FEBRUARY 6, 2025

A REPORT
ON
GREEN AUDIT IN KOKRAJHAR GOVT. COLLEGE, KOKRAJHAR

SUBMITTED TO
THE PRINCIPAL
KOKRAJHAR GOVT. COLLEGE
P.O.: KOKRAJHAR, DIST.: KOKRAJHAR BTC, (ASSAM)

Principal
Kokrajhar Govt. College
Kokrajhar

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We are sincerely thankful to the Kokrajhar Govt. College management for giving us the opportunity to conduct green audit.

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We express our sincere gratitude to all other concerned officials for their support and guidance during the conduct of this exercise.

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1. INTRODUCTION:

The faster economic development and industrialization leads to several environmental and ecological crisis. Use of fossil fuel and de-forestation are the major reason of climate change. To address this issue, it becomes very essential to adopt the green initiative by all the stakeholders of the society and the role of higher educational institutions is more prevalent.

Kokrajhar Govt. College takes initiative to contribute in sustainable development goals by reducing a significant amount of Green House Gas (GHG) from the atmosphere. As a part of this initiative, the "Green Audit" of the college campus becoming the primary important for self-assessment of the institution which reflects the role of the college in mitigating the present environmental problems.

Green audit is the process of identifying and determining the eco-friendly and sustainable initiatives taken up by the Kokrajhar Govt. College authority. Green Audit is an effective tool to formulate a culture of sustainability by implementing it through systematic identification, quantification, documentation, reporting and monitoring of environmentally important components. Green audit will also help in preserving the rich floral and faunal diversity in and around the campus.

2. OBJECTIVE:

The idea of the green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in the college campus. The main objectives of Green Audit are:

- Land use analysis of Kokrajhar Govt College.
- Tree diversity of the college campus.
- Faunal diversity of the college campus.
- Weather data of the college.
- Water analysis of the college.
- Noise level in the surrounding of the college campus.
- Waste disposal of college.
- Transportation of the college.
- Electrical power consumption of the college
- Expenditure on green initiative during the last five years.

3. BENEFITS OF GREEN AUDIT:

- Better environmental practices of the institute.
- More efficient resource management.
- Benchmarking for environmental conservation initiatives.
- To create a green campus.
- Better waste management through reduction of waste generation and recycling.
- To create plastic free campus and create health consciousness among all the stakeholders of the college.
- Enhance the awareness for environmental conservation guidelines and duties.
- Cost saving methods through better resource management.
- Developing an environmental ethics and value systems among the students and other stakeholders.
- Develop a valuable tool to monitor the environmental and sustainable development of the college.
- Improvement of overall college profile.

4. METHODOLOGY ADOPTED FOR GREEN AUDIT

The methodology adopted to perform the entire Green Audit exercise includes: collection of data, physical inspection of the campus, observation and review of the documentation, data analysis and reporting.

Step 1 – Data Collection

Data collection was performed by using different tools such as observation, measurements and communicating with responsible persons of the college.

Following steps were taken for data collection:

- The audit team visited each building and department, library, canteen, open space, gardens of the campus and information was collected by interviewing with the responsible person.
- Land use data of the college has been collected.
- The energy data such as monthly electricity consumption and fuel consumption was collected from the officials and analyzed.

- Waste management facility such as dust bins, vermi compost unit etc. has been visited, other waste disposal process adopted by the college has been discussed and noted.
- All flora and fauna found in the college campus has been identified and listed out.
- Water quality, noise level of the campus has been measured.

Step 2 – Campus tour and physical inspection

The audit team visited the campus on 28th January 2025 to collect the data and to take the necessary measurements.

Step 3 - Document review and verification

During the initial visit, available facility documentation are reviewed with facility representatives. This documentation review includes data related to-

- Land use pattern of the college.
- Geographical location with campus.
- Flora and faunal diversity of the College campus.
- Water analysis of the College.
- Waste management of college.
- Transportation of the College.
- Energy consumption and conservation measures taken by the College.
- Expenditure on green initiative during the last five years.

Step 4 – Key parameter measurement and testing

- Water analysis of the College
- Noise level of the College campus

Step 5 - Data Analysis

- Analysis of land use land cover data.
- Weather data analysis (Average ambient temperature and humidity analysis)
- Energy consumption data analysis (Electricity and fuel consumption data)
- Water test report analysis.
- Analysis of noise level at different location of the campus.

Step 6 - Prepare a Report Summarizing Audit Findings

The results of our findings are summarized in this report. The report includes a description of the college campus including different facilities. The energy and environmental conservation initiatives already taken by the college authority has been mentioned in the report.

Also, the necessary observation and requirements to fulfill the green campus. Discussion of all major energy consuming systems and their operation. The report incorporates a summary of all the activities and effort performed in past few years to conserve environment and energy within the campus or outside. The report also includes the activities performed by the college authorities along with the local communities for awareness generation and community participation towards better environmental practices to address the present environmental challenges.

5. DESCRIPTION OF THE COLLEGE CAMPUS

The Kokrajhar Govt. College was established in 1959 pertaining an eco-friendly environment. The campus is located in the heart of the Kokrajhar town. The geographical location of the college is 26.4014° N, 90.2667° E. The total area of the college is 14.63 acre comprising 13.87-acre buildup area and 0.76-acre playground area. The college campus area consists of multiple building both single storey assam type and multi-storey RCC buildings along with the green vegetation area and trees. The campus is surrounded by city road on the southern side, Residential area on the east side, Railway colony and track on the northern side and residential and market area on the western side.

At present the college has 19 Departments distributed in different buildings which includes classrooms, laboratories, computer centre etc. The college also has canteen and the playground, open greenery space with vegetation and trees.

Figure 1: Google Earth map of Kokrajhar Govt. College

6. LAND USE ANALYSIS:

Geographical location:

The geographical location of the campus is at latitude 26.4014° N and longitude 90.2667° E.

Total land cover data of the college campus has been collected from the college authority and from the google earth. The total area is covered by the buildup area of the college buildings and green vegetation or plantation area. The detail land use land cover data has been shown in figure no. 2.

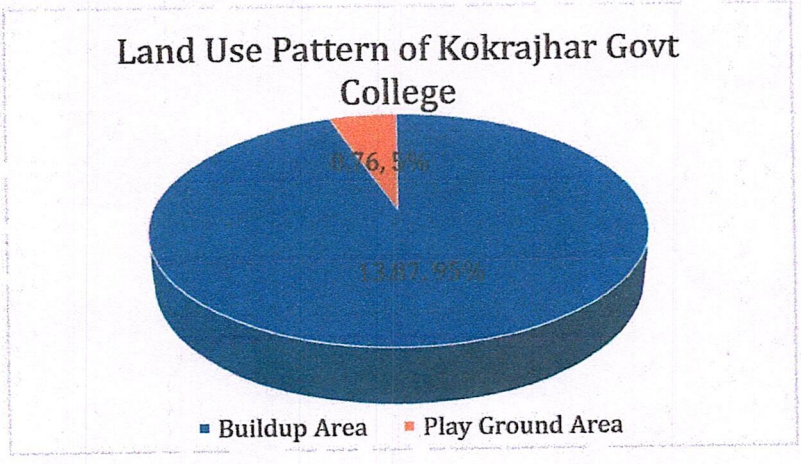


Figure 2: Land Use Pattern of Kokrajhar Govt College

The total buildup area of the campus is occupied by number of buildings and are listed below-

Sl. No	Building/Block	Number of Floor
1	Administration Building	2
2	Boy's Hostel (Assam Type)	1
3	Student Day Home and Hostel superintendent quarter	1
4	IGNOU/Botany Lab/ Library/Class Room (NB)	2
5	Science Building, Block C	3
6	Arts Building Block A	2
7	Arts Building Block B	3
8	Canteen	1
9	Assam Type Class Room	1

Table 1: Building detail

7. WEATHER DATA OF THE COLLEGE CAMPUS

The ambient air temperature and relative humidity data were obtained from the NASA website (https://power.larc.nasa.gov/data-access-viewer/)

The NASA data are satellite-retrieved; its parameters are computed on a daily average basis using NASA/GEWEX surface radiation Budget model. The model considers the effect of cloud cover and local atmospheric conditions. Compared to BSRN (Baseline Surface Radiation Network) sites the NASA data showed high accuracy with Bias (less than 0.12) and RMSE (Root Mean Square Error) (less than 18%). BSRN sites are the most accurate approved ground sites.

The below table shows the monthly average air temperature and relative humidity of Kokrajhar Govt. college campus from July 2023 to June 2024. It has been observed that the average air temperature of the campus is ranging between 15.81 ^{0}C to 30.14 ^{0}C whereas the average relative humidity of the campus varies from to 60.12 % to 82.22%.

Months	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Max. Air Temp (0C)	18.10	19.33	26.79	29.19	31.47	32.10	33.24	32.28	29.17	29.16	23.78	22.26
Min. Air Temp (0C)	13.22	12.67	20.18	24.44	26.21	25.84	27.47	27.76	25.70	22.42	20.72	15.71
Avg. Air Temp (0C)	15.86	15.81	23.76	26.62	29.48	29.66	30.14	29.72	27.39	25.25	22.13	19.41

Table 2: Monthly temperature variation of Kokrajhar Govt College

Months	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Max RH (%)	88.72	86.82	82.27	82.88	73.81	89.78	85.22	88.07	91.16	92.82	73.95	72.84
Min RH (%)	67.29	67.32	50.34	40.84	44.24	55.19	61.46	63.14	65.52	61.12	58.84	57.10
Avg. RH (%)	80.25	76.54	61.17	62.35	60.12	72.28	71.73	73.42	82.22	80.52	69.71	67.72

Table 3: Monthly variation of RH (%)

8. WATER QUALITY OF THE COLLEGE CAMPUS

Water quality testing is an important task of green audit as it identifies contaminants and avoids water borne diseases. Kokrajhar Govt. College uses ground water for their daily needs. Water is being used in the campus as drinking water, used in bathrooms both in hostels and academic buildings and for gardening and other purposes. Therefore, it is very important to test the water to ensure the quality to use for all purposes.

Drinking water indicators:

The following is a list of indicators often measured to identify the quality.

- Alkalinity
- Color of water

- PH Value
- Taste and odor
- Dissolved metals and salts (sodium, chloride, potassium, calcium, manganese, magnesium)
- Microorganisms such as fecal coliform bacteria (Escherichia coli), Cryptosporidium, and Giardia lamblia; see Bacteriological water analysis
- Dissolved metals and metalloids (lead, mercury, arsenic, etc.)
- Dissolved organics: colored dissolved organic matter (CDOM), dissolved organic carbon (DOC)
- Heavy metals

Water quality test has been carried out in the chemistry laboratory of Kokrajhar Govt. College and the report of the same has been furnished. The values of the various parameters of the water sample tested are within WHO Permissible limit. So, the water sample may be considered as good quality drinking water on the basis of these parameters. Still, it is suggested that the water should be consumed after simple processing like filtration and boiling to avoid any health-related issues.

DEPARTMENT OF CHEMISTRY:: KOKRAJHAR GOVT. COLLEGE:: KOKRAJHAR

Drinking-Water Quality Test Report

Sampling Station: Kokrajhar Govt. College, Kokrajhar

Source: Deep Tube well.

Sl. No.	Parameters	Value obtained	WHO Permissible Limit	Remarks
1	pH	6.9	6.5 to 8.5	The values of the various parameters of the water sample tested are within WHO Permissible limit.
2	Electrical Conductivity (µS/cm)	189.7	1500 µS/cm	
3	TDS (mg/L)	131	500 mg/L	

4	Turbidity (NTU)	8.6	10 NTU	So, the water sample may be considered as good quality drinking water on the basis of these parameters. Still, it is suggested that the water should be consumed after simple processing like filtration and boiling to avoid any health-related issues.
5	Total hardness	59.6	500 mg/L	
6	Chloride (mg/L)	23.6	250 mg/L	
7	Sulphate (mg/L)	7.5	400 mg/L	
8	Nitrate (mg/L)	4.13	50 mg/L	
9	Fluoride (mg/L)	BDL	1 mg/L	
10	Calcium (mg/L)	16.9	100 mg/L	
11	Magnesium (mg/L)	6.18	30 mg/L	
12	Sodium (mg/L)	10.0	200 mg/L	
13	Potassium (mg/L)	5.3	12 mg/L	
14	Arsenic (µg/L)	0.1	10 µg/L	
15	Copper (mg/L)	0.621	2 mg/L	
16	Iron (mg/L)	0.341	0.3 mg/L	
17	Zinc (mg/L)	0.331	5 mg/L	

Table 4: Water quality Test Report

*BDL→ Below Detectable Level

9. NOISE LEVEL OF THE CAMPUS AND SURROUNDING AREA

Under the Air (Prevention and Control of Pollution) Act, 1981, noise is considered as a pollutant. Noise mostly occurs in two major situations community noise and industrial noise. Community noise is also called environmental noise and is defined as the noise emitted from all the sources except the noise from the industrial sources. As far as community noise is concerned the WHO guidelines recommend less than 35 dB(A) in classrooms which is important for good teaching and learning conditions. The noise level monitoring was carried out to assess the equivalent noise level (Leq) around the Kokrajhar Govt. College campus. The test was carried out for 60 min in each location and the maximum, minimum and the average noise level readings were recorded. The noise monitoring was carried out at the 12 different locations within the campus. Below table shows the measured noise level in the campus.

Sl. No	Building/Block	Measurement duration (in Sec)	Average (dB)
1	Admin Building ground floor	60 Sec	45
2	In front of Boy's Hostel	60 Sec	45
3	Student Day Home	60 Sec	30
4	IGNOU/Botany Lab/ Class Room (NB) building.	60 Sec	46
5	In front of Science Building	60 Sec	32
6	Inside Library	60 Sec	22
7	Near Arts Building Block A	60 Sec	43
8	Near Arts Building Block B	60 Sec	42
9	Inside Canteen	60 Sec	65
10	In front of Assam Type Class Room	60 Sec	39
11	Near entry gate of the college	60 Sec	71
12	In open space/ lawn	60 Sec	62

Table 5: Noise level test in different locations

From the data obtained Table 6, it was observed that the ambient noise levels in certain locations found as slightly beyond the prescribed standard limit during testing period. The

exceeding of maximum permissible limits in these areas can be attributed to the noise emerging from vehicular movements through nearby roads. Although the noise level in most of the location were found as slightly on higher side, the same is permissible by keeping in mind to minimize as much as possible and not allowed to exceed the limit. As per WHO noise quality guidelines, noise level values are summarized with regard to specific environments and effects. For each environment and situation, the guideline values take into consideration the identified health effects and are set, based on the lowest levels of noise that affect health (critical health effect).

Specific Environment	Time Base (hours)	Standard limits as per WHO guidelines	
		LAeq [dB]	LAmax, fast [dB]
Outdoor living area	16	50 - 55	-
Dwelling, indoors, Inside	16	35	-
bedrooms	8	30	45
Outside bedrooms	8	45	60
School class rooms and pre-schools, indoors	During class	35	-
Pre-school bedrooms, indoors	Sleeping time	30	45
School, playground outdoor	During play	55	-
Hospital, ward rooms,	8	30	40 -
indoors	16	30	
Hospitals, treatment rooms, indoors	-	As low as possible	-
Industrial, commercial, shopping and traffic areas, indoors and outdoors	24	70	110
Ceremonies, festivals and entertainment events	4	100	110
Public addresses, indoors and outdoors	1	85	110

Music through headphones/earphones	1	85 (under headphones, adapted to free-field values)	110
Impulse sounds from toys, fireworks and firearms	-	-	120-140 (peak sound pressure (not LAmax, fast), measured 100 mm from the ear)
Outdoors in parkland and conservation areas	-	Existing quiet outdoor areas should b e preserved and the ratio of intruding noise to natural background sound should be kept low	

Table 6: Standard limit of noise level as per WHO guidelines

10. TREE DIVERSITY OF THE COLLEGE CAMPUS

The College campus area is vastly diverse with a variety of tree species which perform variety of functions. These tree species are the integral part of the college. Most of these tree species are planted by the college authority through various tree plantation programs conducted in different periods of time. These trees have increased the quality of life by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife. The impact of these trees has not only with in the college fraternity but also the people surrounding the college. They contribute the environment by moderating the effects of the sun, rain and wind and by absorbing and filtering the sun's radiant energy, keeping the campus cool in summer. Many species of birds are dependent on these trees mainly for food and shelter. Thus, the college campus

has been playing a significant role in maintaining the environment of the entire Kokrajhar town.

The study reveals that a total 40 numbers of tree species belonging to 25 families are found in the campus. The following are the tree species found in the college campus.

Sl. NO	Name of the Plant Species	Family	Common Name
1	*Albizia lebbek*	Fabaceae	women's stongue tree
2	*Araucaria heterophylla*	Araucariaceae	Araucaria
3	*Areca catacheau*	Arecaceae	Beetlenut
4	*Azadirachta indica*	Meliaceae	Neem
5	*Borassus flabellifer*	Arecaceae	Tall Palm (wine palm)
6	*Bongainvillea glabra*	Nyctaginaceae	Kagoj phul
7	*Caesalpinia pulcherrima*	Fabaceae	Radhachura
8	*Callistemon sp.*	Myrtaceae	Bottle Brush Tree
9	*Cassia fistula*	Fabaceae	Sonaru
10	*Cassia roxburghii*	Fabaceae	Ceylone senna
11	*Chrysalidocarpus lutescens*	Aracaceae	Cane Palm (mamoi tamul)
12	*Cocos nucifera*	Aracaceae	Coconut
13	*Cycas revolute*	Cycadaceae	Japaneseagopalm
14	*Dalbergi asissoo*	Fabaceae	Sisu
15	*Delonix regia*	Fabaceae	Krishnachura
16	*Elaeocarpus ganitrus*	Elaeocarpaceae	Rudraksha
17	*Erythrina variegate*	Fabaceae	Madar
18	*Eucalyptus maculate*	Myrtaceae	Eucalyptus
19	*Ficus benjamina*	Moraceae	Ficus
20	*Gmelina arborea*	Verbenaceae	Gomari
21	*Grevillea robusta*	Proteaceae	Silver Oak
22	*Lagerstroemia speciosa*	Lythraceae	Ajar Tree
23	*Livistowa jenkinsiana*	Arecaceae	Tokou
24	*Mesua ferrea*	atophyllaceae	Nahor
25	*Michelia champaca*	Magnoliaceae	Tetachapa

26	*Mimusops elengi*	Sapotaceae	Bakul
27	*Neolamarckia cadamba*	Rubiaceae	Kadam
28	*Persea bombycina*	Lauraceae	Som
29	*Pinus kesiya*	Pinaceae	Pine tree
30	*Polyathia longifolia*	Annonaceae	Ashoka Tree
31	*Pongamia pinata*	Papilionaceae	Karas
32	*Psidium guajava*	Myrtaceae	Guava
33	*Ptychosperma macarthuri*	Aracaceae	Macarthur palm
34	*Ravenala madagascariensis*	Strelitziaceae	Traveller's tree
35	*Swietenia macrophylla*	Meliaceae	Mahogani
36	*Syzygium cumini*	Myrtaceae	Kola Jamu
37	*Tectona Grandis*	Lamiaceae	Teak
38	*Terminalia arjuna*	Combretaceae	Arjun
39	*Thuja orientales*	Cupressaceae	Thuja
40	*Zizyphus jujuba*	Rhamnaceae	Bogori (Chinesedate)

Table 7: Tree Diversity of College Campus

The botany department of the college has also developed a botanical garden within the campus. The various indigenous tree species along with the medicinal plants are well-preserved by the department in the garden.

Figure 3: Botanical Garden in the College Campus

11. FAUNAL DIVERSITY OF THE CAMPUS

Assam is considered as biodiversity "hot spot" in the country. Favorable climate condition, topography and different other factors results in a diversity of ecological habitats such as forests, grasslands and wetlands.

Kokrajhar Govt. College is situated in the Kokrajhar town area along the bank of Gaurang river which is one of the tributaries of river Brahmaputra. The college is in the sub-tropical climate zone and has wet monsoon and dry winter months. The wettest month being July with average annual rainfall of about 248 mm while the driest month being December. The temperature ranges from 10 to 34^{0}C. The campus is an example of co-existence of human and environment as the campus is rich in flora and faunal diversity.

The faunal diversity of the college has been studied and listed as below-

Animal Group: Aves

Local Name: Common Myna

Local Name: House Crow

Scientific Name: *Acridotheres Tristis*

Local Name: House Sparrow

Scientific Name: *Passer Domesticus*

Local Name: Common tailor bird

Scientific Name: *Orthotomus sutorius*

Local Name: Koel

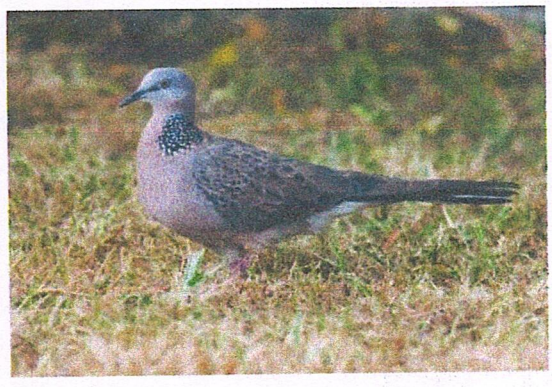
Scientific Name: *Eudynamys scolopaceus*

Animal Group: Reptilia

Scientific Name: *Corvus Splendens*

Local Name: Red-Vented Bulbul

Scientific Name: *Pycnonotus Cafer*



Local Name: Spotted dove

Scientific Name: *Streptopelia chinensis*

Local Name: Jungle babbler

Scientific Name: *Argya striata*

Local Name: Garden Lizard

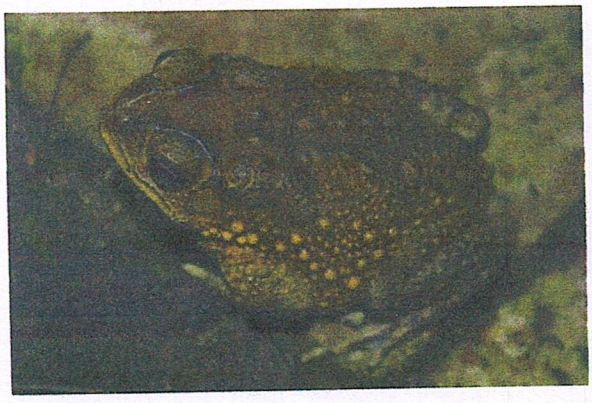
Scientific Name: Calotes versicolor

Animal Group: Amphibia

Local Name: Common house gecko

Scientific Name: *Hemidactylus frenatus*

Animal Group: Mollusca



Local Name: Asian Common Toad

Scientific Name:

Duttaphrynus melanostictus

Animal Group: Anthropoda

Local Name: Snail

Scientific Name: *Achatina fulica.*

Local Name: Dragonfly

Scientific Name: *Anax indicus*

Local Name: Grasshopper

Scientific Name: *Tettigonia viridissima*

Local Name: Honey Bee

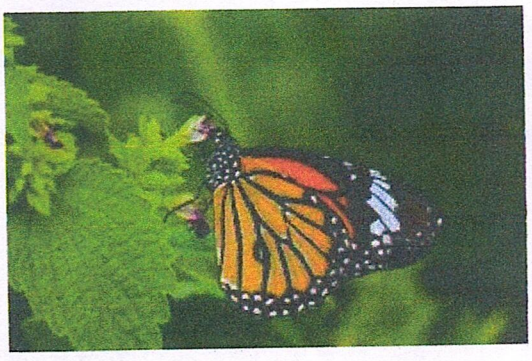
Scientific Name: *Apis florae*

Local Name: Himalayan Cabbage White

Scientific Name: *Pieris canidia Indica*

Local Name: Oriental Mottled Emigrant

Scientific Name: *Catopsilia pyranthe*



Local Name: Oriental Striped Tiger

Scientific Name: *Danaus Genutia*

Figure 4: Faunal Diversity of Kokrajhar College

12. WASTE DISPOSAL OF THE COLLEGE

The activity and actions required to manage the waste from beginning to the final disposal is called as waste disposal process. The activities include the collection of waste, transportation, treatment and disposal of waste considering waste management process. At present the Kokrajhar municipality takes care of collection of waste, transportation and final disposal of waste. On the other hand, the wet waste such as vegetable, excess foods are taken by the local vendor.

Figure 5: Waste Disposal of the College

12.1 SOLID WASTE MANAGEMENT:

Every building of Kokrajhar Govt. College has waste bins located in suitable location of the building from where housekeeping staffs take the wastes. From these bins, wastes are dumped in a centralized bin by the housekeeping staffs regularly. From the big waste bins, the waste collection vehicle from Kokrajhar Municipal Corporation took the solid wastes. There are different types of waste generated within the campus. Out of these the some of the major wastes are as paper waste, organic waste, e-waste etc.

Separation of bio degradable waste and non-biodegradable waste is one of the major tasks of solid waste management. Kokrajhar Govt. College practices the separation of these two types of waste by keeping different bins for different waste. Biodegradable waste is taken to the vermi-compost bed for bio composting and to generate organic fertilizer which are to be used in the gardens as organic manure.

12.2 LIQUID WASTE MANAGEMENT:

Liquid waste is generated from science laboratories, hostels and canteen.

Liquid wastes generated by the College are of two types:

1. Sewage waste
2. Laboratory, washing and canteen effluent.

The laboratory liquid is sent to soak pit and other liquid wastes are mainly drained. The College does not have any sewage treatment plant yet.

12.3 E-WASTE MANAGEMENT:

Kokrajhar Govt. College follows suitable mechanism to dispose E-wastes generated from various sources. E-wastes are generated from computer laboratories, Physics Labs, Chemistry Lab, Academic and Administrative Offices. The e-waste includes out of order equipment's or obsolete items like laboratory instruments, electronic circuits, computer desktops or different computer components, laptops and accessories, printer and cartridges, charging cables, Wi-fi devices and cables, CCTV components, sound systems, display units, UPS and battery, biometric machine, scientific instruments etc. All these wastes which cannot be reused or recycled is being disposed through authorized vendors.

13. RAIN WATER HARVESTING IN THE COLLEGE CAMPUS

Rainwater harvesting is an important environment friendly approach for water conservation. The extensive and unplanned use of groundwater has not only disturbed the natural water level but also has made the groundwater contaminated and unfit for use. Rainwater harvesting Green Practice having benefit of maintaining the groundwater level.

The campus has rain water harvesting system to conserve rain water and for better utilization. At present the rain water is used for gardening. Also, the campus consists of small pond as wetland to develop the aquatic ecosystem.

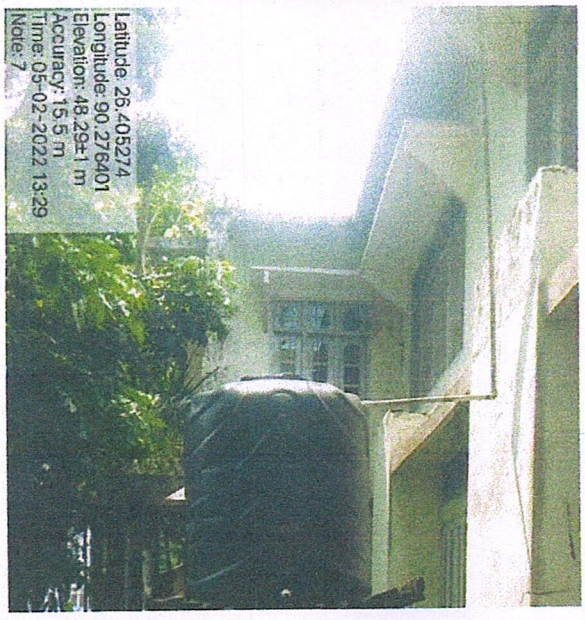


Figure 6: Rain water Harvesting System

14. ELECTRICAL POWER CONSUMPTION AND ENERGY CONSERVATION INITIATIVES

Energy consumption in different forms has been continuously rising almost in all the sectors- agriculture, industry, transport, commercial, residential (domestic) and educational institutions. This has increased the dependency on fossil fuels and electricity. Therefore, energy efficiency improvement and possible energy conservation became a necessary objective for energy consumers. The Government of India enacted the Energy Conservation Act, 2001 in October 2001. The Energy Conservation Act, 2001 became effective from 1st March, 2002. The Act provides for institutionalizing and strengthening delivery mechanism for energy efficiency programs in the country and provides a framework for the much-needed coordination between various Government entities. Kokrajhar Govt. College, an educational institute in Kokrajhar district of Assam taking initiative for reducing energy intensity in the College Campus

The Kokrajhar Govt. College campus consisting of multiple buildings. The following Tables show the basic information about the building and the utilities.

15.1 BUILDING DESCRIPTION

The Kokrajhar Govt. College campus consisting of multiple buildings. The following Tables show the basic information about the building and the utilities.

Sl. No	Basic Building Data	Value
1	Connected Load	140 kW

	Contract Demand	165 kVA
2	Installed capacity of DG set	20 kVA (1 No) Make: Kirloskar Oil Engine Limited Model: KG1-20WS/20kVA 15 kVA (1 No) Make: Kirloskar Oil Engine Limited Model:KG1-15AS
3	Electricity consumption (July' 2023 to June' 2024)	82,664.93 kWh
4	Cost of electricity consumption (July' 2023 to June' 2024)	Rs. 9,90,422.00
	Annual cost of electricity consumption through DG set.	Rs. 1,06,000.00
	Total cost of electricity (Utility + DG set)	Rs.10,96,422.00
5	Total Numbers of building covered	10 Nos
5.1	Working hours (Academic and Administration building)	8 Hrs (9 AM to 5PM)
5.2	Working hours (Hostel building)	24 Hr x7 days
5.3	Working Days/week	6 Days
6	Whether sub-metering of electricity consumption for each building	No

Table 8: Basic Building Description

15.2 PRESENT ENERGY SCENARIO

15.2.1 REVIEW OF ANALYSIS OF ELECTRICITY BILL OF KOKRAJHAR GOVT. COLLEGE.

At present the overall energy consumption is catered by the electricity supply from Assam Power Distribution Company Limited and own DG sets. Total Connected load of Kokrajhar Govt. College is 140 kW and Contracted Demand is 165 kVA. Total 2 numbers of DG sets (20kVA and 15kVA) are used to supply power during load shading hours.

Energy Consumption.

The total energy consumption from July' 2023 to June' 2024 was 82,664.93 kWh and the total bill paid to distribution companies was Rupees 9,90,422.00. The monthly energy consumption and electricity bill paid from July' 2023 to June' 2024 has shown in fig.1 and fig. 2 respectively.

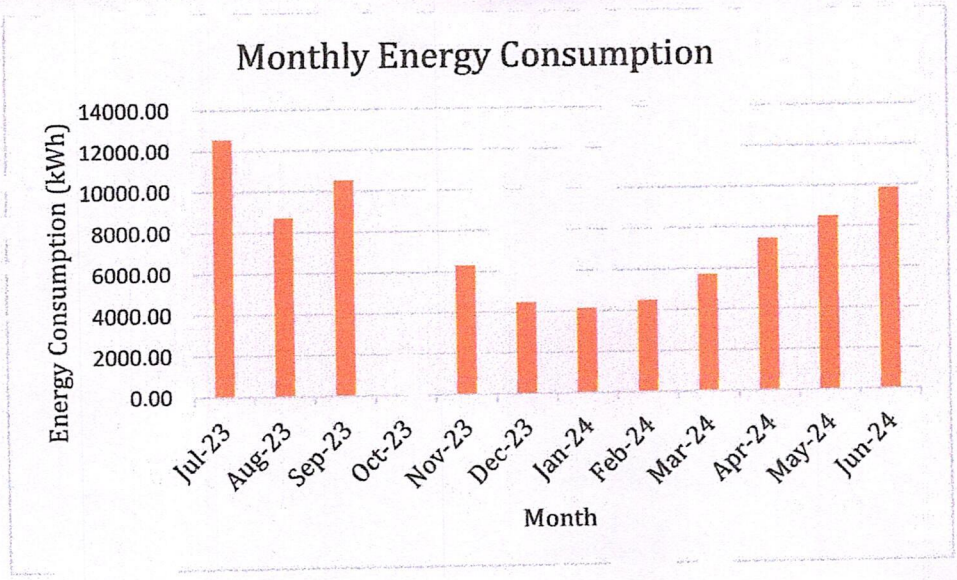


Figure 7: Monthly energy consumption from July' 2023 to June' 2024 (kWh)

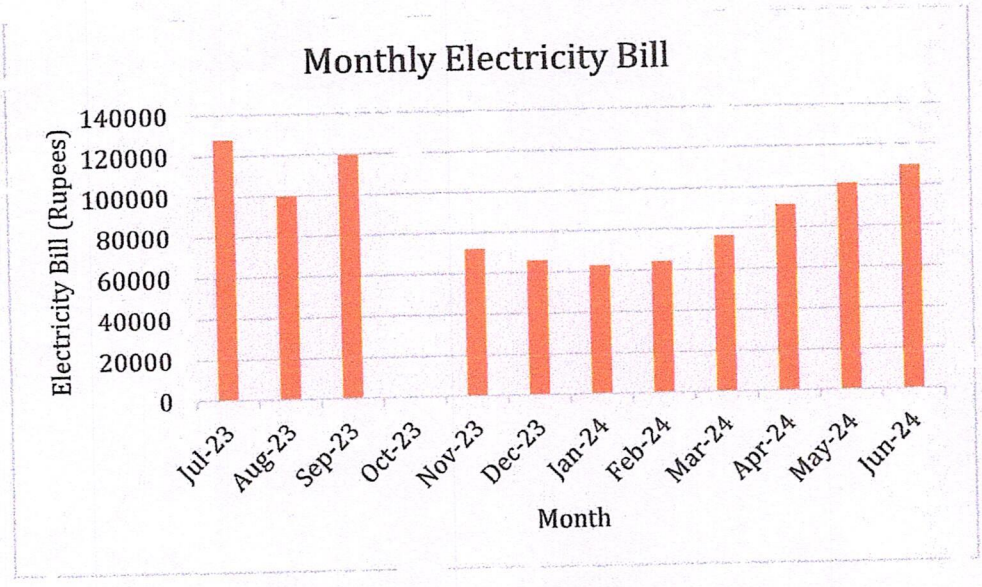


Figure 8: Monthly Electricity Bill (Rupees)

15. RENEWABLE ENERGY INTEGRATION IN THE CAMPUS

As a part of the green campus initiative, Kokrajhar Govt. college adopts solar energy technology to harness clean and free energy from sun. College administration installed 8 (Eight) numbers of 30Watt individual capacity solar street light to illuminate the campus during night time. This reduces the energy consumption by the college and dependency on grid.

Figure 9: Solar Street light installed in the campus

16. ROUTINE GREEN PRACTICES

- World Environment Day Celebration:

  The Kokrajhar College celebrates world environment day every year through a participatory event not only within the barrier of college campus but also along with the local community. Awareness campaign were organized on various environmental issues along with tree plantation within and outside the campus were carried out during the day.

- Earth Day Celebration:

  The Kokrajhar College also celebrates Earth Day every year. Various activity was performed during the day which includes invited lectures, painting competitions etc.

- Reducing the use of Paper:

  The college administration adopts the concept of utilization of paper as less as possible. Practices like, re-use of one-sided paper for notes, sketches, rough work, rough printouts, etc.; cashless transactions, and utilizing multi user printer at central administrative locations of the Institute office also aims at reducing the use of papers.

- Usage of bicycles and public transport:

The college administration always promotes the use of bicycles among the staff and students. Hostellers are discouraged from having two wheelers/cars. Three-wheeler E-Rikshaw are one of the sustainable transports adopted by the students and other staff.

- Installation of Signboard and Posters:

To create an awareness among all the stakeholders of the college and to initiate the behavioral change towards the sustainable environmental practices the college authority has install several posters, stickers and signboards. It is expected that this may reduce the wastage of resources.

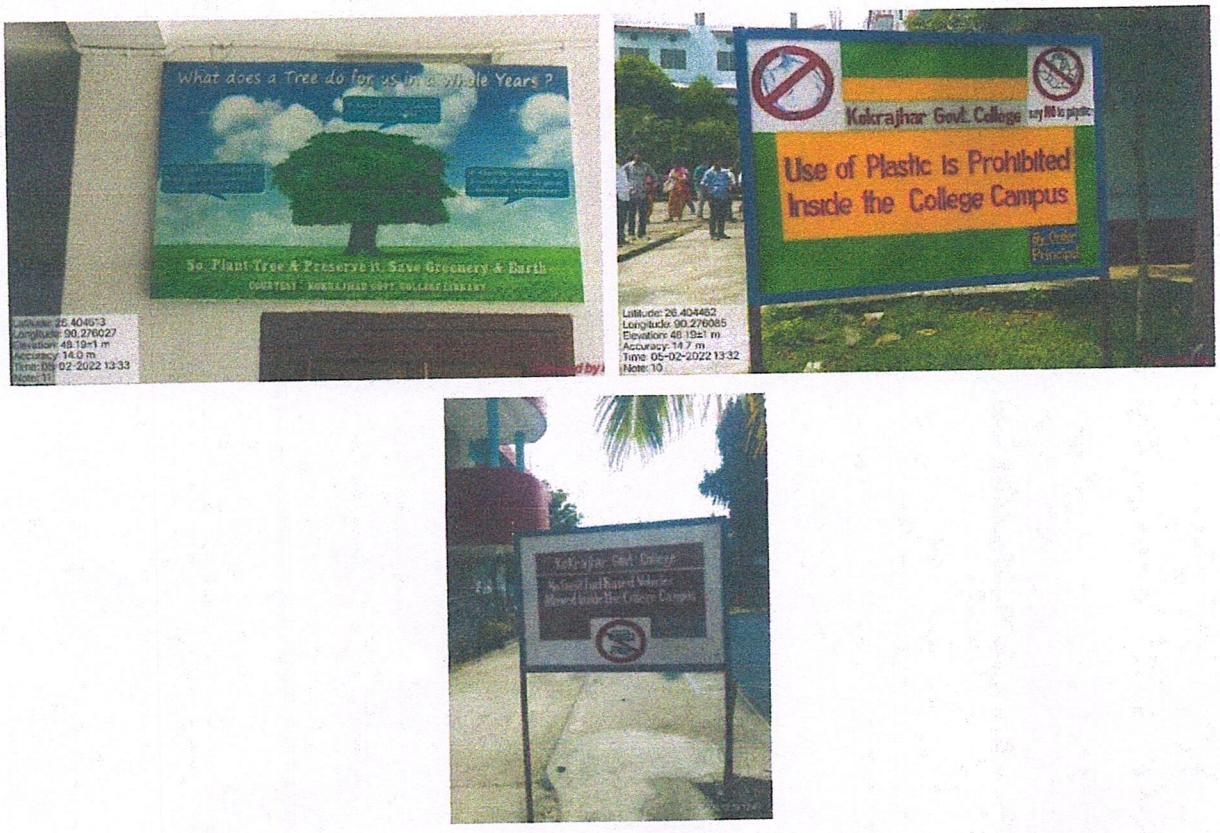


Figure 10: Signboard installed in different locations of the campus

17. ENVIRONMENTAL EVENT ORGANISED BY THE COLLEGE

Occasion : World Environment Day, 2023

Date : 5th June, 2023

Venue : Proposed Kokrajhar University Campus, Harinaguri, Kokrajhar

Objective : It aims to halt the degradation of ecosystems, and restore them to achieve global goals.

Outcome : Teachers, Students took active part in the Plantation Programme organized at Proposed Kokrajhar University campus, Harinaguri, Kokrajhar.

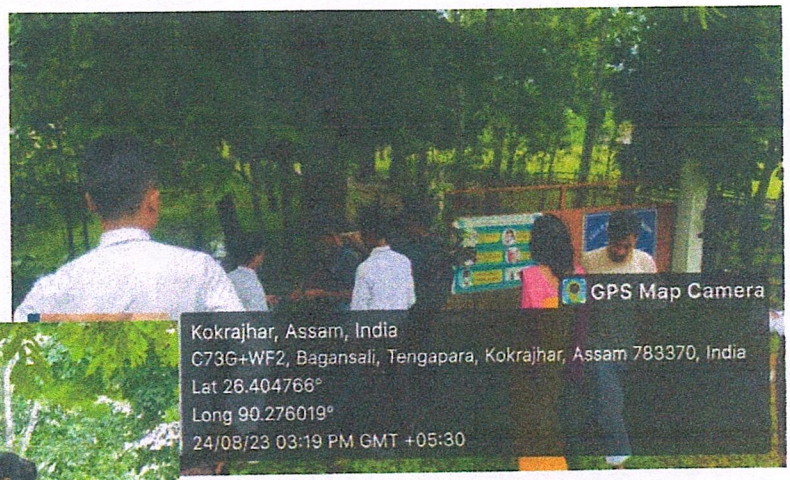
Occasion : Installing dustbins at adopted village.

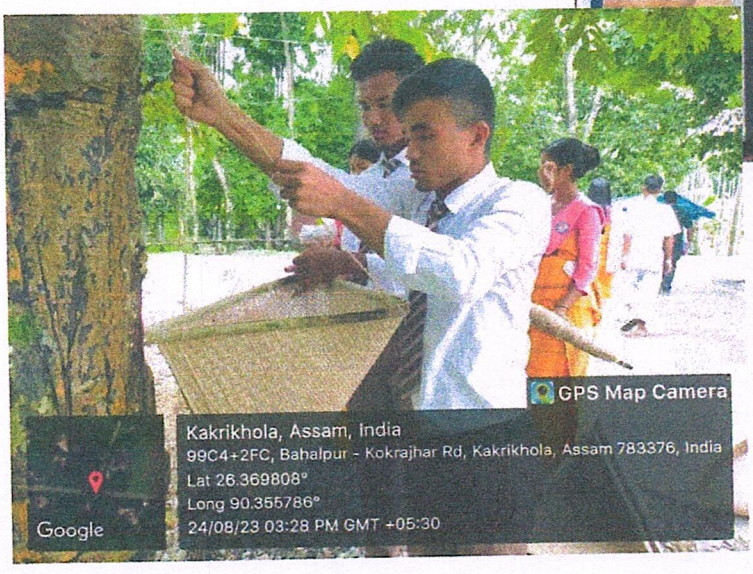
Date : 24th August, 2023.

Venue : Kakrikhola, Nayekgaon, Kokrajhar.

Objective : Community Service.

Outcome : 25 NSS Volunteers and the Programme Officer took part in community service by installing new Handmade Bamboo Dustbin at their Adopted Village Kakrikhola, Nayekgaon, Kokrajhar.





Event Date : 17th September, 2023.

Location : Bi-weekly Market to Gandhi Park, Kokrajhar.

Organized By: Kokrajhar Municipal Board in collaboration with NSS Unit, Kokrajhar Govt. College, Kokrajhar.

Objective: The event aimed to promote cleanliness and community participation in line with the objectives of the Indian Swachhta League 2.0. The focus was on fostering awareness and active involvement in creating a clean and sustainable environment.

Date : 17th September 2023

Organized By : Kokrajhar Govt. College, Kokrajhar

Location : Proposed "Kokrajhar University" Site, Harinaguri

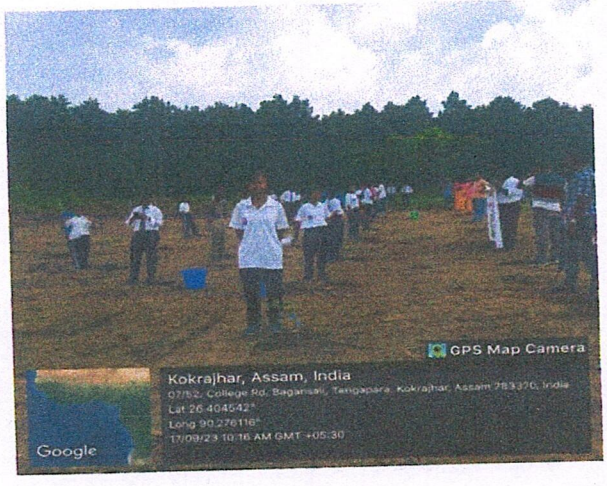
In alignment with the "Amrit Brikshya Andolan" initiative, a plantation drive was organized by the NSS volunteers of Kokrajhar Government College on 17th September 2023. The event took place at the proposed Kokrajhar University site in Harinaguri, with the objective of enhancing the green cover and fostering environmental awareness.

Objectives:

1. To contribute to environmental sustainability through tree plantation.
2. To promote awareness among volunteers and the community about the importance of afforestation.
3. To support the "Amrit Brikshya Andolan" initiative in creating a greener and healthier environment.

Outcomes:

1. Successful plantation of 150 saplings, contributing to the green landscape of the proposed Kokrajhar University site.
2. Enhanced awareness among NSS volunteers and participants about the importance of afforestation.
3. Strengthened commitment towards environmental sustainability under the "Amrit Brikshya Andolan."



Event Name : Cleanliness Drive and "Nukkad Natak on Use of Plastic Bags"

Date : 2nd October, 2023

Organized By: NSS Unit, Kokrajhar Government College

Venue : In front of Kokrajhar Police Station and Bi-Weekly Market

Participants : 30 NSS Volunteers

Objective: To create awareness about the hazards of plastic bags and promote cleanliness as a part of Gandhi Jayanti celebrations.

Date : 5th June 2024

Venue : Proposed Kokrajhar University Site, Harinaguri

Occasion : World Environment Day

Number of Volunteers: 20

Number of Saplings Planted: 100

Organized by : Kokrajhar Govt. College, Kokrajhar

Principal
Kokrajhar Govt. College
Kokrajhar