

GREEN AND ENVIRONMENT AUDIT

(2022 – 2023)

FOR



B P CHALIHA COLLEGE
NAGARBERA, KAMRUP, ASSAM-781127

Conducted By



ENVIRO-TESTING-SERVICES
NOONMATI, GUWAHATI-781020, ASSAM
JUNE -2023

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AUGUST-2022**

01	28-06-2023	Issued For B P Chaliha College Nagarbera, Kamrup, Assam-781127		
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ETS, ENVIRO-TESTING-SERVICES Guwahati	A Report on Green and Environment Audit		Job No. :ETS /BC /GEA/ 01 dated 28/06/2023	
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ETS-GUWAHATI

ENVIRO-TESTING-SERVICES

Accredited by SPCB Assam, ISO 9001, ISO 45001, MSME

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Ref: ETS/BPCC/GER/01/2023

Date: 28th June 2023

COMPLETION CERTIFICATE

This is a Green and Environment Audit report compiled on the basis of field survey and field investigation of various environmental components such as Land Use Land Cover, Micro meteorological Quality, Ambient Air Quality, Drinking Water Quality, Soil Quality, Noise Quality, Illumination Level, Carbon Footprint ,Flora, Fauna along with environmental and Energy management practices.

The present work was carried out at the request of the Principal, B P Chaliha College, Nagarbera, Kamrup, Assam-781127 vide order number BPCC /Green & Environment Audit /Invitation/2022 Dated 20.02.2022. The findings of the study carried out during the period of March 2022 to April 2023 are presented in this report. All the Analysis of Environmental Quality Parameters is done at the laboratories of Enviro Testing Services, Noonmati, Guwahati. The Laboratory is duly recognised by State Pollution Control Board, Assam, ISO 9001 :2015; ISO 45001:2018 and MSME.

For Enviro Testing Services



Date: 28.06.2023

(Dr. Hrishikesh Sarma)
Ex. Director, ETS, Guwahati



ETS-GUWAHATI

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We would like to convey our sincere thanks to Mr. Arun Kumar Sarkar, Co-ordinator, IQAC and all the Heads of the various Departments of B P Chaliha College for giving us necessary inputs to carry out this very vital exercise of Green and Environment Audit.

Our special thanks go to Dr. Biman Ch. Lahkar, Co-ordinator, Green Audit Committee for his constant co-operation and help during the study period.

We are also thankful to office staff and other members who were actively involved while collecting the data and conducting field survey

Date: 28.06.2023

For Enviro Testing Services



(Dr. Hrishikesh Sarma)
Ex. Director, ETS, Guwahati

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1.0 Introduction of the Institute

1.1 Brief Introduction of the Institute

B. P. Chaliha College, Nagarbera was born in an auspicious moment in the year 1972 in the sylvan setting of Nagarbera, embraced by the sweet flowing river Jaljali on the eastern side and a vast expanse of green field on the western side. The College was aptly named after the Ex-Chief Minister Late Bimala Prasad Chaliha, an illustrious son and an architect of modern Assam. The College is situated on the south west corner of Kamrup district, presently extending its grasp over two other neighboring districts - Barpeta and Goalpara. In addition to catering to the need of higher education in Kamrup district, it also promotes knowledge and skill among the vast mass of socio-economically disadvantaged people of greater Nagarbera area. The College strives to achieve excellence in every possible human endeavour. The College was brought under Grant-in-Aid system on 01-09-1979. Another feature was added to its glory when Science stream was introduced in 1985. At present the College is a full-fledged one with both Arts and Science stream with major courses in fourteen different subjects at graduate level. From this session a new department of Computer Science will start functioning offering B.Sc. with Computer Science. Apart from catering to the usual learning programmes of both H.S. and Three Years Degree courses under A.H.S.E.C. & G.U. the College has arranged to impart vocational Courses and Master Degree Programme in different subjects like English, Assamese, History, Political Science, Education under the Institute of Distance and Open Learning (IDOL) programme of Gauhati University.

1.2 Location:

Location	:	Nagarbera, Kamrup, Assam
Campus Area	:	15.32 Acres
Built Up Area	:	61,998 Sq. mtrs

1.3 Physical structure:

Total No of Departments	:	17
Auditorium	:	Yes (1 no.)
Hostel	:	Yes (3 no.)
Cafeteria/Canteen	:	Yes (1 no.)
Stationery Corner	:	No
Gymnasium / Stadium	:	Yes (1 no.)
Teachers Common Room	:	Yes
Libraries	:	Yes (1 no.)

1.4. Student, Teachers and Employees strength:

Total No of Students	:	1463
Total No of Teachers	:	52
Total No. of Employees	:	17

2.0 Brief Outlines of Green Audit

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of organization. It aims to analyse environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere.

Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more predominant. The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO₂ from the environment.

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Green Audit is assigned to the Criteria 7 of NAAC, which is a self-governing organization of India that accredits the institution according to the scores assigned at the time of accreditation. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

3.0 Objective of Green Audit

- (i) Landuse & Built-up Environment
- (ii) Geographical Location with Campus Map
- (iii) Present status of Micro meteorology, Ambient air, Noise, Soil quality , Water quality & Illumination Level
- (iv) Floral and Faunal diversity
- (v) Management Practices with respect to Water, Waste and Energy
- (vi) Carbon footprint
- (vii) Organizational Level Efforts

4.0 Methodology

Methodology includes

- (i) Physical inspection of the campus
- (ii) Collection of Primary & Secondary Data
- (iii) Observation and review of the documentation
- (iv) Data analysis

5.0 Objective wise Analysis

5.1 Landuse & Built-up Environment

It encompasses area about 61998 sq. mts. Total built-up area is 10,061 sq.mts. Both Assam type and multi-storied RRC construction are found in the B P Chaliha College campus. The playground inside the college campus covering an enormous area of about 20000 sq mts while plantation area is 19200 sq.m. The presence of more than 1162 sq.mts garden area inside the campus augments the aesthetic value of the college. It is to be noted that an open space covering 9024 sq.mts is observed in the college campus.

The area coverage of different land use classes at B P Chaliha College

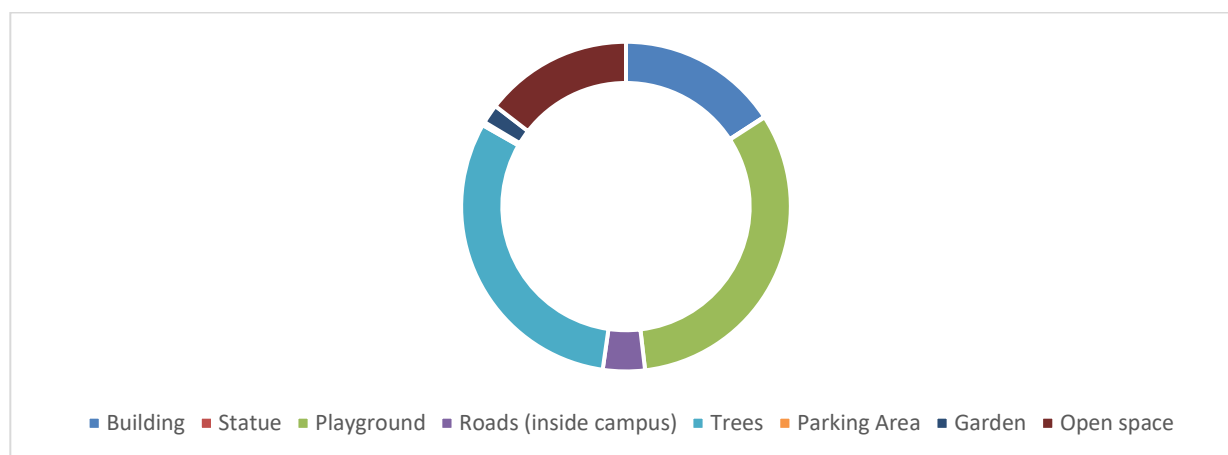
Features	Area (in sq.m.)
Building	9815
Statue	36
Playground	20000
Roads (inside campus)	2550
Trees	19200
Parking Area	210
Garden	1162
Open space	9024
Total Area	61997

5.2 Geographical Location with Campus Map

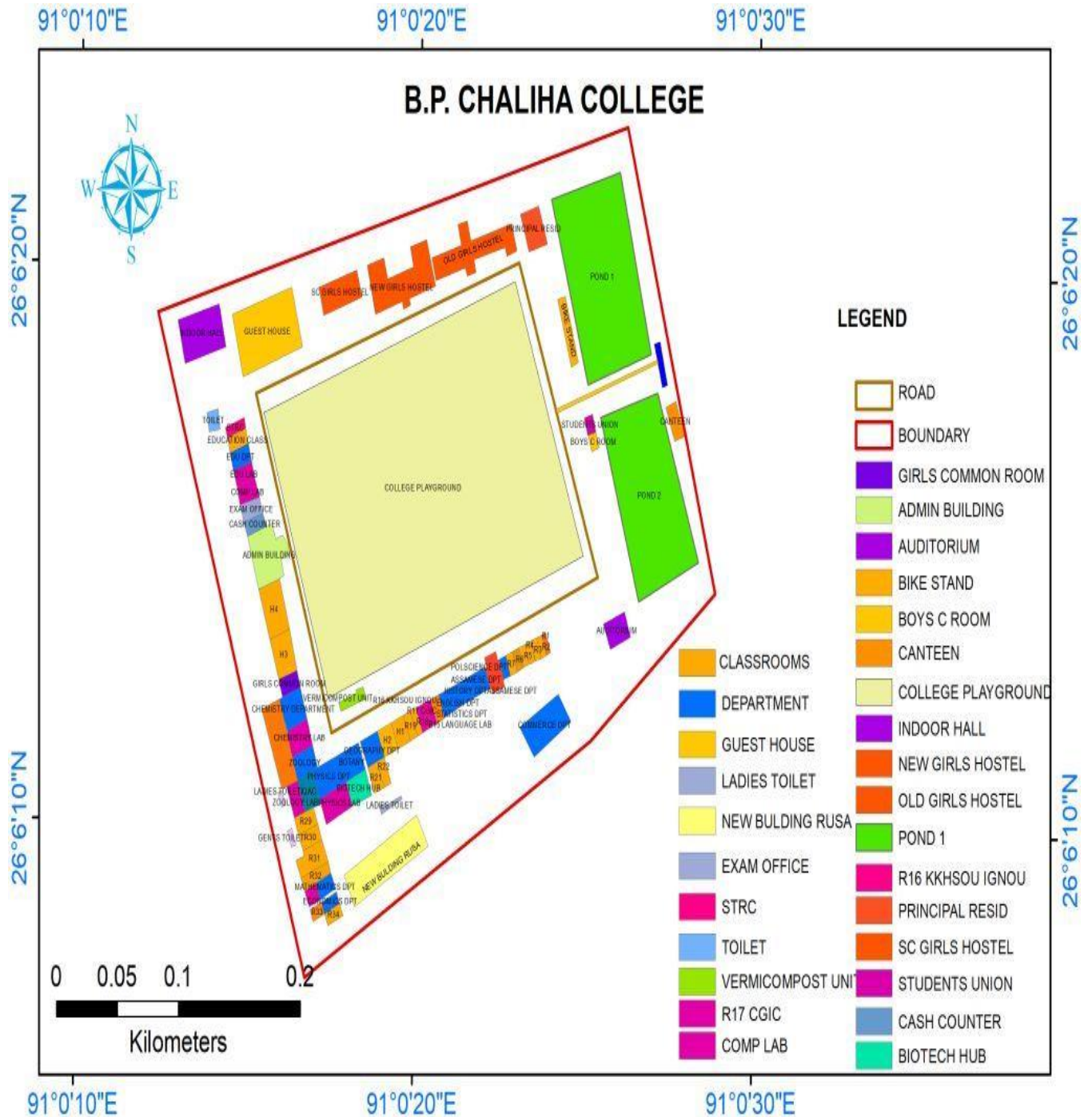
Bimala Prasad Chaliha College is situated at Nagarbera, Assam-781127 with geo-position

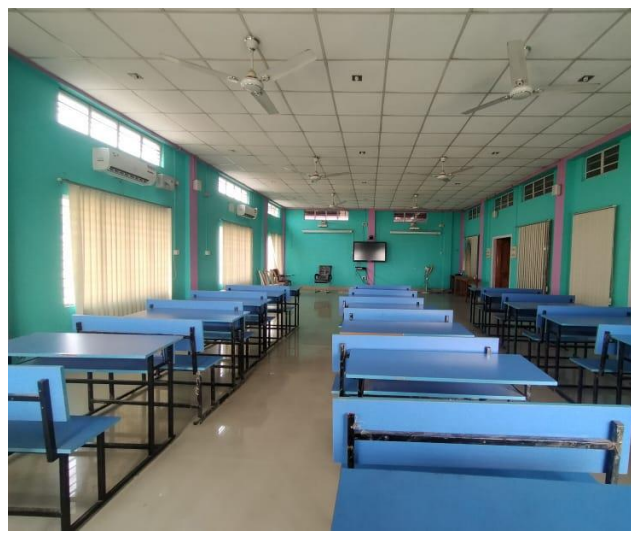
Latitude 26°6'17" N

Longitude 91°0'18" E



Different land use classes at B P Chaliha College





Glimpses of B P Chaliha College

5.3 Present status of Micrometeorology, Ambient air, Water quality and Soil Quality

5.3.1 Micrometeorology Status

Monitoring Station	Date	GPS Coordinate
Micrometeorology	25.11.2023	N 26.104207° E 91.006519°

Table 1 : Micrometeorological Study at B P Chaliha College

S/N	Parameters	Unit	Metrological Data	
1	Temperature	°C	Min	21
			Max	28
2	Relative Humidity	%	10.30am	86
			16.30pm	78
3	Wind Speed	Km/hr	10.30am	3.6
			16.30pm	2.8
4	Wind Direction	-	10.30am	SE
			16.30pm	SW

5.3.2 Ambient Air Quality

The average results obtained in the month of November 2023 at B P Chaliha College are presented in Tables 2. All the results meet the National Ambient Air Quality (NAAC) standards.

Monitoring Station	Date	GPS Coordinate
Ambient Air Quality	25.11.2023	N 26.10406° E 91.006441°

Table 2: Ambient Air Quality at B P Chaliha College

AMBIENT AIR QUALITY						
Duration (24 Hour)			Average			
S/N	Parameters	Unit	Concentration	Limit	Weather Condition*	Test Method
1	Particulate Matter (PM10)	µg/m ³	68.6	100	Clear	IS5182(23)
2	Particulate Matter (PM2.5)	µg/m ³	46.4	60		CPCB Guideline
3	Sulphur Dioxide (SO ₂)	µg/m ³	8.4	80		IS5182(2)
4	Nitrogen Dioxide(NO ₂)	µg/m ³	9.1	80		IS5182(vi)
5	Ammonia (NH ₃)	µg/m ³	6.8	400		Indophenol Blue Method
6	Hydrocarbon (HC)	mg/m ³	0.32	-		CPCB Guideline
7	Carbon Monoxide (CO)**	mg/m ³	0.24	04		CPCB Guideline

** Carbon Monoxide (CO) Limit is One Hour Average

5.3.3 Noise Quality study

In the present study, the noise level measurements were recorded using a precision sound level meter (Envirotech SLM100) with a measuring range between 0-150 dB. The instrument is calibrated before the measurements are recorded. The microphone was placed at 1.0 m from the facades of house, away from any reflecting surface and 1.2 m above the ground. In each location, adequate number of samples was taken at 10-minute intervals. The noise levels were recorded during day time and meteorological conditions: no wind no rain. The Noise Level Monitored (Table 3) and analyzed is found to be within the CPCB Prescribed Limit

Table 3: Noise Quality at B P Chaliha College

S/N	Locations	GPS Co-ordinate		Daytime SPL(dB) [6 am to 10 pm]		CPCB Limit SPL(dB)
				Leq	Range	
1	College Main Gate	N 26.105448°	E 91.007393°	65.2	62.1-78.3	75
2	Near ADM Block	N 26.105101°	E 91.004946°	61.2	59.2-68.3	
3	Near Dept. of Pol Sc.	N 26.104655°	E 91.006437°	55.7	39.3-58.1	
4	Near Dept. of Education	N 26.105266°	E 91.00498°	51.6	46.2-52.8	
5	Near Dept. of Zoology	N 26.104297°	E 91.00472°	61.1	49.5-68.2	
6	Near Girls Hostel	N 26.105439°	E 91.005949°	55.7	42.3-58.5	
7	Near Room No 35	N 26.104683°	E 91.00513°	62.2	59.2-72.3	
8	Near NCC Office	N 26.105082°	E 91.005229°	58.1	46.6-64.3	

5.3.4 Drinking Water Quality

Drinking Water and Pond Water samples were collected from various locations of B P Chaliha College and the sampling locations are as follows

Sr.No.	Sampling Locations of Drinking Water Facility	GPS Co-ordinate	
1	Inside college drinking water facility (DW1)	N 26.104136°	E 91.006501°
2	College Tube well water facility (DW2)	N 26.105668°	E 91.006333°

Results of analysis of the most relevant water quality parameters are given in Tables 4. The test method for all the parameters along with tolerance limit as suggested by IS-10500 is presented in Table 3. All the parameters with respect to drinking water quality are found to be within the tolerance limit as suggested by IS: 10500.

Table 4: Various Test Methods of Water Quality Monitoring at Barnagar College

S/N	Parameters	Test Methods	IS-10500
1	Odour	APHA 20 th Edition, 2150 B	Unobjectionable
2	Temperature (°C)	Thermometry Method	50
3	Turbidity (NTU)	APHA 20 th Edition, 2130B	5
4	pH	APHA 20 th Edition, 4500-	6.5 – 8.5
5	Conductance (mS/cm)	APHA 20 th Edition, 2510B	-
6	Total Dissolved Solid (mg/L)	APHA 20 th Edition, 2540 B	500
7	Total Suspended Solid (mg/L)	APHA 20 th Edition, 2540 B	-
8	Chloride (mg/L)	APHA 20 th Edition, 4500-	250
9	Residual Chlorine (mg/L)	APHA 20 th Edition, 4500-	0.2
10	Sulphates as SO ₄ (mg/L))	APHA 20 th Edition, 4500-	250
11	Nitrate (mg/L)	APHA 20 th Edition, 4500-	45
12	Fluoride (mg/L)	APHA 20 th Edition, 4500-F-	1
13	Calcium (mg/L)	APHA 20 th Edition, 3500 B	75
14	Magnesium (mg/L)	APHA 20 th Edition, 3500 B	-
15	Iron (mg/L)	APHA 20 th Edition, 3111 B	0.3
16	Manganese	APHA 20 th Edition, 3111 B	0.1
17	Zinc	APHA 20 th Edition, 3111 B	5
18	Arsenic	APHA 20 th Edition, 3112 B	0.01
19	Total Coliform (MPN/100 mL)	APHA 20 th Edition, 3111 B	0
20	Faecal Coliform (MPN/100 mL)	APHA 20 th Edition, 9221 E	0

Table 5 : Results of Water Quality Monitoring at B P Chaliha College

S/N	Parameters	Unit	DW1	DW2
1	Odour	--	NS	NS
2	Temperature (°C)	°C	28	28
3	Turbidity (NTU)	NTU	0.3	12
4	pH	-	7.1	7.2
5	Conductance (mS/cm)	mS/cm	0.48	0.73
6	Total Dissolved Solid (mg/L)	mg/L	69.0	124.0
7	Total Suspended Solid (mg/L)	mg/L	24.0	54.0
8	Chloride (mg/L)	mg/L	24.1	28.6
9	Residual Chlorine (mg/L)	mg/L	<0.01	<0.01
10	Sulphates as SO ₄ (mg/L))	mg/L	9.6	16.2
11	Nitrate (mg/L)	mg/L	7.6	8.1
12	Fluoride (mg/L)	mg/L	0.23	0.18
13	Calcium (mg/L)	mg/L	24.1	22.4
14	Magnesium (mg/L)	mg/L	26.2	24.2
15	Iron (mg/L)	mg/L	0.16	0.24
16	Manganese	mg/L	0.002	0.003
17	Zinc	mg/L	0.02	0.04
18	Arsenic	mg/L	<0.001	<0.001
19	Total Coliform (MPN/100 mL)	mg/L	03	03
20	Faecal Coliform (MPN/100 mL)	mg /L	Nil	Nil

5.3.5 Quality of Soil in the Study Area

Soil sample collected locations of the study area is as follows.

Sr.No.	Sampling Locations	GPS Co-ordinate	
1	Inside the College Campus	N 26.105326°	E 91.005086°

It was analyzed for the most relevant physical and chemical parameters. It may be noted from the results of analysis that many of the soil samples have slightly acidic pH . The presence of N, P, K and organic matter content is considerable for all the locations.

Table 6: Results of Soil Quality Monitoring at B P Chaliha College

S/N	Parameters	[S1]
1	PH (1: 2)	6.8
2	Conductance (ms)	0.43
3	Sand (%)	86.5
	Silt (%)	1.6
	Clay (%)	11.7
4	Water Holding Capacity (%)	48.2
5	Bulk Density (gcm ⁻³)	1.6
6	Cation Exchange capacity (meq/kg)	0.38
7	Nitrogen (%)	0.08
8	Potassium (mg/kg)	18.2
9	Sodium (mg/kg)	23.4
10	Calcium (g/kg)	19.8
11	Magnesium (mg/kg)	36.4
12	Phosphorous (mg/kg)	12.8
13	Organic matter (%)	0.74
14	Sodium Absorption Ratio (SAR)	1.8
15	Zinc (mg/kg)	16.4
16	Copper (mg/kg)	5.6

5.3.6 Illumination Study

Adequate, well-balanced levels of illumination are essential in establishing safe and productive working conditions. Good lighting plays an important role in safeguarding health at work by enabling employees to perform their work comfortably and efficiently. Accordingly, there should be an appropriate level of the light falling on the surface on which workers are working. Excessive contrast, strong glare and light flickering in their fields of vision are also inappropriate.

To ensure good lighting the person responsible for a workplace should arrange for a suitable assessment on the lighting levels in the workplace. Good lighting can decrease errors by 30-60 % as well as decrease eye-strain and the headaches, nausea, and neck pain which often accompany eyestrain.

The Lux Levels were measured during day time in the college campus as well as in the office buildings. In this present study the Installed load Efficacy Ratio (ILER) are calculated as per BEE Lighting Code.

1	A	B	C	D
2		Equation	Value	Unit
3	Time of Measurement		Day time	
4	Room Identification			
5	Number Of lamps			
6	Length of the room			m
7	Width of the room			m
8	Floor Area	$A = \text{Length} * \text{Width}$		m^2
9	Height of the lamp from the Plane of measurement			m
10	Room index	$(L * W) / Hm * (L + W)$		
11	Average room illuminance	$(\text{Max} + \text{Min.lux}) / 2 * \text{Correction factor}$		lux
12	Measured/estimated circuit power			W
13	Installed lighting Efficacy	$(\text{Avg.illum} * \text{Floor area}) / \text{Circuit watts}$		lm/W
14	Target lighting efficacy			lm/W
15	Installed lighting Efficacy ratio (ILER)	$\text{Installed lighting efficacy} / \text{Target lighting efficacy}$		

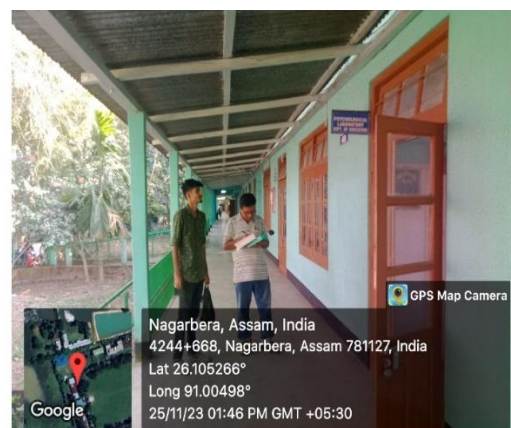
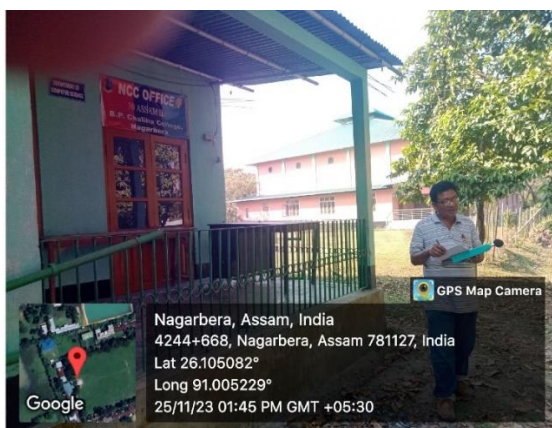
Installed lighting Efficacy ratio (ILER)	Assessment
0.75 or above	Satisfactory to good
0.51 to 0.74	Review suggested
0.5 or less	Urgent action required

Table 7: Results of Installed lighting Efficacy ratio (ILER) at B P Chaliha College

S/N	Location	GPS Co-ordinate		ILER	Assessment
1	ADM Block	N 26.105448°	E 91.007393°	2.78	Satisfactory
2	Library	N 26.105101°	E 91.004946°	3.16	Satisfactory
3	Dept. of Pol Sc.	N 26.104655°	E 91.006437°	2.28	Satisfactory
4	Dept. of Education	N 26.105266°	E 91.00498°	2.56	Satisfactory
5	Dept. of Zoology	N 26.104297°	E 91.00472°	2.36	Satisfactory
6	Girls Hostel	N 26.105439°	E 91.005949°	2.28	Satisfactory
7	Room No 35	N 26.104683°	E 91.00513°	2.18	Satisfactory
8	NCC Office	N 26.105082°	E 91.005229°	2.08	Satisfactory



Ambient Air Monitoring at B P Chaliha College



Noise Monitoring at College Premises



Soil and Water Sampling at different locations of B P Chaliha College

5.4 Floral and Faunal diversity

5.4.1 Floral Biodiversity

The survey was conducted in the month of February and March 2023 following the Quadrat sampling procedure. The college campus is very rich from biodiversity point of view. Different economically important plants like timber yielding plants, medicinal plants, ornamental plants etc. are found in college campus. In the study area the vegetation is a complex of plant communities with considerable diversities. Since the plants showed normal and very good growth, there appears to be no adverse environmental factors prevailing in the area.

Plants of all types, in general, showed healthy and luxuriant growth in terrestrial, aquatic and aerial habitats in the study areas. Leaf diseases (leaf spot and shot-holes) on the aerial parts of the plants were very infrequently observed and did not show any adverse effect on the growth of the plants.

In this present study, different types of flora along with the total of species of the respective flora identified in the college campus are as follows.

<u>Different types of flora</u>		<u>Total number of species</u>
Fully Grown Tree	:	70
Herbs & Medicinal Plants	:	73
Shrubs	:	13
Climbers	:	7
Orchids	:	4

List of trees are presented in Table- 7 - 11

Table 7 : List of Fully Grown Plants recorded at B P Chaliha College

Sl	Vernacular	Botanical Name	Family	No. of plants
1	Acacia	<i>Acacia moniliformis</i> Griseb	Mimosaceae	15
2	Acacia	<i>Acacia suma</i> Roxb.	Mimosaceae	10
3	Bel	<i>Aegle marmelos</i>	Rutaceae	
4	Kodam	<i>Anthocephalus cadamba</i> Roxb.	Rubiaceae	02
5	Arocaria	<i>Araucaria angustifolia</i> (Bertol.)	Araucariaceae	05
6	Tamul	<i>Areca catechu</i>	Arecaceae	
7	Kathal	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	03
8	Mahanim	<i>Azadirachta indica</i> A. Juss	Meliaceae	08
9	Leteku	<i>Baccaurea remiflora</i>	Euphoraceae	
10	Bah	<i>Bambusa</i>	Poaceae	01
11	Kanchan	<i>Bauhania variegata</i> L.	Papilionaceae	01
12	Simalu	<i>Bombax ceiba</i>	Bombacaceae	
13	Palash	<i>Butea monosperma</i> (Lam) Taub	Papilionaceae	01
14	Palash	<i>Butea monosperma</i>	Fabaceae	
15	Radhachura	<i>Caesalpinia pulcherima</i> Sw.	Caesalpinaceae	02
16	Akon	<i>Calotropis procera</i>	Asclepinaceae	
17	Akon	<i>Calotropis zygantia</i>	Asclepinaceae	
18	Sonaru	<i>Cassia fistula</i> L.	Caesalpinaceae	02
19	Sonaru	<i>Cassia fistula</i> L.	Caesalpinaceae	02
20	Narikol	<i>Cocos nucifera</i> L.	Arecaceae	06
21	Gos Dhekia	<i>Cyathea medullaris</i> Sw	Cyatheaceae	01
22	Cycas	<i>Cycas circinalis</i> L.	Cycadaceae	02
23	Sisso	<i>Dalbergia sisso</i> DC.	Leguminosae	02
24	Krishnachura	<i>Delonix regia</i> (Hook) Raf.	Caesalpinaceae	03
25	Amlokhi	<i>Emblia officinalis</i> Gaertn.	Euphorbiaceae	04
26	Madar	<i>Erythrina stricta</i>	Fabaceae	
27	Eucalyptus	<i>Eucalyptus globulus</i> Labil	Myrtaceae	11
28	Siju	<i>Euphorbia nerifolia</i> L.	Euphorbiaceae	02
29	Siju	<i>Euphorbia</i> spp.	Euphorbiaceae	03
30	Bot	<i>Ficus benghalensis</i> L.	Moraceae	02
31	Dimaru	<i>Ficus hispida</i> L.	Moraceae	01
32	Chowldhowa	<i>Glycosmis pentaphylla</i> (Retz.) DC	Rutaceae	01
33	Gomari	<i>Gmelina arborea</i> Roxb.	Verbenaceae	05
34	Gomari	<i>Gmelina arborea</i>	Verbenaceae	
35	Silverpine	<i>Gravelia robusta</i> A. Cunn. Ex R.Br.	Proteaceae	08

Sl	Vernacular	Botanical Name	Family	No. of plants
36	Joba	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	04
37	Kadam	<i>Hymenodictyon excelsum</i>	Rubiaceae	
38	Azar	<i>Lagerstroemia speciosa</i>	Lythraceae	
39	Azar	<i>Lagerstroemia speciosa</i> (L.) Pers.	Lythraceae	01
40	Jia	<i>Lannea grandis</i> Engl.	Anacardiaceae	05
41	Bagnal	<i>Litsea sabfera</i> Blume	Lauraceae	03
42	Velkol	<i>Mallotus polycarpus</i> (Benth.) Kulju	Euphorbiaceae	09
43	Aam	<i>Mangifera indica</i> L.	Anacardiaceae	05
44	Nahar	<i>Mesua ferrea</i> L.	Clusiaceae	02
45	Kutkura	<i>Meyna laxiflora</i>	Rubiaceae	02
46	Bokol	<i>Millettia pachycarpa</i>	Fabaceae	03
47	Bokul	<i>Mimusops elengi</i> L.	Sapotaceae	05
48	Kolgas	<i>Musa paradisiaca</i> L.	Musaceae	05
49	Jalphai	<i>Olea europea</i> L.cv	Oleaceae	03
50	Khejur	<i>Phoenix dactylifera</i>	Arecaceae	02
51	Khejur	<i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae	08
52	Holfoli	<i>Phyllanthus acidus</i> (L.) Skeels	Phyllanthaceae	01
53	Debadaru	<i>Polyalthia longifolia</i> (Sonn) Thw	Annonaceae	25
54	Madhuri aam	<i>Psidium guajava</i> L.	Myrtaceae	03
55	Chandan	<i>Pterocarpus album</i> L.	Santalaceae	03
56	Raintree	<i>Samanea saman</i> (Jacq)	Mimosaceae	04
57	Keseru	<i>Senna siamea</i>	Caesalpinaceae	03
58	Kuhila	<i>Stereospermum chelonoides</i> (L.f.) DC	Bignoniaceae	01
59	Jamu	<i>Syzygium cumini</i> (L) Skeels	Myrtaceae	05
60	Teteli	<i>Tamarindus indica</i> L.	Leguminosae	01
61	Segun	<i>Tectona grandis</i> Linn.	Verbenaceae	02
62	Arjuna	<i>Terminalia arjuna</i> W&A	Combretaceae	05
63	Vomora	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	04
64	Silikha	<i>Terminalia chebula</i> Retz.	Combretaceae	03
65	Karabi	<i>Thevetia neriifolia</i> Juss. Ex Steud.	Apocynaceae	01
66	Thuja	<i>Thuja compacta</i> L.	Cupressaceae	06
67	Bhelkol	<i>Trewia polycarpa</i> Benth.	Verbenaceae	04
68	Tagar	<i>Valeriana jatamansi</i> L.	Valerianaceae	01
69	Bogori	<i>Ziziphus mauritiana</i>	Rhamnaceae	02
70	Bagari	<i>Zizuphus jujuba</i> L.	Rhamnaceae	04

Table 8 : List of Herbs & Medicinal Plants recorded at B P Chaliha College

Sl	Vernacular Name	Botanical Name	Family
1	Bon kopahi	<i>Abroma augusta</i>	Malvaceae
2	Muktojhuri/Patra-	<i>Acalypha indica</i>	Euphorbiaceae
3	Obhat kata	<i>Achyranthes aspera</i>	Amaranthaceae
4	Sohani-bon	<i>Acmella paniculata</i>	Asteraceae
5		<i>Aemella uliginosa</i>	Asteraceae
6	Gondhoa-bon	<i>Ageratum conyzoids</i>	Asteraceae
7	Alocasia	<i>Alocasia</i> sp.	Araceae
8	Ghritokuwwori	<i>Aloe vera</i>	Asphodelaceae
9	Matikaduri	<i>Alternanthera caracasana</i>	Amaranthaceae
10	Pani-khutura	<i>Alternanthera philoxeroides</i>	Amaranthaceae
11	Khutura haak	<i>Amaranthus spinosus</i>	Amaranthaceae
12	Latumoni	<i>Abrus precatorius</i>	Fabaceae
13	Shiyal kata	<i>Argemone maxicana</i>	Peperaceae
14	Shotmul	<i>Asperagus recemosus</i>	Liliaceae
15	Dolicha-bon	<i>Axonopus compheus</i>	Poaceae
16	Mahua	<i>Baccharis cunculifolia</i>	Asteraceae
17	Brahmi	<i>Bacopa monnieri</i>	Scrophulariaceae
18	Dhekia	<i>Blechnum oriental</i>	Blechnaceae
19	Ponownua	<i>Boerhavia diffusa</i>	Nyctaginaceae
20	Duportenga	<i>Bryophyllum</i> sp.	Crassulaceae
21		<i>Caladium bicolor</i>	Araceae
22	Bhang	<i>Canna</i> sp.	Cannaceae
23		<i>Cardamine</i> sp.	Brassicaceae
24	Nayantora	<i>Cataranthus</i> sp.	Apocynaceae
25	Manimuni	<i>Centella asiatica</i>	Apiaceae
26	Jilmil haak	<i>Chenopodium album</i>	Chenopodiaceae
27		<i>Chrysopogon</i> sp.	Poaceae
28	Nemu	<i>Citrus</i> sp.	Rutaceae
29	Nephaphu	<i>Clerodendrum colebrookium</i>	Verbinaceae
30	Dhapa tita	<i>Clerodendrum infortunatum</i>	Verbinaceae
31	Dhopat-tita	<i>Clerodendrum viscosum</i>	Verbenaceae
32	Kona Simolu	<i>Commelia benghalensis</i>	Commelinaceae
33	Jomlakuti	<i>Costus</i> sp.	Costaceae
34	Citronella	<i>Cymbopogon flexuosus</i>	Poaceae
35	Dubari bon	<i>Cynodon dactylon</i>	Poaceae

36		<i>Cyperus rotundus</i>	Cyperaceae
37		<i>Dactyloctenium sp.</i>	Amaranthaceae
38	Dhatura	<i>Datura fastuosa</i>	Solanaceae
39	Kola dhatura	<i>Datura stramonium</i>	Solanaceae
40	Rangoli lota	<i>Deeringia amaranthoides</i>	Amaranthaceae
41	Uklati	<i>Desmodium sp.</i>	Fabaceae
42		<i>Digitaria sanguinalis</i>	Poaceae
43	Laijabori	<i>Drymaria cordata</i>	Caryophyllaceae
44	Kenharaj	<i>Eclipta alba</i>	Asteraceae
45	Kiringa lota	<i>Eupatorium odoratum</i>	Asteraceae
46	Jarmani bon	<i>Eupatorium odoratum</i>	Asteraceae
47	Hapani hagasa	<i>Euphorbia hirta</i>	Euphorbiaceae
48	Hati-huria	<i>Heliotropium indicum</i>	Boraginaceae
49	Mosundari	<i>Houttuynia cordata</i>	Saururaceae
50	Kahua	<i>Imperata cylindrical</i>	Poaceae
51	Kolmow	<i>Ipomea eriocarpa</i>	Convolvulaceae
52	Kolmou	<i>Ipomea carnea</i>	Convolvulaceae
53	Tita-bahek	<i>Justicia gendarussa</i>	Acanthaceae
54		<i>Lapsana communis</i>	Asteraceae
55	Doron bon	<i>Leucas linifolia</i>	Lamiaceae
56	Lajuki bon	<i>Mimosa pudica</i>	Mimosaceae
57		<i>Muhlenbergia schreberi</i>	Poaceae
58	Korobi	<i>Nerium indicum</i>	Apocynaceae
59	Sewali	<i>Nyctanthus arbor-tristis</i>	Oleaceae
60	Tulshi	<i>Ocimum sanctum</i>	Lamiaceae
61		<i>Ophioglossum vulgatum</i>	Ophioglossaceae.
62	<i>Banh-potia-bon</i>	<i>Oplismenus burmanii</i>	Poaceae
63	Sagarphena	<i>Opuntia sp.</i>	Cactaceae
64	Tengesi tenga	<i>Oxalis corniculata</i>	Oxalidaceae
65	Tengesi tenga	<i>Oxalis debilis</i>	Oxalidaceae
66	Tenesi tenga	<i>Oxalis stricta</i>	Oxalidaceae
67	Hajar-moni	<i>Phyllanthus niruri</i>	Phyllanthaceae
68		<i>Pteris sp.</i>	Pteridaceae.
69	Sarpagandha	<i>Rauvolfia serpentina</i> (L)	Apocynaceae
70	Tradescantia	<i>Tradescantia sp.</i>	Commelinaceae
71	Sam-kochu	<i>Typhonium trilobatum</i>	Araceae
72		<i>Ursinia speciosa</i>	Asteraceae
73	Agora	<i>Xanthium sp.</i>	Asteraceae

Table 9 : List of Shrubs Recorded at B P Chaliha College

Sl No.	Vernacular Name	Botanical Name	Family	No. of plants
1	Bok Phool	<i>Agasta sesbania</i>	<i>Fabaceae</i>	02
2		<i>Araucaria heterophylla</i>	<i>Araucariaceae</i>	04
3	Makhudi	<i>Codiaceum variegatum</i>	<i>Euphorbiaceae</i>	16
4	Mahudi	<i>Croton sp.</i>	<i>Euphorbiaceae</i>	12
5	Joba	<i>Hibiscus rosa-sinensis</i>	<i>Malvaceae.</i>	08
6	Rangol	<i>Ixora coccinea</i>	<i>Rubiaceae</i>	04
7	Jetuka	<i>Lawsonia inermis</i>	<i>Lythraceae</i>	01
8	Doloi sopa	<i>Magnolia polupsophylla</i>	<i>Magnoliaceae</i>	03
9	Noroshingho	<i>Murraya koenigii</i>	<i>Rutaceae</i>	05
10	Kothina phul	<i>Tabernaemontana divaricata</i>	<i>Apocynaceae</i>	07
11	Posotiya	<i>Vitex negundo</i>	<i>Verbenaceae</i>	02
12		<i>Zamia fufuracea</i>	<i>Zamiaceae</i>	03
13	Sia-nahar	<i>Kayea assamica</i>	<i>Clusiaceae</i>	02

Table 10 : List of Climbers Recorded at B P Chaliha College

Sl No.	Vernacular Name	Botanical Name	Family	No.of plants
1	Aporajita	<i>Clitoria ternatia</i>	<i>Fabaceae</i>	04
2	Roghumala	<i>Cuscuta reflexa</i>	<i>Convolvulaceae</i>	07
3	Bhedeli -lota	<i>Hedyotis scandens</i>	<i>Rubiaceae</i>	02
4	Lota	<i>Mikania micrantha</i>	<i>Asteraceae</i>	54
5	Bhedai lota	<i>Paederia foetida</i>	<i>Rubiaceae</i>	01
6	Giloy	<i>Tinospora cordifolia</i>	<i>Menispermaceae</i>	01
7	Satmul	<i>Asparagus racemosus</i>	<i>Liliaceae</i>	01

Table 11 : List of Orchids Recorded at B P Chaliha College

Sl No.	Vernacular Name	Botanical Name	Family	No. of plants
1	Dendrobium	<i>Dendrobium sp.</i>	<i>Orchidaceae</i>	07
2	Red vanda	<i>Renanthera imschootiana</i>	<i>Orchidaceae</i>	03
3	Kopou phool	<i>Rhynchostylis retusa</i>	<i>Orchidaceae</i>	05
4	Bhatou phool	<i>Vanda coerulea</i>	<i>Orchidaceae</i>	17

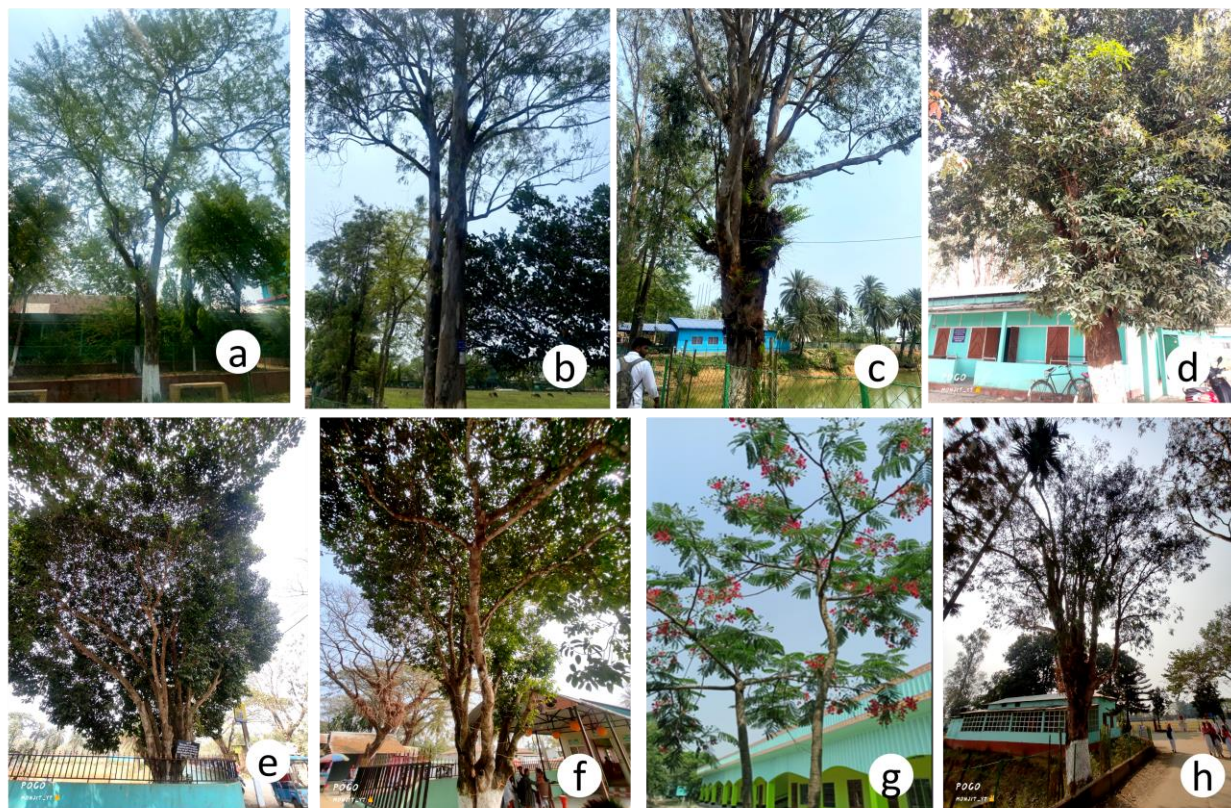


Photo: Showing some large sized tree occurring in the College campus. (a) *Phyllanthus emblica* L., (b) *Eucalyptus tereticornis*, (d) *Mangifera indica*, (e) *Artocarpus heterophyllus* L., (g) *Delonix regia*, (h) *Grevillea robusta*.



Photo: Showing some of the shrubs occurring in the College campus. (a) *Hibiscus rosa-sinensis* L., (b) *Codiaceum variegatum*, (c) *Croton* sp., (d) *Callindra haematocephala*, (e) *Ixora* sp., (f) *Gardenia jasminoids*, (g) *Lawsonia inermis*, (h) *Hibiscus rosa-sinensis* hybrid.



Photo: Some climbers occurring in College Campua. (a) *Hedyotis scandens*, b) *Asparagus racemosus*, (c) *Tinospora cordifolia*, (d) *Mikania micrantha*,(e) *Clitoria ternatia*,(f) *Cuscuta reflexa*.



Few orchids occurring in the College Campus.



Photo: Some aquatic plants occurring in the college campus. (a) *Nymphaea* sp., (b) *Sagittaria* sp., (c) *Eichornia* sp., (d) *Salvinia* sp., (E) *Hydrilla* sp., (f) *Utricularia* sp.

Few Photographs of Floral Diversity at B P Chaliha College

5.4.2 Faunal Biodiversity

In view of the need to determine the faunal characteristics of the study areas within the constraints of time, a checklist survey method was followed. Checklist surveys are employed primarily to confirm the presence of species, and sometimes the number of individuals of species in a surveyed area.

Either invertebrates or vertebrates, the variety of animals enriched the region with its ecological significance and balancing the ecosystem. B P Chaliha College campus has variety of faunal species including different kinds of amphibia, birds, reptiles and few mammals.

The survey was conducted during February – March 2023. A large number of different species were recorded in the Barnagar College Campus. The faunal biodiversity recorded in the college campus is presented in the Table 12.

Table 12 : Faunal biodiversity recorded in the college campus

Sl. No.	Assamese Name	English Name	Scientific Name
I. FISHES			
1	ৰৌমাছ (Rou-mass)	Rohu Fish	<i>Labeorohita</i>
2	ভকুৰা মাছ (Bhakua-mass)	Catla	<i>Catlacatla</i>
3	মিৰিকামাছ (Mirika-mass)	Mrigal	<i>Cirrhinus mrigala</i>
4	গৰৈ	Goroi/ Green Snakehead	<i>Channa Punctates</i>
5	চিলভাৰ কাৰ্প	Silver carp	<i>Hypophthalmichthys molitrix</i>
6	গ্ৰাছ কাৰ্প	Grass carp	<i>Ctenopharyngodon idella</i>
7	কমন কাৰ্প	Common carp	<i>Cyprinus carpio</i>
8	মাগুৰ	Magur	<i>Clarias batrachus</i>
9	কাৱৈ (Kawoi)	Kawoi/ Climbing Perch	<i>Anabas testudineus</i>
10	চেঙ	Cheng	<i>Channa gachua</i>
11	শিঙি	Stinging catfish	<i>Heteropneustes fossilis</i>
12	পুঠি	Rosy Barb	<i>Puntius conchonus</i>
13	খলিহনা মাছ	Banded colisa/ Striped gourami	<i>Trichogaster fasciata</i>
14	উৰিকনা	Flying Barb	<i>Esomus Danrica</i>
15	ষোল	Striped Snakehead	<i>Channa striata</i>

16	মোরা	Mola/ Indian carplet/ Pale carplet	<i>Amblypharyngodon mola</i>
17	হাৰভাগী	Indian Glass Barb	<i>Chelalabuca -Hamilton, Buchanan</i>
II. AMPHIBIA			
18	চুকভেকুলী (Suk-Vekuli)	Toad	<i>Bufomelanostictus</i>
19	পানীভেকুলী (Pani-Vekuli)	Frog	<i>Rana tigrina</i>
20	পাএ বেং (Patrabang)	Hyla	<i>Hyla arborea</i>
III. REPTILE			
21	জেঠী (Jethi)	Lizard	<i>Hamydactylusflavaris</i>
22	Kankhalakhap	Free Sanke	<i>Dendrophisdendrophis</i>
23	তেজপীয়া (Tezpiya)	Calotis	<i>Calotiscalotis</i>
IV. BIRDS			
24	ঘৰচিৰিকা (Ghar-Sirika)	House Sparrow	<i>Passer domestica</i>
25	কাউৰী (Kauri)	Crow	<i>Corvus splendens</i>
26	বগলী (Bagali)	Egrets	<i>Egretathula</i>
27	ফেঁচা (Fesa)	Owl	<i>Bubo bubo</i>
28	শালিকা (Khalika)	Myna	<i>Acridotheres tristis</i>
29	কপৌ (Kapouw)	Dove	<i>Columba livia</i>
30	ভাটৌ (Bhatouw)	Parrot	<i>Psittaeulaeuperia</i>
31	বৰটোকোলা (Bartokola)	Storke	<i>Leptoptelusjavaricus</i>
32	মৌপিয়া (Moupiya)	Humming bird	<i>Archilochus colubris</i>
33	বাটেটোকা (Barhoitoka)	Wood pecker	<i>Dendrocopusmaharteeersis</i>
34	শগুন (Khagun)	Vulture	<i>Gypebengulensis</i>
35	মাছৰোকা চৰাই (Mass-roka sarai)	King fisher	<i>Ceyxazureus</i>
36	পাটমাদৌ (Patmadoi)	Black hooded oriole	<i>Orioius Xanthornus</i>
37	কুলি (Kuli)	Asian Coal	<i>Endynamisscolopacaus</i>
38	কাঠ শালিকা	Chestnut-tailed Starling	<i>Sturnia malabarica</i>
39	গঙাচিলনী	Indian river tern	<i>Sterna aurantia</i>
40	গাং শালিকা	Bank Myna	<i>Acridotheres ginginianus</i>

41	টিপচি চৰাই	Common tailor bird	<i>Orthotomus sutorius</i>
42	ডাউক	White breasted water hen	<i>Amaurornis phoenicurus</i>
43	দহি কতৰা	Oriental Magpie Robin	<i>Copsychus saularis</i>
44	শৰালি হাঁহ	Lesser Whistling Duck	<i>Dendrocygna javanica</i>
45	Kao chorai	Indian Roller	<i>Coraciidae</i>
46	বুলবুলি (Bulbuli)	Red –vented bulbul	<i>Pycnonotus Cafer</i>
47	তিল কপৌ	Indian spotted dove	<i>Streptopelia chinensis</i>
48	টুনি	White backed Munia	<i>Lonchura striata</i>
V. MAMMALS			
49	গৰু (Goru)	Cow	<i>Bus bulbulus</i>
50	ছাগলী (Sagoli)	Goat	<i>Capra aegagrus hircus</i>
51	ভেড়াছাগলী (Berhasagoli)	Sheep	<i>Ovis aries</i>
52	মেকুৰী (Mekuri)	Cat	<i>Felis Catus</i>
53	কুকুৰ (Kukur)	Dog	<i>Canis familiaris</i>
54	শিয়াল (shiyal)	Fox	<i>Vulpes bangalensis</i>
55	কেৰ্কেটুৱা (Kerketuwa)	Squirrel	<i>Funambulus funambulus</i>
56	বাদুলী (Baduli)	Pteropus	<i>Chiroptera chiroptera</i>
57	বান্দৰ (Bandor)	Monkey	<i>Muccacammullatta</i>
58	এন্দুৰ (Endur)	Rat	<i>Ratus ratus</i>
VI. ANTHROPODA			
59	মৌমাখি (Mou-makhi)	Honey bee	<i>Apis indica</i>
60	বৰল (Baral)	Wasp	<i>Vespula vulgaris</i>
61	ফৰিং (Faring)	Grasshopper	<i>Melanopus melanopus</i>
62	মকৰা (Makara)	Spider	<i>Aranea aranea</i>
63	পইতাচৰাই (Poita-sarai)	Cockroach	<i>Periplaneta americana</i>
64	মাখি (Makhi)	House fly	<i>Musca domestica</i>
65	উইচিৰিং (Uiisiringa)	Gryllotalpa	<i>Gryllotalpa gryllotalpa</i>
66	জিয়া (Jiya)	Dragon fly	<i>Sympetrum flaveolum</i>
67	মহ (Moh)	Mosquito	<i>Aedes aegypti</i>

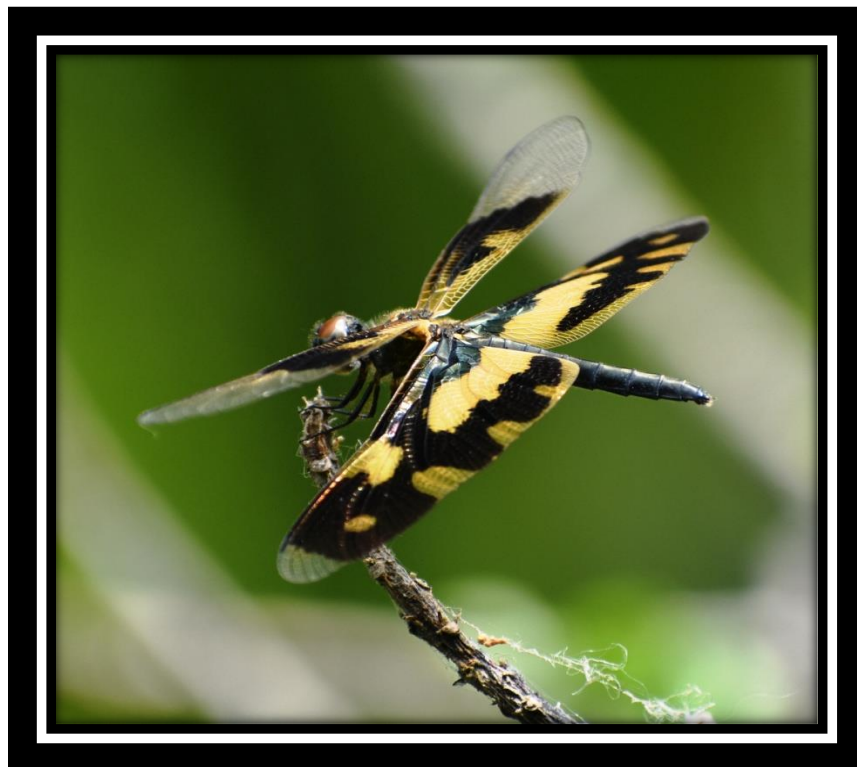
68	চেলা (Sela)	Centipede	<i>Scolopendracataracta</i>
69	কেৰেলুৱা (Kerelua)	Millipade	<i>Julus julus</i>
70	পখিলা (Pakhila)	Butterfly	<i>Papillio papillio</i>
VII. ANNELIDA			
69	কেঁচু (Kesu)	Earthworm	<i>Pheretima posthuman</i>
70	জোক (Jook)	Leech	<i>Hirudinea granulosa</i>
VIII. MOLLUSCA			
71	শামুক (Khamuk)	Pila	<i>Pila globose</i>
72	কুমজেলেকুৱা (Kumjelekua)	Garden snail	<i>Helix helix</i>



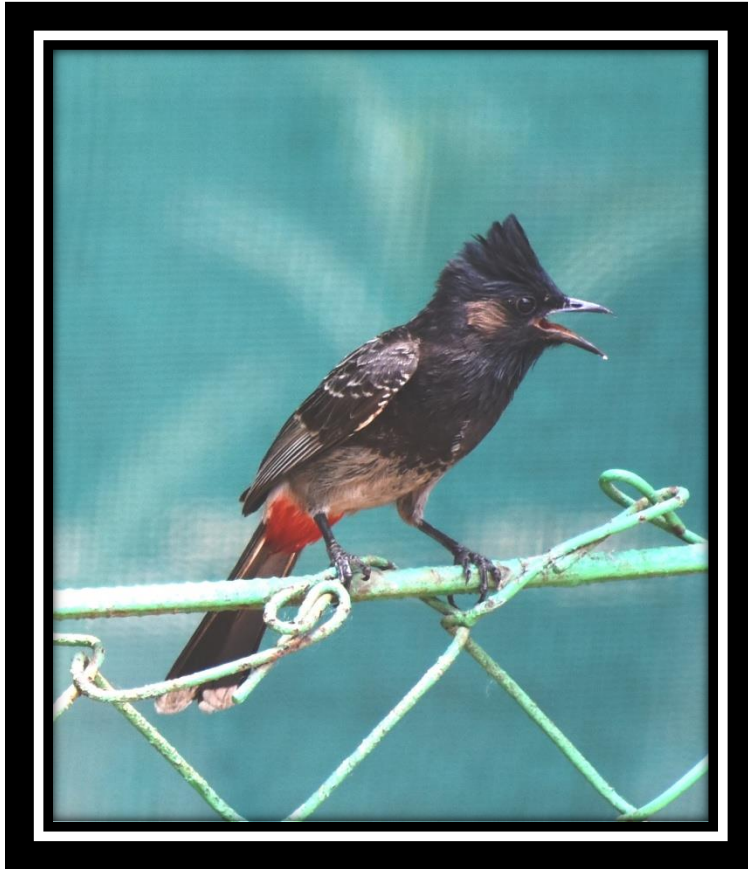
Indian pied Myna/Asian Pied starling (Kan kurika)



Common Name: Indian Roller (Kao chorai) Family: *Coraciidae*



Dragon fly (Gauni) (*Rhyothemis variegata*)



Common Name: Red –vented bulbul (Bulbuli) family : Pycnonotidae



Streptopelia chinensis (Scopoli 1786), Indian spotted dove (Pati kopou), family : Columbidae



Lonchura striata (Linnaeus 1766), Common Name :White backed Munia



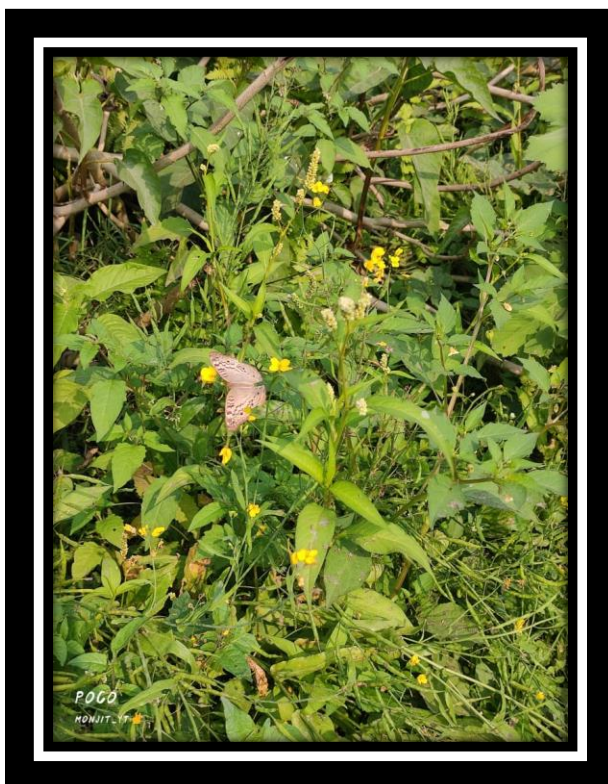
Acridotheres tristis (Linnaeus 1766) Common Name: Common myna (salika) , family sturnidae



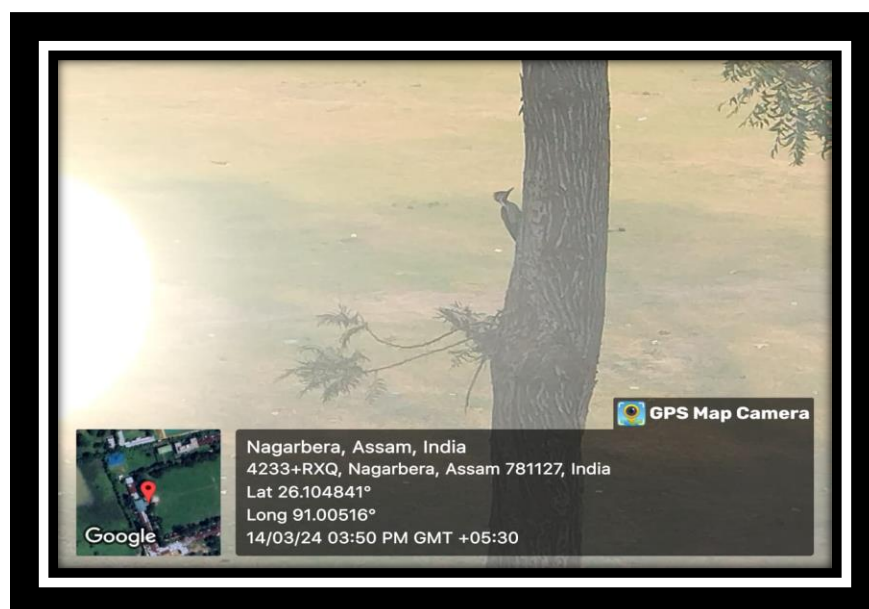
Acridotheres fuscus (Wagler 1827) Jungle myna (Sutia Salika) family: Sturnidae



Scientific name *Rhopalocera*, common name Butterfly, Assamese name: Pokhila



Scientific name Rhopalocera, common name Butterfly, Assamese name: Pokhila



Scientific name Hemicircus canente (Lesson 1832), Common name : Heart-spotted Woodpecker, (Bahroitoka) family: Picidae



Scientific name *Bos taurus*), Common name : cow, (goru) family: Picidae

Few Photographs of Faunal Diversity at B P Chaliha College

5.5 Management Practices with respect to Water, Energy and Waste

5.5.1 Water Management Practices

- Water storage per day =9500 liters
- Water tank cleaning = Twice a year
- Daily consumption of water =2500 liters

Water storage capacity

S/N	Location	Number of storage tank	Capacity
1	College including Canteen & Hostel	9	1000
		1	500

Different management practices of Water

S/N	Department	Wise use of water	Water Leakage Repair	Use of push Tap	Use of Water purification	Rain Water Harvest	Water Use Per Day (Lit)	Water Management Practices
1	Chemistry	yes	yes	partial	yes	Nil	250	yes
2	Botany	yes	yes	-	yes		250	yes
3	Zoology	yes	yes	-	yes		100	yes
4	Physics	yes	yes	-	yes		100	yes
5	Mathematics	yes	yes	-	yes		10	yes
6	Statistics	yes	yes	-	yes		10	yes
7	Computer	yes	yes	-	yes		20	yes
8	Assamese	yes	yes	-	yes		100	yes
9	Arabic	yes	yes	-	yes		100	yes
10	Economics	yes	yes	-	yes		50	yes
11	English	yes	yes	-	yes		50	yes
12	Geography	yes	yes	-	yes		50	yes
13	History	yes	yes	-	yes		25	yes
14	Political	yes	yes	-	yes		100	yes
15	Education	yes	yes	-	yes		200	yes
16	Sociology	yes	yes	-	yes		50	yes
17	Commerce	yes	yes	-	yes		200	yes

Observations

- (i) No leaking taps, pipes, valves were identified in the college premise.
- (ii) There are no any push button taps
- (iii) The college has set-up at present setup two rain water harvesting unit having 5000 Lt. capacity on the commerce building and on the Library Building. The stored water is mainly used in lavatory, gardening and many other purposes. College planning to setup more unit in the college campus.
- (iv) The college has optimized its irrigation system at night or early morning hours to minimize evaporation for gardening.
- (v) Water escaping from overflows either inside or outside building was not identified during onsite audit.
- (vi) College uses pond water for various agricultural activities



Pond at B P Chaliha College Premises

5.5.2 Energy Management Practices

- Electric Load = 44 KW
- Electric Bill paid for the period of 2022 -23 (Bill Attached) =Rs. 267136.00
- **Present Energy Consumption (April 2022 to March 2023)**

Sr no	Parameter	College Building		
		Energy consumed, (Units)	Bill Amount (Rs)	Maximum Demand (KVA)
1	Maximum	4,005	35090	26.0
2	Minimum	1058	13496	6.12
3	Average	2359	22261	17.45

➤ Electrical fittings in various buildings of B P Chaliha College

Sr/ No	Department	No. of Tubes	No. of CFL Light	No. of LEDs	No. of Fens Ceiling+wall+ exhaust	No. of LCD projector	No. of Computers + Printers	No. of photocopier	Common / sophisticated analytical equipments	No. of Ac
1	Chemistry	6	5	13	12	1	2	0	7	0
2	Botany	1	7	6	12	-	5	1	46	1
3	Zoology	4	0	7	5	0	1	0		0
4	Physics	0	0	9	10	1	3	1	20	0
5	Mathematics	2	3	0	5	1	5	2	0	0
6	Statistics	1	0	1	2	0	1	0	0	0
7	Computer Science	2	0	4	4	1	20	1	0	0
8	Assamese	3	0	2	4	0	1	0	0	0
9	Arabic	0	0	2	2	0	1	0	0	0
10	Economics	0	0	1	2	0	1	1	0	0
11	English	2	0	2	2	0	1	1	0	0
12	Geography	4	0	8	10	1	5	1	5	0
13	History	1	0	1	2	0	1	0	0	0
14	Political Science	1	0	2	4	0	1	0	0	0
15	Education	1	0	2	2	1	1	1	0	0
16	Sociology	0	0	2	2	0	0	0	0	0
17	Commerce	2	0	6	5	1	1	0	0	0
18	College							4		9

Observations:

- i) College has 10 kVA Diesel Generator set for uninterrupted power supply in case of supply failure from APDCL.
- ii) There is minimum or practically negligible use of lights during day time as the building structure has possibility of daylight usage
- iii) The lighting arrangements are well balanced with arrangements to switch ON and OFF
- iv) The policy of college is switch off the lights and other electrical equipment when they are not in use.
- v) Cleanliness is well maintained. In- house light fittings are cleaned time to time.
- vi) Lights are negligibly operated during day time. The lights are operated manually. There is no any sensor-based lighting system
- vii) The college is utilising natural lighting as first preference
- viii) Computers, printers, photocopiers and other equipment are switched off at the end of the day.
- ix) The all the electrical equipment is well operated. The overall electrification system is regularly monitored by a duly qualified electrician.
- x) Regarding the use of renewable energy college has installed solar panels system and few solar street lights
- xi) College Management is evaluating the feasibility of introduction of the solar PV generation.



Use of Renewable Energy (Solar Panel and Solar Light) at B P Chaliha College

5.5.3 Waste Management Practices

Waste can be solid as well as liquid. Solid waste can be further divided into

- (i) Biodegradable- Like food waste, waste from toilets etc.
- (ii) Non-biodegradable-Like Plastics, tins, glassware etc.

Along with these, there are some hazardous wastes generated from laboratories, and E-waste (Computers, electric and electronic parts). Besides this, liquid waste is also there. The institute has over 2600 stakeholders which includes students, teaching staff and non-teaching staffs, thus a huge amount of waste is generated on a daily basis.

Sl/No.	Source	Type of waste	Approximate amount of waste generated per day
1.	Classroom, staff room, Library	Paper, pen, wrappers, plastic bottles etc	Biodegradable waste = 4.5 kg Non-biodegradable waste = 3.5 kg. Liquid waste= 2.5 kL E waste per annum = 34 kg
2.	Laboratories	Chemicals, glassware, waste water and solvents	
3.	Toilets	Sanitary napkins, waste water etc.	
4.	Canteen	Disposable plates, leftover food and water, wrappers, plastic bottles etc.	
5.	Office and computer centre	Papers, wrappers, plastics, paper pins, E-waste etc.	

Waste management practices adopted by the College

1. Solid waste generated in the campus

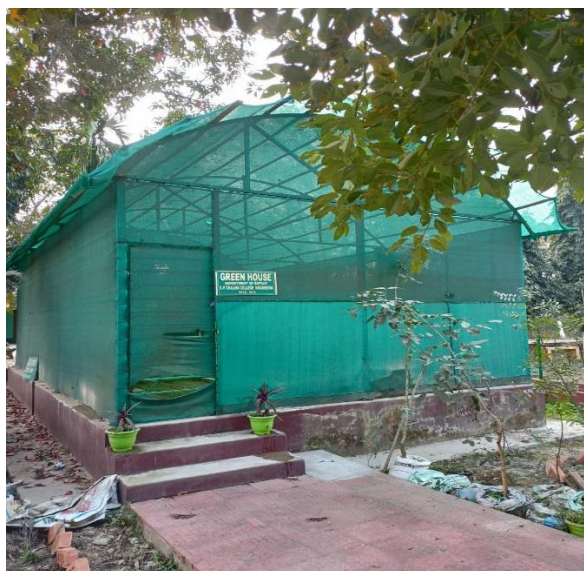
- dry and wet waste are collected in dustbins with two chambers which are placed in the library, teachers' common room, canteen, lecture hall, near classroom etc.
- Segregation of solid waste into dry and wet waste in different bins.
- Waste disposal tanks are installed in different places
- Specific waste management plans are adopted to manage solid waste in the campus.
- E-waste includes malfunctioning computer monitors, printers, scanners, calculators, keyboards, mouse, cables, circuit boards, bulbs etc. generated from campus is subjected to handover E-waste authorised agency

2. Toilet waste

- Soak pits are available in toilets
- Toilet waste is connected to large tanks. These tanks are cleaned periodically.

3. Other waste

- Sanitary napkins are subjected to burn in the incinerator.
- Leaf litters are used for vermicomposting.
- Waste like broken bulbs, tubes etc. which cannot be repaired are dumped temporarily at the dumping bin and later on disposed of to the municipality collection van.



Green House and Vermi Compost unit at B P Chaliha College

6.0 Carbon footprint due to Transport System

Emission of CO₂ through transport system – both public and private – is very high in India as India is credited with the third rank in carbon emission in this regard. It is estimated that in India, 9% of the total carbon is emitted by the transport system.

In B P Chaliha College during survey, it was observed that on an average, there are 40 numbers of four wheelers are used by faculty while 140 number of two wheelers are used by students and staff. Further student uses bicycles 500 numbers. Most of the students as well as staff uses public transportation as well as walk. It is appropriate to calculate the petrol consumption separately for four wheelers and two wheelers.

The fuel consumption by vehicles is determined by the type of vehicle, year of manufacturing, maintenance status, traffic system of the particular area, etc. High-end and medium-range bikes consume different quantities of petrol.

Conversion table to calculate carbon emission by vehicles per litre is very complicated in view of the local variables to be taken for calculation. Instead, a simple but universally accepted calculation calendar for various types of fuels and their CO₂ conversion rate was adopted.

6.1 Emissions of CO₂ by transport system at Barnagar College

It is estimated that the average mileage covered by each vehicle is about	10 km.
The total mileage covered by the 140 number of two wheelers per year	$(140 \times 10 \times 200) = 280000$ km
The average mileage covered by four wheelers is also the same	8 km per day
The total mileage covered by 40 four wheelers per year	$(40 \times 8 \times 200) = 64000$ km
The total mileage covered by two and four wheelers per year	$(280000 + 64000) = 344000$ km
The standard fuel consumption for two wheelers is taken	35 km / 1L of Fuel
The standard fuel consumption for Four wheelers is taken	15 km / 1L of Fuel
The total quantity of petrol consumed by 140 number Two Wheelers	$(280000 / 35) = 8000$ L
The total quantity of fuel consumed by 40 number four wheelers per year	$(64000 / 15) = 4267$ L
The total fuel consumption per year (Two+ Four) Wheelers	$(8000 + 4267) = 12267$ L
Combustion of 1 litre of diesel/petrol leads to the emission of CO ₂	2.68 kg
The total quantity of CO₂ emitted by 7238 litres of fuel per year	$(7238 \times 2.68) = 32876$ kg

6.2 Flora and Carbon Footprint Reduction

Carbon Absorption Capacity of Flora at B P Chaliha College

The carbon footprint calculation is based on the following standard accepted assumptions

Total CO₂ absorption Capacity of Flora

Type of Tree	Total No. of Tree	Amount of CO ₂ absorption/ tree (kg)	Total CO ₂ absorption (kg)
Full Grown	238	6.8	1618
Semi Grown	171	3.4	581
Total amount of carbon absorption by Flora			2199

6.3 Oxygen Emission Capacity of Flora at B P Chaliha College

Type of Tree	Total No. of Tree	Amount of O ₂ Emission / tree (kg)	Total O ₂ Emission (kg)
Full Grown	238	117.6	27988
Semi Grown	171	58.8	10055
Total amount of Oxygen Emission by Flora			38043

6.4 Summary of Carbon Footprint Reduction at B P Chaliha College

Carbon Absorption Capacity of Flora	2199kg
Oxygen Emission Capacity of Flora	38043 kg
The total quantity of CO ₂ emitted by vehicles	32876 kg

6.5 Summary of Carbon Footprint per person at B P Chaliha College

Total Carbon Footprint in Tonnes	:	36.2
Total Carbon Footprint in kg	:	32876
Total Average number of persons in the College	:	1532
Carbon emission per person in kg	:	21.4

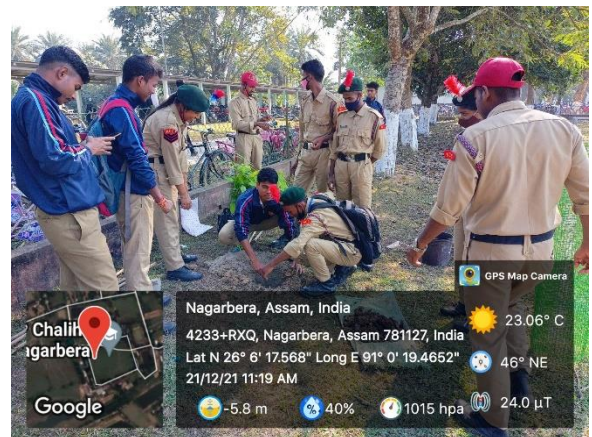
7.0. Organizational effort

S/N	Items	Responses
Organizational effort		
1	Is the college having campus green team?	Yes. Copy Attached
2	Have you established an environmental mission/vision for your campus	Yes. College has established Environment to make the students and teachers aware about the environmental issues and challenges. The college has organized several programmes addressing environmental awareness among students and community as well (e.g. World Wetland Day, 2 nd February; World Environment Day, 5 th June; World Wildlife Conservation Day, 4 th December; World Soil Day 5 th December).
3	College initiates any tree plantation programme	Yes. programme organized within and outside the college campus particularly on College Foundation Day and World Environment Day (5 th June)
4	How many numbers of existing of tree, shrubs and herbs species	Tree- 70, Shrubs- 13 Herbs- 73
5	How many numbers of existing full-grown tree, semi grown trees	Full Grown - 238 Semi Grown – 171
6	Is there any lawn in the college campus? If yes what is area	Yes

7	Is the college encouraging sustainable behaviour via: Education campaigns? Such as Posters, placards, Messages, incentives? Contests? awards?	Yes, College organized various programme encouraging sustainable behaviour such as World Environment day (5 th June), World Wetlands day (2 nd February), National Science day (28 th February), International Yoga Day (21 st June), World AIDS Day (1 st December), No Tobacco Day (31 st May), Ekta Divas (31 st October) ; Wildlife Conservation Day (4 th December); World Soil Day (5 th December) and many more.
8	Is the college staff modelling sustainable behaviour for students, peers, and community?	Yes, College has been initiated various community development work in terms of education, health & hygiene, cleanliness, environmental education etc. in the near by villages.
9	Is the college having solar, wind, or other forms of renewable energy?	Yes
10	What are the good practices pertaining to Transport?	Encourage the use of public transport, Bicycle and awareness about the generation of carbon footprint.
11	What is the average number of vehicle movements in terms of two & Four wheelers	Two Wheelers: 140 -150 Four Wheelers: 40 – 45
12	Has the college initiated to reduce its carbon footprint	Yes, College has taken several initiatives to reduce total carbon footprint amount within the college campus.
13	Has the college adopted any specific measures to reduce pollution	To motivate students, social service competitions are being held on special occasion such as college week, environment day, Science Day, Azadi ka Amrit Mahotsav etc., where they are awarded for their active participation.



Few activities such as Independence Day celebration, plantation etc at college campus



Celebration of world environment day, yoga day and cleaning activities at college campus

8.0 Recommendations

Water Management

- (i) The college Management needs to consider the low - flow faucets, as the replacement for the existing conventional taps.
- (ii) The toilet and wash room should be equipped with push button
- (iii) Sprinkler and drip irrigation should use for gardening
- (iv) The college should install rain water harvesting unit more in organized way
- (v) More advanced water purification treatment facilities may be installed within the campus in order to ensure safe drinking water.

Energy Management

- The public lights within the campus may be run with solar panels and the replacement of existing lights should be done with LED lamps.
- There are about 29 Nos old Tube light fittings which need to be replaced by 18 WLEDs.
- There are 73 Nos of ceiling fans which need to be replaced with STAR rated fans.
- Energy auditing should be done with the help of Energy Management Centre (EMC)

Waste Management

- Specific waste management plans should be adopted to manage solid waste in the campus, use of plastic carry bags, plastic glass/ cups/plates and flex boards should be banned inside the College to create a plastic free zone.
- For managing organic wastes more organised vermicompost plant may be installed in the campus
- There should be a proper system for the management of hazardous wastes.
- ETP and STP should install in the campus properly

Green Management

- Green habitat concept should be adopted for all the building construction activities of the college in future, which may help a long way in reducing energy usage, increasing aesthetic appeal of the buildings and class rooms, besides reducing carbon foot print.
- With a view to the availability of land organised horticulture garden may be initiated
- Further, more green spaces should be established all around the campus around larger trees and shades for the benefit of the students. All these aspects should monitor by Green Campus Committee.
- There should be an annual monitoring plan to assess Air , drinking water, soil and fishery water quality .

Annexure 1 : Scanned copy of Green Campus Committee

Annexure 2 : Scanned copy of Electric Bill

Annexure 3 : Scanned copy of ISO Certificate

Annexure 4 : Scanned copy of PCB Certificate

Annexure 5 : Scanned copy of MSME Certificate



Office of the Principal & Secretary
B.P. CHALIHA COLLEGE, NAGARBERA

P.O.: NAGARBERA
DIST.: KAMRUP (ASSAM)
PIN: 781127, ESTD.: 1972

Phone : 03623-245001
Cell : 9613310707 | Fax: 03623-245001
E-mail: bpccnagarbera1972@gmail.com
Web: www.bpchalihacollege.org

Memo No. :

Date: 17.11.2022

From :

Dr. Kamal Chandra Pathak, M.A.(G.U.), Ph.D (NBU), D.Litt (UCA)
Principal/Secretary
B. P. Chaliha College, Nagarbera

NOTICE

Date 17-11-2022

The Green Campus committee of B.P. Chaliha College for the session 2022-23 is constituted with the following members. Respected members are requested to take their responsibilities soon after receiving the notice.

Sl.No.	Name	Portfolio in the Committee	Signature
1	Dr. Kamal Chandra Pathak, Principal	Chairman	
2	Dr. B.K. Borah	Advisor	
3	Prof. Abdul Jubbar	Advisor	
4	Prof. Anita Keot	Advisor	
5	Dr. Atowar Rahman	Vice Chairman	
6	Dr. Biman Lahkar	Convener	
7	Prof. Chiranjib Mili	Jt. Convener	
8	Prof. Sochin Boro Choudhury	Member	
9	Dr. Diganta Kalita	Member	
10	Prof. Inku Devi	Member	
11	Dr. Deepjyoti Borgohain	Member	
12	Prof. Bidyut Dutta	Member	
13	Dr. Sibani Mazumder	Member	
14	Dr. Bhushita Patowari	Member	

Copy to

1. Coordinator IQAC
2. Office File

(Dr. Kamal Chandra Pathak)
Principal

**Assam Power Distribution Company Limited**

NAME OF ELECTRICAL SUB-DIVISION / IRCA : BOKO ESD / IRCA GEC-II

CIN: U40109AS2003SGC007242

GSTIN: 18AABCL1354J1ZJ

ELECTRICITY BILL



Website: www.apddl.org

Centralized Customer Care Number: 1912

Consumer Name: BPC College	Consumer Number: 025000000946	Bill Amount: 15206.000
Address: Nagarbera, PO: Nagarbera, 781127, DISTT: KAMRUP (R)	Old Consumer Number: 63000001485	Due Date: 24-Jan-2023
	DTR Number: M077N000	Bill Number: 900033782
	Pole Number: :000	Bill Period: 01-Dec-2022 To 31-Dec-2022
	Connected Load in KW: 30.0	Bill Date : 06-Jan-2023
Contact Number : 9613310707	Contracted Demand in KVA: 35.29	Number of Days: 31
Email : bpcnagarbera1972@gmail.com	Load Security: 46615.000	Meter Status: RUNNING
Tariff Category: HT IV BULK SUPPLY (GOVERNMENT EDUCATION)	Meter Number: X0867740	Billing Status: NORMAL
Supply Voltage Level: Supply Voltage Level 11 KV		



025000000946

Meter Reading Details

Reading Type	Meter Number	MF	Previous Reading in KWh	Previous Export in KWh	Current Reading in KWh	Current Export in KWh	Difference Reading in KWh	Difference Export in KWh
KWH(Normal)	X0867740	20.0	3868.969	0.000	3934.629	0.000	65.660	0.000

Units Consumed	PF Penalty/Rebate	LT Metering Penalty	DTR Penalty	HT Rebate	Voltage Rebate	Voltage Penalty	Billable Units in KWh
Normal 1313.2	-40.580	39.400	0.000	0.000	0.000	0.000	1312.020
Recorded Demand (in KVA)	0.31	Maximum Demand (in KVA)	6.12	Billing Demand (in KVA)	35.29	Average Power Factor	98.800
Power on Hours	711	Freeze Amount	0.00	Oxygen Plant Rebate	0.00	Availability Percentage	

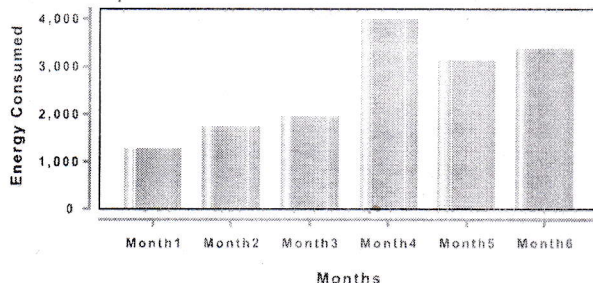
Billing Details

Current Demand	Outstanding Amount	Adjustment Amount	Solar Rebate	Net Bill Amount
Rs. 15205.890	Rs. 0.000	Rs. 0.000	0.000	Rs. 15206.000

In Words: Rupees Fifteen Thousands Two Hundred Six Only

PLEASE PAY YOUR BILL ON TIME AND HELP US TO SERVE YOU BETTER

Charges Breakup			
Details	Units	Rate	Amount
Energy Charge(Normal)	1312.020	6.750	8856.140
Total Energy Charge			8856.140
Energy Charge Re-Estimated			0.000
Rooftop Solar Adjustment			0.000
Demand/Fixed Charge (KVA)	35.29	140.0	4993.97
FPAA Charge		0.30	393.61
Electricity Duty			692.51
Govt. Subsidy		0.0	0.0
Overdrawal Penalty			0.0
Meter Rent		0.0	0.0
Charges for dishonoured cheque			0.0
Arrear Principal			0.000
Arrear Surcharge			0.000
Current Surcharge			269.660
Adjustment Amount			0.000
Rebate if paid before due date			0.00
Payable amount before due date			15206.00
Payable amount after due date			15206.00

Energy Consumption (Last Month's Bill)

Checked by E&OE:

Prepared by: 40002068

Signature with seal

Area Manager
IRCA-II, APDCL (LAR)
GU Bypass, Jarigaon, Jalukbari
P.O.-Pandu, Guwahati-781012

This is to Certify that the Management System of
ENVIRO TESTING SERVICES

**BIJAY NAGAR, NOONMATI, GUWAHATI - 781020,
ASSAM, INDIA**

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope of operations:

**ENVIRONMENTAL ASSESSMENT, MANAGEMENT AND
MONITORING FOR SOIL, WATER, AIR, FLORA
AND FAUNA.**

Certificate No.: 09110783A

<u>Date of initial registration</u>	<u>Date of this Certificate</u>	<u>Surv. audit on or before/ Certificate expiry</u>	<u>Recertification Due</u>
24 August 2022	24 August 2022	23 August 2023	23 August 2025

Accreditation

This Certificate remains valid subject to satisfactory surveillance audits.



ICL/FM-001/REV06



Director



For verification and updated information concerning the present certificate visit to www.iclcert.com

This certificate is property of Integral Certification (P) Ltd. and shall be returned immediately when demanded.

Integral Certification (P) Ltd.

301, U-60 (3rd Floor), Shakar Pur, Laxmi Nagar, Delhi-110092

E-mail: info@iclcert.com Website : www.iclcert.com

Contact No. : +91-9319332223

This is to Certify that the Management System of

ENVIRO TESTING SERVICES

BIJAY NAGAR, NOONMATI, GUWAHATI - 781020, ASSAM, INDIA

has been found to conform to the Environmental Management System standard:

ISO 14001:2015

This certificate is valid for the following scope of operations:

ENVIRONMENTAL ASSESSMENT, MANAGEMENT,
GREEN AUDIT AND ENVIRONMENTAL AUDIT

Certificate No.: IN19503B

<i>Date of initial registration</i>	<i>Date of this Certificate</i>	<i>Surv. audit on or before/ Certificate expiry</i>	<i>Recertification Due</i>
08 February 2023	08 February 2023	07 February 2024	07 February 2026

Accreditation

This Certificate remains valid subject to satisfactory surveillance audits.



ICL/FM-001/REV06



Director



For verification and updated information concerning the present certificate visit to www.iclcert.com

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301, U-60 (3rd Floor), Shakar Pur, Laxmi Nagar, Delhi-110092

E-mail: info@iclcert.com Website : www.iclcert.com

Contact No. : +91-9319332223



Pollution Control Board, Assam

(Department of Environment & Forests : Government of Assam)

অসম প্রদূষণ নিয়ন্ত্ৰণ পৰিষদ
(অসম চৰকাৰৰ বন আৰু পৰিৱেশ বিভাগ)



No.WB/GUW/T-2445/13-14/200
2722

Dated Guwahati the 09th March, 2023

OFFICE ORDER

In exercise of the powers conferred under section 17(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 17(2) of the Air (Prevention & Control of Pollution) Act, 1981, the Pollution Control Board, Assam is pleased to renew the recognition of the Laboratory for a period of six (6) months in favour of **M/s. Enviro Testing Services, Bijoy Nagar, House No. 35, Noonmati, Guwahati-22, Kamrup (M), Assam** awarded vide Pollution Control Board, Assam order No. WB/GUW/T-2445/13-14/198 dtd.19.02.2022. This Renewal of recognition is awarded subject to the following terms & conditions for the purpose of analyzing certain parameters discharged from the industries or any other institutions.

Terms & Conditions:

1. The recognition shall be valid till 08th September, 2023.
2. The recognition may be revoked or withdrawn subject to the violation of the following conditions :-
 - i. The laboratory shall carry out analysis only for the parameters authorized by the Board as mentioned in the certificate of approval.
 - ii. The laboratory shall carry out analysis of samples as per IS, APHA code of Federal Regulation and should specify the method in the analysis report.
 - iii. The laboratory will keep a proper record of receipt of samples, the reading of each and every parameter analyzed and calculation of results of all parameters on permanent register and will subject to inspect by the Board.
 - iv. The samples collected should be analyzed within seven (7) days from the date of collection and copy of the same along with the brief inspection report to be sent to Pollution Control Board, Assam.
 - v. The accredited laboratory will collect samples as required by the process, which will be divided in two parts. One part will be analyzed, while the other part will be preserved for thirty days. For air samples, the used thimbles and filter papers will be preserved for six (6) months so that the Board can check randomly and verify the credibility.
 - vi. The Board officials may visit laboratory for checking preserved samples at random.
 - vii. The Laboratory must submit information on whether ETPs/APCDs installed by the respective unit was running or not along with test report. At the time of collection samples by the Laboratory, all the processes of the unit should invariably be running. The analysis report should generally reflect site conditions and capacity at which the industry was running at the time of sampling.
 - viii. Records pertaining to inventory of the chemicals/ reagents shall be kept properly on a permanent register and will be subject to inspection by the Board.
 - ix. Laboratory will submit details of staff involved in sampling and testing and the person coming for collection of sample should have authority letter of Laboratory.
 - x. Any change in address, staff or other additions/ alterations in the facilities of the laboratory should immediately be reported to this office within fifteen (15) days.

Contd....p/2

২৭/৩/২৩

Head Office : Bamunimaidam, Guwahati - 781021, Assam : India.

Phone : 2652774 & 2550258 : Fax : 0361-2550259 ; Gram : POLLUTIONCONTROL

E-mail : membersecretary@pcbassam.org; Website : www.pcbassam.org

Regional Offices at : Dibrugarh, Golaghat, Sibsagar, Tezpur, Guwahati, Bongaigaon, Nagaon & Silchar.



Pollution Control Board, Assam

(Department of Environment & Forests : : Government of Assam)

অসম প্রদূষণ নিয়ন্ত্ৰণ পৰিষদ

(অসম চৰকাৰৰ বন আৰু পৰিৱেশ বিভাগ)

-2-

- xi. Prior information is to be given to the concerned Regional Officers and Head Office for collection of sample and Regional Officers/Field Officer will associate during the sampling.
 - xii. **The approval shall be suspended or cancelled if the Board has reason to believe that the data reported by the Laboratory is repeatedly erroneous. Further the Laboratory and its key personnel shall be liable to be proceeded against for imposition of penalty in case the Board has reason to believe that the data reported by the Laboratory is intentionally manipulated.**
 - xiii. If it is found that the aforementioned Laboratory has any involvement with any of the industry against whom allegations have been made forging of Board's Authority, will result in withdrawal of recognition apart from other legal proceeding as provided under existing laws.
 - xiv. If the laboratory failed to achieve the satisfactory performance regarding testing of the coded samples supplied by the Pollution Control Board, Assam will result in withdrawal of recognition.
 - xv. The instruments/equipment should be always kept in working and perfectly calibrated condition.
 - xvi. The Laboratory has to submit a brief plan on safety measures undertaken for risk management pertaining to the work environment.
 - xvii. **In legal matters, the analytical reports of the above laboratories will not be binding to the Board and such reports generated by the State Board will always prevail over.**
 - xviii. **Regarding compliance of occupiers, Boards analytical report and opinion will stand final over the reports and opinion of the aforesaid laboratory.**
 - xix. Board will have every right to accept or reject the analytical and other reports submitted by the aforesaid laboratory without assigning any reason thereof.
 - xx. **National Accreditation Board for Testing and Calibration Laboratories (NABL) is mandatory at the time of Next renewal of recognition i.e from the year 2023 onward.**
3. This order will remain valid for **six (6) month with effect from the date of issue of this order** subject to the outcome of Hon'ble Gauhati High Court Order in WP(C)/8468/2018. But the said recognition may also be withdrawn at any time in case of violation of any of the aforementioned conditions or any of the conditions mentioned in **Annexure-A(i) & (ii)** or for any other unlawful activities, which are not proper under the law of the land.
4. This order has been passed as per the approval of the Competent Authority.

(Shantanu K. Dutta)
Member Secretary

Memo No.WB/GUW/T-2445/13-14/200-A
Copy to: 2722

Dated Guwahati the 09th March, 2023

1. The ACES, Central Laboratory, PCBA for information and necessary action.
2. M/s. Enviro Testing Services, Bijoy Nagar, House No.35, Noonmati, Guwahati-22, Kamrup (M) for information and necessary action.

Member Secretary

Annexure-A

LIST OF PARAMETERS MENTIONED BELOW:-

A. Water & Waste Water

Sl. No	Parameters	Sl. No	Parameters
1	pH	27	Ammonical Nitrogen
2	Temperature	28	TKN
3	TSS	29	Phosphate
4	Zinc	30	Iron
5	BOD	31	Lead
6	COD	32	Copper
7	Total Dissolved Solids	33	Nickel
8	Chloride	34	Cr (Total & Hexa)
9	Sulphate	35	Cadmium
10	Oil & Grease	36	Aluminium
11	Sodium	37	Manganese
12	Phenol	38	Arsenic
13	Odour	39	Insecticides
14	Turbidity	40	Total Acidity
15	Alkalinity	41	DO
16	Conductivity	42	Cobalt
17	Total Hardness	43	Vanadium
18	Calcium hardness	44	Molybdenum
19	Magnesium Hardness	45	Silver
20	Nitrate	46	Hydrazine
21	Sulphite	47	Barium
22	Fluoride	48	Colour
23	Residual Chloride	49	Anionic Detergent
24	Boron	50	Mercury
25	Free Ammonia	51	Selenium
26	Sulphide	52	Nitrite

B. Bacteriology & Bio-Assay

Sl. No	Parameters
1	Total Coliform
2	Fecal Coliform

C. Noise Parameter

Noise Level Monitoring - Noise in dB(A)

Monoj Saha
Addl. Chief Env. Scientist
Pollution Control Board, As
Barnunimaidam, Calcutta

D. Ambient Air Parameters

Sl. No	Parameters	Sl. No	Parameters
1	Oxides of Sulphur	8	Benzene
2	Oxides of Nitrogen	9	Benzo (a) Pyrene
3	PM 10	10	Arsenic
4	PM 2.5	11	Nickel
5	Ozone	12	Total Hydrocarbon
6	Lead	13	Formaldehyde
7	Carbon Monoxide	14	Ammonia

E. Stack Parameters

Sl. No	Parameters	Sl. No	Parameters
1	Oxides of Sulphur	7	Nickel
2	Oxides of Nitrogen	8	Hydrogen Sulphide
3	Particulate Matter	9	Carbon Dioxide
4	Oxygen	10	Hydrogen Fluoride (HF)
5	Carbon Monoxide	11	Vanadium
6	Hydrochloric Acid Vapour & Mist (HCl)	12	Chlorine

F. Parameters For Soil Analysis

Sl. No	Parameters	Sl. No	Parameters
1	pH	9	Phosphorous
2	Soil Type	10	Manganese
3	Water Holding Capacity	11	Nitrogen
4	Iron	12	Sodium
5	Organic Matter	13	Potassium
6	Copper	14	SAR
7	Nickel	15	Boron
8	Chlorides	16	Zinc

G. Fugitive Emission (LEL-CH₄),

**Light Intensity (Lux Meter),
VOC**

H. Work Zone Monitoring

I. Waste Sludge Parameters (Non Hazardous & Hazardous)

Moneysaiv
Addl. Chief Env.
Pollution Control B
Chennai, Gu.



भारत सरकार
Government of India
सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
Ministry of Micro, Small and Medium Enterprises



UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER

UDYAM-AS-16-0015132

NAME OF ENTERPRISE

ENVIRO TESTING SERVICES

TYPE OF ENTERPRISE *

SNo.	Classification Year	Enterprise Type	Classification Date
1	2023-24	Micro	29/04/2023

MAJOR ACTIVITY

SERVICES

SOCIAL CATEGORY OF
ENTREPRENEUR

GENERAL

NAME OF UNIT(S)

S.No.	Name of Unit(s)
1	ENVIRO TESTING SERVICES

OFFICAL ADDRESS OF ENTERPRISE

Flat/Door/Block No.	-	Name of Premises/ Building	BIJOY NAGAR,
Village/Town	Kamrup,	Block	-
Road/Street/Lane	NOONMATI,	City	Assam,
State	ASSAM	District	KAMRUP , Pin 781020
Mobile	9435732705	Email:	envirotesting2011@gmail.com

DATE OF INCORPORATION /
REGISTRATION OF ENTERPRISE

15/12/2001

DATE OF COMMENCEMENT OF
PRODUCTION/BUSINESS

15/12/2001

NATIONAL INDUSTRY
CLASSIFICATION CODE(S)

SNNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	70 - Activities of head offices; management consultancy activities	7010 - Activities of head offices	70100 - Activities of head offices	Services
2	70 - Activities of head offices; management consultancy activities	7020 - Management consultancy activities	70200 - Management consultancy activities	Services
3	71 - Architecture and engineering	7110 - Architectural and engineering	71100 - Architectural and engineering	Services

	activities; technical testing and analysis	activities and related technical consultancy	activities and related technical consultancy	
4	71 - Architecture and engineering activities; technical testing and analysis	7120 - Technical testing and analysis	71200 - Technical testing and analysis	Services
5	74 - Other professional, scientific and technical activities	7490 - Other professional, scientific and technical activities n.e.c.	74904 - Security consulting	Services

DATE OF UDYAM REGISTRATION**29/04/2023**

* In case of graduation (upward/reverse) of status of an enterprise, the benefit of the Government Schemes will be availed as per the provisions of Notification No. S.O. 2119(E) dated 26.06.2020 issued by the M/o MSME.

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For any assistance, you may contact:**1. District Industries Centre: DIC KAMRUP (ASSAM)****2. MSME-DFO: GUWAHATI (ASSAM)**Visit : www.msme.gov.in ; www.dcmsme.gov.in ; www.udyamregistration.gov.in

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