



# GREEN AUDIT REPORT

## 2021-2022



**Jawaharlal Nehru College**  
Boko, Kamrup, Assam

# **GREEN AUDIT REPORT 2021-2022**

Jawaharlal Nehru College, Boko



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## ACKNOWLEDGEMENT

Recent unprecedented changes in climate and related environmental disruptions have compelled us to adopt sustainable development policies in every aspects of our life. To accept 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 criterion for grading educational institutes.

Jawaharlal Nehru College (J N College, Boko) 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 J N College, Boko.

Dr. Tapan Dutta, Principal, J N College, Boko 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 Mr. Pinaki Kumar Rabha, Dr. Habibur Rahman and Dr. Komal Lochan Barman of J N College, Boko for their sincere support during the audit process in collating data for the report.

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J N College (Boko) Green Audit-2022

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## **ABOUT J. N. COLLEGE**

J N College, Boko was established on 3rd August, 1964 to cater the need of higher education in the rural South Kamrup region of Assam in the hallowed memory of Pandit Jawaharlal Nehru, the first Prime Minister of Independent India. The college is situated at a distance of 60 kms west of Guwahati City of Assam and well connected by road and railway services. The college is standing on the National Highway No. 17. The interstate boundary between Assam and Meghalaya is just 10 km south of the college

The After coming under the fold of Affiliation under Gauhati University in 1967 and subsequent, Deficit Grants-in-Aid system of Govt. of Assam on 1st September, 1969, 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 South Kamrup area including East Goalpara 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 provincialised scheme of Govt. of Assam w.e.f. 1st December 2005.



**Plate 1 : The J N College Campus**

With the 14 full-fledged departments under the faculty of Arts and Science, J N 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<sup>++</sup> and 'B' grades by the National Assessment and Accreditation Council

(NAAC) in the year 2004 and in 2014 respectively in first and second assessment cycle.

Around 3900 students enrolled in UG, PG HS programmes along with Diploma and Certificate courses at J N College in the session 2021-2022 against the 70 faculty members including one librarian and 27 guest faculties. There are 17 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 J N COLLEGE, BOKO**

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 J N College, Boko. 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.

J N 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: Independence Day Celebration in lush green Environment of J N College, Boko**

#### **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 J N College began with the formation of the Green Audit team incorporating faculty members and researchers of Gauhati University and J N College, Boko. 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 J N College, Boko. 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 J N College, Boko 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 outskirts of Boko Township, 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 33.06 acres (100 bigha) of land managed with a master plan with having demarcated and dedicated spaces for one ornamental garden, one botanical garden,

one *Banana* cultivation plot (orchard), one *Papaya* cultivation plot, one *Rubber* garden, one patch of Sal Forest 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. Mushroom Cultivation & Utilization Hub, *Banana* cultivation, *Papaya* cultivation and *Rubber* garden along with cultivation of Assam lemon, jujube, turmeric, and dragon fruits are different units of Life Skills (Kaushal Vikash) highlights 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 drainage systems seem to be good in the campus. No periodic or regular inundation problems observed.

### **Observations**

- Eco-friendly Life Skill Initiatives like training on Kaushal Vikash for gardening, exposure to life cultivation of banana, papaya, jujube, Assam lemon, turmeric, dragon fruit and rubber are commendable green initiatives of the College.
- Disturbance is less in dedicated green areas/gardens.
- Avenue trees including sound barriers lack attention.
- Inundation problem is not there at present.
- The drainage links are suitably managed to dictate the harvested rain water and excess surface runoff 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 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 J N College, Boko campus**



**Plate 3 : Sports facility in the campus**

**Table 1 : LAND USE ANALYSIS:**

<b>FID</b>	<b>Shape</b>	<b>* Id</b>	<b>Name</b>	<b>Area ( in Acres)</b>
0	Polygon	0	Open Space	1.765461
1	Polygon	0	Banana Garden	1.706813
2	Polygon	0	Open Space	3.20334
3	Polygon	0	Rubber Garden	5.685542
4	Polygon	0	Papaya Garden	1.037751
5	Polygon	0	Sal Tree	2.050522
6	Polygon	0	JNC Garden	0.717744
7	Polygon	0	Playground	12.89533
8	Polygon	0	Bookstall	0.013557
9	Polygon	0	Cycle and Bike stand	0.025766
10	Polygon	0	Bike stand	0.119717
11	Polygon	0	Aryabhatta Science Centre	0.019503
12	Polygon	0	Play ground-1 with Gallary	0.090532
13	Polygon	0	Drinking water	0.011791
14	Polygon	0	KKH Study Centre	0.049184
15	Polygon	0	Girl's Common Room	0.035903
16	Polygon	0	Girl's Hostel	0.283443
17	Polygon	0	Warden House	0.026065
18	Polygon	0	Guest House	0.051556
19	Polygon	0	Dept of Anthropology & Chemistry	0.163014
20	Polygon	0	Water Supply Tank	0.006587
21	Polygon	0	New Boys Common Room	0.030743
22	Polygon	0	Botanical Garden	0.494667
23	Polygon	0	Swimming Pool	0.18406
24	Polygon	0	Swimming pool house	0.027406
25	Polygon	0	Car Parking	0.068442
26	Polygon	0	JNC Canteen	0.046499
27	Polygon	0	Flag	0.12438

28	Polygon	0	Indoor Stadium	0.136225
29	Polygon	0	Dept of Hist, Eco, Edu	0.739868
30	Polygon	0	Open Space	0.302513
31	Polygon	0	Open Space	0.26915
32	Polygon	0	Volleyball Court	0.167404
33	Polygon	0	Dept of English and Assamese	0.118655
34	Polygon	0	Auditorium	0.084354
35	Polygon	0	Administrative, Library	0.145027
36	Polygon	0	Playground 2	1.560961
37	Polygon	0	Science Building	0.170836
38	Polygon	0	Teacher's Common Room	0.061666
39	Polygon	0	Old Cycle Stand	0.039093
40	Polygon	0	Open Space	20.796257

## **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 J N College, Boko is the ground water. A total of 9000 L of water is pumped out through water pumps every day (Table 2) for regular use in day to day college activities, gardening along with the canteen uses (amount could not be estimated) and laboratory and lavatory uses.

**Table 2: Source and usage**

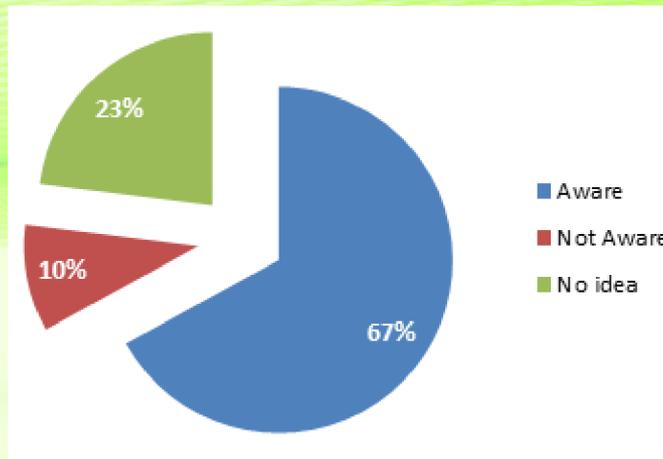
Sl no	Parameters	Response
1	Source of water	Ground water
2	No of Wells	NA
3	No of Hand pumps	One
4	No of Over head tanks	9
5	No of water pumps used	7
6	Horse power- water pumps	2.0 HP -2 ; 1.0 HP- 5
7	Depth of well (boring)	200 ft for submersible one 120 ft for others
8	Water level	Normal
9	Type of water tanks	Reservoir
10	Capacity of Tank/ reservoir (Total)	11000 L
11	Quantity of water pumped every day	9000 L per day
12	Indication of water wastage with reasons	No wastage of water was seen excluding little <i>overflow from water tanks/ leakage from taps</i>
13	Water usage for gardening	500 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	One Capacity 1000 L
20	No of leaky taps	few
21	Amount of water lost per day	Around 250 L
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 3). All parameters excluding iron were found under permissible limits as prescribed by different agencies.

**Table 3: 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



**Fig 2 : Awareness among the stakeholders regarding water conservation**

***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 J N College, Boko for water conservation in the vicinity of the campus.



**Plate 4 : Water conservation campaign in the College Campus**

### **Suggestions and recommendations**

- A proper water consumption monitoring system could be engaged to make zero water loss in future.
- Strengthening of rain water harvesting for each building could be done.
- 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 displeasing 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**

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. 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. The chemical wastes are disposed of in a closed compact chamber made for the purpose. 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 J N College, Boko premises based on interview and data received through a structured questionnaire.

**Table 4 : Waste generated in the campus (per monthly basis)**

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

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.

During a survey carried out among the stockholders of J N College, Boko 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 (**Fig. 3**).



**Fig 3: Opinion of stakeholders regarding waste disposal mechanism of J N College, Boko**

**Table 5: waste management practices adopted**

SI 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	Vermi composting Unit	Yet to be installed	NA
4	Use of Plastic/plastic wares	In use	Little
5	Segregation of waste as per Govt. directives	Yes	NA
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 for keeping the College campus clean**

### 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 a MOU with a registered Farm for collection of E-waste whatever generated. It is assumed to a good practice to keep the campus green.
5. The waste disposal initiative of JN College is reflected in management programs and efforts of the ground staffs.

## Suggestions and Recommendations

- J N College, Boko 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.

## 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 J N College, Boko fraternity took few initiatives through several events in past couple of years.

Activities of Eco-Club		
Sl. No	Date	Programmes
1	02-02-22	World Wetland day : A popular talk on Wetlands: Action for people and nature
2	22-03-22	Cleanliness drive at Boko market
3	22-03-22	Meetings organized at the Boko Market on one time used of polythene bag
4.	22-03-22	World Water Day.
5	05-06-22	World Environment Day 5 <sup>th</sup> June (popular talk on <i>Let's Live with nature</i> by Prof. Partha Pratim Baruah from Dept. of Botany, Gauhati University in 2022
6	05-07-22	Plantation drives in the college campus on 5 <sup>th</sup> July, 2022 as a part of Van Mahotsav.

7	15-07-22	Plantation drives from 15 <sup>th</sup> July to 15 <sup>th</sup> August under the scheme Chief Minister's Institutional Plantation Programme (CMIPP) coinciding with the completion of the yearlong celebration of Azadi Ka Amrit Mahotsav.
<b>Activities of NSS unit of the College</b>		
Sl. No	Date	Programmes
1	04-01-2021	Inauguration of Sanitation System, Donated by NSS Unit at adopted village Mahila Samittee, Jarapara, Boko, Kamrup. Total amount of expenses was 43000/-
2	08-03-2021	Celebration of International Women's Day , Awareness Program on AIDS ,Recourse person –Dr. Rita Deka , ICTC Counselor , at Jarapara L. P. School, Adopted Village
3	22-3-2021	Celebration of World Water Day with a Popular talk on “Catch the Water when it falls “delivered by Mrs. Kirti Choudhury, Department of Geography , J. N.College, Boko
4	08-04-2021	A week long workshop on self Defenses for women
5	09-04-2021	Workshop on Self Defenses for Women
6	10-04-2021	Workshop on Self Defenses for Women
7	11-04-2021	Workshop on Self Defenses for Women
8	12-04-2021	Workshop on Self Defenses for Women. And a Covid -19 test organized by NSS Unit at college, campus among the teachers, students and office staff.
9	13-04-2021	Workshop on Self Defenses for Women
10	05-06-2021	The world Environmental Day organized by NSS Unit and in collaboration with Eco-club, of the college. The volunteers planted trees at the College campus.
11	05-06-2021	World Environment Day on 5 <sup>th</sup> June, 2021. A plantation program was held and saplings of local fruit plant species were planted within the College campus.

12	21-06-2021	International Yoga Day organized by NSS Unit and in collaboration with Amrit Prabha Renger Group, at college campus.
13	06-7-2021	Seminar : As a part of Van Mahotsav Week from 1st -7 <sup>th</sup> July . Topic : <i>A week for Plants and People</i> . Resource Person: Prof. Parimal Ch. Bhattacharjee, Retired Prof. and HoD, Department of Zoology, Gauhati University.
14	24-08-2021	The first Covid-19 Vaccination camp organized by NSS Unit in collaboration with Boko, PHE/FRU and I.Q.A.C. In that day total 263 students and villagers of adopted village vaccinated at college campus.
15	25-08-2021	The second Covid-19 Vaccination camp organized by NSS Unit in collaboration with Boko, PHE/FRU and I.Q.A.C. In that day total 162 students and villagers of adopted village vaccinated at college campus.
16	30-08-2021	The third Covid-19 Vaccination camp organized by NSS Unit in collaboration with Boko, PHE/FRU and I.Q.A.C. In that day total 263 students and villagers of adopted village vaccinated at college campus
17	04-09-2021	The forth Covid-19 Vaccination camp organized by NSS Unit in collaboration with Boko, PHE/FRU and I.Q.A.C. In that day total 367 students and villagers of adopted village vaccinated at college campus
18	06-09-2021	Covid -19 test organized by NSS Unit at college, campus among the teachers, students and office staff.
19	21-09-2021	International Peace Day organized by NSS Unit. A peace rally organized by NSS volunteers and among the students.
20	24-09-2021	Celebration of NSS Day and certificate distribution program of Self Defiance for Women, A week long workshop which is

21	02-10-2021	Clean India Plugging Run and A cleanness drive organized at adopted village, L. P. School, Jarapara
22	10-10-2021	Cleanliness drives conducted as a part of the Azadi Ka Amrit Mahotsav : Iconic Week 4th -10th October, 2021( 75 Years of Independence)
23	29-10-2021	The 5 <sup>th</sup> Covid-19 Vaccination camp organized by NSS Unit in collaboration with Boko, PHE/FRU and I.Q.A.C. In that day total 109 students and villagers of adopted village vaccinated at college campus
24	16-11-2021	The 6 <sup>th</sup> Covid-19 Vaccination camp organized by NSS Unit in collaboration with Boko, PHE/FRU and I.Q.A.C. In that day total 40 students and villagers of adopted village vaccinated at college campus
25	17-11-2021	A cleanliness drive organized by the NSS volunteers at college campus.
26	24-11-2021	Cleanliness drive at college campus
27	26-11-2021	Celebration of <i>Indian Constitution Day</i> organized by NSS Unit. A popular talk on <i>Freedom Struggle and the Indian Constitution</i> , was delivered by Prof. Akhil Ranjan Dutta, Department of Political Science, Gauhati University .
28	01-12-2021	Celebration of World AIDS Day. An awareness program was organized by NSS Unit. A street Play Drama conducted at Boko town by the volunteers in collaboration with Department of Mathematics. After that a covid -19 test organized among the students, teachers, office staff in collaboration with Boko, PHE/FRU at college campus.
29	17-12-2021	One day Orientation Programme of New Voulnteers, Resource Person Dr. Ranjan Kumar Kakati, Director of Student Welfare, GU and Programme Coordinator, NSS Cell, Gauhati University.
30	08-01-2022	Covid vaccination camp organised by NSS Unit , total 116 person are vaccinated.

31	10-01-2022	Covid vaccination camp organised by NSS Unit , total 50 person are vaccinated
32	22-01-2022	Covid Rapid Test Camp organised by NSS Unit, total 150 person were participated for rapid tested
33	27-01-2022	Money collection driv at college for treatment of our student ,
34	29-01-2022	Covid Rapid Test Camp organised by NSS Unit. Total 100 person were participated for rapid tested
35	04-02-2022	Cleanliess drive for Swaraswati Puja at College campus
36	07-02-2022	Covid vaccination camp at college campus, total 179 person are vaccinated
37	08-02-2022	Covid vaccination camp at college campus, total 313 person are vaccinated
38	09-02-2022	Covid vaccination camp at college campus , total 229 person are vaccinated
39	10-02-2022	Covid vaccination camp at college campus , total 117 person are vaccinated



**Swacchata activities of NSS Cadets of the College**



**A Good Practice of NSS Cadets**



**Awareness activities of the J N College Boko**

**Plate 6**



**Public Awareness Programme Plantation drive by the Faculty members**

### **Plate 7**

## **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 to reduce energy use and improvement of performance. The present audit therefore aimed to cover the aggregate consumption of electrical and natural gas energy in J N College, Boko 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 J N College, Boko energy is mainly used to manage and run the 1) lighting's load, 2) laboratory equipments, 3) office equipments, 4) air conditioners, 5) water cooler 6) fan, 7) water pump and 8) Cleaning and construction gadgets.

The primary source of the energy for J N College, Boko is the electricity received from Assam Power Distribution Company Limited supplied through a 80 KV connected load under the Consumer No. 025000000960 under the LT

Category. The College has also 2 Diesel run generator sets of 35 KW capacities and one Mini Generator (100 W) which are mainly used during power failure in the Examination seasons. LPG are utilised in Canteen, laboratories and Hostels only. The College has 15 nos of Solar street light to eliminate the campus (Academic block-10, Old Building-2 and Girls' Hostel-3) which substantially reduce the annual electricity bill.

**Table 6: Energy consumption in J N College**

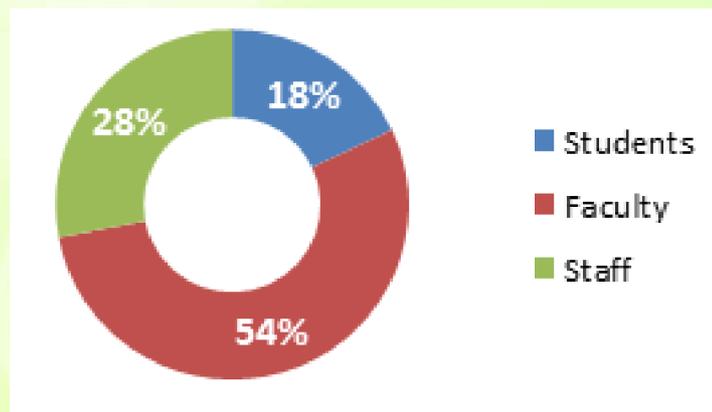
Annual Electrical Energy consumption	: INR 40,000.00 per month (In terms of money) (2021-2022)
LPG requirement per year	: 264 Nos
Fuel (Diesel)	: 300 L / year (Average 25 L./month)
Fuel (Petrol )	: 40 L / year (Average 3.33 L./month)
Water Pump	:07 (2.0 HP/1.0 HP)
No of energy efficient AC	:15 Nos
	Refrigerator :09 Nos
	Xerox machine :05 Nos
	Water Cooler :03 Nos
	Inverter : 19 Nos
	Online UPS : 08 Nos.
	Fan : 385 Nos
Percentage replacement of Non- energy efficient machines in last 2 years:	:0%
No of LED installation at present:	:Bulb/Tube-417
Percentage of increase of LED installation in last 2 years	: 100%
Building energy performance index	: 6.53 kwh/m <sup>2</sup> /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: Stake 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 star 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.

## ENVIRONMENTAL QUALITY ANALYSIS

### Climate :

The campus enjoys a moderate subtropical climate all throughout the year, with warm summers and mild winters. Spring (March–April) and autumn (September–October) are usually pleasant with moderate rainfall and temperature. The ambient temperature varies from 14<sup>o</sup> C in January to 37<sup>o</sup> C in August.

### Air Quality:

NO <sub>2</sub>	:	2.64 ppb
NO	:	1.78 ppb
O <sub>3</sub>	:	14.8 ppb
PM 2.5	:	14.6 µg/m <sup>3</sup>
PM 10	:	25.3 µg/m <sup>3</sup>
CO	:	201 ppb
SO <sub>2</sub>	:	2.96 ppb
Wind Speed	:	4.21 m/s
Wind Direction	:	West North direction
Humidity	:	78.6%
Barometric Pressure	:	1002.89 hPa

### Noise level (Peak Time average)

Location	Periods (Duration in Sec.)	Minimum (dBA)	Maximum (dBA)	Average (dBA)
College Gate	60	58.75	82.7	76.2
Canteen	60	24.6	63.9	53.3
Administrative Block	60	25.9	57.8	51.1
Library	60	3.17	21.35	16.38
Arts Block	60	51.7	66.8	64.3
Old Science Block	60	23.3	46.7	41.1
New Science Block	60	17.6	34.6	29.6
College Back Side	60	4.25	16.4	14.7
Girls Common Room	60	33.45	61.9	53.28

### 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.



**Plate 8: Celebration of World Rhino Day**

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 JN College, Boko campus is spreading over a plot of 33.06 acres (as per land record) out of which around 45 % area are under green coverage which houses different varieties of natural fauna and flora. A few plants are introduced to enhance the aesthetic beauty of the campus.

## FAUNAL DIVERSITY

The J N College, Boko 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, 53 number of vertebrates were reported in the college campus belonging to different phylum and classes. Altogether 9 amphibian, 8 reptile species and 31 birds were recorded during the audit period. Mammalian diversity is poor and is represented by only 5 species. Invertebrates includes several species of butterflies, grasshoppers, earthworms, leech, Many species of other insects like bees, wasps, ants, bugs, beetles, spiders etc.

It is very interesting to note that the college campus provide a sound nesting ground of Squirrel, mongoose, dove, crow, parrot, oriole, drongo and common mynas.

	Birds	
Sl No	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>Athene brama</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>
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 Tailor bird	<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>
	<b>Mammals</b>	
1	Common mongoose	<i>Herpestes edwardsi</i>
2	The small Indian civet	<i>Vivvericula indica</i> ( occasional visits)
3	The common house rat	<i>Rattus rattus</i>
4	House mouse	<i>Mus musculus</i>
5	Common House shrew	<i>Suncus murinus</i>
	<b>Reptiles</b>	
Sl No	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>Europis multifasciata</i>
5	Checkered Keelback 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>
	<b>Amphibia</b>	
1	Common Asian Toad	<i>Duttaphrynus melanostictus</i>
2	Common tree frog	<i>Polypedates teraiensis</i>
3	Litter Frog	<i>Leptobrachium smithi</i>
4	Cricket frog	<i>Fejervarya pierrei</i>
5	Indian Bull frog	<i>Hoplobatrachus tigerinus</i>
6	Yellow striped frog	<i>Hylarana tytleri</i>
7	Bhamo frog	<i>Humerana humeralis</i>
8	long-tongued frog	<i>Hylarana leptoglossa</i>
9	Common tree frog	<i>Polypedates leucomystax</i>

## **INSECTS**

*Apis indica; Apis dorsata; Apis florea, Crocothemis erythraea; Pantala flavescens*

## **MOTHS & BUTTERFLIES**

*Antheria assmensis; Bombyx mori; Philosamia ricini; Junonia atlites atlites ; Commander; Ethope himachala ; Melanitis leda leda ; Paltoporia paraka paraka; Ypthima baldus ; Acraea terpsicore ;Elymnias hypermnestra undularis ; Mycalesis perseus blasius ; Tanaecia lepidea lepidae ; Euploea core core*

**SPIDERS** *Myrmachne orientalis ; Nephila plipes; Heteropoda sp; Phintella vitatta*

## **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 enlisted below.

**Table 8: Plants of J N College Campus**

<b>Sl no.</b>	<b>Name of plants</b>	<b>Family</b>	<b>Life Form</b>
1	<i>Shorea robsuta</i>	<i>Dipterocarpaceae</i>	Tree
2	<i>Hevea brasilensis</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>Lemiaceae</i>	Tree
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>Calophyllaseae</i>	Tree
18	<i>Neolamarckia cadamba</i>	<i>Rubiaceae</i>	Tree

19 <i>Michelia champaca</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>Pine sp</i>	<i>Pinaceae</i>	Tree
25 <i>Cycas sp</i>	<i>Cycadaceae</i>	Tree
26 <i>Peperonia 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>Arecaceae</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>Cynadon 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
40 <i>Ziziphus jujube</i>	<i>Rhamnaceae</i>	Tree

41 <i>Artocarpus heterophyllus</i>	Moraceae	Tree
42 <i>Ficus religiosa</i>	Moraceae	Tree
43 <i>Chrysalidocarpus lutescens</i>	<i>Arecaceae</i>	<i>Shrub</i>
44 <i>Oxalis sp</i>	Oxalidaceae	Herb
45 <i>Flacourtia jangomas</i>	Salicaceae	Tree
46 <i>Euphorbia hirta</i>	Euphorbiaceae	Herb
47 <i>Phyllanthus fraternus</i>	Phyllanthaceae	Herb
48 <i>Psidium guajava</i>	Myrtaceae	Shrub
49 <i>Hibiscus rosa sinensis</i>	Malvaceae	Shrub
50 <i>Carica papaya</i>	Caricaceae	Shrub
51 <i>Amaranthus spinosus</i>	Amaranthaceae	Herb
52 <i>Amaranthus viridis</i>	Amaranthaceae	Herb
53 <i>Bougainvillea glabra</i>	Nyctaginaceae	Climbing shrub
54 <i>Mimusops elengi</i>	Sapotaceae	Tree
55 <i>Ixora chinensis</i>	Rubiaceae	Shrub
56 <i>Catharanthus roseus</i>	Apocynaceae	Herb
57 <i>Capsicum annum</i>	Solanaceae	Herb
58 <i>Solanum melongena</i>	Solanaceae	Herb
59 <i>Ocimum sanctum</i>	Lamiaceae	Shrub
60 <i>Eclipta prostrate</i>	Asteraceae	Herb
61 <i>Spilanthes paniculata</i>	Asteraceae	Herb
62 <i>Musa spp.</i>	Musaceae	Shrub

## **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.
- The College is imparting training on life skills (Kaushal Vikash) on cultivation to marketing of Mushroom, turmeric, bananas, dragon fruit, papaya, jujube and Assam lemon etc. It is obviously, a commendable green and environment friendly imitative of the college to encourage budding citizens to nurture nature.
- Cultivation plots of banana and rubber not only help in cleaning air through sequestration of CO<sub>2</sub> and maintaining humidity, but also motivating students for organic cultivation and entrepreneurship.



**Views of Rubber Garden**



**Preparation of land for plantation  
Plate 9**



**Plate 10: Papaya cultivation and seasonal harvest**

### **Suggestions and Recommendations**

- The existing campus of J N College, Boko 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 JN College, Boko 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 the sectors related to environmental quality. The data thus collated were analyzed to prepare this audit report of JN College, Boko.

The College is located on a huge plot of land of 33.06 acres and the campus is systematically arranged based on its master plan with dedicated spaces for one ornamental garden, one botanical garden, one *Banana* cultivation plot (orchard), one *Papaya* cultivation plot, one *Rubber* garden, one patch of Sal Forest and two multi sports play grounds. 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 Assam lemon, jujube, turmeric, and dragon 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 JN College, Boko extract @ 9000 L ground water per day to fill up the 9 water reservoirs of the capacity 11000 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 is trying to manage by installing necessary filters. The authority is proactive in conserving water and the awareness of Stakeholders on water conservation is commendable as well. Further, Display signage for water conservation and regular monitoring was found in their places which can be considered as one of the best green practices of the College for

conservation of water. The initiative of rain water harvesting in each building are made and channels were connected to a 'Well' that was dug for recharge of ground water. 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 little in the campus which is disposed off through a registered firm. 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 has Life skill training centers within the campus on gardening, propagation and caring of horticultural crops like bananas, papaya, dragon fruit, rubber and turmeric; 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 J N College, Boko 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 J N College, Boko 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 equipments, 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 J N College, Boko is Assam Power Distribution Company Limited. The College has 2 DG sets of 35 KW and one small generator of 100 watt capacity which are mainly used 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. Though percentage replacement of non energy efficient machines/gadgets in last 2 years was almost nil, 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 is poor which needs augmentation.

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 J N College, Boko campus houses around 53 numbers of vertebrates under different phylum. The campus accommodates around 9 amphibians, 8 reptiles, 31 birds and 5 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. Harboring of rich faunal diversity indicates a good health of the campus. It is also interesting to note that the college campus provide a sound nesting ground of Squirrel, mongoose dove, crow, parrot, oriole, drongo and common mynas.

The campus is evergreen with 62 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 services in maintaining a green campus these should be conserved in a proper way to support and to achieve more biodiversity values in future.

The Life Skill initiatives on mushroom cultivation techniques and imparting cultivation techniques on banana, rubber, papaya, turmeric, jujube, dragon fruit and other horticultural crops is a commendable green and environment friendly initiative of the college to encourage budding citizens to nurture nature. Cultivation plots of banana, rubber, and turmeric not only help in cleaning air through sequestering CO<sub>2</sub>

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, J N College, Boko 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 J N College, Boko.

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# GREEN AUDIT REPORT

## 2021-2022



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