



Barasat Government College



Green Audit Report (Academic Session 2024) PART I

General Information about College, Green Policy, Environmental Objectives, Map, Flora and Faunal Diversity Within Campus and Air Quality Assessment



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GENERAL INFORMATION ABOUT THE COLLEGE:

Year of Establishment of College: 1950

A Brief History behind the establishment of the College:

Established in 1950, Barasat Government College is the institute that traces back its origin to a historical event, where the Bengal was divided and a mass migration of displaced people occurred into border area of the state. A massive section of the uprooted, deprived masses heavily depended on formal education for its very sustenance and in 1950 the State Government selected the town of Barasat as the location for a new college.

To begin with, the college was run with three isolated, two-storied buildings and offered only intermediate Arts subjects. Afterwards the equivalent Higher Secondary Course (in both the Arts and Science streams) was taught till 1998-1999.

The college earned the status to teach degree courses, when “Govt. College Upgradation Committee for Degree College” recommended the institution to be upgraded to a degree college. The journey began with establishing an Arts section from 1956-57, later during 1957-58, the Intermediate course in Biology was initiated in 1962. The College was provided with a new building comprising of the office, Principal's chamber, Professors' room, and a library. Soon after that the degree course in different science subjects initiated.

In 1993, the present science building (Annexe building) was inaugurated where the departments of Physics, Mathematics, Geography and Bengali were shifted later. In 1996-97, Honours courses were introduced in the departments of Botany and Zoology. In 2003, the department of Botany was elevated to the status of post-graduate department and academic autonomy was bestowed upon since 2004. Presently the college is affiliated to the West Bengal State University and offers Honours courses in **13 different humanities and science subjects, 2 General courses and autonomous Post Graduate courses in four subjects viz. Botany, Zoology, Physics and Bengali.**

A PG course in Chemistry has received affiliation from the university and preparations are on to open it in the coming session. The college also has a unit of Netaji Subhas Open University which offers 2UG and PG course programmes.

After its inception, this institute has collected accolades from different corners of our country and now has been recognised as a premium one, well known for its academic and social practices that successfully describes the statement in true sense ‘**Scientia Potential Est**’ means “**Knowledge is Power.**”

➤ **Background of the Work (Purpose for Green audit)**

Nature and natural resources are considered as most significant component on earth that helps to sustain various lifeforms on this sole life bearing planet. As we consume natural resources at a much higher rate in contrast to replenishing back to the nature, enormous challenges are being faced. As the human population continues to rise, the impact upon nature and natural resources, are negatively affected. Rapid urbanization and industrialization converting agricultural land to non-agricultural uses to meet the increasing purposes. Reserve for non-renewable are being depleted at a rapid rate. It is much needed to take immediate actions and build up necessary action-based remedies to solve multitude of challenges for which the knowledge of our environment is necessary.

Scientific knowledges about our ambience including biotic and non-biotic forms ensuring interaction offers sustenance, growth, and development of variety of life forms surrounding us. The methodical

and systemic year-round study of these various environmental forms not only are of great significance to the mankind but also holds the key towards sustainable development. Understanding and dissemination of knowledge through environment or green audit remains as an essential part of any industry or institute. India remains the first Asian country to implement green audit in Industrial sector since 2006 through implementation of National Environment Policy. This Audit is even carried out in various educational institutes, especially NAAC (National assessment and accreditation committee) under criteria 7 has included the green audit now it has become mandatory for any institute to conduct the green audit for consecutive years. The knowledge gathered in this specific area holds an immense significance since through this scientific generation of knowledge about the institute based on which gradation is performed, exact portfolio of natural scenario is established, uses and utilization of resources such as water, energy, flora and faunal diversity are documented. Most significantly carbon foot print data is generated that helps to retrospect about indiscriminate utilization of natural resources, analysis of which could suggest and indicate sustainable use. Also, improvisation through proper scientific intervention is possible. Hence the audit is being performed under several subdivisions such as campus biodiversity documentation, green campus management through green initiatives adopted, water, energy, waste management audit, carbon footprint audit etc.

The campus of Barasat Government College encompasses a large area confining a piece of greenery in the heart of Barasat city; the college is spacious in its allotment of classrooms with its high ceiling harbouring a build-up area of 9259.09 square meters. This highly acclaimed institution, since its inception has garnered attention from state as well as national level due to its holistic contribution in knowledge and social sector. The college has been accredited with Grade “A grade by NAAC in II with Institutional Score CGPA 3 .1 in 2016. Now we are on the process of Cycle III of NAAC accreditation.

The college has designed and implemented A Green Audit Policy addressing environmental issues within campus and a significant numbers of outreach activities since last five years. The policy is formed to cater certain Environmental or Green objectives.

An Environment Protection and Nature cell works along with NSS volunteers for implementation of the policy. A Green audit is being performed annually to assess or monitor the impacts on environment due to campus activity. The reports are being prepared following Academic Years.



GOVERNMENT OF WEST BENGAL

BARASAT GOVERNMENT COLLEGE

NAAC ACCREDITED 'A' GRADE & DST-FIST SPONSORED COLLEGE



10, K.N.C. Road, Barasat, Kolkata - 700 124, West Bengal, India

Phone : (033) 2552 3365, Fax : (033) 2562 5053, Website : www.bgc.ac.in, Email : principal@bgc.ac.in

Ref. :

Date :

GREEN AUDIT POLICY

Introduction: Barasat Government College is committed to promote environmental awareness not only among its students and staff, but also society at large and accordingly has adopted certain measures to reduce carbon-footprint and operate in an environment friendly and sustainable manner as much as feasible. With this aim the IQAC, Green Audit team and Environment Protection and Nature Cell of Barasat Government College have adopted the following policy for maintaining Clean and Green Campus and promoting eco-consciousness:

Policy Statement:

1. Promoting energy efficiency within the campus

- a) **Solar power** plants are to be installed and maintained as an alternate source of Green Energy.
- a) **Energy conservation through switching to LED:** As Energy conservation measures installation of LED lights in all the buildings of the college will be done and all the CFL and tube lights will be replaced over time.
- b) **Awareness Messages on Energy Saving Practices** will be displayed on the walls of every building. The students will be made aware of switching off the electrical appliances every time they vacate the working place.

2. Pollution control measures to be undertaken

- a) **Automobile restriction within campus and Carbon neutral vehicle utilization:** Entry of automobiles into the campus will be restricted. All the students and teaching and nonteaching staff will be encouraged to commute by public transports or to use bicycle where feasible as it is a carbon neutral vehicle. The college authority has provided a stand for keeping the bicycles, where nearly 200 cycles can be garaged at a time. **Bicycle Day** will be observed to promote utilization of carbon neutral vehicle among students and staff.
- b) **Declaration of college campus as plastic free, clean and green zone:** The campus has already been declared as a plastic-free zone and this will be strictly adhered to. The NSS unit may be employed to generate awareness among the students about recycling of waste plastic wares into aesthetic decorative products through training programmes.
- c) **Installation of silent generator** to facilitate uninterrupted studies and regular activities at college campus without creating noise pollution during power cut.
- d) **High Volume Sampler** for measuring ambient air quality in the campus will be installed and maintained for documenting the ambient air and sound quality of surroundings.

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3. Celebration of Commemorative Days and Awareness Programmes for conservation of Natural Resources:

- Celebration of the commemorative days** like Earth Day, International Biodiversity Day, Ozone Day, World Environment Day will be done through arranging seminars, webinars, publication of wall magazine and poster competitions to promote awareness regarding conservation of nature and natural resources,
- World Environment Day will be celebrated through **sapling plantation** at the college campus.
- Spreading awareness about health, hygiene and vector borne diseases** will be done regularly by campaigning within the college campus with the help of the NSS unit.
- Regular Campus cleaning** drives will be taken up by NSS volunteers.

4. Academic courses to be offered on environmental issues:

- Department of Chemistry will be arranging a value-added course on **water pollution and analysis techniques**.
- Department of Botany will also arrange value-added courses imparting knowledge on medicinal plants, documentation of biodiversity and different techniques related to **conservation of biodiversity**.
- A value-added course on Mushroom Cultivation and requirement of Biofertilizer will be arranged by the Department of Botany.
- Environmental science** is compulsorily taught as a part of the University Curricula of each subject. Teachers will be exhorted to pay more care in imparting environmental awareness among the students.

5. Landscaping and Medicinal Plant Garden:

- The Department of Botany already maintains a small unit of Medicinal Plant Garden within the college campus as a green campus initiative. Various ornamental plants and a vegetable garden along with a palm garden exist within the college campus and these will be properly maintained and further enriched with new plants.
- The College has already installed a **Vermi-Compost Unit** which will be maintained by Zoology Department and Nature Club students. The trained students would help to produce Vermicompost that keeps the vegetable garden and medicinal plant garden green and healthy. This practise will be continued for the learning purpose of the students as well as for maintaining the greenery of the campus.

6. Outreach Programmes to be conducted:

- Barasat Government College is located in the heart of Barasat town, the district headquarter of North 24 Parganas District. The major environmental issues faced by the residents of the area pertain to issues of pollution, sanitization and spread of vector borne diseases like malaria, dengue etc. Hence, most of our outreach programs will have to be designed to address these topical issues. **Awareness rallies** which are held regularly as part of this program will be continued and increased in frequency as much as feasible.
- The post graduate Botany department of the college has planned to take some unique initiatives in spreading agricultural knowhow and **use of bio fertilizer** among farmers of the locality and students to booster self employment schemes and increase agricultural yields.

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- c) Knowledge on **mushroom cultivation** is regularly disseminated by Department of Botany and students will be employed in percolating the practise among the farmers and general public in their neighbourhoods.
- d) **Sanitization programmes** are regularly being held and will be further encouraged within and beyond the campus, especially at Saradapally, the adopted slum.
- e) **Visit to agricultural field** to study plant diseases and interaction with farmers will be arranged for students of Botany to strengthen their knowledge regarding plant pathogen interaction, to gain knowledge about control measures and to become aware about their societal and economic consequences.

7. **Conducting Green Audit** is mandatory and will be done regularly. **ISO Certification** on Energy and Environment for the past few years has been obtained and will be accrued from the competent certifying agency for recent years.

8. **Water conservation Measures:** Government approval and funding is to be sought for roof top rain water harvesting and ground water recharging system.

Roles and Responsibilities:

- The college administration will provide every necessary support to put the above plans into practice.
- The Green Audit Committee and Environment Protection and Nature Cell will be delegated with the designing and execution of the environment related measures.
- To this end they will rope in the NSS unit of the college which will work in tandem to put the plans into practice.
- The active involvement of students and staff will also be necessary to maintain these practices and they too will be entrusted with the responsibility of continuing with the measures once they have been adopted.

Monitoring: In order to monitor the proper execution of the plans and assess the efficacy of the programmes Green Audits will be conducted at regular intervals.

Conclusion: Barasat Government College thus plans to ensure a gradual shift towards more environment friendly operations whereby it will not only create environmental consciousness among the students and staff, but also emerge as a role model for other public offices and institutes in the neighbouring area.



Principal

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Environmental Objectives as Visioned during 2018-19, 2019-20, 2020-21

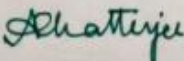

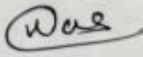
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Environmental Objectives

The resolutions taken at Green Audit Team meeting would focus on fulfilment of the following objectives:

- ✚ Our vision is to create a sustainable environment within college campus and surroundings through encouraging alternate sources of energy and reduction in carbon footprint by reducing emission within college campus. Automobile restrictions and encouraging stakeholders to use carbon neutral vehicles.
- ✚ Declaration and implementation of plastic free Green Campus zone.
- ✚ Efficient use of natural resources like water and energy requires an immediate attention which would be addressed through auditing.
- ✚ Landscaping and living being documentation within college campus would be done along with air, water, and soil quality assessment.
- ✚ Students will actively perform various activities in relation to improve environmental ambience. The skill set they would acquire in the process would help not only alleviate the environment but also would be supportive to conserve Nature and Natural resources.
- ✚ Celebration of Commemorative Days and encouraging awareness programmes through seminars and webinars would be an important agenda within and beyond campus.
- ✚ **It is imperative to make students aware about the major environmental issues like vector borne diseases, importance of campus cleanliness and sanitization to check health related diseases and problems.**
- ✚ The goal is to set to raise awareness not only within the campus among students and staffs but also it is mandatory to sensitize the local people about the similar above-mentioned issues. **Various outreach activities would be performed in this regard in assistance with NSS volunteers.**
- ✚ Holistic improvement through sanitization and cleaning programmes within campus and beyond will be performed.
- ✚ Academic Courses regarding environmental conservation would be arranged.
- ✚ The final mission is to translate the knowledge into actualisation through holistic practice of sustainable development.



 Principal Barasat Government College Principal Barasat Govt. College Govt. of West Bengal	 IQAC Coordinator Barasat Government College Co-ordinator, IQAC Barasat Government College Government of West Bengal	 (Convener) Green audit Committee Barasat Government College Convener Green Audit Committee Barasat Government College
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Environmental Objectives as Visioned during 2021-22, 2022-23



GOVERNMENT OF WEST BENGAL

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Environmental Objectives

The Green Audit Team has resolved the following objectives for the sustainable growth and development within and beyond college campus:

- Our vision is to create a sustainable environment within college campus and surroundings.
- Use of alternate sources of energy and restriction of automobiles within campus for reduction in carbon footprint.
- Encouraging stakeholders to use carbon neutral vehicles such as E-vehicles and bicycle.
- Declaration and implementation of plastic free Green campus zone.
- Efficient use of natural resources like water and energy requires an immediate attention which would be addressed through auditing. Landscaping and living being documentation within college campus would be done along with air, water and soil quality assessment.
- Students will actively perform various activities in relation to improve environmental ambience. The skill set they would acquire in the process would help not only alleviate the environment but also would be supportive to conserve Nature and Natural resources.
- Celebration of Commemorative Days and encouraging awareness programmes through seminars and webinars would be an important agenda within and beyond campus.
- Value added Courses regarding environmental conservation would be arranged.
- It is imperative to make students aware about the major environmental issues like vector borne diseases, importance of campus cleanliness and sanitization to check health related diseases and problems.
- The goal is to set and raise awareness not only within the campus among students and staffs but also it is mandatory to sensitize the local people about the similar above-mentioned issues, a slum (Saradapally) would be adopted in this regard. Various outreach activities would be performed in this regard in assistance with NSS volunteers.
- General environmental improvement through sanitization and cleaning programmes within campus and beyond will be performed.
- Students would be encouraged to carry out an outreach survey involving agricultural field studies in relation to plant diseases and suggesting green methods for solutions.
- The final mission is to translate the knowledge into actualisation through holistic practice of sustainable development.



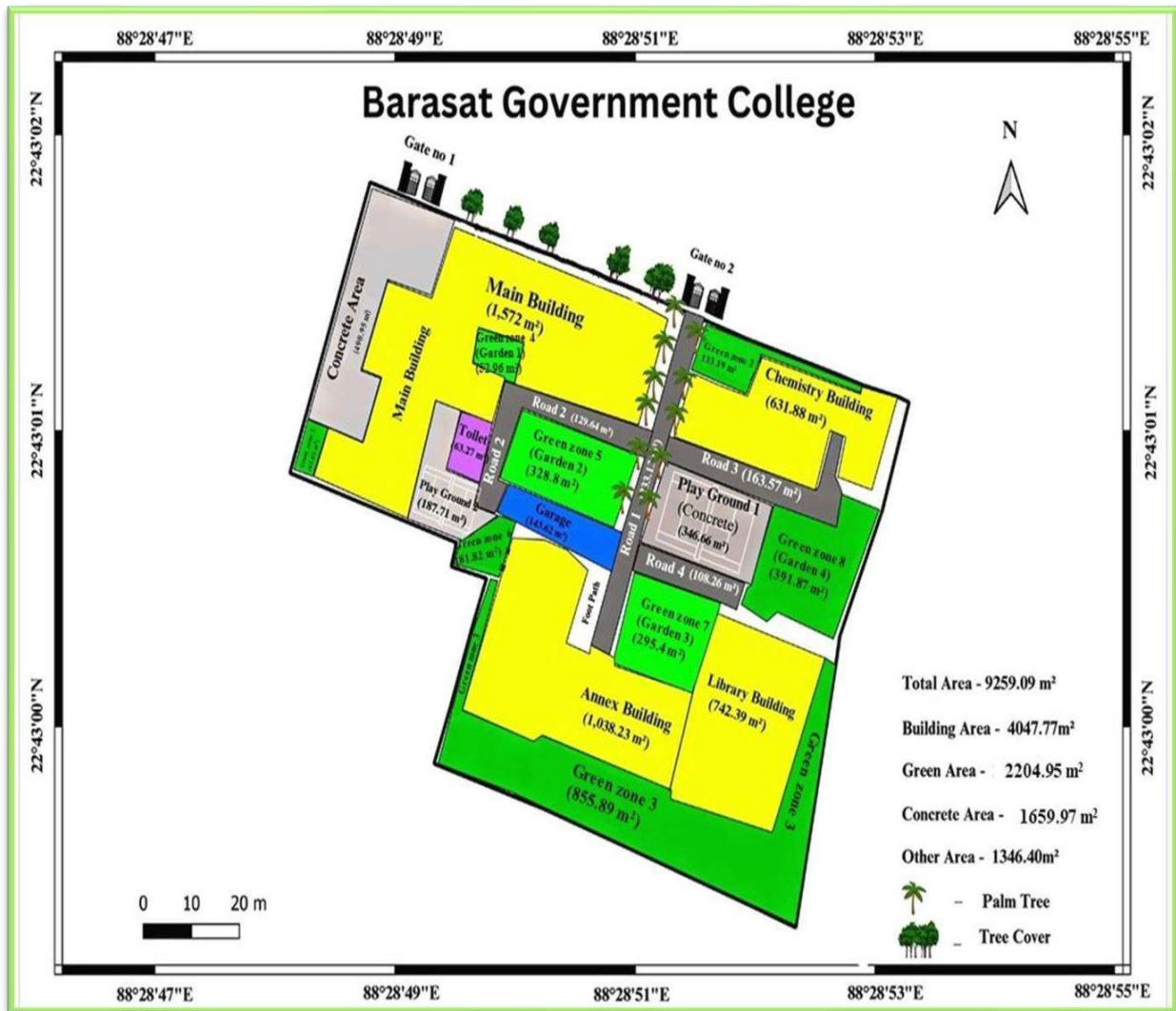
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RChaudhri
(Convener)
Green audit committee
Barasat Government College
Convener
Green Audit Committee
Barasat Government College

MAP OF THE COLLEGE AREA SHOWING BUILT UP AND GARDEN DESIGNATED AS GREEN ZONES:



https://cloud.bgc.ac.in/IQAC/FLD_1054_22_IQAC_45453.8674807877.1.3_Supplementary%20Data%20For%20Green%20Audit%202018%20to%202023.pdf


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Teaching Nonteaching and Administrative Staff

Academic session	Category of students/staff		Male	Female	Total
2023-24	Students	UG	1041	1693	
		PG	69	113	3112
		Total	1110	1806	
	Teachers	Substantive Post	44	33	77
		SACT	03	17	20
		Total	47	50	
	Administrative Staff		03	05	8
	Nonteaching Staff		10	03	13

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LANDSCAPING OF GARDEN/GREEN ZONES:

Barasat Government College encompasses an area of 9259.09m² acres confining a piece of greenery (2139.93 m²) in the heart of Barasat city. The detailed description has been presented as follows:

Study of the vegetation or vegetation cover:

Such study of an area is defined as the percentage of soil which is covered by green vegetation such as trees, herbs, shrubs, under shrubs, perennial grasses etc. In other words vegetation also means qualitative structure of plant cover of an area.

Here we provides the data of total area covered by green vegetation (trees, herbs, shrubs, under shrubs, perennial grasses etc.), the average height range of all species, basal area covered by all tree species, CBH(Circumference at Breast Height), DBH(Diameter at Breast Height) of all tree species present at the Barasat Government College campus.

Location and Climate:

Barasat Government College located in North 24 Parganas, West Bengal, India, which lies about 11m above from the sea level.

Latitude: 22.7173°N

Longitude: 88.4805°E Time zone: UTC+5:30 (IST) Pin code: 700124

Climatic details of Barasat:

Climate: Tropical. Soil type: Alluvial.

Temperature: Minimum-16°C, Maximum-42°C

Phytogeographic region: Gangetic plane.

Forest/Vegetation type: Tropical deciduous type.

About Barasat Government College campus:

Barasat Government College have a wide campus with a Main Building , Anex Building , Chemistry Building , One Union Room , One library Building & Two play ground; one play ground shared with Barasat Peary Charan Sarkar Government High School and one its own. The college campus rich in various plants species which includes trees, perennial grasses

, palm species, epiphytes, herbs & shrubs.

For our survey we divided our college campus in 5 different zones. The different 5 zones are-

Zone A (Green zone 1): In front of college main building, college entrance Gate no. 1 & canteen surrounding area.

Zone B (Green zone 2): In front of chemistry building, college entrance Gate no. 2

Zone C (Green zone 3): Back side of Annexe building, library building and union room.

Zone D (Green zone 4,5,7,8): This zone is a larger central portion of college campus which includes a small unit of palm garden (Garden 1), vegetable garden with ornamental plant cover (Garden 2), that opens to a playground 1 surrounded by green cover. In front of an annex building an unit of green cover (Garden 3) is present ornamented with various palm and ornamental and other plants. College campus harbours a small medicinal garden (Garden 4) which is associated with a vermicompost unit.

Zone E: It's the 2nd playground which college jointly shares with Barasat Peary Charan Sarkar Government High School.

Zone wise distribution of plants (under groups of tree & shrubs) which are present at college campus

➤ **Zone A (Green zone 1): In front of college main building, college entrance gate no. 1 & canteen surrounding area:**

Name	Family	Vernacular name
<i>Adenium obesum</i>	Apocynaceae	Adenium
<i>Bambusa tulda</i>	Poaceae	Bash
<i>Caesalpinia pulcherrima</i>	Fabaceae	Radhachura
<i>Carica papaya</i>	Caricaceae	Pepe
<i>Citrus maxima</i>	Rutaceae	Batabilebu
<i>Delonix regia</i>	Fabaceae	Krishnachura
<i>Ficus benghalensis</i>	Moraceae	Bot
<i>Lagerstroemia sp</i>	Lythraceae	Jarul
<i>Polyalthia longifolia</i>	Annonaceae	Debdaru

Zone B (Green zone 2): In front of Chemistry building & college entrance gate no. 2 :

Name	Family	Vernacular name
<i>Adenium obesum</i>	Apocynaceae	Adenium
<i>Bambusa tulda</i>	Poaceae	Bash
<i>Caesalpinia pulcherrima</i>	Fabaceae	Radhachura
<i>Carica papaya</i>	Caricaceae	Pepe
<i>Citrus maxima</i>	Rutaceae	Batabilebu
<i>Delonix regia</i>	Fabaceae	Krishnachura
<i>Ficus benghalensis</i>	Moraceae	Bot
<i>Lagerstroemia sp</i>	Lythraceae	Jarul
<i>Polyalthia longifolia</i>	Annonaceae	Debdaru

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Zone C (Green zone 3): Back side of Annexe building, library building and union room

Name	Family	Vernacular name
<i>Aegle mermelos</i>	Rutaceae	Bel
<i>Ficus religiosa</i>	Moraceae	Ashwatthya
<i>Musa paradisiaca</i>	Musaceae	Kolagach
<i>Mangifera indica</i>	Anacardiaceae	Aam
<i>Tectona grandis</i>	Lamiaceae	Shegun

Zone D (Green zone 4,5,7,8): Central part of the college and Green cover surrounding vegetable and ornamental garden, play-ground and medicinal plant garden

Name	Family	Common name
<i>Adenantha pavonina</i>	Fabaceae	Ranjana
<i>Adenium obesum</i>	Apocynaceae	Adenium
<i>Albizia lebbeck</i>	Fabaceae	Sirish
<i>Anthocephalus cadamba</i>	Rubiaceae	Kodom
<i>Araucaria cookie</i>	Araucariaceae	Araucaria
<i>Artocarpus heterophyllus</i>	Moraceae	Kathal
<i>Carica papaya</i>	Caricaceae	Pepe
<i>Caryota sp</i>	Arecaceae	Fishtail palm
<i>Casuarina equisetifolia</i>	Casuarinaceae	Jhau
<i>Citrus maxima</i>	Rutaceae	Batabilebu
<i>Citrus sp.</i>	Rutaceae	Patilebu
<i>Codiaeum variegatum</i>	Euphorbiaceae	Patabahar
<i>Cycas circinalis</i>	Cycadaceae	Cycas
<i>Ficus racemosa</i>	Moraceae	Dumur
<i>Hibiscus rosa sinensis</i>	Malvaceae	Joba
<i>Hyophorbe lagenicaulis</i>	Arecaceae	Bottle palm
<i>Ixora coccinea</i>	Rubiaceae	Rongon
<i>Manilkara zapota</i>	Sapotaceae	Sabeda
<i>Mimusops elengi</i>	Sapotaceae	Bokul
<i>Mussaenda frondosa</i>	Rubiaceae	Mussaenda
<i>Philodendron sp.</i>	Araceae	Philodendron
<i>Phyllanthus emblica</i>	Phyllanthaceae	Amloki
<i>Polyalthia longifolia</i>	Annonaceae	Debdaru
<i>Ravenala madagascariensis</i>	Strelitziaceae	Panthapadob
<i>Roystonea regia</i>	Arecaceae	Royal palm
<i>Terminalia arjuna</i>	Combretaceae	Arjun

Vegetable and Ornamental Plant Garden (Green Zone 5 and 7)

Name of the plant	Family	Common Name
<i>Amaranthus dubius</i>	Amaranthaceae	Laalshaak
<i>Brassica oleracea</i>	Brassicaceae	Bandhakopi
<i>Basella alba</i>	Basellaceae	Puishaak
<i>Carica papaya</i>	Caricaceae	Pepe
<i>Citrus maxima</i>	Rutaceae	Batabilebu
<i>Luffa acutangula</i>	Cucurbitaceae	Jhinga
<i>Momordica charantia</i>	Cucurbitaceae	Uchhe
<i>Solanum melongena</i>	Solanaceae	Begun
<i>Solanum nigrum</i>	Solanaceae	Kakmachi
<i>Solanum torvum</i>	Solanaceae	Tiit begun
<i>Spinacia oleracea</i>	Amaranthaceae	Palongshaak
<i>Adenium sp.</i>	Apocynaceae	Adenium
<i>Chrysanthemum sp</i>	Asteraceae	Chrysanthemum
<i>Mussaenda frondosa</i>	Rubiaceae	Mussaenda
<i>Plumeria sp.</i>	Apocynaceae	Kathgolap
<i>Hyophorbe lagenicaulis</i>	Arecaceae	Bottle palm
<i>Roystonea regia</i>	Arecaceae	Royal Palm

Medicinal Plant Garden(Green Zone 8)

Name	Family	Common name
<i>Adhatoda zeylanica</i>	Acanthaceae	Malabar nut
<i>Aloe vera</i>	Asphodelaceae(Liliaceae)	Ghritokumari
<i>Andrographis paniculata</i>	Acanthaceae	Kalmegh
<i>Asparagus racemosus</i>	Asparagaceae	Sata muli
<i>Azadirachta indica</i>	Meliaceae	Neem
<i>Catharanthus roseus</i>	Apocynaceae	Nayantara
<i>Clitoria ternatea</i>	Fabaceae	Aparajita
<i>Murraya koenigi</i>	Rutaceae	Curry leaf tree
<i>Curcuma longa</i>	Zingiberaceae	Holud
<i>Cissus quadrangularis</i>	Vitaceae	Har bhanga
<i>Citrus maxima</i>	Rutaceae	Batabi
<i>Phyllanthus emblica</i>	Phyllanthaceae	Amla
<i>Lawsonia inermis</i>	Lythraceae	Hena
<i>Ocimum sanctum</i>	Lamiaceae	Tulsi
<i>Ocimum tenuiflorum</i>	Lamiaceae	Krishna tulsi
<i>Tylophora asthmatica</i>	Asclepiadaceae	Indian ipecac
<i>Withania somnifera</i>	Solanaceae	Ashwagandha
<i>Rauvolfia serpentina</i>	Apocynaceae	Sarpagandha
<i>Saraca asoca</i>	Fabaceae	Ashoka
<i>Terminalia arjuna</i>	Combretaceae	Arjun

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**Green Zone E(Green Zone 6): 2nd playground which college jointly shares with
Barasat Peary Charan Sarkar Government High School**

Name	Family	Vernacular name (If any)
<i>Azadirachta indica</i>	Meliaceae	Neem
<i>Ficus racemosa</i>	Moraceae	Dumur
<i>Ficus religiosa</i>	Moraceae	Ashok
<i>Ficus benghalensis</i>	Moraceae	Bot
<i>Phoenix dactylifera</i>	Arecaceae	Khajur
<i>Swietenia mahagoni</i>	Meliaceae	Mehogany
<i>Senna siamea</i>	Fabaceae	Senna

Name of some Under shrubs and Herbaceous plants present at college campus

1. *Acalypha indica*
2. *Aloe vera*
3. *Amaranthus dubius*
4. *Basella alba*
5. *Cardiospermum halicacabum*
6. *Cassia tora*
7. *Chrysanthemum sp.*
8. *Coccinia grandis*
9. *Colocasia esculenta*
10. *Curcuma longa*
11. *Cyperus rotundus*
12. *Euphorbia hirta*
13. *Hymenocallis littoralis*
14. *Lasia spinosa*
15. *Microstegium vimineum*
16. *Musa paradisiaca*
17. *Nicotiana plumbaginifolia*
18. *Ocimum tenuiflorum*
19. *Oldenlandia corymbosa*
20. *Oldenlandia paniculata*
21. *Ricinus communis*
22. *Spinacia oleracea*
23. *Synedrella nodiflora*
24. *Tagetes erecta*
25. *Trema orientale*

Name of epiphytic plants present at college campus:

1. *Vanda tasellata*

Name of climber plant present at college campus:

1. *Philodendron sp*

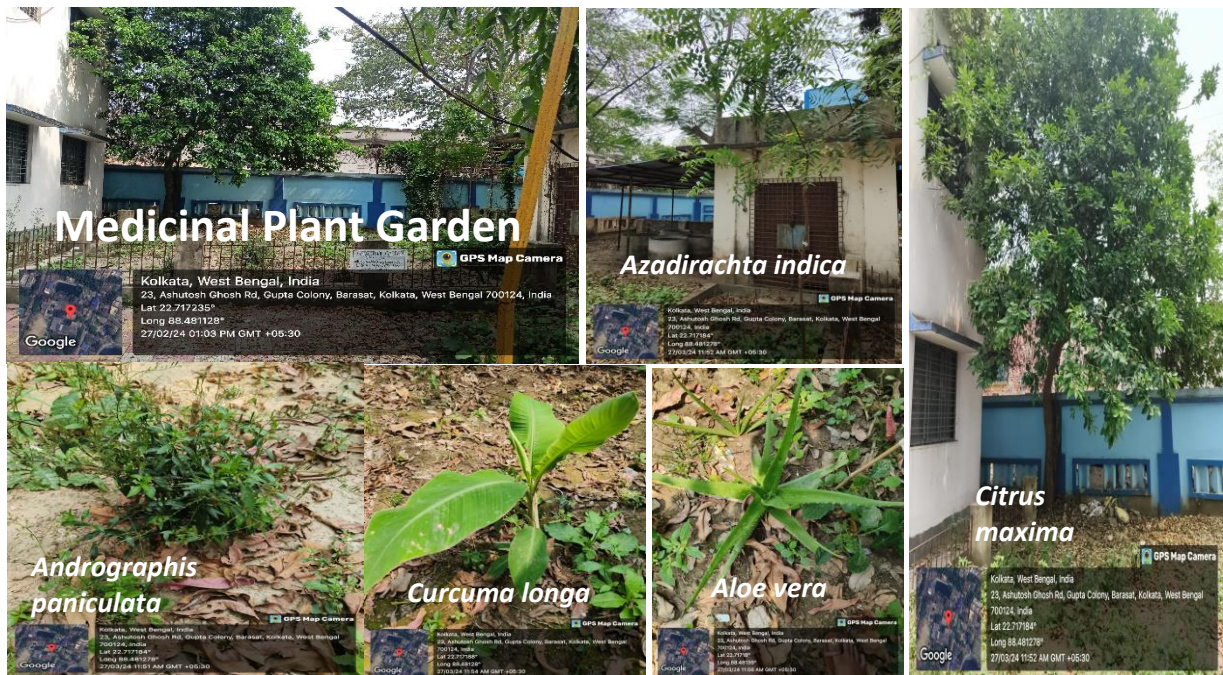

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The Green cover and other area of College Campus have been represented as follows:

Vegetable and Ornamental Plant Diversity at Barasat Government College Campus



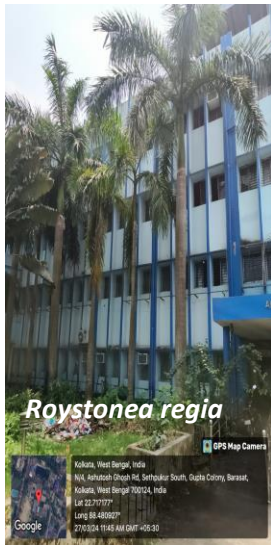
Medicinal Plant Garden



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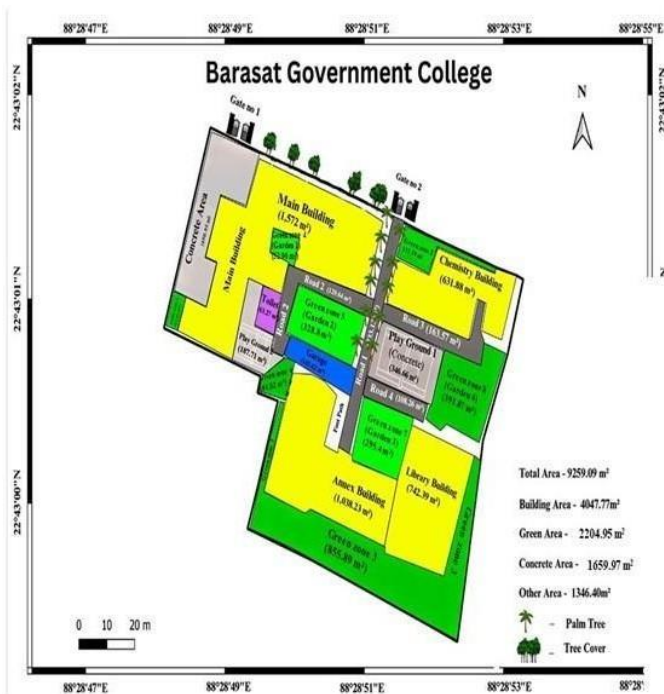


Landscape view of the College campus showing Trees, Palm and Herbaceous Plants

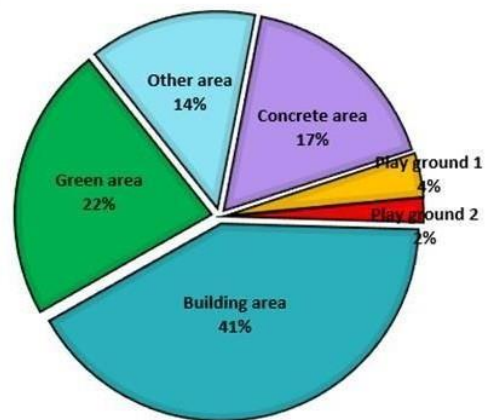


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Concrete area	1659.97 m ²
Play ground 1	346.66 m ²
Play ground 2	187.71 m ²
Building area	4047.77 m ²
Green area	2204.95 m ²
Other area	1346.4 m ²
Total	9259.09 m ²



At Present the Green area covers near about 22 percent of the whole college campus Area. Many unique species of palm and trees are present in the campus along with a vegetable, ornamental plant garden. Some exotic species like *Ravenala madagascariensis* and various palm species planted to the garden has enhanced the beauty of the latter. Many other shrubs and herbs are noted and documented which are of great medicinal value. The campus also harbours a few timber yielding plants. However, in near future more greenery has been planned to be added to the campus and increase the percent of green area coverage.

Future Suggestions:

- The gardens are well fertilized with vermicompost. Besides this organic compost some fertilizers are also bought. The use of vermicompost effectively reduces the cost involved in maintaining fertility of the soil. So more Vermicompost production is aimed at in near future.
- The Plants need to be kept under proper care for their better growth and development. The produces from vegetable garden and fruits are at times distributed to the needy people from locality.


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FAUNAL DIVERSITY OF COLLEGE CAMPUS:

Barasat Government College (BGC) is situated in an advantageous location of Barasat, North 24 Parganas in the Indian state of West Bengal. The college is located in the lower Ganges Delta. The area is flat. It is a little raised above flood level and the highest ground borders the river channels. The overall climate of Barasat including Barasat Govt College has a tropical climate similar to the rest West Bengal. The region experiences a monsoon from early June to mid-September. The climate is dry in winter (mid-November to mid-February) and humid in summer. January is the coldest month and May is the hottest month in Barasat. Months of July and August produces most rainfall in Barasat. The campus provides an ideal environment for various plant and animal species. Trees and small bushes, particularly in the BGC campus, serve as roosting places for different bird species and provide suitable habitats for arboreal mammals and insects. The meticulously maintained flower garden in the main campus not only enhances the aesthetic appeal but also functions as a welcoming space for butterfly. The fluttering colours and patterns contribute to the overall biodiversity, making the campus a visually enchanting and ecologically dynamic space. Moreover, the terraces and beams of the heritage building serve as resting places for rock pigeons. The faunal diversity of Barasat Government College campus has been studied and documented to highlight the richness of the natural resources in the region.

Invertebrate diversity: Diversity of different invertebrate species observed in college campus is enlisted below:

Sl. No.	COMMON NAME	SCIENTIFIC NAME
1	Damselfly, Golden Dartlet	<i>Ischnura aurora</i>
2	Seven-spotted Lady Beetle	<i>Coccinella septempunctata</i>
3	Arboreal Bicolored Slender Ant	<i>Tetrapon erarufonigra</i>
4	Eastern Black Carpenter Ant	<i>Camponotus pennsylvanicus</i>
5	Cockroach	<i>Periplaneta Americana</i>
6	Two-striped Grasshopper	<i>Melanoplus bivittatus</i>
7	Common Mormon	<i>Papilio polytes</i>
8	tailed jay	<i>Graphium agamemnon</i>
9	Common Jezebel	<i>Delias eucharis</i>
10	Peacock pansy	<i>Junonia almana</i>
11	Mottled emigrant	<i>Catopsilia pyranthe</i>
12	Common grass yellow	<i>Eurema hecabe</i>
13	Plain tiger	<i>Danaus chrysippus</i>
14	Blue tiger	<i>Tirumala limniace</i>
15	Striped tiger	<i>Danaus genutia</i>
16	Great egg fly	<i>Hypolimnas bolina</i>

Vertebrate diversity:

Diversity of different vertebrate species observed in college campus is enlisted below:

Category	Sl. No.	COMMON NAME	SCIENTIFIC NAME	ORDER
Mammalia	1	Free-ranging Dog	<i>Canis familiaris</i>	Carnivora
	2	Free-ranging Cat	<i>Felis domesticus</i>	Carnivora
	3	House Mouse	<i>Mus musculus</i>	Rodentia
	4	Mongoose	<i>Herpestes sp.</i>	Carnivora
	5	Squirrel	<i>Funambulus pennantii</i>	Rodentia
Aves	6	Rock pigeon	<i>Columba livia</i>	Columbiformes
	7	Common Myna	<i>Acridotheres tristis</i>	Passeriformes
	8	Asian Koel	<i>Eudynamys scolopaecea</i>	Cuculiformes
	9	House crow	<i>Corvus splendens</i>	Passeriformes
	10	Black Drongo	<i>Dicrurus macrocercus</i>	Passeriformes
	11	House sparrow	<i>Passer domesticus</i>	Passeriformes
Amphibia	12	Common Indian Toad	<i>Bufo sp.</i>	Anura
	13	Rat Snake	<i>Ptyas sp</i>	Squamata
Reptilia	14	Striped Keelback(Hele)	<i>Amphiesma stolata</i>	Squamata
	15	Common House lizard	<i>Hemidactylus sp</i>	Squamata



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For In Detailed faunal diversity Refer to the SUPPLEMENTARY DATA file Academic Session 2018-19 to 2022-23, The link as follows:

https://cloud.bgc.ac.in/IQAC/FLD_1054_22_IQAC_45453.8674807877.13_Supplementary%20Data%20For%20Green%20Audit%202018%20to%202023.pdf

Air Quality Assessment of the Campus and Surroundings (2018-24)

Air Quality determination was performed with Sensor Based Monitoring Station installed at college campus that indicates daily amount of PM1, PM2, SO_x, NO_x, CO value in ug/m³ in the campus (from 2022 to 2023) and surrounding area. Prior to such installation Such Information is useful to indicate Air Quality Index (AQI) of the particular area. The audit for air quality could be done through this installation. The Noise level also could be measured through this instrument.

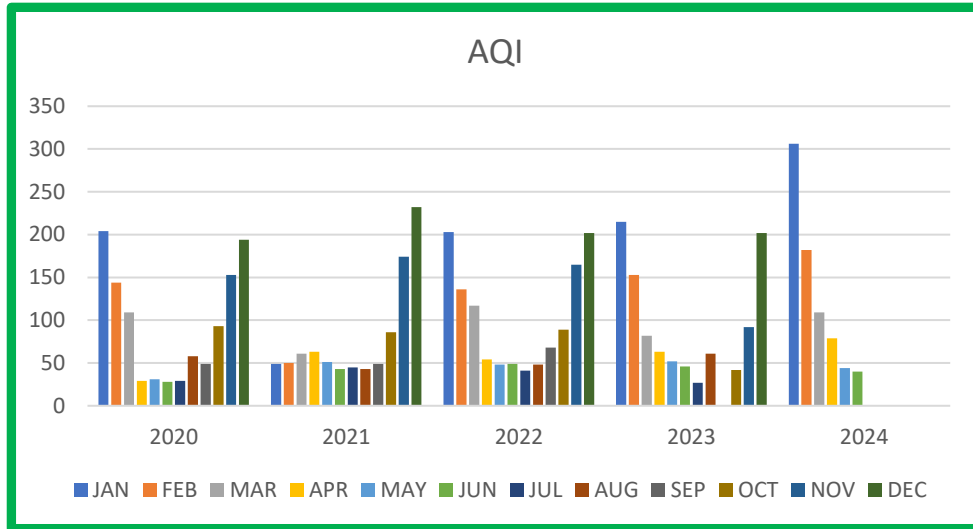
The data generated for last five academic year has been represented here in. with the help of the

Links [Barasat Air Quality Index \(AQI\) : Real-Time Air Pollution | West Bengal](#)

Sensor Based Monitoring Station installed at college campus during Academic Session 2022-23

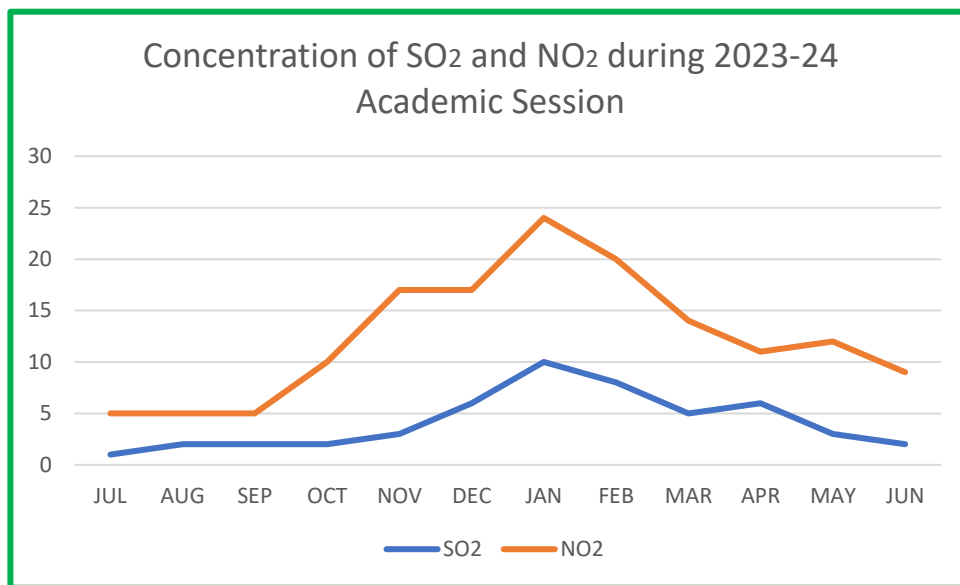
Months	2020	2021	2022	2023	2024
Jan	204	49	203	215	306
Feb	144	50	136	153	182
Mar	109	61	117	82	109
April	29	63	54	69	79
May	31	51	48	52	44
June	28	43	49	46	40
July	29	45	41	27	
Aug	58	43	48	61	
Sept	49	49	68	42	
Oct	93	86	89	92	
Nov	153	174	165	203	
Dec	194	232	202	202	

A Representative AQI value surrounding and within campus throughout the year for 2020, 2021, 2022, 2023, 2024 Academic Years



The sources used for AQI of Barasat Area determination are as follows:

[Barasat Air Quality Index \(AQI\) : Real-Time Air Pollution | West Bengal](#)



Various data from the college campus suggest about a pollution level that needs to be reduced. The College is located at heartland of urbanized city Barasat surrounded by dense population and market place and located just beside the main road connecting station and bus auto toto routes. This advantageous position makes this institute highly suitable for commuting from distant or local residences. However the air quality pollution level is recorded as moderately high. It is imperative to create a greenery within the campus to mitigate the challenge of pollution. More than one fifth of the campus area has been turned to green and as green campus initiatives the automobile restriction has been imposed. Students are encouraged to use bicycle for commuting to college so that the pollution level could be restricted. A bicycle garage also has been constructed to keep the vehicles.

❖ **Best Practices**

- Automobile restriction within campus has been declared
- Usage of bicycles inside the campus is encouraged
- Bicycle garage is present within campus, where nearly 200 vehicles can be accommodated at a time
- A moderate number of plant and vegetation cover helps in mitigation of carbon load.

❖ **Future Suggestion :**

More plantation is needed in the campus that could be conducted with NSS volunteers or the Nature cell volunteers, members of Nature Club and other students.

More students need to avail Bicycle for commuting to College.

