)	No.of persons using water	Total water consumptions per day (L)
Drinking	1.0	1200	1200.00
Washing hands and face	2.0	850	1700.00
Toilet Flash	10	40	400.00
Cooking(Avg)	55		55.00
Washing utensils(Avg)	50		50.00
Water losses during uses(Avg)	100		100.00

Total Consumption

3505.00





A View of Backside pond of the College

Waste Management:

Waste management is an important element of environmental protection. Its purpose is to provide hygienic, efficient and economic solid waste storage, collection, transportation and treatment or disposal of waste without polluting the atmosphere, soil or water system. Appropriate waste management is very much essential as it involves proper collection of waste and scientific treatments that may contribute less to water pollution, soil pollution and air pollution. Waste management is a term associated with waste disposal and both go hand in hand for maintaining a clean environment. It is important to segregate the biodegradable wastes from non-biodegradable ones.

The waste water of the college is mainly released from washing, toilets, kitchen of the college. There are 4-5 bathrooms or washrooms are available in the college. The sanitary waste water as well as sewage water generated is deposited in the well near to the toilets and washrooms. There are some provisions of drainage system in the college through which rain water and other waste water flows to the back side of the college and fall into the marshy land.

The solid wastes generated from the college campus includes mainly, paper waste, kitchen waste, dry leaves of the plants. There are number of waste bins made of bamboo are provided in the office and many other locations of the college campus to collect the paper and other solid wastes. Being a College with non- residential facility, the quantity of wet (food wastes) waste generated in the premises is minimum. The organic kitchen wastes are deposited in the well made by NSS volunteers of the college which are sometimes used as fertilizer. The

dry leaves and other biodegradable materials are deposited in a place away from college building and then burn it.

The College being an academic institution, paper waste is one of the main solid wastes. It has been known that the college authority has taken steps to minimize the paper usage and also tries to reuse the one side used printed paper for internal communication.





Cleanness Drive By NSS volunteers of the College

Energy Management:

Energy management is one of the part of Green Audit. The Energy management can be defined as the practical, organized and systematic management of energy use in a house/buildings or institutions to satisfy both environmental and economic requirements. Therefore the main objectives of energy management are resource conservation, environment protection and cost savings.

It has been observed that common electricity meter is provided for the entire college. Due to non availability of electricity bill of the last five years it is difficult to comment on exact electricity consumption. But as per information received from office the latest college bill (month of February, 23) is around Rs. 5000/-. But the consumption of electricity increases in summer seasons and electricity bill also increases. The major consumption of electricity in the college campus is:

Sl.No.	Name of the instruments used	Total Nos.
1	Ceiling fan	62
2	Stand fan	03
3	Exhaust	03
4	Inverter	03
5	Electric Kettle	01
6	Tube lights	55
7	Printer	02
8	Xerox machine	01
9	Computer	09
10	Water pump	02
11	Halogen street light	05
12	Blower	01

The College has taken initiative to replace the incandescent bulbs and tube lights with LED bulbs. It has been observed that the students, teachers as well as office staff switch of the lights, fans, computers, Xerox machine etc. when not in use. The College kitchen has three numbers of Gas cylinders for their cooking purposes and they uses one cylinder per month. The College also tries to run the water pump one time daily to minimize the consumption of electricity.





Air Pollution:

Air pollution is the greatest environmental threat to public health globally. Air pollution is the contamination of air due to the presence of substances in the atmosphere that are harmful to the health of humans and other living beings. Air pollution occurs when dangerous particles, gases, and chemicals are released into the air. The rate of air pollution increases every day in the atmosphere. Air pollution can be caused by both human activities and natural phenomena. The combustion of fossil fuels, burning of biomass such as firewood, agricultural wastes and animal wastes are the principal source of air pollution. Most of the combustion of fossil fuels takes place in industries, homes, for transportation, and for the generation of electricity.

Since, the Patidarrang College is situated in rural area, and away from the main road, the College campus is almost free from air pollution. The surroundings of the college are covered mainly by paddy field, trees and marshy areas. The transportation of vehicles inside the college is minimum. Around 32 two wheelers and 12 four wheelers are coming to the college every day. The parking of the vehicles inside the campus is little away from the college buildings. The authority is planning to make the parking area in one corner of the college so that it will not hamper the environment of the campus. The College burns the dry leaves and some other wastes inside the campus once or twice in a month which may polluted air polluted of the campus.



Noise Pollution:

Noise pollution is a major problem in cities around the world. Noise is defined as unwanted sound. Environmental noise consists of all the unwanted sounds in our communities except that which originates in the workplace. Environmental noise pollution, a form of air pollution, is a threat to health and well-being. Noise pollution, or sound pollution, is the propagation of noise or sound with ranging impacts on the activity of human or animal life, most of which are harmful to a degree. The source of outdoor noise worldwide is mainly caused by machines, transport, and propagation systems.

It has been noticed that the very less number of vehicles coming to the college every day. There is no Diesel Generator and any other electrical appliances to produce sounds. There is no chance of sound pollution from the vehicles plying in the road as the college is situated away from the main road. The College is a whole free from noise pollution.

Biodiversity of the Campus:

Biodiversity means the different types of living species coexists on earth. This variety of living organisms includes plants, animals and microorganisms. Biodiversity plays a critical role in maintaining a healthy environment to live and thrive in. So, a good healthy ecosystem should have wide range of plants, animals and microorganisms. There are lots of ways that humans depend upon the biodiversity and so it is our responsibility to conserve it.

Patidarrang College is situated in rural area where farming and agriculture are practiced in and around the campus. The College campus biodiversity includes different species of plants animal and aquatic ecosystems. The campus has full of trees, ponds and small river (Mora Nadi) around the college buildings except front side of the campus where less number of trees are found. One pond on backside of the college contains different varieties of local as well as exotic species of fishes, crabs, frogs, snakes and other aquatic animals and planktons. These are ideal for academic practices and learning while practicing. The college authorities who are responsible for greening the campus have taken number of initiatives to preserve local flora and fauna as well as cleaning the campus. Plantation improves aesthetics and helps as a buffer in reducing noise level, maintaining temperature of the area. The College is planning to grow different varieties of fruit bearing trees that may attract variety of insects, birds and thus increasing the biodiversity. The National Cadet Corps (NCC) and National Service Scheme (NSS) have done many activities to maintain the environment sustainable in and around the college campus. Various activities like cleanliness drive, tree-plantation, seminars and

workshops are organized by these societies to increase the awareness and sensitivity among students, faculties, non teaching staff and common people of the locality.

Flora of the Campus:

Sl.No	Local Name	Scientific Name	No of Species
1	Bakul	<i>Mimusops elengi</i>	10
2	Radhachura	<i>Caesalpinia pulcherrima</i>	10
3	Amlakhi	<i>Phyllanthus emblica</i>	01
4	Debdaru	<i>Polyalthia longifolia</i>	05
5	Jari	<i>Ficus amplissima</i>	02
6	Sissu	<i>Dalbergia sisso</i>	12
7	Kathal	<i>Artocarpus heterophyllus</i>	02
8	Kadam	<i>Neolamarckia cadamba</i>	02
9	Cocunut	<i>Cocos nucifera</i>	01
10	Tamul	<i>Areca catechu</i>	02
11	Simalu	<i>Bombax ceiba</i>	18
12	Ahat	<i>Ficus religiosa</i>	01
13	Gamari	<i>Gmelina arborea</i>	13
15	Chegun	<i>Tectona grandis</i>	21
16	Satan	<i>Alstonia scholaris</i>	01
17	Pama	<i>Chukrasia tabularis</i>	01
19	Moj	<i>Terminalia elliptica</i>	06
20	Neem	<i>Azadirachta indica</i>	01
21	Bottle brush	<i>Callistemon citrinus</i>	16
22	Kardoj	<i>Averrhoa carambola</i>	01
23	Madhuriam	<i>Psidium guajava</i>	02
24	Eucalyptus	<i>Eucalyptus globulus</i>	01
25	Silikha	<i>Terminalia chebula</i>	02
26	Krishna Chura	<i>Delonix regia</i>	04
27	Rubber plant	<i>Ficus elastica</i>	01



Polyalthia longifolia



Artocarpus heterophyllus



Cocos nucifera



Bombax ceiba



Tectona grandis



Callistemon citrinus



Phyllanthus emblica



Ficus religiosa & Caesalpinia pulcherrima



Neolamarckia cadamba



Alstonia scholaris



Gmelina arborea



Dalbergia sisso

Fauna of the Campus:

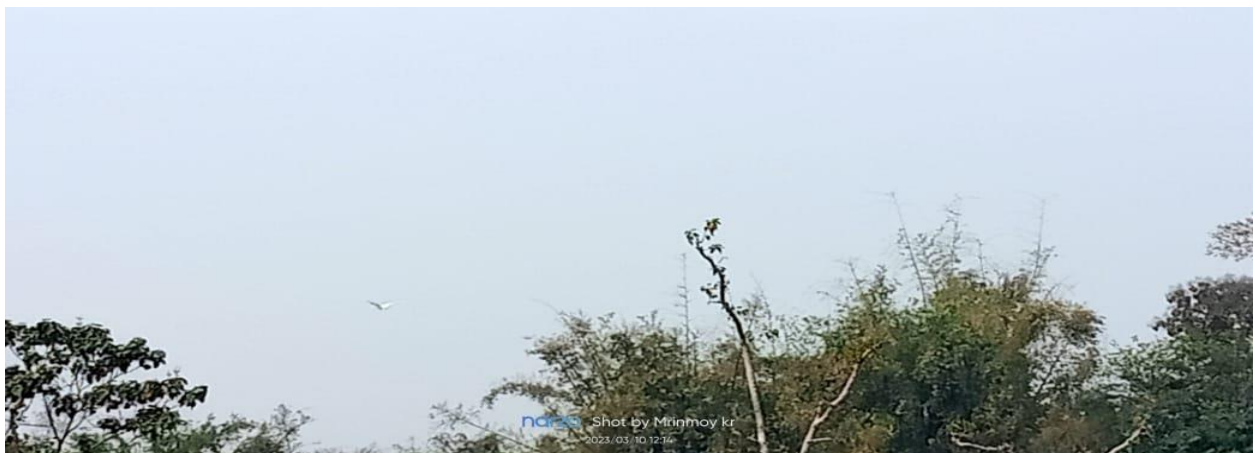
Sl.No	Local Name	Scientific Name
1	Kawori	<i>Corvidae spp.</i>
2	Boga Bogoli	<i>Bubulcus ibis</i>
3	Baduli	<i>Pteropus medius</i>
4	Barhoituka	<i>Dinopium shorii</i>
5	Ghor Xalika	<i>Acridotheres tristis</i>
6	Hargila	<i>Greater adjutant</i>
7	Masruka	<i>Alcedo meminting</i>
8	Hudu	<i>Bubo bubo</i>
9	Bulbuli	<i>Pycnonotus cafer</i>
10	Keteki	<i>Cuculus micropterus</i>
11	Sagun	<i>Gypinae spp.</i>
12	Dauk	<i>Amaurornis phoenicurus</i>
13	Konamuchari	<i>Ardeola grayii</i>
14	Siloni	<i>Milvus migrans</i>
15	Patikauori	<i>Corvus splendens</i>
16	Panikauori	<i>Microcarbo niger</i>
17	Patihah	<i>Anas platyrhynchos domesticus</i>
18	Deo hah	<i>Asaarconis scutulata</i>
19	Tuni	<i>Orthotomus sutorius</i>
20	Bhatau	<i>Psittaciformes spp.</i>
21	Paro	<i>Columba livia</i>
22	Kuli sorai	<i>Cuculus micropterus</i>
23	Ghanchirika	<i>Passer domesticus</i>
24	Xorali	<i>Dendrocygna javanica</i>
25	Deuraz hah	<i>Anser anser</i>
26	Bon-kukura	<i>Gallus gallus</i>
27	Lakhyi phesa	<i>Tyto alba</i>
28	Moina sorai	<i>Gracula relogosa</i>

Aquatic animals found in College Pond:

Sl.No	Local Name	Scientific Name
1	Rohu fish	<i>Labeo rohita</i>
2	Bhakua fish	<i>Labeo catla</i>
3	Grass carp	<i>Ctenopharyngodon idella</i>
4	Chital fish	<i>Chitala chitala</i>
5	Common carp	<i>Cyprinus carpio</i>
6	White prawn	<i>Penaeus indicus.</i>
7	Puthi fish	<i>Puntius sophore</i>
8	Goroi fish	<i>Channa punctata</i>
9	Tilapia fish	<i>Oreochromis niloticus</i>
10	Assemese Bhangon	<i>Cirrhinus reba</i>
11	Common Fresh water frog	<i>Rana temporaria</i>
12	Dhura sap	<i>Fowlea piscator</i>



A view of Pati hah in the back side of the college (Mora Nadi)



A view of different types of birds used to come to backside of College

RECOMMENDATIONS:

1. The College should establish a horticultural as well as medicinal garden in the campus.
2. The college can take initiative for more plantations of economically important timber plants in backside and fruit trees in front side of the college.
3. The installation of solar panel in the college campus can reduce energy bill as well as environment friendly.
4. To keep the dry waste and wet wastes a proper concrete chamber should construct.
5. More cleanness is required in the ponds to main the proper aquatic ecosystem.
6. The vehicles should be parked in proper parking area.
7. More environmental awareness program should organize.
8. Proper drainage system for sewage water is very much important.
9. Bio-waste: Composting system to be adopted.
10. For energy savings, the entire college should have LED bulb and fix the small size display board in every class rooms mentioning switch off the fan and light when there is no class.
11. The boundary wall of the campus is required.

PHOTO GALLERY



