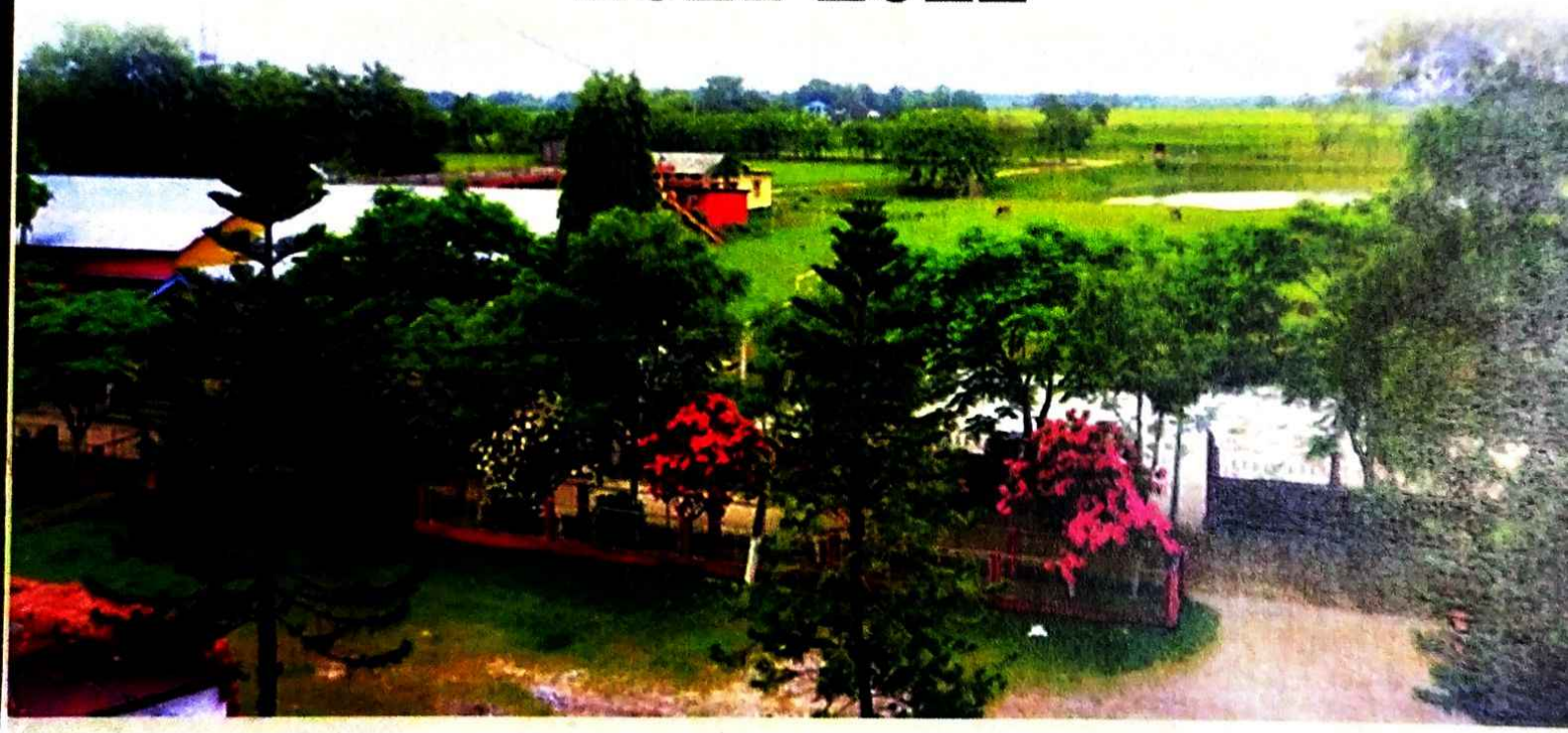
GREEN AUDIT REPORT
2021-2022



BAOSI BANIKANTA KAKATI COLLEGE

Nagaon, Barpeta – 781311, Assam

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ACKNOWLEDGEMENT

Environmental disruptions and changes in climate teach us to adopt sustainable development policies in every aspect of our life. To meet the challenges, the University Grants Commission of India has also launched a "Green Campus Clean Campus" mission for all higher educational institutions of the country. Considering the importance of the same, the National Assessment and Accreditation Council (NAAC) perhaps made "Environmental Consciousness" as one of the mandatory criteria for grading educational institutes.

Baosi Banikanta Kakati College (BBK College, Nagaon) is therefore committed to create 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 the report will certainly receive due attention of the concerned authority and the College shall implement the green practices whatever suggested for better future of all stakeholders of the BBK College, Nagaon.

Dr. Pradip Das, Principal, BBK College, Nagaon deserves the appreciation for his initiative in conducting the Green Audit for the college. The Audit team is thankful to all the students, officiating members of Offices and faculty members of the college for their support and co-operation to compile and complete this report on time. Special thanks are due to Dr. Krishna Kanta Sarma, Dr. Mrinali Hazarika, Dr. Sadhana Medhi, Dr. Kishor Kumar Deka, Dr. Bhupen Rabha and Dr. Manalisha Deka of BBK College, Nagaon for their sincere support during the audit process in collating data for the report.

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BBK College Green Audit-2022
&
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ABOUT B B K College, Nagaon

BBK College, Nagaon was established on 25th July, 1971 to cater the need of higher education in the greater Baosi locality of Nagaon under Barpeta District of Assam with the patronage of noted freedom fighter and former Chief Minister of Assam Late Mahendra Mohan Choudhury. The college is situated at a distance of 12 kms from Barpeta town, the district head quarter of the district amidst the lush green paddy fields and sylvan serenity and is well connected by road from Guwahati city.

After coming under the fold of Deficit Grants-in-Aid system of Govt. of Assam in the years 1979 (Arts stream) and 1996 (Science stream) the College has been showing the marks of progress in all respects to the satisfaction of the students and guardians along with the education-enthusiasts of greater Nagaon Basoi area in last five decades. The serene beauty and eco-friendly campus of the College with beautiful garden and play ground is conducive to the pursuit of academic activities. The college has been under provincialized scheme of Govt. of Assam w.e.f. 1st December 2005.

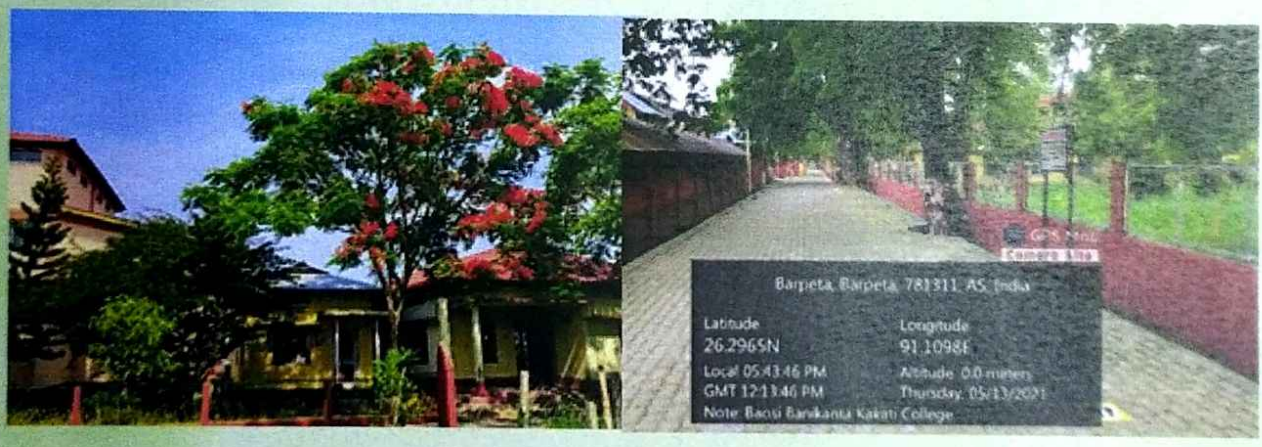


Plate 1 : The BBK College Nagaon Campus

With the 16 full-fledged departments under the faculty of Arts and Science, BBK College continues to add new feathers in its cap so far as its academic excellence is concerned. The sustained endeavour and efforts of the College towards quality education and the focus on all round development of the economically weaker section of the society is commendable. The college has therefore been accredited with C^{++} and B^{++} grades by the National Assessment and Accreditation Council (NAAC) in the year 2004 and in 2016 respectively in first and second assessment cycle.

Around 1800 students enrolled in UG, PG HS programmes along with Diploma and Certificate courses at BBK College in the session 2021-2022 against the 37 faculty members including librarian and 16 guest faculties. There are 22 permanent supporting staffs at present in the college. The Principal is the chief executive of the college and the Vice Principal who has been nominated by the Governing Body from the teachers is assisting him in academic activities.

GREEN AUDIT AT B B K College, Nagaon

Participating in the "Green Campus, Clean Campus" mission launched by the University Grants Commission for all higher educational institution 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 BBK College, Nagaon. 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; garnering interest and creating awareness among the stakeholders.

BBK 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 baseline data on different components of environment before converting into threat to the college and the society.

To achieve the aforementioned goals, the present audit endeavours 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

Plate 2: Foundation Day Celebration in lush green Environment of BBK College

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 BBK College, Nagaon began with the formation of the Green Audit team incorporating faculty members and researchers of Gauhati University and BBK College, Nagaon. 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 onsite visit through structured questionnaires in different sectors such as water, energy, waste, biodiversity status. The data were collated accordingly

and analyzed to prepare this Green Audit report of BBK College, Nagaon. The Audit team was led by Prof. Partha Pratim Baruah, Department of Botany, Gauhati University and Chairperson, Gauhati University Green Audit Committee (2019, 2022).

METHODOLOGY ADOPTED

The methodology adopted to conduct the Green Audit of BBK College, Nagaon 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 interviews with the executives, official staffs and general students.
- The water quality analysis was done at the Plant Ecology Laboratory of Gauhati University.
- GIS tools were used to prepare the map of the campus for LULC survey
- 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 thinly populated Basoi area, the College campus is a flat piece of land with having little undulation in the topography amidst the lush green paddy fields and sylvan serenity. The present survey revealed that the college campus has been accommodated in a total area of 19.83 acres (32 bigha and 10 lessa) of land managed with a master plan with having demarcated and dedicated spaces for 5 ornamental garden, one botanical garden, seven ponds and two multi sports play grounds. Regular plantations since the inception of the College make it lush green campus. The trees not only support as sound barriers, but also house a wide spectrum of epiphytic flora and fauna. Organized plantations in the campus are seen along each and every academic building which is a commendable green practice of the College. The drainage system seems to be good in the campus as surface run off dictates towards the ponds within the campus and within the nearby rice fields. Flood is a recurring problem in the campus.

Observations

- Eco-friendly Life Skill Initiatives like training on Kaushal Vikash for gardening and imparting exposure to fish cultivation in the ponds are commendable green initiatives of the College.
- Disturbance is less in dedicated green areas/gardens.
- Avenue trees including sound barriers get attention.
- Flood is a recurring problem in the campus.
- The drainage links are suitably managed to dictate the harvested rain water and excess surface runoff towards the ponds 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 gardens.
- Timely pruning of avenue trees and sound braking trees is suggested to increase aesthetic beauty of the campus.
- Post plantation of saplings needs to be monitored.

Fig 1: The Map of BBK College, Nagaon campus

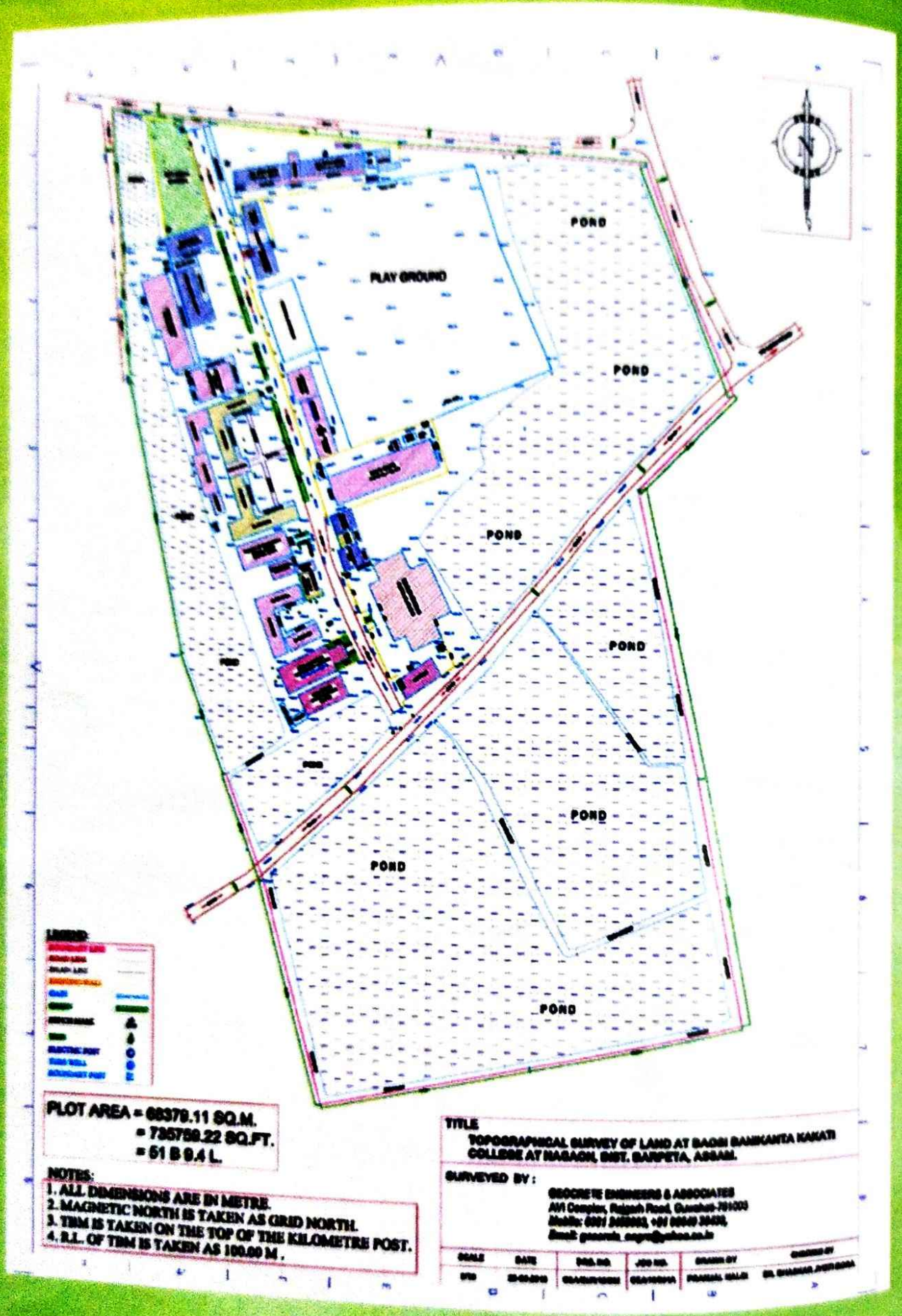


Plate 3 : land used for Pond and Botanical Garden in the campus

WATER AUDIT

As water is an essential natural resource, it is therefore, necessary 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 BBK College, Nagaon is the ground water. A total of 5000 L of water is pumped out through water pumps every day (Table 2) for regular use in day-to-day college activities, gardening, laboratory, lavatory uses and along with the canteen.

Table 1: Source and usage

Sl no	Parameters	Response
1	Source of water	Ground water
2	No of Wells	NA
3	No of Hand pumps	Two
4	No of Overhead tanks	12
5	No of water pumps used	7
6	Horse power- water pumps	1.0 HP -3; 0.5 HP- 4
7	Depth of well (boring)	200 ft for submersible
8	Water level	Normal
9	Type of water tanks	Reservoir
10	Capacity of Tank/ reservoir (Total)	10500 L
11	Quantity of water pumped every day	5000 L per day
12	Indication of water wastage with reasons	*Overflow from water tanks/ leakage from taps*
13	Water usage for gardening	700 L per day
14	Use of waste water	No
15	Fate of wastewater from labs	Not attended
16	Any wastewater 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	Two Capacity 4000 L
20	No of leaky taps	few
21	Amount of water lost per day	Around 250 L
21	water management plan used	Through Display Card/ Awareness
22	water saving techniques followed	Substantially less
23	Signage for reminding peoples to turn off tap	Yes, but insuufficient
24	Cleaning of the reservoirs	Twice in a year

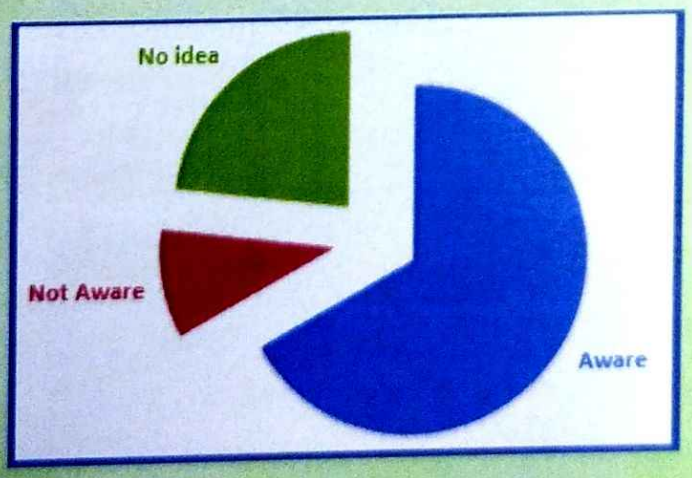
WATER QUALITY ASSESSMENT

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

Table 2: Water quality analysis report

Sl No	Parameters	Values
1	pH	6.54-6.8
2	Total Hardness (mg/l)	64 -69
3	Alkalinity (mg/l)	72-78
4	Turbidity (N.T.U)	1.64-1.83
5	Calcium Hardness (mg/l)	66-88
6	Total Dissolved Solids (mg/l)	30-48
7	Sulphates (mg/l)	5.92
8	Chloride(mg/l)	26.4
9	Fluoride (mg/l)	Not traced
10	Phosphate (mg/l)	0.483-0.522
11	Residual Chlorine (mg/l)	Nil
12	Iron (mg/l)	1.14-1.46
13	Nitrate (mg/l)	Nil
14	Arsenic (mg/l)	Nil
15	Calcium (mg/l)	45.06
16	Manganese (mg/l)	0.112-0.116
17	Magnesium (mg/l)	18.4-20.44
18	Bacteriological count	Nil

Fig 2 : Awareness among the stakeholders regarding water conservation



Observations

- The College is concerned for judicious use of water.
- Awareness for saving water is relatively higher amongst the stakeholders.
- Though little wastage of water was marked, attention should pay to reduce it to zero.
- Display signage for water conservation and regular monitoring less which need to be fitted in all prominent places to make the stakeholders aware on the matter.
- The waste water from canteen and kitchens are not suitably controlled.
- Rain water harvesting mechanism is sound.
- The College has taken one initiative in ground water recharges by dictating all roof top waters through the drains towards the ponds of the campus for storage and by allowing the same to seepage towards ground water level. It is not only a unique step but also commendable practice of the BBK College, Nagaon for water conservation in the vicinity of the campus.

Rain Water Harvesting facility

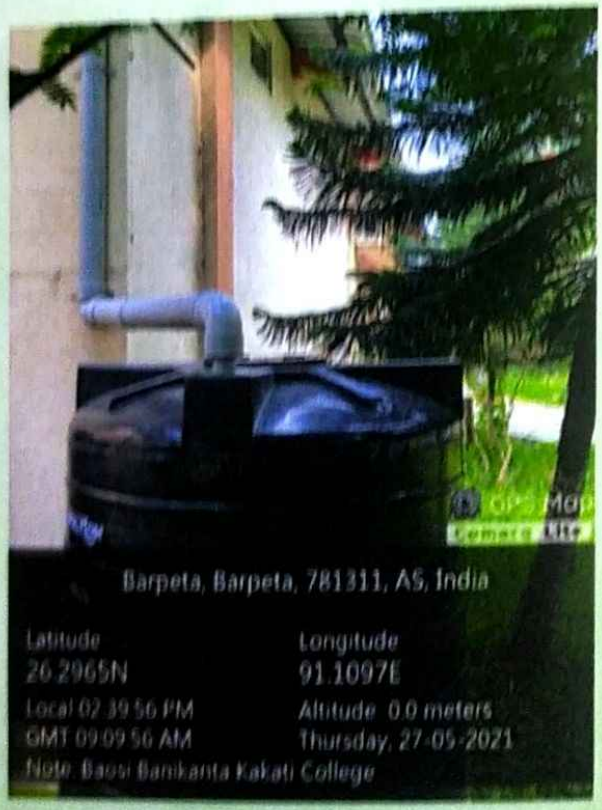


Plate 4 : Water conservation campaign outside the College Campus

Suggestions and recommendations

- A proper water consumption monitoring system could be engaged to make zero water loss in future.
- Automated sensors can be installed in order to prevent the over flow 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 anaerobic 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 auditor diagnoses the prevailing waste disposal policies of the college and suggests the best way to combat the problems.

Status of Waste Generation

Due to huge footsteps of students and teachers, the college generates paper, plastic and organic wastes. The quantum of generation of organic waste is found to be more in hostels and canteens than that of in Academic Departments and Administrative blocks. Waste in academic departments was negligible and whatever generated are systematically disposed of through the sweeping mechanism. Though the bio-medical waste is almost nil, sufficient e-waste were recorded to dumped over in the. Campus. A little chemical and organic waste was generated in the Laboratories of the Chemistry, Botany and Zoology Departments. The faculty members were actively engaged in segregating and disposing of waste whatever generated. No pretreatment mechanism was seen in action. 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 BBK College, Nagaon premises based on interview and data received through a structured questionnaire.

Table 3 : Waste generated on the campus (per monthly basis)

Sl.no.	Stakeholders	Types of solid waste	Average waste generated/month
1	Academic Department	Paper waste	0.4 kg
		Plastic waste	0.3 kg
		Organic waste	1.8 kg
		E-waste	0.25 kg
		Biomedical waste	Nil
2	Administrative Office	Paper waste	12.5 kg
		Plastic waste	0.8 kg
		Organic waste	2.5 kg
		E-waste	0.45 kg
		Biomedical waste	Nil
3	Hostels	Paper waste	12 kg
		Plastic waste	0.7 kg
		Organic waste	30.5 kg
		E-waste	Nil
		Biomedical waste	Nil
4	Canteens	Paper waste	0.9 kg
		Plastic waste	2.2 kg
		Organic waste	32 kg
		E-waste	Nil
		Biomedical waste	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. A few Signages have already installed to aware the stack holders to use dustbins for disposing any waste. This is a commendable initiative of the College.

Installation of vermi composting unit is in the pipe line which the auditors feel another commendable approach to mitigate the organic waste including the leaf litters in the college. A training on vermicomposting was organized by the department of Zoology in collaboration of KVK Hawli on 23-11-2021 (https: // bbkcollege.co.in /upload/ dept_activities / 1684307154.pdf).

During a survey carried out among the stockholders of BBK College, Nagaon by the Green Audit Team, a majority of the respondents (85 %) were confident about their understanding of waste and their obligation in disposing of the same **(Fig. 3)**.

Fig 3: Opinion of stakeholders regarding waste disposal mechanism of BBK College, Nagaon

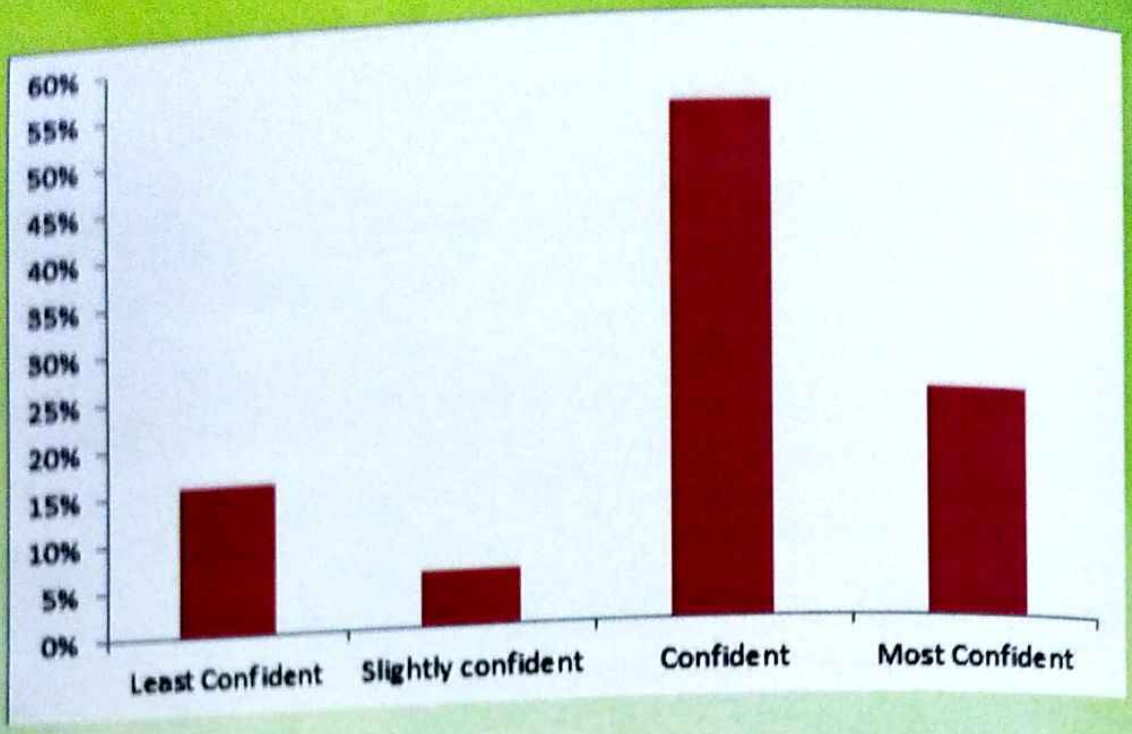


Table 4: waste management practices adopted

Sl No.	Practice/Strategies adopted	Response	Quantification if any
1	Organised collection of organic waste	Yes	On Regular basis
2	Leaf Litter disposal	Yes	On regular basis
3	Vermi composting Unit	Renovation yet to be completed	NA
4	Use of Plastic/plastic wares	In use	Little
5	Segregation of waste as per Govt. directives	Yes	Insufficient
6	Dustbins proper place	Yes	Not sufficient
7	Dustbin clearing	Yes	On daily basis
8	Solid waste recycling process	No	NA
9	Awareness programme organized	Yes	Regular

Plate 5: Awareness signage with dustbins in the College campus

Observations

1. Academic Departments do not generate large quantities of waste.
2. Plastic materials are still in use though in smaller quantities.
3. Frequency for garbage and litter collection is sufficient.
4. The College has no E waste disposal mechanism whatever generated.
5. Dustbins are placed in different prime locations, but insufficient in number.
6. The waste disposal initiative of BBK College, Nagaon is reflected in management programs and efforts of the ground staffs.

Suggestions and Recommendations

- BBK College, Nagaon campus needs to be declared as a total plastic-free campus.
- The practice of using biodegradable materials should be encouraged.
- Vermi composting facilities should be operationalized soon to avoid dumping of organic litters here and there.
- Numbers of dustbin need to be increased. Proper segregation method must follow to avoid unnecessary hazards.
- E-Waste disposal policy may be formulated soon.

HEALTH AUDIT

A healthy ecosystem directly means a 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 BBK College, Nagaon fraternity took few initiatives through several events in past couple of years.

Table 5 : List of Programmes conducted in and around the college campus

Sl No	Name of event	Date
1	Webinar on "Changing Dynamics of Career"	11th Sept., 2020
2	Webinar on "The Fourth State of Matter-Plasma and its Applications"	14th Sept. 2020
3	World Habitat Day, Wildlife Week, World Animal Day	5th October, 2020
4	Awareness Workshop on "Reproductive Health of Adolescent Girls of Minority Community under Chenga Block"	12th & 13th February, 2021
5	National Science Day	1st March, 2021
6	Inauguration of Zoologica	1st March, 2021
7	Women Awareness Camp in Batgaon on the occasion of International Women's Day	8th March, 2021
8	International Water Day in Bampara	22nd March, 2021
9	Awareness Camp on Covid-19	23rd March, 2020
10	World No Tobacco Day	31st May, 2021
11	Sanitizer Making	17th March, 2020

12	Online Training on how to use the online poral for online class	21-05-2021
13	Orientation Programme on Online Examination	27-05-2021
14	Inauguration of MA in Assamese	17-02-2021
15	Republic day	26-01-2021
16	Maintainance of Indoor Stadium, Badminton Court	15-12-2020
17	Training and Workshop on "Burden of Tobacco in lifestyle and Risk Factors of Common Cancer"	07-01-2021
18	Online Lecture- Conservating Nature: A Case of Manas National Park	5th June, 2021
19	Plantation Drive at home	06-06-2021
20	National webinar on "Novel as a Social Critique: Victorian to Post-Modern Era"	12th June, 2021
21	Plantation Programme on the Occasion of Van Mahotsav	1st to 7th July, 2021
22	50th College Foundation Day	25th July, 2021
23	Webinar on QA & Continuous Quality Improvement in Higher Education Through the Use of A & A	July, 30, 2021 (Friday)
24	Observance of "Swacchta Pakhwada"	9th to 15th August, 2021
25	Awareness on "Let us sing The National anthem"	15-Aug-21
26	Independence Day Celebration	15th August, 2021
27	Covid Awareness Programme/ Distribution of Masks	21st August, 2021
28	Plant and Nurture a Tree	15 July, 2021
29	Launch of Garuda App	22nd Sept., 2021
30	Join NSS Initiative	24th September, 2021
31	Training on MS Office for Office Staff	27th Sept., 2021
32	Gandhi Jayanti	2nd October, 2021
33	Student Induction Programme	6th & 7th October, 2021
34	One Day football tournament	10th October, 2021

	Mobile Vaccination Camp	13th Nov. 2021
35	Dr. Banikanta Kakati Memorial Lecture - Dr. banikanta Kakati's Contribution to Assamese Language and Culture	15th November, 2021
36	Orientaion Programme for Newly enrolled NSS Volunteers	16th Nov., 2021
37	Campaign in a village for creating awareness of Global Hand Washing and ODF Plus	17th November, 2021
38	Training on Vermi-composting	23th November, 2021
29	Constitution Day	26th November, 2021
40	Mega Cleanliness Drive in Nagaon	6th December, 2021
41	Visit to Assam legislative Assembly	23rd December, 2021
42	Char Visit for Socio-Economic Study	24th December, 2021
43	Participation in 7Th National Tong il Moo Do Martial Arts Championship, 2021	24th to 26th December, 2021
44	Orientation on NAAC RAF (A&A), SSM College, Belsore	28th December, 2021
45	Student Interaction Programme	3rd January, 2022
46	Workshop on- Annual Academic Audit	3rd January, 2022
47	District Level football competition	3rd January, 2022
48	CM Programme	8th January, 2022
49	District Level Inter-College Volleyball Competition	9th & 10th January, 2022
50	National workshop on- "Establishing Quality and Scientific Capacity in Higher Education through Research"	12th Jan., 2022
51	National Youth Festival	12th Jan., 2022
52	National Girl Child Day (Online Program)	24th Jan., 2022
53	NSS Special Camp	3 to 9th Feb., 2022
54	Awareness on "Use of Fire Extinguisher".	3rd February, 2022
55	NCC ATC	2 to 8th February, 2022
56	College Week	10th to 15th February, 2022
57	Awareness Cum Outreach Programme by Eco-Club	19th Feb. 2022
58		

59	Orientation Programme on e-Governance and e-College	23rd February, 2022
60	National Science Day	28th February, 2022
61	International Women's Day	8th March, 2022
62	User Awareness Programme on NDLI	8th April, 2022
63	Mentoring SSBM On NAAC Assessment	
64	One Day Football Competition	5th April, 2022
65	Awareness Camp on NDLI	8th April, 2022
66	NDLI Registration Training	21st April, 2022
67	Life Skill Training on Fishing using a Cast Net.	22nd April, 2022
68	Online Participation – "Global Event: Civil Service as a Career Option for Students"	22nd April, 2022
69	Training on Language Lab	27th April, 2022
70	Invited Lecture on "Towards Understanding of Environment& Health"	5th May, 2022
71	1 Month Yoga Camp	19th May, 2022
72	Teachers-Students –Guardian Meet	19th May, 2022
73	Session on "How to prepare for UPSC/ APSC/ SSC/ CHSL"	21st May, 2022
74	Plantation Drive	8th June, 2022
75	International Yoga Day	21-Jun-22
76	Visit by Dr. Ranoj Pegu, Education Minister, Govt. of Assam	24th July, 2022
77	College Foundation Day	25th July, 2022
78	NAAC-NEP Integration in the New NAAC Framework-2022	19th July, 2022
79	Dance Competition as part of "Azadi Ka Amrit Mahotsav"	12th to 15th August, 2022
80	Plantation Drive	12th August, 2022
81	Quiz Competition	15th August, 2022
82	Cultural Exchange Programme with Mushalpur College	19th August, 2022
83	Kungfu Demonstration	27th August, 2022
84	Vocational Courses-1. Beautician Course 2. Self Defence Course3. MS-Office	From 1st September, 2022

85	Teachers' Day Celebration	5th September, 2022
86	Participative Learning	6th September, 2022
87	World Literacy day	8th September, 2022
88	College Freshers, 2022	27th September, 2022
89	International Talk on "Folk Legends about flying Churches in Serbian Culture"	28th September, 2022
90	Field Trip to Brahmaputra Char with Prof. Zoja Karanovic and Dragana Ratcovic	29th September, 2022
91	Field Trip- Traditional Healer	1st October, 2022
92	PM Speech	20th October, 2022
93	Integrated Communication and Outreach Programme on Azadi Ka Amrit Mahotsav	21st October, 2022
94	Rashtriya Ekta Divas (Unity Run)	31st Oct., 2022
95	Physics Olympiad	08-11-2022
96	Essay Competition on the occasion of Birth anniversary of Lachit Barphukan	24th November, 2022
97	Volleyball Competition	
99	Participation in 35th Nalbari District-Invitational Kungfu Wushu Championship	6th November, 2022
100	NCC Camp (State Level)	27th Dec., 2022 to 3rd Jan, 2023
101	Participation in KWAI 19th National Kungfu-Wushu Championship, 2022-23, Amritsar, Punjab	28th to 30th December, 2022
102	Saraswati Puja	26th Jan, 2023
103	Cleanliness Drive	27th Jan, 2023
104	Release of Souvenir	28th Jan, 2023
105	Culture Performance	29th Jan, 2023
106	Cleanliness Drive	28th Jan, 2023
107	Plantation	29th Jan, 2023
108	Academic Discussion	30th Jan, 2023
109	Release of Baosian, College Magazine	31st Jan, 2023
110	Cultural Night	32nd Jan, 2023
111	Cleanliness Drive	29th Jan, 2023
112	Cultural Procession	30th Jan, 2023
113	Academic Discussion	31st Jan, 2023
114	Cultural Evening	32nd Jan, 2023

115	Golden Jubilee Celebration	27th to 29th January, 2023
116	World Wetland Day, 2023	4th February, 2023
117	Farewell Meeting of Nripendranath das, Tuntun das, Lakheswar Talukdar.	22nd Feb., 2023
118	Celebration of National Science Day	28th February, 2023
119	Vocational Guidance, Online Registration and Career Talk Programme	3rd march, 2023
120	Plantation	14-03-2023
121	NSS 7 Days Special Camp	13th to 19th March, 2023
122	3 Days Bihu dance Workshop	14th to 16th March, 2023
123	College Week	14th to 20 March, 2023
124	Educational Tour to Kolkata	14th March, 2023
125	Motivational Speech	20-03-2023
126	Release of "Women and Society" (ISBN)	20th March, 2023
127	World Poetry Day	22nd March, 2023
128	World Water Day	23rd March, 2023
129	Kungfu Demonstration in Banglipara HS, Janiya	23rd March, 2023
130	Awareness Camp on Fire Fighting	25th March, 2023
131	Orientation Programme for students on "The Role of Students in NAAC and usefulness of ICT tools for learning activities"	28th March, 2023
132	Seminar on NEP	31st March, 2023
133	Students' Day Celebration	31st March, 2023
134	Lecture on "Recent Applications related to Computer Science "	05th April, 2023
135	Awareness Camp on Co-operative for Youth	6th April, 2023

136	Screening of "The Elephant Whisperers"	8th April, 2023
137	Lecture on "Different Aspects of Intellectual Property Rights"	8th April, 2023
138	Workshop on "Electronic Skill Development"	18 April, 2023
139	Bike Awareness Rally on the occasion of "World Earth day"	20th April, 2023
140	Discussion on Upgradation of Library	20th April, 2023
141	Pre-Examination Orientation Programme	21st April, 2023
142	Lecture on "Ecocriticism: Understanding Human-Nature Relationship in Literature"	1st May, 2023
143	Alumni Cum Guardian Meet, 2023	06th May, 2023
144	World Thalassemia Day	10th May, 2023
145	Awareness Programme on "Road safety and Cyber Crime"	21st May, 2023
146	Extension Programme in Batgaon	22nd May, 2023
147	ICT Training to Teachers	25th May, 2023
148	Awareness Programme "Climate Change"	25th May, 2023
149	Training on "Use of Digital Interactive Television for Teaching-Learning Process"	26th May, 2023
150	World NO Tobacco day	31st May, 2023
151	World Environment Day/ Solutions to Plastic Pollution	5th June, 2023
152	World Ocean Day	8th June, 2023

Plate 6 : Swacchhata activities of NSS Cadets of the College

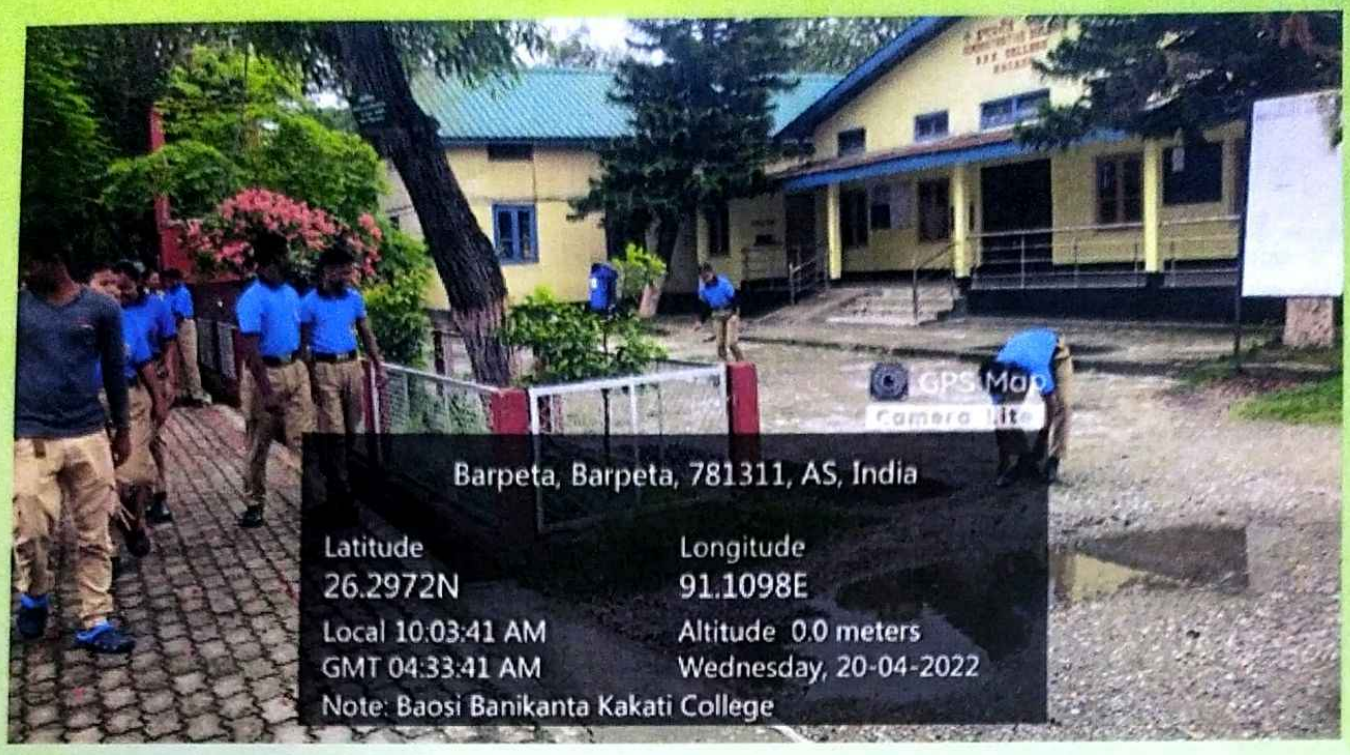
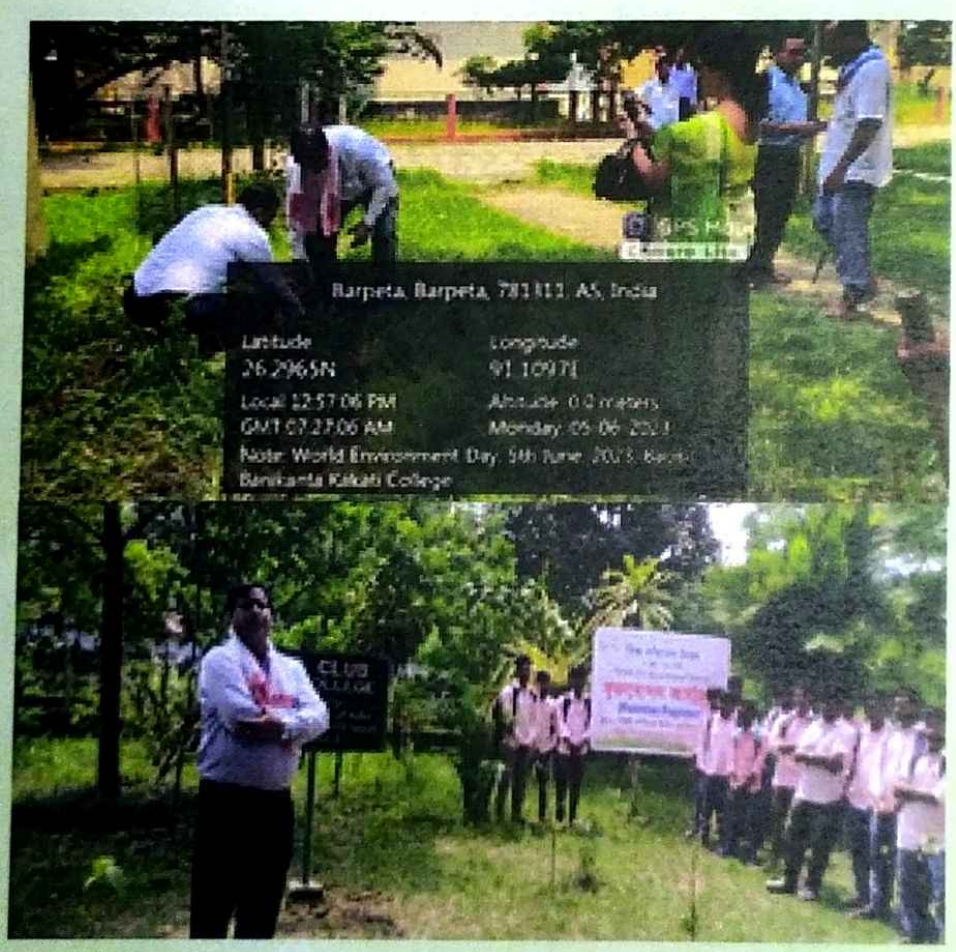


Plate 7 : Awareness Programme & Plantation drive in the college campus



ENERGY AUDIT

As per Energy Conservation Act, 2001; the Energy Audit must include verification, monitoring, and analysis of the use of energy including submission of a technical report containing recommendations for improving energy efficiency with cost-benefit analysis and an action plan to reduce energy consumption. The scope of the energy audit hence includes the collection of all relevant data, documents, electricity bills, log books relating to electricity use & operations etc., inspection of the buildings & installations and then, to analyze the data to evaluate and assess energy use and also, to suggest measures for reducing energy use and improvement of performance. The present audit therefore aimed to cover the aggregate consumption of electrical and natural gas energy in BBK College, Nagaon covering all academic and administrative blocks and hostels. Energy use is clearly an important aspect of campus sustainability and thus, requires no explanation for its inclusion in the assessment.

Source and consumption of Energy

In BBK College, Nagaon, energy is mainly used to manage and run the

1) lighting's load
2) laboratory equipment
3) office equipment
4) air conditioners
5) water cooler
6) fan
7) water pump and
8) Cleaning and construction gadgets.

The primary source of the energy for BBK College, Nagaon is the electricity received from Assam Power Distribution Company Limited supplied through an 80 KV connected load under the Consumer No. 059000036738 and 059000036738 under the LT Category. The College has also 2 Diesel run generator sets of 35 KW capacities which are mainly used for hostel purposes. LPG are utilised in Canteen, laboratories and Hostels only. The College has 2 solar panels to support 32 solar LED bulbs to eliminate the campus street and hostels (Academic block-1, Canteen-1, Boys' Common Room -01, Chemistry Lab-1, Boys' Hostel-2, and Girls' Hostel-26) which substantially reduce the annual electricity bill.

Table 6: Energy consumption in BBK College, Nagaon

Annual Electrical Energy consumption (2021-2022)		: INR 13,000.00 per month (In terms of money)
LPG requirement per year		: 240 Nos
Fuel (Diesel)		: 80 L / year (Average 6.7 L./month)
Fuel (Petrol)		: —
Water Pump		:07 (1.0 HP -3; 0.5 HP- 4)
No of energy efficient AC		: 12 Nos
	Refrigerator	: 04 Nos
	Xerox machine	: 05 Nos
	Inverter	: 12 Nos
	Online UPS	: 08 Nos.
	Fan	: 240 Nos
Percentage replacement of		
Non- energy efficient machines in last 2 years:		: 58%
No of LED/CFL installation at present:		: Bulb/Tube-214
Percentage of increase of LED installation in last 2 years		: 100%
Building energy performance index		: 5.89 kWh/m^2/year

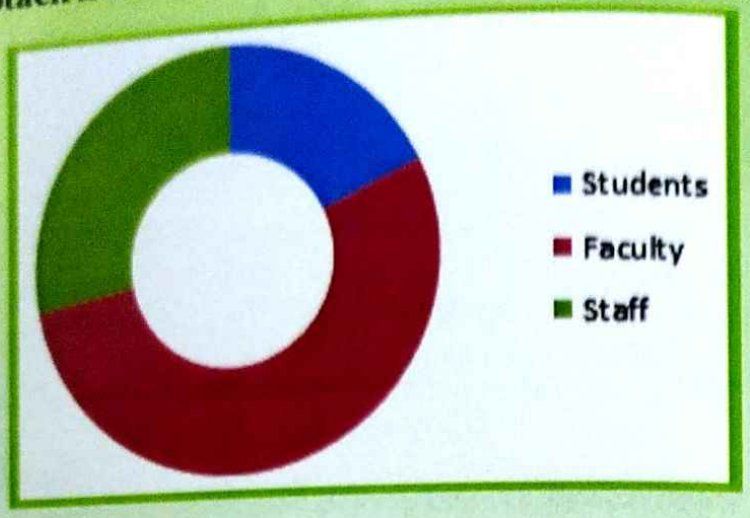
Energy efficiency assessment

The Energy efficiency assessment was conducted for the load connected to the mains supply of college buildings including hostels. The entire campus including common facilities is equipped with LED lamps and LED tube lights. All computers are set to automatic power saving mode when not in use.

A good habit of the stakeholders was observed that all the electrical appliances including the bulbs are usually shut down when not in use, more specifically during the vacations excluding a few essential points which are essential to illuminate the campus. Monitoring mechanism exists in put-on and put-off the electrical appliances is a laudable eco-friendly effort of the College (Fig 4)

To compensate for the rising power requirement, solar street panels are installed in some strategic locations of the campus which could be considered as another best practice of utilisation green energy in the College campus. As the energy consumption rate is on higher side, the College must think for energy conservation practices along with exploring of green energy in future.

Fig 4: Stack holders' involvement in energy conservation



Suggestions and recommendations

- More augmentation of solar power will make the college self-sufficient in energy consumption and production.
- Old and non-efficient electrical gadgets are to be replaced as far as practicable.
- 5 stars rated ACs, Fans and other electrical appliances should be used in the campus to reduce further loss of energy.
- Cleaning of tube lights and bulbs to be done periodically to remove the dust over it.
- Regular maintenance of electrical gadgets be done.

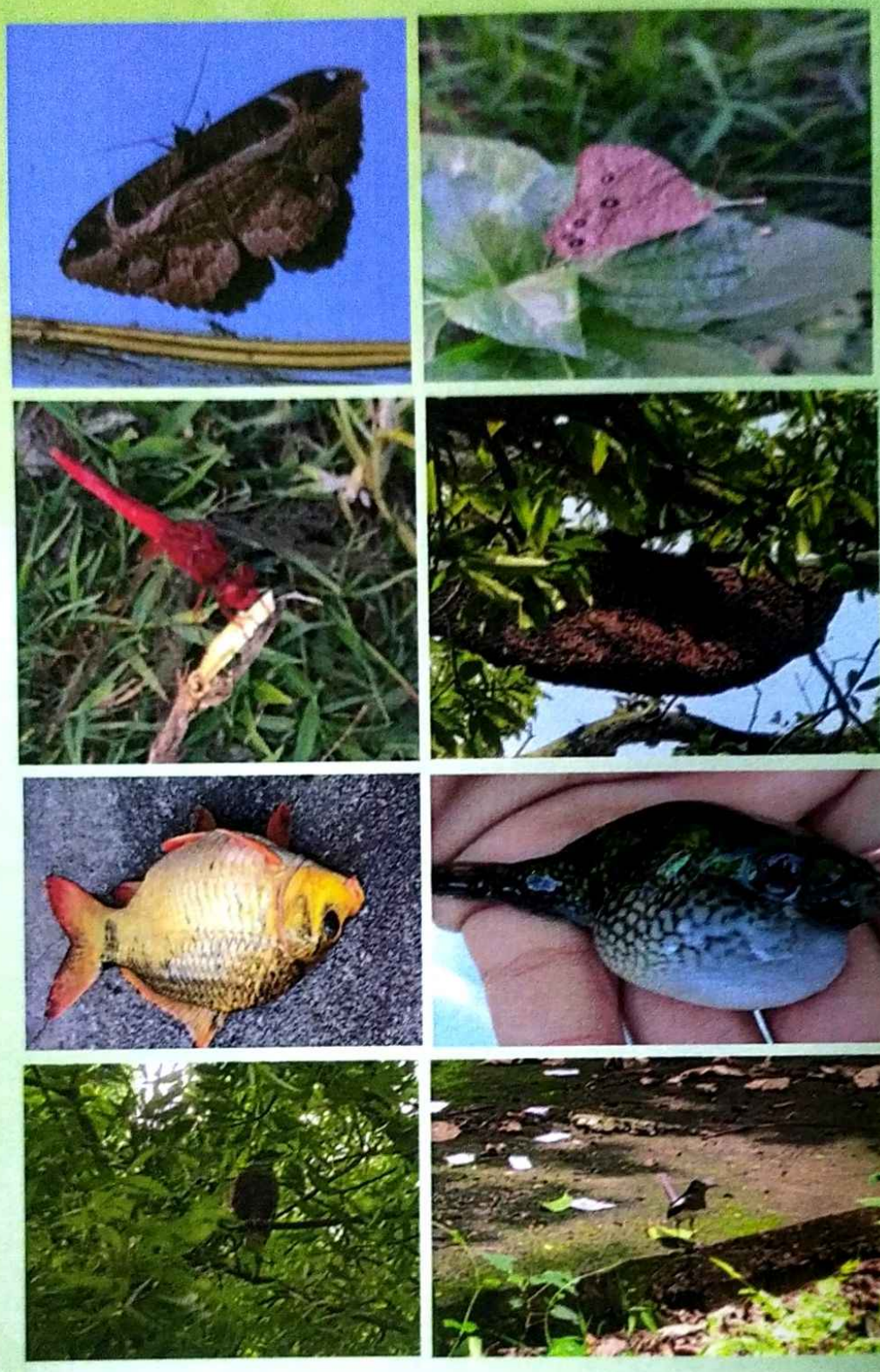
BIODIVERSITY AUDIT

Biodiversity is the key to a healthy ecosystem. Morton & Hill (2014) in a biodiversity book published by the "Commonwealth Scientific and Industrial Research Organisation (CSIRO)" nicely mentioned 5 core values of biodiversity, viz. economic, ecological, recreation, cultural and scientific values. Biodiversity provides humans with raw materials for consumption and production. Ecologically biodiversity take part in functioning of ecosystems that supply oxygen, clean air and water, felicitating pollination in plants, control of pest, wastewater treatment and many ecosystem services. Scientific intervention may disclose a wealth of systematic ecological data that help us to understand the natural activities and necessities in the context of human behavior. Many recreational pursuits rely on the biodiversity of region, such as bird-watching, hiking, camping and fishing. The tourism industry also depends on biodiversity. Above all, our culture is closely connected to biodiversity through the expression of identity, through spirituality and through aesthetic appreciation. Any loss or deterioration in the condition of biodiversity can compromise all the values outlined above and affect human wellbeing particularly in North Eastern region which is located between two biodiversity hotspot, Himalaya and Indo Burma.

As the Biodiversity plays a key role in providing numerous irreplaceable services to any community, biodiversity audit is one of the best practices for sustainability of an institute. The main objective of biodiversity audit is therefore to document different biodiversity components within the College campus, to observe ecosystem structures and functions along with regular monitoring to check the new addition and analysis of biotic interactions amongst different components of biotic resources. The outcome of such audit will certainly be helpful in designing different conservation measures that need to be taken for a better and self-sustaining ecosystem in the campus.

The BBK College, Nagaon campus is Spreading over a plot of 19.83 acres (as per land record) out of which around 62 % area are under green coverage including ponds which houses different varieties of natural fauna and flora. A few plants are introduced to enhance the aesthetic beauty of the campus.

Plate 8: Faunal diversity of BBK college



FAUNAL DIVERSITY

The BBK College, Nagaon campus houses a good number of animals from each different phylum which on the other hand, indicates a good health of the campus. In the present study, 78 species were reported in the college campus belonging to different phylum and classes. Altogether 3 amphibian, 10 reptile species, 22 fishes and 10 birds were recorded during the audit period. Mammalian diversity is poor and is represented by only 8 species. Invertebrates includes several species of Arthropods including butterflies and grasshoppers (21), Annelida (2) and Mollusca (3). It is very interesting to note that the college campus provides a sound nesting ground for some avian and mammalian species.

Table 7: Fauna of BBK College, Nagaon

(Invertebrates)

Phylum: Arthropoda

1. **Common name:** Honey bee
   Scientific name: *Apis mellifera*
2. **Common name:** Indian Millipede
   Scientific name: *Xenobolus carnifex*
3. **Common name:** Pantropical jumping spider
   Scientific name: *Plexippus paykulli*
4. **Common name:** Huntsman spider
   Scientific name: *Heteropoda venatoria*
5. **Common name:** Cockroach
   Scientific name: *Periplaneta americana*
6. **Common name:** European mantis (Grasshoper)
   Scientific name: *Mantis religiosa*
7. **Common name:** House cricket
   Scientific name: *Acheta domesticus*

8. **Common name:** Dragonfly
   Scientific name: *Anisoptera*
9. **Common name:** Spotted demon (Butterfly)
   Scientific name: *Notocrypta feisthamlii*
10. **Common name:** Common spotted flat (Butterfly)
    Scientific name: *Celaenorrhinus leucocera*
11. **Common name:** Leopard lacewing (Butterfly)
    Scientific name: *Cethosia cyane*
12. **Common name:** Common yeomen (Butterfly)
    Scientific name: *Cirrochroa tyche*
13. **Common name:** Dark evening brown (Butterfly)
    Scientific name: *Melanitis phedima*
14. **Common name:** Tiger hopper (Butterfly)
    Scientific name: *Ochus subvittatus*
15. **Common name:** Dark yellow banded flat (Butterfly)
    Scientific name: *Celaenorrhinus aurivittata*
16. **Common name:** Orange oakleaf (Butterfly)
    Scientific name: *Kallima inachus*
17. **Common name:** Yellow pansy (Butterfly)
    Scientific name: *Junonia hierta*
18. **Common name:** Indian black ant
    Scientific name: *Camponotus compressus*
19. **Common name:** Crazy yellow ants
    Scientific name: *Anoplolepis gracilipes*
20. **Common name:** Red weaver ant
    Scientific name: *Oecophylla smaragdina*
21. **Common name:** Pharaoh ant
    Scientific name: *Monomorium pharaonis*

Phylum: Annelida

1. **Common name:** Indian earthworm
   Scientific name: *Pheretima posthuma*
2. **Common name:** Indian leech
   Scientific name: *Hirudinaria granulosa*

Phylum: Mollusca

1. **Common name:** Giant African snail
   Scientific name: *Lissachatina fulica*
2. **Common name:** Apple snail
   Scientific name: *Pomacea canaliculata*
3. **Common name:** Milky slug
   Scientific name: *Deroceras agreste*

Vertebrates

Phylum: Chordata

Class: Amphibia

1. **Common name:** Assam tree frog
   Scientific name: *Chirixalus simus*
2. **Common name:** Assamese balloon frog
   Scientific name: *Kaloula assamensis*
3. **Common name:** Indian bullfrog
   Scientific name: *Hoplobatrachus tigerinus*

Phylum: Chordata

Class: Reptilia

1. **Common name:** House lizard
   Scientific name: *Hemidactylus frenatus*
2. **Common name:** Indian Chameleon
   Scientific name: *Chamaeleo zeylanicus*
3. **Common name:** Garden lizard
   Scientific name: *Calotes versicolor*
4. **Common name:** Indian cobra
   Scientific name: *Naja naja*
5. **Common name:** Bengal krait
   Scientific name: *Bungarus caeruleus*
6. **Common name:** Bronze-backed tree snake
   Scientific name: *Dendrelaphis tristis*
7. **Common name:** Checkered keelback
   Scientific name: *Xenochrophis piscator*
8. **Common name:** Ornate flying snake
   Scientific name: *Chrysopelea ornata*
9. **Common name:** Indian rat snake
   Scientific name: *Ptyas mucosa*
10. **Common name:** Banded krait
    Scientific name: *Bungarus fasciatus*

Phylum: Chordata

Superclass: Osteichthyes

1. **Common name:** Olive barb/ Puthi
   Scientific name: *Systomus sarana*
2. **Common name:** Banded gaurami / Kholihona
   Scientific name: *Trichogaster fasciata*
3. **Common name:** Climbing perch **Local name**: Kawoi
   Scientific name: *Anabas testudineus*

4. **Common name:** Gangetic leaffish **Local name**: Gedgedi
   Scientific name: *Nandus nandus*
5. **Common name:** Ceylon snakehead **Local name**: Chengeli
   Scientific name: *Channa orientalis*
6. **Common name:** Spotted snakehead **Local name**: Goroi
   Scientific name: *Channa punctata*
7. **Common name:** Striped snakehead **Local name**: Houl
   Scientific name: *Channa striata*
8. **Common name:** Stinging catfish **Local name**: Hingi
   Scientific name: *Heteropneustes fossils*
9. **Common name:** Walking catfish **Local name**: Magur
   Scientific name: *Clarias batrachus*
10. **Common name:** Striped dwarf **Local name**: Hingora
    Scientific name: *Mystus vittatus*
11. **Common name:** Long whiskers **Local name**: Aari
    Scientific name: *Sperata seenghala*
12. **Common name:** Fresh water catfish **Local name**: Borali
    Scientific name: *Wallago attu*
13. **Common name:** Flying barb **Local name**: Dorikona
    Scientific name: *Esomus danricus*
14. **Common name:** Mola **Local name**: Moa
    Scientific name: *Amblypharyngodon mola*
15. **Common name:** Elongate glassy **Local name**: Chanda
    Scientific name: *Chanda nama*
16. **Common name:** Bata labeo **Local name**: Bhangon
    Scientific name: *Labeo bata*
17. **Common name:** Black rohu **Local name**: Koliajora
    Scientific name: *Labeo calbasu*
18. **Common name:** Striped spiny eel **Local name**: Tura
    Scientific name: *Macrognathus pancalus*

19. **Common name:** Humped feather back **Local name:** Chital
Scientific name: *Chitala chitala*

20. **Common name:** Bronze feather back **Local name:** Kandhuli
Scientific name: *Notopterus notopterus*

21. **Common name:** Rohu **Local name:** Rou
Scientific name: *Labeo rohita*

22. **Common name:** Ocellated Puffer Fish/ Gongatup
Scientific name: *Tetraodon cutcutia*

Phylum: Chordata

Class: Aves

1. **Common name:** Crow
Scientific name: *Corvus*
2. **Common name:** Cuckoo
Scientific name: *Cuculidae*
3. **Common name:** Parrot
Scientific name: *Psittaciformes*
4. **Common name:** House sparrow
Scientific name: *Passer domesticus*
5. **Common name:** Domestic pigeon
Scientific name: *Columba livia domestica*
6. **Common name:** White-winged Duck
Scientific name: *Asarcornis scutulata*
7. **Common name:** Common Swift
Scientific name: *Apus apus*
8. **Common name:** Common Quail
Scientific name: *Coturnix coturnix*
9. **Common name:** Greylag Goose
Scientific name: *Anser anser*
10. **Common name:** Kingfisher
Scientific name: *Alcedo atthis*

Phylum: Chordata

Class: Mammals

1. **Common name:** Indian palm squirrel
   Scientific name: *Funambulus palmarum*
2. **Common name:** Indian pariah dog
   Scientific name: *Canis lupus familiaris*
3. **Common name:** Bengal cat
   Scientific name: *Prionailurus bengalensis*
4. **Common name:** Domestic goat
   Scientific name: *Capra hircus*
5. **Common name:** Indian cow
   Scientific name: *Bos indicus*
6. **Common name:** Rhesus macaque
   Scientific name: *Macaca mulatta*
7. **Common name:** Brown rat
   Scientific name: *Rattus norvegicus*
8. **Common name:** House mouse
   Scientific name: ***Mus domesticus***

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 ornamentals and economically important plants. All the plants provide good ecological services in maintaining a green College campus near the Basoi region. Altogether 77 species of plants belonging to herb, shrub and tree categories are recorded and enlisted below.

Table 8: Plants of BBK College Campus

Family	Scientific Name	Local/Vernacular Name	Habit	No.of plant
Pteridophyta				
Selaginellaceae	*Selaginella kraussiana*	'Silaginela' (Ass.)	Herb	04
Polypodiaceae	*Diplazium esculentum*	'Dhekia' (Ass.)	Herb	15
	Cyclosorus sp.	'Bih Dhekia' (Ass)	Herb	20
Gymnosperms				
Cycadaceae	*Cycas circinalis*	'Nag-Panchami' (Ass.)	Scrub	03
Abietaceae	*Araucaria* sp.	'Arocaria' (Ass.)	Tree	05
Dicotyledons				
Malvaceae	*Hibiscus rosa-sinensis*	'Joba' (Ass.)	Shrub	05
Apocynaceae	*Alstonia scholaris*	'Chatiana' (Ass.)	Tree	02
	Catharanthus roseus	'Nayan-tora' (Ass.)	Undershrub	06
	Plumeria rubra	'Champa/ Gulancha' (Ass.)	Tree	03
	Rauvolfia tetraphylla	'Sarpagandha' (Ass.)	Shrub	02
	R. serpentina	'Sarpagandha' (Ass.)	Undershrub	02
	Tabernaemontana divaricata	'Kathanda' (Ass.)	Shrub	02
	Cascabela thevetia	'Karabi' (Ass.)	Tree	10
Solanaceae	*Datura metel*	'Dhatura' (Ass.)	Shrub	05
Verbenaceae	*Duranta repens*	'Duranta' (Ass.)	Shrub	02
	Premna latifolia	'Dhop' (Ass.)	Tree	03
	Vitex negundo	'Pasatia tita' (Ass.)	Shrub	10
Papilionaceae	*Clitoria ternatea*	'Aparajita' (Ass.)	Twiner	04
	Dalbergia sissoo	'Sisoo' (Ass.)	Tree	05
	Erythrina arborascens	'Kanchan' (Ass.)	Tree	06

Caesalpiniaceae	*Cassia fistula*	'Sonaru' (Ass.)	Tree	03
	C. nodosa	'Radha-chuda' (Ass.)	Tree	02
	C. siamea	'Casia' (Ass.)	Tree	07
	C. sophera	'Medelua' (Ass.)	Shrub	08
	Delonix regia	'Krishna-chuda' (Ass.)	Tree	19
Mimosaceae	*Acacia auriculiaeformis*	'Acacia' (Ass.)	Tree	02
	A. arabica	'Taruwa Kadam' (Ass.)	Shrub	01
	Rosa indica	'Golap phul' (Ass.)	Shrub	02
Moraceae	*Artocarpus heterophyllus*	'Kathal' (Ass.)	Tree	02
	Ficus benghalensis	"Borgoch' (Ass.)	Tree	01
	F. elastica	'Rabar goch' (Ass.)	Tree	01
	F. hispida	'Dimoru' (Ass.)	Tree	02
Clusiaceae	*Mesua ferrea*	'Nahar' (Ass.)	Tree	02
Sapotaceae	*Mimusops elengi*	'Bokul' (Ass.)	Tree	04
Anacardiaceae	*Lannea coromandelica*	'Jiya' (Ass.)	Tree	13
	Mangifera indica	'Aam' (Ass.)	Tree	04
Myrtaceae	*Eucalyptus reginifera*	'Surabhi goch' (Ass.)	Tree	02
	Psidium guajava	'Madhuri-aam' (Ass.)	Tree	03
	Syzygium jambolanum	'Jam' (Ass.)	Tree	01
*Ternstroemiaceae	*Camellia chinensis*	'Chah' (Ass.)	Shrub	02
Rubiaceae	*Ixora corymbosa*	'Rongial' (Ass.)	Shrub	01
	Mussaenda sp.	'Musenda' (Ass.)	Shrub	04
Rutaceae	*Azadirachta indica*	'Mahanim' (Ass.)	Tree	25
	Citrus aurantium	'Kamala Tenga' (Ass.)	Tree	01
	Murraya koenigii	'Nara-singha' (Ass.)	Shrub	10
Rhamnaceae	*Zizyphus mauritiana*	'Bogori' (Ass.)	Tree	02
Combretaceae	*Terminalia arjuna*	'Arjun' (Ass.)	Tree	01
	T. chebula	'Silikha' (Ass.)	Tree	03
Nyctaginaceae	*Bougainvillea spectabilis*	'Kagas-phul' (Ass.)	Shrub	03
	Mirabilis jalapa	'Godhuli Gopal' (Ass.)	Shrub	02
Cactaceae	*Opuntia dillenii*	'Sagarphena' (Ass.)	Shrub	01
Casuarinaceae	*Casuarina equisetifolia*	'Casuarina' (Ass.)	Tree	02
Asclepiadaceae	*Calotropis gigantea*	'Aakon' (Ass.)	Shrub	05
Acanthaceae	*Justicia adhatoda*	'Bahak-tita' (Ass.)	Shrub	04
	J. gendarrusa	'Amar goch' (Ass.)	Shrub	10
Asteraceae	*Helianthus annuus*	'Surjyamukhi phul' (Ass.)	Herb	06
	Tagetes patula	'Narji phul' (Ass.)	Herb	10
Sapindaceae	*Cardiospermum halicacabum*	'Kopal-phuta' (Ass.)	Herb	02
Euphorbiaceae	*Emblica officinalis*	'Amlokhi' (Ass.)	Tree	06
	Euphorbia neriifolia	'Siju' (Ass.)	Tree	02
Lamiaceae	*Leucas linifolia*	'Durum phul' (Ass.)	Herb	12
	Ocimum basilicum	'Tulasi' (Ass.)	Herb	06
Amaranthaceae	*Amaranthus spinosus*	'Kata-khutura' (Ass.)	Herb	10
	Mentha sp.	'Padina' (Ass.)	Herb	20

Apiaceae	*Centella asiatica*	'Bor-manimuni' (Ass.)	Herb	10
	Hydrocotyle rotundifolia	'Saru-manimuni' (Ass.)	Herb	15
Lauraceae	*Cinnamomum tamala*	'Tej-pat' (Ass.)	Tree	01
Monocotyledons				
Arecaceae	*Cocos nucifera*	'Narikol' (Ass.)	Tree	04
	Phoenix sylvestris	'Khejur' (Ass.)	Tree	03
Araceae	*Acorus calamus*	'Bach' (Ass.)	Herb	04
Liliaceae	*Aloe vera*	'Sal-kawari' (Ass.)	Herb	05
	Dracaena sp.	'Jon-Lakhmi' (Ass.)	Herb	02
Musaceae	*Musa sapientum*	'Manohar Kal' (Ass.)	Tree	02
Cannaceae	*Canna indica*	'Purijat' (Ass.)	Herb	08
Pandanaceae	*Pandanus* sp.	'Keteki' (Ass.)	Shrub	01
Hydrocharitaceae	*Hydrilla verticillata*	'Hydrila' (Ass.)	Aquatic herb	+
Poaceae	*Cynodon dactylon*	'Dubari Bau' (Ass.)	Herb	+

Observations

- The College maintains a sound green environment. It is commendable.
- Beautiful and well-maintained gardens enhance the aesthetic beauty of the campus.
- The trees and bushes are providing nesting support to some specific indigenous wildlife. It is a specific sign of calm and quite eco- friendly environment of the campus.
- Greenery in the campus not only help in cleaning air through sequestration of CO_2 and maintaining humidity, but also motivating students for maintaining and nurture nature.

Plate 9 : Plant diversity in the campus

Suggestions and Recommendations

- The existing campus of BBK College, Nagaon supports a good number of plants and animals of which a few are ecologically, aesthetically and culturally important. All these plant species should be conserved in a proper way to support and to achieve more biodiversity values in future.
- The dedicated garden areas need to be monitored regularly to enhance the aesthetic beauty of the campus.
- Boundary areas may be systematically planted in consultation with a horticulturist or botanist.
- Students may be encouraged to take care of the plants and the campus.

AUDIT SUMMARY

This report on "Green Audit" of BBK College, Nagaon for the year 2021-2022 was prepared with an objective to highlight and prepare a statement on the green practices followed by the College. The present Green Auditing began with the assessment of the status of the green cover of the college followed by water audit, waste management practices and energy conservation strategies etc. The audit team visited different facilities at the College campus, monitored different appliances/utilities and documented the relevant consumption patterns. The Faculty members, staffs and learners were interviewed through structured questionnaires to get details of usage, frequency, or general characteristics of different appliances. Data collection was done by onsite visit also through questionnaires in all sectors related to environmental quality. The data thus collated were analyzed to prepare this audit report of BBK College, Nagaon.

The college is located on a huge plot of land of 19.83 acres (32 bigha and 10 lessa) and the campus is systematically arranged based on its master plan with dedicated spaces for 5 ornamental gardens, one botanical garden, seven ponds and two multi sports play grounds. Regular plantations since the inception of the College make it lush green campus. The garden in front of administrative building and avenue trees aligned with the buildings enhance the aesthetic beauty of the college campus. Little disturbances within the dedicated green areas/gardens were observed that need monitoring and intervention. Boundaries of the college are almost covered with plantation which performs as sound barrier for the campus. Regular monitoring and trimming/pruning is therefore suggested at and when necessary. Cultivation of common fruits highlight the best eco-friendly initiatives of skill development programmes for the students with the leadership of a few faculty members inside the college campus.

The BBK College extract @ 5000 L ground water per day to fill up the 12 water reservoirs of the capacity 10500 L. It was noted that wastage of water is very meager which was also reflected in the consciousness of the stakeholders. Till now the potable water quality was within the permissible limit as prescribed by different agencies excluding the iron content which the College can manage by installing necessary filters. The authority is proactive in conserving water and the awareness of Stakeholders on water conservation is commendable as well. Display signage for water conservation and regular monitoring practice seems to be missing, where

attention requires from the authority. The initiative of rain water harvesting in each building are made and channels were connected to a few water reservoirs for using gardening purposes. The drainage system of the college is so arranged that run off water dictates towards the ponds within the campus. Though no fault was found, it is suggested for periodical maintenance of water taps/ water pipes/reservoirs to prevent the loss of water.

In the college, more paper and plastic wastes were recorded to be generated in the Administrative Blocks and from the Canteen whereas, organic waste was found to be more in the canteen and hostel premises. No report was found on generation of bio-medical waste. The e-waste generation is though little in the campus, disposal mechanism is yet to be ascertained. The college has a centralized collection mechanism for any kind of waste excluding the litters and biomass generated due to shedding from trees and weeding in the campus. As the college a good number of fruit and other ornamental tree, installation of vermi-composting or otherwise conventional composting in a designated site is suggested with a structured monitoring mechanism. Further, in order to carry forward the commitment to keep the campus waste free, installation of dustbins has been started in phase manner. It is also noted that no visible segregation practice exists to separate different wastes which need active attention.

But, it is good to see that around 84 per cent of stakeholders were confident about their understanding of waste and their obligation in disposing of material. Academic Departments do not generate large quantities of waste. Plastic materials are still in use, of course, in small quantities. It is hence suggested that BBK College campus is to be declared as a 'Complete Plastic-Free Campus'.

In order to encourage students to respect the environment and think about conservation, the college in collaboration with NSS Cell and Eco Club regularly organise different awareness programme on Swachhata and maintenance of healthy environment, A couple of cleanliness drive and plantation programmes were also organised in and around the BBK College campus during last couple of years.

Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. Energy is mainly used in this college campus for 1) lighting's load, 2) laboratory equipment, 3) office equipment, 4) air conditioners, 5) water cooler 6) Fan, 7) water pump and 8) cleaning and construction purposes. The main source of electricity in BBK College is Assam Power Distribution Company Limited. The College has 2 DG sets of 35 KW which

are mainly used in hostels during power failure particularly during Examination seasons. LPG are utilised for cooking in Canteens and in a few laboratories and Hostels as well. The Energy efficiency assessment was conducted for the load connected to the mains supply of college buildings including canteen. The entire campus including common facility centres are equipped with LED lamps and LED tube lights which can be considered as one of the best practices of energy saving. The percentage replacement of non-energy efficient machines/gadgets in last 2 years was 58 per cent and the percentage of increase LED installation in last 2 years was almost 100 per cent.

A good practice was noted that all the computers are set to automatic power saving mode when not in use. Monitoring mechanism exists in put-on and put-off the electrical appliances is a laudable eco-friendly effort of the College. Solar installation needs augmentation to cater the entire campus.

As the Biodiversity plays a key role in providing numerous irreplaceable services to any community, biodiversity audit is one of the best practices for sustainability of an institute. The BBK College, Nagaon campus houses around 78 numbers of animals under different phylum. The campus accommodates around 3 amphibians, 10 reptiles, 10 birds and 8 mammals. Invertebrates present in the campus includes several species of butterflies, grasshoppers, earthworms, leech, Many species of other insects like bees, wasps, ants, bugs, beetles, spiders etc. Harbouring of rich faunal diversity indicates a good health of the campus. It is also interesting to note that the college campus provides sound nesting ground to a few avian and mammalian species.

The campus is evergreen with 77 species of trees, shrubs and herbs including grasses. A few ornamental and economically important plants are introduced into the campus not only to beautify the campus but also to add values to it. Since plants provide a good ecological service in maintaining a green campus these should be conserved in a proper way to support and to achieve more biodiversity values in future.

The cultivation of fruit and horticultural crops is a commendable green and environment friendly initiative of the college to encourage budding citizens to nurture nature. These plantations not only help in cleaning air through sequestering CO2 and maintaining humidity, but also motivating students for organic cultivation and entrepreneurship.

In spite of having budgetary and management constraints that limits the effectiveness of green practices, BBK College, Nagaon has put every effort to streamline all those practices to make and convert it into an eco-friendly and aesthetic campus.

The report contains some specific suggestions and recommendations in each category to be implemented to improve the existing environment-related practices of BBK College, Nagaon.

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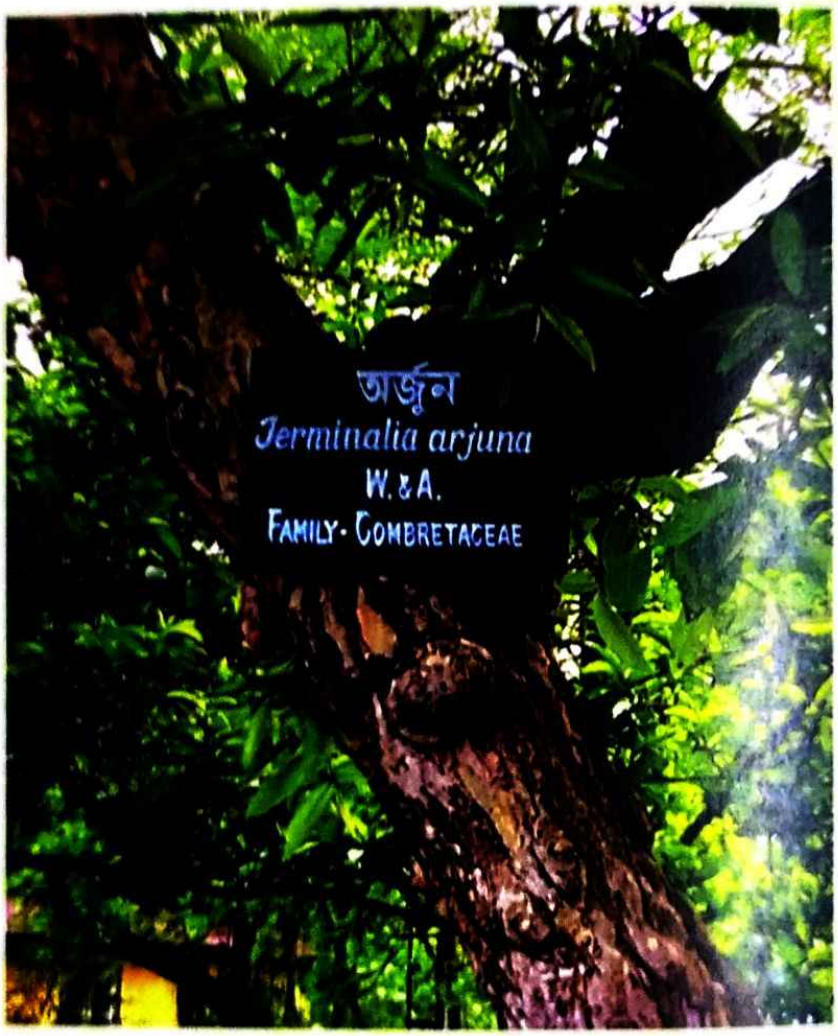
GREEN AUDIT REPORT
2021-2022



Designed & Printed at Gauhati University Press