

GREEN AUDIT REPORT

2022-2023



F. A. Ahmed College, Garoimari

F. A. Ahmed College, Garoimari

Kamrup, Assam

Pin: 781137

INTRODUCTION

The Fakhruddin Ali Ahmed College, Garoimari (F.A. Ahmed College, Garoimari) was established in the year 1984 with an area of 25 bighas (15.6 Acre). The people of the area extended spontaneous support for the establishment of a College. The then, some dedicated person led by late Omor Ali Sarkar having no formal education founded the College and named in memory of Fakhruddin Ali Ahmed, the former president of India. The College was accorded affiliation by the University of Gauhati in 1996 & Govt. Concurrence in 1999. The College was provincialized on 01-01-2013. It was great achievement for the College getting 2(f) & 12(B) recognition of UGC Act 1956 in 2014. The college has 10 departments under the faculty of Arts with honours in 7 subjects. The medium of instruction is Assamese and English.



ACKNOWLEDGEMENT

F.A. Ahmed College, Garoimari has created an ecologically sound campus by implementing some eco-friendly practices. The present report is the recent Green Audit Report of the College which looked forward to identify the environment related issues in the College campus and to monitor the environmental management practices adopted by the College. A few suggestions are also made to take environmental protection to higher levels in the College campus and its vicinity. It is hoped that there port will certainly received due attention of the concerned authority and the College shall implement the green practices whatever suggested for better future of all stakeholders of the F A Ahmed College, Garoimari.

We, the Green Audit Assessment Team expresses our gratitude to Mr. Abdul Awal Sahab, Principal, Dr. M. Seik Mozibar Rahman, IQAC Coordinator and Mr. Nasiruddin Ahmed, Academic Coordinator at F A Ahmed College for providing us the necessary green audit related data and leading our team with their valuable suggestions while compiling the report. We are also grateful to the entire teaching and non-teaching staff of the college for their kind cooperation during the data collection process. Lastly, we thank everyone who helped us directly or indirectly in finalizing the Report.

Dr. Habibur Rahman

&

Mr. Pinaki Kumar Rabha

Auditor

F A Ahmed College
(Garoimari) Green Audit-
2023-24

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Associate Professor, Department of Botany,
J. N. College, Boko, Kamrup,
Assam

GREEN AUDIT AT F. A. AHMED COLLEGE, GAROIMARI

Participating in the "Green Campus, Clean Campus" mission launched by the University Grants Commission for all higher educational institutions of India and in compliance with the 'Environmental Consciousness', a mandatory criterion (Criterion VII) of National Assessment and Accreditation Council (NAAC), the sustainability and sustainable development policies are kept on the agenda of F A Ahmed College, Garoimari. Green Audit is one of the steps taken up by the College in order to record, document, analyse and report the environmental constituents of the Campus through an impartial and inclusive method of auditing. It is anticipated that Green Auditing shall help the College in preserving the rich floral and faunal diversity in and around the campus and creating awareness among the stakeholders.

F A Ahmed College is committed to responsible stewardship of resources and to demonstrate leadership in sustainable academic practices for a better tomorrow with the policy goals of Green audit as follows:

- Identification and documentation of the eco-friendly practices for a sustainable college campus.
- Increasing awareness among all stakeholders for sustainable use of available resources.
- Collection of base line data on different components of environment before converting into threat to the college and the society.

To achieve the aforementioned goals, the present audit endeavors towards the following objectives:

- To identify current and emerging environmental issues.
- To monitor environmental management practices.
- To create awareness among the various stakeholders of the College.
- To prepare a status report on environmental compliances.

AUDIT STAGE

Green auditing is the process of identifying and determining whether the College maintains eco-friendly and sustainable practices. As an effective ecological tool, it helps to create a culture of sustainability as an administrative policy throughout an organization and it needs to be implemented through regular identification, quantification, documenting, reporting and monitoring of environmentally important components.

Green auditing in began with the formation of the Green Audit team incorporating faculty members J N College, Boko and faculty members of F A Ahmed College. The audit team visited the campus on regular basis and monitored different facilities from the audit perspectives and, simultaneously made the assessment of the status of the green cover of the Institution followed by waste management practices and energy conservation strategies, etc. Data collection was done by on site visit through structured questionnaires in different sectors such as water, energy, waste, biodiversity status. The data were collected accordingly and analyzed to prepare this Green Audit report of F A Ahmed College, Garoimari. The Audit team was led by Dr. Habibur Rahman (HoD), Associate Professor and Mr. Pinaki Kr. Rabha, Associate Professor, Department of Botany, J. N. College, Boko, Kamrup, Assam.

METHODOLOGY ADOPTED:

The methodology adopted to conduct the GreenAudit of F. A. Ahmed College (Garoimari) had the following components:

- On site field visits by the Green Audit Team at and when necessary.
- Data collections were done through distribution of structured questionnaires amongst different stakeholders and inter views with the executives, official staffs and general students.
- The water quality analysis was done at the Department of Chemistry Laboratory of J. N. College, Boko.
- Different standard taxonomic and ecological protocols were followed to document and estimate the floral and faunal account for biodiversity audit.

POST AUDIT STAGE

LAND USE AND LAND COVER

Located within a densely populated area of Garoimari in Kamrup districts of Assam, the College campus is a flat piece of land with having little undulation in the topography. The present survey revealed that the college campus has been accommodated in a total area of 25 bighas (15.6 acres) of land managed with a master plan with having demarcated and dedicated spaces for one Fishery along with Poultry farming (Duck farming). The pond area is about one bigha and there are potentialities for cultivation of locally available fishes with commercial as well as aesthetic values.

Observations:

- Eco-friendly Life Skill Initiatives like training on fisheries, biofloc fish farming, poultry farming can be undertaken for the greater interest of the student community.
- Disturbance is less in dedicated green areas/gardens.
- A venue trees including some other planted trees are given less attention.
- Inundation problem is not there at present.
- The drainage links are suitably managed to dictate the harvested rain water and excess surface run off towards a 'well' inside the campus with a view to recharge ground water.

Suggestions and Recommendations:

- A task force is to be constituted for monitoring and maintaining the college campus.
- Timely pruning of a venue trees and sound braking trees is suggested to increase aesthetic beauty of the campus.
- Post plantation of saplings needs to be monitored.
- As open space is available in the college campus, more plants should be planted which has commercial as well as aesthetic value. Plantation program should also be undertaken at the bank of the pond.

WATER AUDIT

As water is an essential natural resource, it is therefore, essential to examine the quality and usage of water in the campus. Water auditing is a way to conduct a study on balance between demand and supply of potable and usable water including the quality of the available water. Water audit is therefore considered as an effective management tool for minimizing losses, optimizing various uses leading to conservation of water. Water audit improves the knowledge and documentation of the distribution system, identifies the problem of seepage and leakage leading to reduce water losses, generate ideas for possible recycling of water and the use of rain water. Above all, such auditing improves financial performance of an institute in long run.

Water Management:

The source of water used in the F A Ahmed College, Garoimari is the ground water. A total of 2000L of water is pumped out through water pumps everyday (Table1) for regular use in day today college activities, gardening along with the canteen uses (amount could not be estimated) and laboratory and lavatory uses.

Table1: Source and usage Water

Sno	Parameters	Response
1	Source of water	Ground water
2	NoofWells	NA
3	No of Hand pumps	One
4	No of Overhead tanks	5
5	No of water pumps used	4
6	Horse power-water pumps	1.0HP-2;1.0HP-5
7	Depth of well (boring)	200ftforsubmersible one 120ftforothers
8	Water level	Normal
9	Type of water tanks	Reservoir
10	Capacity of Tank/reservoir (Total)	1000L & 500L
11	Quantity of water pumped everyday	2000L per day
12	Indication of water wastage with reasons	Nowastageofwaterwas seen excludinglittleoverflowfromwatertanks/ leakagefromtaps
13	Water usage for gardening	500L per day
14	Use of waste water	No
15	Fate of waste water from labs	Not attended
16	Any waste water treatment for lab water	No

17	Whether any green chemistry method Practiced in Labs	NA
18	Rain water harvest available?	Yes
19	No of units and amount of water harvested	One Capacity 1000L
20	No of leaky taps	few
21	Amount of water lost per day	Around 250L
21	Water management plan used	Display card in all prominent places
22	Water saving techniques followed	Substantially less
23	Signage for reminding peoples to turn Off tap	Yes
24	Cleaning of the reservoirs	Twice in a year

WATER QUALITY ASSESSMENT:

Water samples were collected randomly from the sources and analyzed for various physico-chemical parameters (Table 2). All parameters excluding iron were found under permissible limits as prescribed by different agencies.

Table 2: Water Quality Analysis Report

Sl. No	Parameters	Values
1	pH	6.59-6.7
2	Total Hardness (mg/l)	58-67
3	Alkalinity (mg/l)	70-83
4	Turbidity (N.T.U)	1.85-1.92
5	Calcium Hardness (mg/l)	64-80
6	Total Dissolved Solids (mg/l)	26-58
7	Sulphates (mg/l)	6.59
8	Chloride (mg/l)	29.5
9	Fluoride (mg/l)	Not traced
	Phosphate (mg/l)	0.51-0.563
10	Residual Chlorine (mg/l)	Nil
11	Iron (mg/l)	1.10-1.57
12	Nitrate (mg/l)	Nil
13	Arsenic (mg/l)	Nil
	Calcium (mg/l)	42.05
14	Manganese (mg/l)	0.14-0.116
15	Magnesium (mg/l)	18-22.76
16	Bacteriological count	Nil

Observations:

- The College is concerned with judicious use of water.
- Awareness for saving water is relatively higher amongst the stakeholders.
- Little wastage of water was marked where attention is required
- Display signage for water conservation and regular monitoring were properly maintained and monitored.
- The waste water from canteen and kitchens are not suitably controlled.
- The College has taken one initiatives in ground water recharges by dictating all roof top waters through the drains to a well to be stored and allowed to seepage towards ground water level. It is not only a unique step but also commendable practice of the F A Ahmed College, Boko for water conservation in the vicinity of the campus.

Suggestions and recommendations:

- A proper water consumption monitoring system could be engaged to make zero water loss in future.
- Rain water harvesting should be constructed foreach building.
- Automated sensors can be installed in order to prevent the overflow of water from tanks.
- Awareness campaigns can be held in the campus for the fresh students to save water every year.
- Periodical maintenance of water taps/water pipes/reservoirs should be done in order to prevent the leakage of water through taps.

AUDITING FOR WASTE MANAGEMENT

Any activities in an establishment create waste and the prime question is how efficiently it could be handled to avoid of any kind of health problems out of it. Pollution from waste is aesthetically unpleasing and results in generation of large amounts of litters in our surroundings. A college can generate three types of wastes viz., solid waste, liquid waste and hazardous waste. Solid waste again can be divided into three categories: bio-degradable, non-biodegradable and hazardous waste. Bio-degradable waste can be effectively utilized for energy generation purposes through an aerobic digestion or can be converted to fertilizer by composting technology. Non-biodegradable waste can be utilized through recycling and reuse. Further attention must be taken against hazardous waste that is likely to be a threat to health of the environment. As unscientific management of these wastes such as dumping in pits or burning them may cause harmful discharge of contaminants into soil and water, and produce greenhouse gases contributing to global climate change respectively, management of waste is utmost necessary. The audit or diagnoses the prevailing waste disposal policies of the college and suggests the best way to combat the problems.

Status of Waste Generation:

In the college, only paper and plastic wastes were recorded to be generated in the Administrative Blocks and in the Canteen whereas, organic waste was found to be more in the Canteen premises and in the cultivation sites. Bio-medical waste and e-waste was almost nil during the survey. Waste in academic departments was negligible and whatever generated are systematically disposed off through the sweeping mechanism. The faculty members were actively engaged in segregating and disposing of waste whatever generated. The litters including regularly fallen twigs and leaves from the plants and trees were found to be dumped over in a compost pit. A table is given here to show an estimated generation of different types of waste on monthly basis in the F A Ahmed College, Garoimari premises based on interview and data received through a structured questionnaire.

Table3: Waste generated in the campus (per monthly basis)

Sl. No	Stakeholders	Types of solid waste	Average waste generated/month
1	Academic Department	Paper waste, Plastic waste, Organic waste, E-waste and Biomedical waste	0.8kg 0.2kg 1.2kg 0.25 kg Nil
2	Administrative Office	Paper waste, Plastic waste, Organic waste, E-waste and Biomedical waste	10kg 0.8kg 4.5 kg 0.58kg Nil
3	Hostels	Paper waste, Plastic waste, Organic waste, E-waste and Biomedical waste	8kg 0.8kg 28.5 kg Nil Nil
4	Canteens	Paper waste, Plastic waste, Organic waste, E-waste and Biomedical waste	1.2kg 2.4 kg 42 kg Nil Nil

Waste Management

The college is committed to keep the campus clean and green. Segregation practice has been adopted to separate different wastes. Installation of dustbins has been started in a phase manner. Signage has already installed to aware the stack holders to use different coloured dustbins for disposing any waste. This is a commendable initiative of the College.

During a survey carried out among the stack holders of F A Ahmed College, Garoimari by the Green Audit Team, a majority of the respondents (84%) were confident about their understanding of waste and their obligation in disposing of the same.

Table 4: waste management practices adopted

Sl. No.	Practice/Strategies adopted	Response	Quantification if any
1	Organised collection of organic waste	Yes	NA
2	Leaf Litter disposal	Yes	On regular basis
3	Use of Plastic/plastic waste	In use	Little
4	Segregation of waste as per Govt. directives	Yes	NA
5	Dustbins proper place	Yes	Notsufficient
6	Dustbin clearing	Yes	Ondailybasis
7	Solid waste recycling process	No	NA
8	Awareness programme organized	Yes	Regular

Observations:

- Academic Departments do not generate large quantities of waste.
- Plastic materials are stilling use though in smaller quantities.
- Frequency for garbage and litter collection is sufficient.
- The waste disposal initiative of F. A Ahmed College is reflected in management programs and efforts of the ground staffs.

Suggestions and Recommendations:

- F A Ahmed College, Garoimari campus needs to be declared as a total plastic-free campus.
- The practice of using biodegradable materials should be encouraged.
- Vermicomposting facilities should be operationalized soon to avoid dumping of organic litters here and there.
- Numbers of dustbin need to be increased.

HEALTH AUDIT

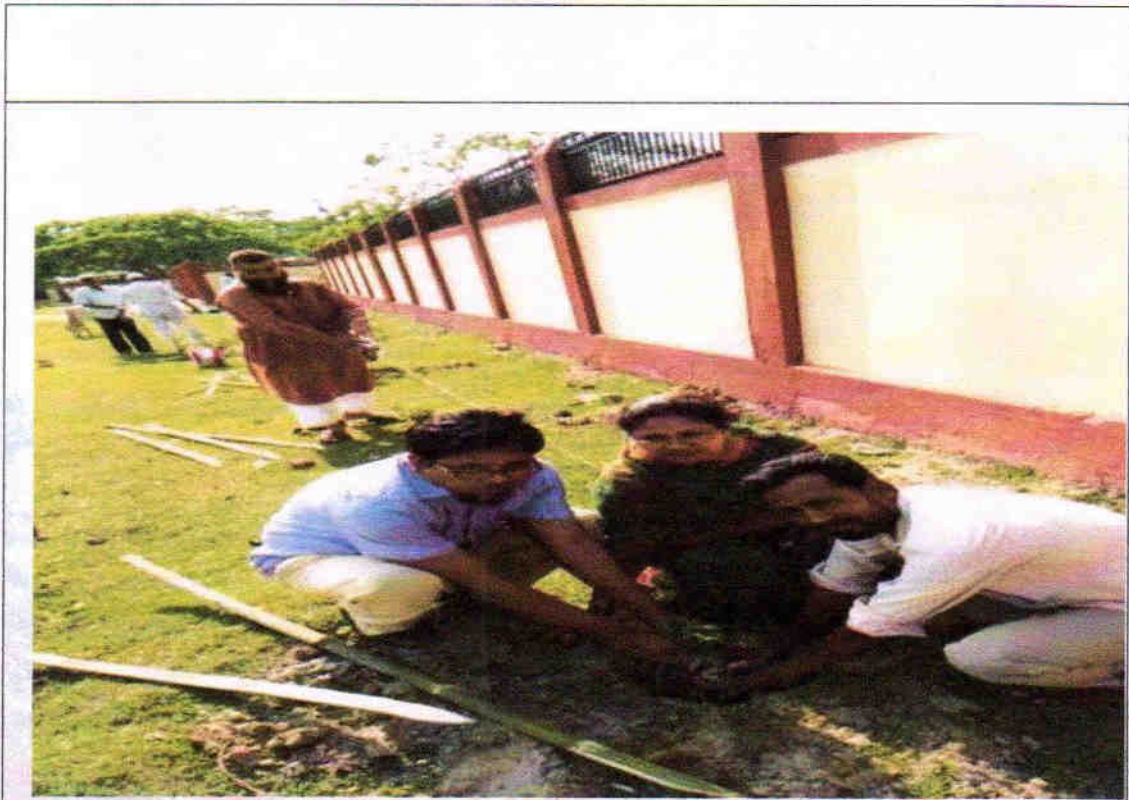
A healthy ecosystem directly means healthy livelihood. Hence, to ascertain a healthy society inside the college campus and to create awareness among the individuals in taking actions against the growing strain on Earth's natural ecosystem, the F. A. Ahmed College, Garoimari fraternity took few initiatives through several events in past couple of years.

Activities of Eco-Club		
Sl. No	Date	Programmes
1	2018	A Plantation Programme conducted under the initiatives of Eco- Club, F.A. Ahmed College, Garoimari for greening the College Campus.
2	2018	"A Plantation Programme conducted under the initiatives of Eco-Club,F.A.Ahmed College, Garoimari for greening the College Campus. Habibur Rahman, Hon'ble Ex-Principal of the College was present in the programme.
3	05-06-2022	Celebration of World Environment Day , 2022.
		An " Awareness Programme on World Environment Day "is conducted and a MoU signed with <i>Luit Paria Sisu Bikash Parishad, Goroimari</i> (An NGO) to increase cognizance on environmental problems such as Plantation, wildlife crime and global warming among the Kids.

4.	22-07-2022	Conducted a plantation programme in the College premises as per instruction of “Chief Minister’s Institutional Plantation Programme” on account of celebration of Azadi-Ka-Amrit Mahotsav .
5.	10-05-2022	“A Cleaning Programme” is conducted in the College campus.
6.	05-06-2023	On account of “World Environment Day/2023” , an “Essay Writing Competition” was conducted by the Department of Philosophy in collaboration with Eco-Club to create awareness among the students of the College.
		A Virtual Programme on observation of World Environment Day, 2023 among the employees of F.A. Ahmed College, Garoimari on 5 th June. Main Theme of the programme was about the “Global Warming and its prevention” .
7.		An “Awareness Programme on Plantation” a part of Chief Minister Plantation Programme was conducted among the students of the College under the initiatives of Eco-Club, F.A. Ahmed College, Garoimari. Main objective of the programme was to encourage the students towards plantation.
8.	15-09-2023	“An awareness Programme on use of Plastic and Impacts on Environment” is organized by Eco-Club of the College and Abdul Awal Sahab, Principal i/c, Staff and students of the College were present in the programme. Rofiqul Islam (DPMT, B. Tech in Mechanical Engineering) attends the programme as the Resource Person . Main objective of the programme was to create awareness among the students about various negative impact of Plastic use and best it can be managed.
9.	17-09-2023	“Amrit Brikshya Abhiyan, a part of Chief Minister Plantation Programme” was conducted by the Eco-Club of the College.
10.	09-12-2023	A “ Campus Cleaning Programme” is conducted by the Eco-Club of the.
11.	08-12-2023 & 10-12-2023	A “ Two Days District Level Training Programme on Solid Waste Management and Vermicomposting” is organized by Assam Science Technology and Environment Council in Collaboration with Aryabhata Science Centre and Eco-Club at College Auditorium. Co-ordinators of Eco-Club of neighbouring Schools, Cultivators were the participants in the programme. Sri Arup Birkamiya, Circle Officer, Garoimari Rev. Circle , attends the programme as the Chief Guest. Main objective of the programme was to encourage and create awareness about the use of Chemical Fertilizer, Solid Waste Management and Vermicomposting practice etc.

1. A Plantation Programme conducted under the initiatives of Eco- Club, F.A. Ahmed College, Garoimari for greening the College Campus in 2018





A Plantation Programme conducted under the initiatives of Eco-Club, F.A. Ahmed College, Garoimari for greening the College Campus in 2018. Habibur Rahman, Hon'ble Ex-Principal of the College was present in the programme.



“A Cleaning Programme” is conducted by the Eco-Club, F.A. Ahmed College, Garoimari
10th May
2022 in the College campus.



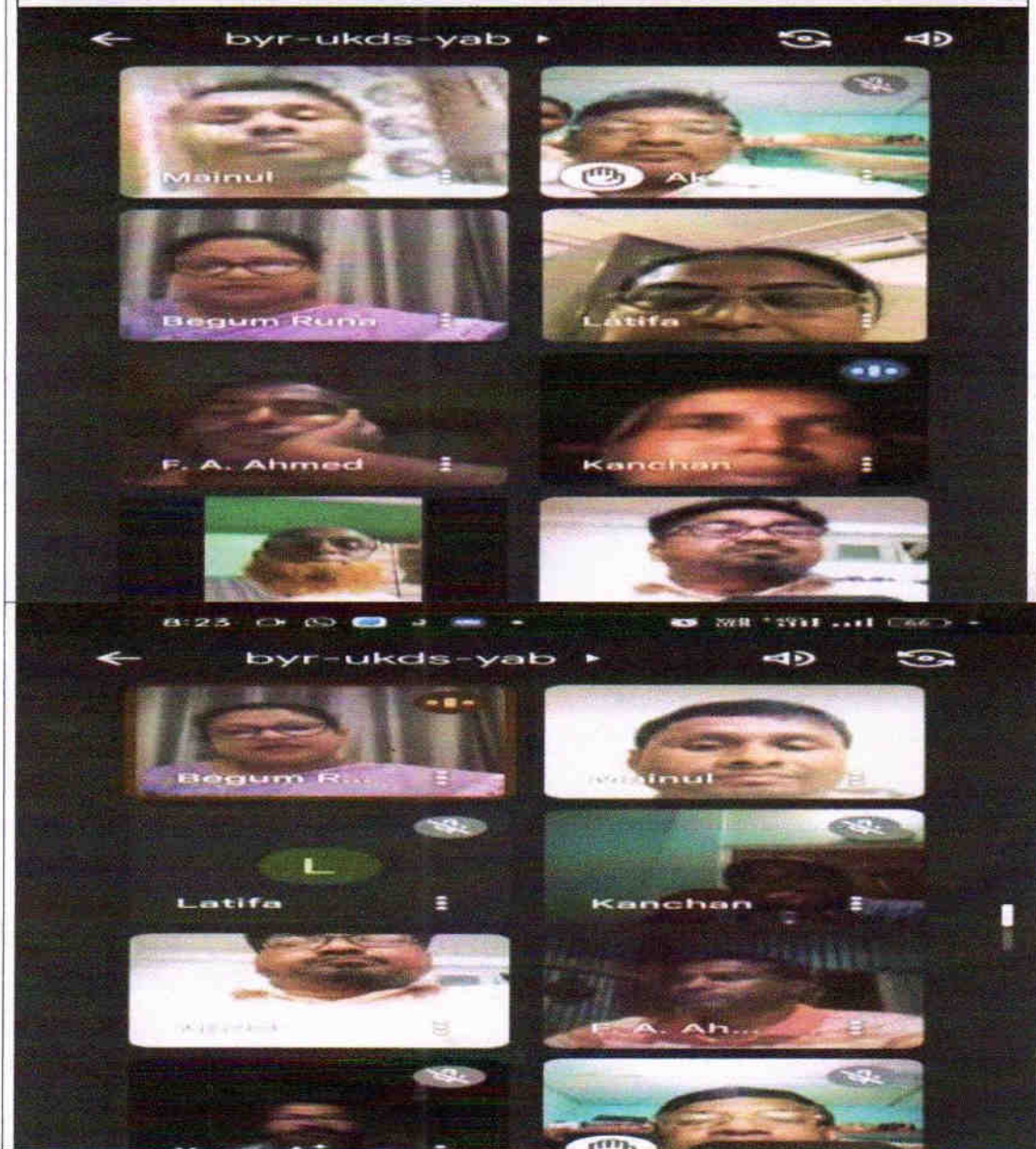
On account of "World Environment Day/2023", an "Essay Writing Competition" was conducted by the Department of Philosophy in collaboration with Eco-Club, F.A. Ahmed College, Garoimari on 5th June/2023 to create awareness among the students of the College.



“Awareness Programme on World Environment Day” is conducted by Eco-Club, F.A. Ahmed College, Garoimari in *Luit Paria Sisu Bikash Parishad, Goroimari* (A MoU signed NGO) on 5th June 2022 to increase cognizance on environmental problems such as Plantation, wildlife crime and global warming among the Kids.



A Virtual Programme on observation of World Environment Day, 2023 among the employees of F.A. Ahmed College, Garoimari on 5th June. Main Theme of the programme was about the "Global Warming and its prevention". Abdul Awal Sahab, Hon'ble Principal i/c of the College delivered inaugural Speech in the programme.



Conducted a plantation programme in the College premises as per instruction of “**Chief Minister’s Institutional Plantation Programme**” on account of celebration of **Azadi-Ka-Amrit Mahotsav** on 22/07/2022. The Programme was attended by the some founder members of College G.B., Well-wishers, and patrons of the locality.

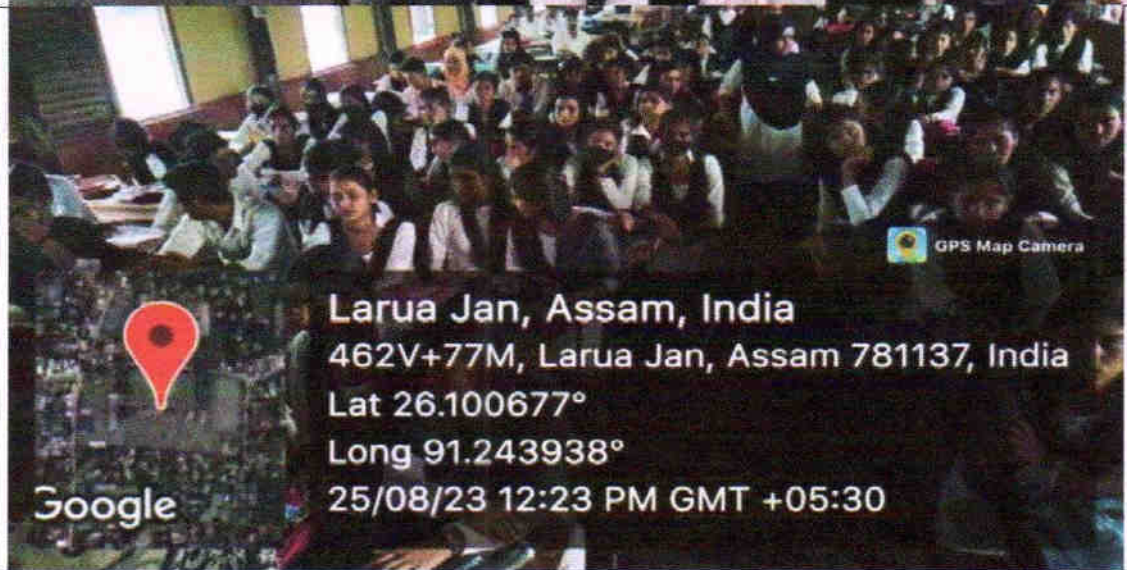
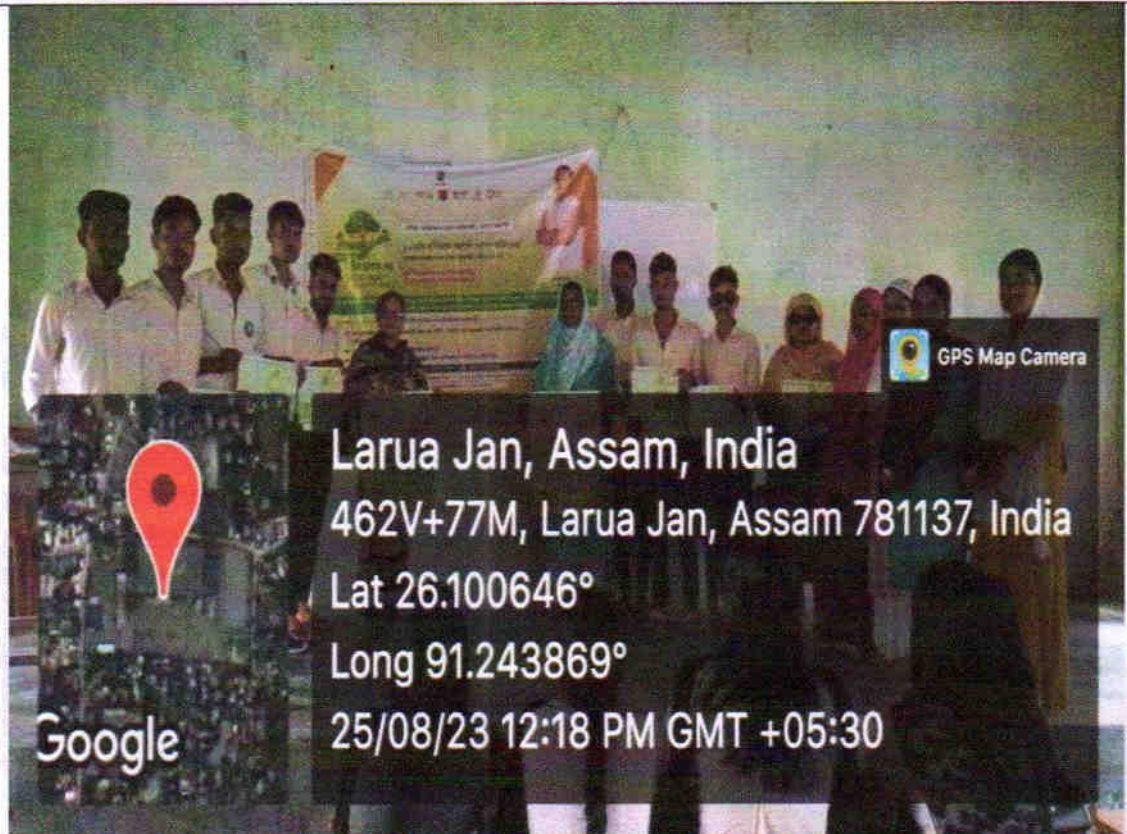


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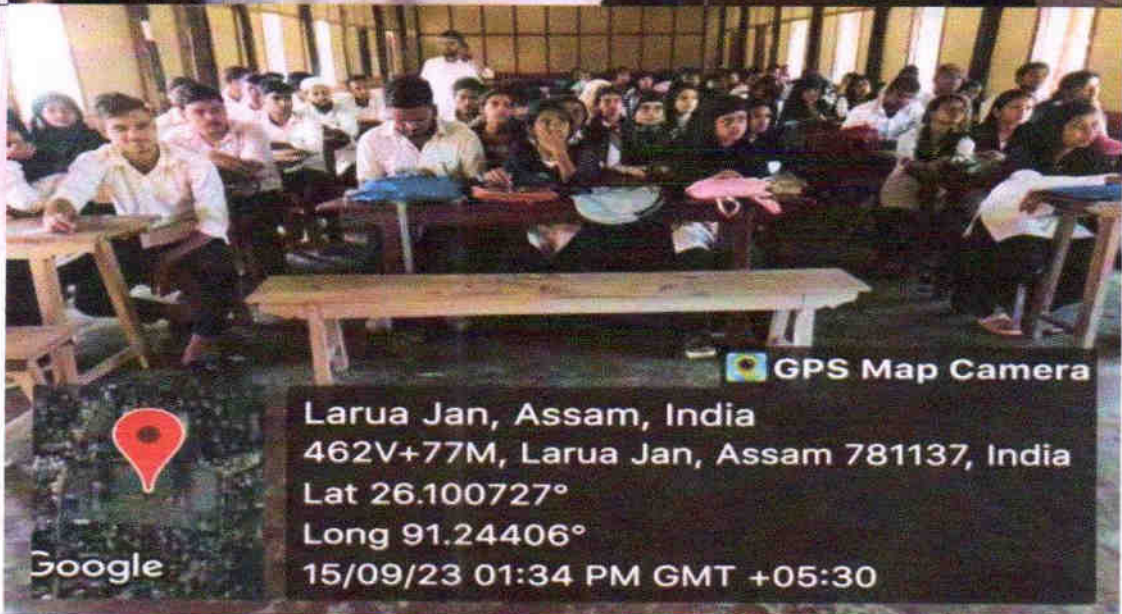
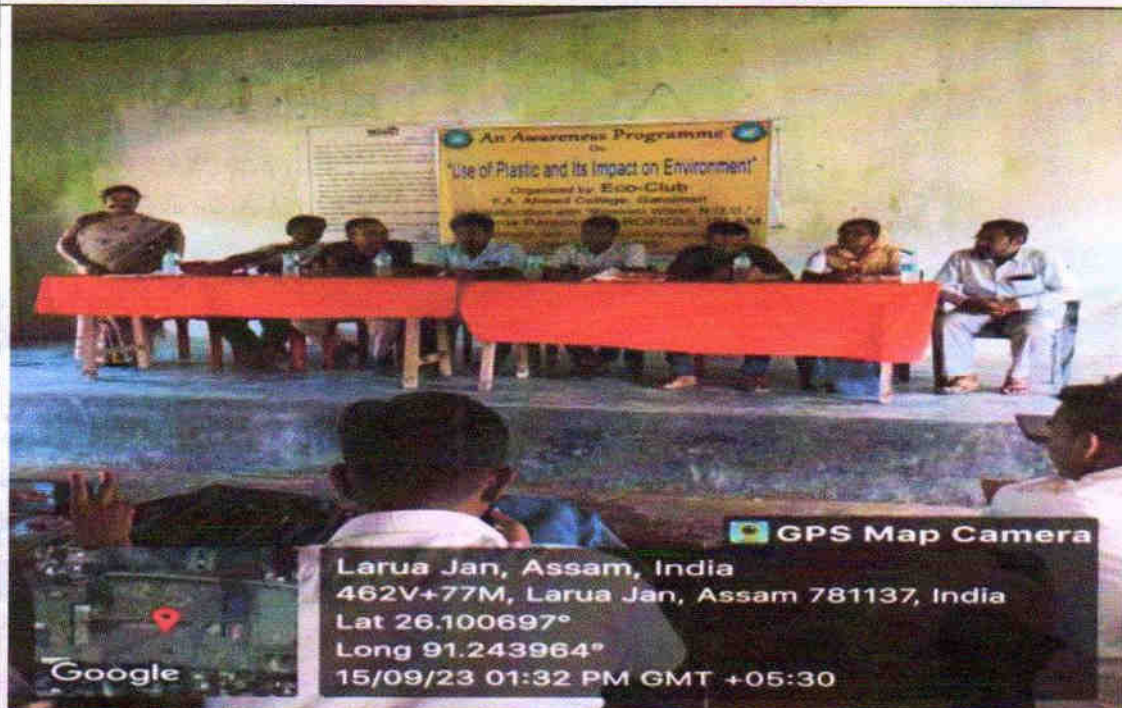
World Environment Day 2023 is observed at F.A. Ahmed College, Garoimari. **Reporters of GKS Press Club, Garoimari** were present in the programme. The programme was conducted by Eco-Club of the College.



“An awareness Programme on Plantation” a part of **Chief Minister Plantation Programme** was conducted among the students of the College under the initiatives of Eco-Club, F.A. Ahmed College, Garoimari. Main objective of the programme was to encourage the students towards plantation.



“An awareness Programme on use of Plastic and Impacts on Environment” is organized by Eco-Club, F.A. Ahmed College, Garoimari on 15/09/2023. Abdul Awal Sahab, Principal i/c, Staff and students of the College were present in the programme. **Rofiqul Islam (DPMT, B. Tech in Mechanical Engineering)** attends the programme as the **Resource Person**. Main objective of the programme was to create awareness among the students about various negative impact of Plastic use and best it can be managed.



"Amrit Brikshya Abhiyan, a part of Chief Minsiter Plantation Programme" was conducted by the Eco-Club, F.A. Ahmed College, Garoimari on 17/09/2023

A promotional graphic for the tree-planting program. It features a blue background with a globe and hands holding a sapling. The text is as follows:

"A Plantation Program as part of Amrit Brikshya Abhiyan"
Organized by: Eco-Club
F.A. Ahmed College, Garoimari
Date: 17/09/2023

“A Campus Cleaning Programme” is conducted by the Eco-Club, F. A. Ahmed College, Garoimari on 09/12/2023.





A Two Days District Level Training Programme on Solid Waste Management and Vermicomposting is organized by Assam Science Technology and Environment Council in Collaboration with Aryabhata Science Centre and Eco- Club, F.A. Ahmed College, Goroimari on 8th & 10th December, 2023 at the College Auditorium. Co-ordinators of Eco-Club of neighbouring Schools, Cultivators were the participants in the programme. Abdul Awal Sahab, Principal, F.A.Ahmed College, Goroimari presides over the Meeting. **Sri Arup Birkamiya, Circle Officer, Goroimari Rev. Circle**, attends the programme as the Chief Guest. Main objective of the programme was to encourage and create awareness about the use of Chemical Fertilizer, Solid Waste Management and Vermicomposting practice etc.



Environment Education Programme

Mission LiFE in Assam

District Level Training on Solid Waste Management and Vermicomposting

Organised by :

Assam Science Technology and Environment Council

Date:
08 & 10 Dec., 2023

in Collaboration with
Aryabhata Science Centre, Rampur Block, Kamrup
Samagra Sikha, Kamrup
and Eco-Club of F A Ahmed College, Goroimari

Venue:
F A Ahmed College,
Goroimari

Supported by

Ministry of Environment, Forest & Climate Change, Govt. of India

Day-1
Date:08/12/2023
Resource Persons: Masfiqul Hussain, Jr. Scientist
&
Dr. Kaberi Mahanta,
Scientist AAU-HRS,
Kahikuchi, Ghy



ENVIRONMENTAL QUALITY ANALYSIS

Climate:

The campus experiences a moderate sub-tropical climate year-round, characterized by warm summers and mild winters. Spring (March–April) and autumn (September–October) are typically pleasant seasons, featuring moderate rainfall and temperatures. The ambient temperature fluctuates between 14°C in January and 37°C in August.

Air Quality:

NO ₂	: 2.64ppb
NO	: 1.78ppb
O ₃	: 14.8ppb
PM _{2.5}	:14.6ig/m ³
PM ₁₀	:25.3ig/m ³
CO	: 201ppb
SO ₂	: 2.96ppb
WindSpeed	:4.21m/s
Wind Direction	: West North direction
Humidity	: 78.6%
BarometricPressure	: 1002.89hPa

Noise Level (Peak Time average):

Location	Periods (DurationinSec.)	Minimum (dBA)	Maximum (dBA)	Average (dBA)
CollegeGate	60	58.75	82.7	76.2
Canteen	60	24.6	63.9	53.3
AdministrativeBlock	60	25.9	57.8	51.1
Library	60	3.17	21.35	16.38
ArtsBlock	60	51.7	66.8	64.3
CollegeBackSide	60	4.25	16.4	14.7
Girls CommonRoom	60	33.45	61.9	53.28

BIODIVERSITY AUDIT

Biodiversity is the cornerstone of a healthy ecosystem. In a biodiversity book published by the Commonwealth Scientific and Industrial Research Organization (CSIRO), Morton & Hill (2014) eloquently highlighted five core values of biodiversity: economic, ecological, recreational, cultural, and scientific. Biodiversity contributes essential raw materials for human consumption and production. Ecologically, it plays a crucial role in the functioning of ecosystems, supplying oxygen, maintaining clean air and water, facilitating pollination in plants, controlling pests, and supporting wastewater treatment, among other ecosystem services. Scientific intervention can reveal a wealth of systematic ecological data that helps us understand natural activities and necessities in the context of human behavior.

Many recreational activities depend on regional biodiversity, such as bird-watching, hiking, camping, and fishing. Additionally, the tourism industry relies on biodiversity. Above all, our culture is closely intertwined with biodiversity through expressions of identity, spirituality, and aesthetic appreciation. Any loss or deterioration in the condition of biodiversity can compromise all the values outlined above and affect human well-being, particularly in the North Eastern region, situated between two biodiversity hotspots, the Himalaya and Indo-Burma.

Given the pivotal role that biodiversity plays in providing irreplaceable services to any community, a biodiversity audit is a fundamental practice for the sustainability of an institute. The primary objective of a biodiversity audit is to document different biodiversity components within the college campus, observe ecosystem structures and functions, and regularly monitor for new additions and analyze biotic interactions among different components of biotic resources. The outcomes of such an audit will undoubtedly be helpful in designing various conservation measures for a better and self-sustaining ecosystem on the campus.

The F. A. Ahmed College, Garoimari campus, spans over a plot of 25 bighas, i.e., 15.6 acres (as per land records), with approximately 25% of the area covered by greenery housing various varieties of natural fauna and flora. Some plants have been introduced to enhance the aesthetic beauty of the campus.

Faunal Diversity:

The F. A. Ahmed College, Garoimari campus, hosts a diverse range of animals from different phyla, indicating the overall health of the campus. In the present study, 53 vertebrates were reported in the college campus, belonging to different phyla and classes. This includes 9 amphibians, 8 reptile

species, and 31 birds recorded during the audit period. Mammalian diversity is limited, represented by only 5 species. Invertebrates include several species of butterflies, grasshoppers, earthworms, leeches, and numerous other insects like bees, wasps, ants, bugs, beetles, and spiders.

It is interesting to note that the college campus provides a sound nesting ground for squirrels, mongooses, doves, crows, parrots, orioles, drongos, and common mynas.

Birds:

SINo	Common Name	Scientific Name
1	Spotted Dove	<i>Streptopelia chinensis</i>
2	Rose-ringed Parakeet	<i>Psittacula krameri</i>
3	Common Cuckoo	<i>Cuculus canorous</i>
4	Indian Cuckoo	<i>Cuculus micropterus</i>
5	Brainfever Bird	<i>Hierococcyx varius</i>
6	Lesser Coucal	<i>Centropus bengalensis</i>
7	Spotted Owlet	<i>Athen ebrama</i>
8	Jungle Owlet	<i>Glaucidium radiatum</i>
9	White-breasted Kingfisher	<i>Halcyon smyrensis</i>
10	Lesser Pied Kingfisher	<i>Ceryle rudis</i>
11	Blue-cheeked Bee-eater	<i>Merops persicus</i>
12	Chestnut-headed Bee-eater	<i>Merops leschenaultia</i>
13	Small Bee-eater	<i>Merops orientalis</i>
14	Common Hoopoe	<i>Upupa epops</i>
15	Blue-throated Barbet	<i>Megalaima asiatica</i>
16	Common Golden-backed Woodpecker	<i>Dinopium javanense</i>
17	Brown Shrike	<i>Lanius cristatus</i>

SINo	Common Name	Scientific Name
18	Black-headed Oriole	<i>Oriolus xanthornus</i>
19	Black Drongo	<i>Dicrurus macrocercus</i>
20	Common Myna	<i>Acridotheres tristis</i>
21	Jungle Myna	<i>Acridotheres fuscus</i>
22	Asian Pied Starling	<i>Sturnus contra</i>
23	Indian Tree Pie	<i>Dendrocitta vagabunda</i>
24	House Crow	<i>Corvus splendens</i>
25	Red-vented Bulbul	<i>Pycnonotus cafer</i>
26	Common Tailorbird	<i>Orthotomus sutorius</i>
27	Oriental Magpie Robin	<i>Copsychus saularis</i>
28	House Sparrow	<i>Passer domesticus</i>
29	Black-headed Munia	<i>Lonchura malacca</i>
30	Cattle Egret	<i>Bubulcus ibis</i>
31	Jungle Babbler	<i>Turdoides striatus</i>

Mammals:

SINo	Common Name	Scientific Name
1	Common Mongoose	<i>Herpestes edwardsi</i>
2	The small Indian Civet	<i>Vivvericula indica (occasional visits)</i>
3	The common House Rat	<i>Rattus rattus</i>
4	House Mouse	<i>Musmus culus</i>
5	Common House Shrew	<i>Suncus murinus</i>

Reptiles:

SINo	Common Name	Scientific Name
1	Garden Lizard	<i>Calotes versicolor</i>
2	Tokay Gecko	<i>Gekko gekko</i>
3	Asian House Gecko	<i>Hamidactylus frenatus</i>
4	Many-lined Grass Skink	<i>Eutropism ultifasciata</i>
5	CheckeredKeelback Water Snake	<i>Xenochrophis piscator</i>
6	Red-necked Keelback	<i>Rhabdophis subminiatus</i>
7	Painted Bronzeback	<i>Dendrelaphis pictus</i>
8	Striped Keelback	<i>Amphiesma stolatum</i>

Insects:

- *Apisindica, Apisdorsata; Apis florae*
- *Crocothemis erythraea; Pantala flavescens*

Moths & Butterflies:

- *Antheria assmensis; Bombyx mori; Philosamia ricini*
- *Junonia atlites atlites; Commander; Ethopehima chala*
- *Melanitis ledaleda; Paltoporia paraka; Ypthima baldus*
- *Acraea terpsicore; Elymnia hypermnestra*
- *Mycalesis pers eusblasius; Tanaeci alepidae; Euploea core core*

Spiders:

- *Myrmachne orientalis; Nephilaplipes; Heteropodasp; Phintellavitatta*

Floral Diversity

The college campus is an evergreen, beautiful area with a variety of trees, bushes, and grasses. The aesthetic beauty of the campus has been enhanced by introducing a few ornamental and economically important plants. All the plants provide good ecological services in maintaining a green college campus near the Boko town. Altogether, 62 species of plants belonging to herb, shrub, and tree categories are recorded and listed below:

Table 5: Plants of F.A. Ahmed College Campus

SINo	Name of Plant	Family	Life Form
1	<i>Shorea robusta</i>	<i>Dipterocarpaceae</i>	Tree
2	<i>Hevea brasiliensis</i>	<i>Euphorbiaceae</i>	Tree
3	<i>Tectona grandis</i>	<i>Lamiaceae</i>	Tree
4	<i>Mimusops elengi</i>	<i>Sapotaceae</i>	Tree
5	<i>Phyllanthus emblica</i>	<i>Phyllanthaceae</i>	Tree
6	<i>Eucalyptus sp.</i>	<i>Myrtaceae</i>	Tree
7	<i>Terminalia arjuna</i>	<i>Combretaceae</i>	Tree
8	<i>Zizyphus jujuba</i>	<i>Rhamnaceae</i>	Tree
9	<i>Terminalia chebula</i>	<i>Combretaceae</i>	Tree
10	<i>Terminalia bellirica</i>	<i>Combretaceae</i>	Tree
11	<i>Gmelina arborea</i>	<i>Lamiaceae</i>	Tree

SINo	Name of Plant	Family	Life Form
12	<i>Ficus benghalensis</i>	<i>Moraceae</i>	Tree
13	<i>Azadirachta indica</i>	<i>Meliaceae</i>	Tree
14	<i>Syzygium cumini</i>	<i>Myrtaceae</i>	Tree
15	<i>Olea europaea</i>	<i>Oleaceae</i>	Tree
16	<i>Lagerstroemia speciosa</i>	<i>Lythraceae</i>	Tree
17	<i>Mesua ferrea</i>	<i>Calophyllaceae</i>	Tree
18	<i>Neolamarckia cadamba</i>	<i>Rubiaceae</i>	Tree
19	<i>Unidentified</i>	<i>Magnoliaceae</i>	Tree
20	<i>Dalbergia sissoo</i>	<i>Fabaceae</i>	Tree
21	<i>Calotropis gigantea</i>	<i>Epocynaceae</i>	Tree
22	<i>Cryptomeria japonica</i>	<i>Cupressaceae</i>	Tree
23	<i>Thuja sp.</i>	<i>Cupressaceae</i>	Tree
24	<i>Pinus sp.</i>	<i>Pinaceae</i>	Tree
25	<i>Cycas sp.</i>	<i>Cycadaceae</i>	Tree

SINo	Name of Plant	Family	Life Form
26	<i>Peperomia pellucida</i>	<i>Piperaceae</i>	Herb
27	<i>Polyalthia longifolia</i>	<i>Annonaceae</i>	Tree
28	<i>Epipremnum aureum</i>	<i>Araceae</i>	Herb
29	<i>Aloe vera</i>	<i>Asphodelaceae</i>	Herb
30	<i>Chlorophytum comosum</i>	<i>Asparagaceae</i>	Herb
31	<i>Dracaena trifasciata</i>	<i>Asparagaceae</i>	Herb
32	<i>Cocos nucifera</i>	<i>Areaceae</i>	Tree
33	<i>Tradescantia pallida</i>	<i>Commelinaceae</i>	Herb
34	<i>Curcuma longa</i>	<i>Zingiberaceae</i>	Herb
35	<i>Cyperus rotundus</i>	<i>Cyperaceae</i>	Herb
36	<i>Cynodon dactylon</i>	<i>Poaceae</i>	Herb
37	<i>Albizia debbeck</i>	<i>Fabaceae</i>	Tree
38	<i>Delonix regia</i>	<i>Fabaceae</i>	Tree
39	<i>Rosa alba</i>	<i>Rosaceae</i>	Shrub

SINo	Name of Plant	Family	Life Form
40	<i>Ziziphus jujube</i>	<i>Rhamnaceae</i>	Tree
41	<i>Artocarpus heterophyllus</i>	<i>Moraceae</i>	Tree
42	<i>Ficus religiosa</i>	<i>Moraceae</i>	Tree
43	<i>Oxalis sp.</i>	<i>Oxalidaceae</i>	Herb
44	<i>Euphorbia hirta</i>	<i>Euphorbiaceae</i>	Herb
45	<i>Phyllanthus fraternus</i>	<i>Phyllanthaceae</i>	Herb
46	<i>Psidium guajava</i>	<i>Myrtaceae</i>	Shrub
47	<i>Hibiscus rosa-sinensis</i>	<i>Malvaceae</i>	Shrub
48	<i>Carica papaya</i>	<i>Caricaceae</i>	Shrub
49	<i>Amaranthus spinosus</i>	<i>Amaranthaceae</i>	Herb
50	<i>Amaranthus viridis</i>	<i>Amaranthaceae</i>	Herb
51	<i>Bougainvillea glabra</i>	<i>Nyctaginaceae</i>	Climbing shrub
52	<i>Catharanthus roseus</i>	<i>Apocynaceae</i>	Herb
53	<i>Musa spp.</i>	<i>Musaceae</i>	Shrub

Observations:

- The college maintains a sound green environment, which is commendable.
- Beautiful and well-maintained gardens enhance the aesthetic beauty of the campus.
- The trees and bushes provide nesting support to specific indigenous wildlife, signaling a calm and eco-friendly environment on campus.
- The college supports alumni in running a nursery named 'Jannat Nursery.'

Suggestions and Recommendations:

- The existing campus of F.A. Ahmed College, Goroimari, supports a good number of plants and animals, some of which are ecologically, aesthetically, and culturally important. Conservation efforts should be implemented to preserve these plant species, supporting and achieving more biodiversity values in the future.
- The dedicated garden areas need regular monitoring to enhance the aesthetic beauty of the campus.
- Boundary areas may be systematically planted in consultation with a botanist or horticulturist.
- Students should be encouraged to take care of the plants and the campus.

AUDIT SUMMARY

This report on the Green Audit of F.A. Ahmed College, Garoimari, for the year 2021-2022 was prepared with the objective to highlight and provide a statement on the green practices followed by the College. The Green Audit began with the assessment of the college's green cover, followed by a water audit, waste management practices, and energy conservation strategies. The audit team visited various facilities at the college campus, monitored different appliances/utilities, and documented relevant consumption patterns. Faculty members, staff, and learners were interviewed through structured questionnaires to gather details of usage, frequency, or general characteristics of different appliances.

The College, located on a vast plot of 25 bighas (15.6 acres), has a systematically arranged campus based on its master plan with dedicated spaces. The garden in front of the administrative building and avenue trees aligned with the buildings enhance the aesthetic beauty of the campus. Some disturbances within the dedicated green areas/gardens were observed that need monitoring and intervention. The college's boundaries are almost covered with plantation, serving as a sound barrier for the campus. Regular monitoring, trimming/pruning, and cultivation of Assam lemon, jujube, turmeric, and dragon fruits highlight eco-friendly initiatives and skill development programs.

Water Management: F.A. Ahmed College extracts 2000L of groundwater per day to fill up the nine water reservoirs of a capacity of 11000L. Wastage of water is minimal, reflecting the stakeholders' consciousness. Potable water quality is within permissible limits, except for iron content, which the college is managing through necessary filters. Rainwater harvesting initiatives and regular monitoring contribute to water conservation practices.

Waste Management: More paper and plastic wastes were generated in administrative blocks and the canteen, while organic waste was more in the canteen and hostel premises. No report was found on biomedical waste generation. E-waste generation is minimal and disposed of through a registered firm. The college has a centralized collection mechanism for waste, excluding litters and biomass. Visible segregation practices need attention, and the campus should aim to be declared a 'Complete Plastic-Free Campus.'

Awareness Programs: To encourage environmental respect and conservation, the college, in collaboration with NSS Cell and Eco Club, regularly organizes awareness programs on cleanliness and a healthy environment. Cleanliness drives and plantation programs have been conducted in and around the campus.

Energy Conservation: Energy use is vital for campus sustainability. The college mainly uses energy for lighting, office equipment, air conditioners, fans, water pumps, and cleaning/construction purposes. LED lamps and tube lights are installed throughout the campus, showcasing an excellent energy-saving practice. Computers are set to automatic power-saving mode when not in use. The college has a small generator and uses LPG for cooking in canteens and hostels. Solar installation needs improvement.

Biodiversity: The campus houses around 53 vertebrates under different phyla, including 9 amphibians, 8 reptiles, 31 birds, and 5 mammals. Invertebrates include various species of butterflies, grasshoppers, earthworms, leeches, and other insects. The campus has 62 species of trees, shrubs, and herbs, contributing to its evergreen nature.

Despite budgetary and management constraints, F.A. Ahmed College has put significant effort into streamlining green practices, making it an eco-friendly and aesthetic campus. Specific suggestions and recommendations have been provided in each category for further improvement.

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 14-12-23

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