



GREEN AUDIT REPORT

**GOVERNMENT DEGREE COLLEGE
BHADRACHALAM KHAMMAM DIST.
TELANGNA-507111**

COLLEGE GREEN AUDIT REPORT

SUBMITTED TO

**COMMISSIONERATE OF COLLEGIATE EDUCATION,
TELANGANA: HYDERABAD**

SUBMITTED BY

**INTERNAL GREEN AUDIT TEAM
GOVERNMENT DEGREE COLLEGE,
BHADRACHALAM – 507111
BHADRADRI KOTHAGUDEM - DIST.
TELANGANA.**

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INTRODUCTION

Government College, Bhadrachalam was established in 1980 UGC affiliation under 12 F and 12 B was granted in the year 1992

Ever since its inception, the principal, staff and CPDC have left no stone unturned to augment the educational standards of the rural, backward and first generation learners.

The college started functioning with the objective of catering to the educational needs of the students of Tribal and Marginalised section of Bhadrachalam Agency area and surrounding mandals. It aims at all round development of the students with a focus on curricular, co- curricular and Extra-curricular activities besides ensuring qualitative teaching and learning.

The college was accredited by NAAC and ISO 9001 Certified. The College was recently selected under RUSA (Rashtriya Uchchatar Sikhsa Abhiyan) 2.0 and 2 crores infrastructure grants were granted for up gradation to model college and infrastructure augmentation was nearing completion.

GREEN AUDIT OBJECTIVES:

- Environmental risk assessment including compliance to regulations, soil, Water, solid and e-wastes, emissions, hazardous products & noise pollution.
- Waste minimization and environmental pollution control plans.
- The optimal utilization of energy, water and other natural resources.
- Recycling programs and product life cycle considerations.
- Emergency response plans and procedures.

METHODOLOGY ADOPTED

- Onsite field visits were conducted by the Internal Green Audit Team and observations of the actual state of affairs.
- Based on the questionnaire and checklists, the audit is carried out in the form of interviews, enquiries were conducted amongst different stakeholders to know about the various components in connection with water use, energy consumption and waste disposal, etc.
- The water quality analysis was done using standard protocols.
- GIS tools were used to map satellite images of the college and tree canopy.

- Air quality analyses of the College campus were carried out using standard protocol.
- The noise levels were measured using a Sound Level Meter at selected sampling stations within the campus.

Different standard protocols were followed to document and estimate the floral and faunal account.

INTERNAL GREEN AUDIT COMMITTEE

Chairman	Sri. D.Bhadraiah, Principal(FAC)
Vice-Chairmen	Sri. D.Reddiah, IQAC Co-Oridnator
Coordinator	Sri. D. Veeranna, Asst. Prof. of Chemistry
Members	1.Sri. S.Syam prasad, Asst. Prof. of Botany
	2. Sri. A.Srinu, Contract Faculty in Zoology.
	3. Sri.. B.Venkateswarlu , Contract Faculty in Physics.
External Invitee	1. Dr.P.Padma Principal Government Degree College Yellandu Bhadradi Kothagudem-dist.
Student Members	1. G.Kavya Sree, III B.Sc(BZC)
	2. V. Varun, I B.Sc(BZC)
	3. B.Divya sree IIB.Sc(MPCs)
	4.t. Naveen III B.Sc(MPC)
	5 Sagarika I B.Sc(MCCS)

COLLEGE PROFILE

Name of the College: GOVERNMENT DEGREE COLLEGE, BHADRACHALAM

Address: KUNAVARAM RAOD BHADRACHALAM – 507111.

Contact Info: mail : **bhadrachalm.jkc@gmail.com**

Pri-gdc-bcm-ce@telangna.gov.in

Mobile : 7989235720

Campus Area **2.17 acres (8781.677 sq.metre)**

Built-up Area: **1 ACRE.63CENTS**

Is the building has ventilators for natural air flow in all rooms: **YesThe student and**

faculty strength of the college:

Strength	Male	Female	Total
No of students	741	694	1435
No of Teaching Staff	20	7	27
No of Non-Teaching staff	07	05	12

Physical Structure

The available land of the college: **2 acres and 17 Guntas.**

The built-up area of the college: **6596.376 Sq.Ft.**

No. of Class Rooms	23
No. of Laboratories	18
No. of Conference halls	1
Library Halls	1
Auditorium	1
Canteen	1

Any other (please specify)	IQAC room – 1 Staff rooms – 3 Examination branch – 1 Dr. BRAOU Study centre – 1 Gym – 1 Office – 1 Sports room – 1 NSS room – 1 Virtual Class room – 1 Girls’ waiting Hall 1
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Objectives :	1. Assessment of Green initiatives 2. Assessment of optimal utilization of energy, water and other natural resources
Prepared by:	INTERNAL GREEN AUDIT TEAM GOVERNMENT DEGREE COLLEGE- BHADRACHALAM BHADRADRI KOTHAGUDEM DIST 507111
Approved by:	
Remarks :	
FORMS AND SUPPORT MATERIAL	
Questionnaire Document ref. name/no.:	
Checklist for Environmental Audit Document ref. name/no.:	
Additional forms and support material:	GEO-tagged photographs.

PROCEDURE		
Procedure	Description	Responsibility
Annual plan	The environmental audit report is prepared by College Authorities each year and it ensures that the entire environmental management system is examined, must specify when the audit was carried out and those responsible for carrying it out.	Internal Environmental audit team/ coordinator
Preparation	<p>The typical questionnaire and check-lists are developed for the area to be audited before the actual individual audits are carried out. It is done using established procedures, objectives and action plans. They can be used to measure results in each area.</p> <p>The staff and in charges of the area to be audited should be informed well in advance about when the audit would be done and what it covers.</p>	Internal audit team
Internal Audit	Based on the questionnaire and checklists, the audit is carried out in the form of interviews / physical visit about - and observations of the actual state of affairs. The Team suggests further changes and correction as and when required.	Internal Audit team

Wrap-up meeting	<p>An audit report is prepared which is examined together with the in- charges responsible for the each area; minor areas are taken care of immediately, while a conclusion for the audit as a whole is written down.</p> <p>Correction reports are examined and corrective action is agreed upon. The internal audit team and the College Management / Principal sign the reports made. Then the reports must be submitted to the CC Office at Hyderabad.</p>	Internal audit team
Follow-up	<p>When deadlines for corrective action are reached, the Coordinator responsible for the area audited is contacted and the environmental manager checks the corrective action carried out. If corrective action is effective, the case is closed. If not, a new report is prepared.</p>	Coordinator
Reporting	<p>A comprehensive joint report is prepared on the basis of all the internal environmental audits of the college. This report forms the basis for certification and grading by the external audit team and it holds the authority to review the entire report.</p>	External Audit team/ Principal/ IQAC coordinator

AUDITING FOR WATER MANAGEMENT

1. List out uses of water in your college.

Drinking purpose, Gardening, Toilets, laboratory, Canteen, Wash rooms, Hand wash and general purpose.

2. What are the sources of water in your college?

Tube Well

3. How many wells are there in your college?

Two - Bore wells

4. No. of motors used for pumping water from each well?

One

5. What is the total horsepower of each motor?

One HP

6. What is the depth of each well?

120 feet

7. What is the present depth of water in each well?

70 feet bore

8. How does your college store water?

Water stored in over head tanks

9. Quantity of water stored in your overhead water tank? (In liters)

6000 Liters

10. Quantity of water pumped every day? (In liters)

5600 Liters

11. If there is water wastage, specify why.

No

12. How can the wastage be prevented / stopped? -

13. Locate the point of entry of water and point of exit of waste water in your College. –

From East corner of the campus and waste water goes out from west end

14. Where does waste water come from?

Laboratories sinks & wash areas

15. Where does the waste water go?

Channeled to Drainage

16. What are the uses of waste water in your college?

Channeled to gardens

17. What happens to the water used in your labs? Whether it gets mixed with groundwater?

No, it flows into drainage

18. Is there any treatment for the lab water?

Lab water is passed through active charcoal then into drainage.

19. Whether green chemistry methods are practiced in your labs?

Yes, Active Charcoal method.

20. Write down four ways that could reduce the amount of water used in your college.

1. Use of spoons for taking meals by the students in the dining hall

2. Planting drought resistant trees and plants

3. We are planning to drip for gardening

21. Record water use from the college water meter for six months.

No

22. Bimonthly water charges paid to water connections if any : Nil

23. No. of water coolers. Amount of water used per day? (in liters)

NO

24. No. of water taps. Amount of water used per day?

132 Taps – 2500 liters (approximate)

25. No. of bath rooms in staff rooms, common, hostels. Amount of water used per day?

There are 12 Bath rooms in Staff rooms and approx. 300 liters of water is used per day.

26. No. of toilets, urinals. Amount of water used per day?

No of toilets- 21 and urinals- 35

Water used per day- 1500 liters

27. No. of water taps in the canteen. Amount of water used per day?

1 tap - 300 liters

28. Amount of water used per day for garden use.

1500 liters

29. No. of water taps in laboratories. Amount of water used per day in each lab?

There are 31 taps present in laboratories and approx. 100 liters of water used per day in each lab.

30. Total use of water in each hostel?

NA

31. At the end of the period, compile a table to show how many liters of water have been used in the college for each purpose

	Toilets and Urinals	labs	Garden	Drinking water	Canten	Hostel	Bath rooms
Per day usage	1500 L	500L	1500 L	1500 L	300 L	NIL	300 L
Per month usage	40000 L	25000 L	45000 L	36000 L	6000 L	NIL	7500 L

32. Is there any water used for agricultural purposes?

NIL

33. Does your college harvest rainwater?

Yes

34. If yes, how many rain water harvesting units are there?

04

35. How many of the taps are leaky? Amount of water lost per day?

NIL

36. Are there signs reminding people to turn off the water?

Yes

37. Are there any waterless toilets?

No

38. How many water fountains are there?

NIL

39. How many water fountains are leaky?

NIL

40. Is drip irrigation used to water plants outside?

NO

41. How often is the garden watered?

Dialy

42. Quantity of water used to watering the ground?

NIL

43. Quantity of water used for bus cleaning? (Liters per day)

NIL

44. Amount of water for other uses? (Items not mentioned above)

No

45. Area of the college land without tree/building canopy.

One acer

46. Is there any water management plan in the college?

No

47. Are there any water saving techniques followed in your college? What are they?

Regular checkup for leakage of taps and fittings

48. Please share Some IDEA for how your college could save more water.

Display boards showing water management captions

AUDITING FOR ENERGY MANAGEMENT

1. List ways that you use energy in your college. (Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others).

Electricity, LPG

2. Electricity bill amount for the last year

Rs.34271/-

3. Amount paid for LPG cylinders for last one year

Rs. 1600/-

4. Weight of firewood used per month and amount of money spent? Also mention the amount spent for petrol/diesel/ others for generators?

No

5. Are there any energy saving methods employed in your college? If yes, please specify. If not, suggest some.

Use of LED Tubes, LED TV & 5-Star power rated

Refrigerator.

6. How much money does your college spend on energy such as electricity, gas, firewood, etc. in a month?

Rs.2,988/- (Electricity & gas)

7. How many CFL bulbs has your college installed? Mention use (Hours used/day for how many days in a month)

Nil

8. Energy used by each bulb per month?
(For example - 60 watt bulb x 4 hours x number of bulbs = Kwh).

Nil

9. How many LED bulbs are used in your college? Mention the use (Hours used/day for how many days in a month)

192 LEDs – 6 Hours per day & 25 days (Avg)

10. Energy used by each bulb per month? (kWh).

3.84 kWh

11. How many incandescent (tungsten) bulbs have your college installed? Mentions use (Hours used/day for how many days in a month)

Nil -All replaced with LED

12. Energy used by each bulb per month? (kWh).

Nil

13. How many fans are installed in your college? Mention use (Hours used/day for how many days in a month)

178 fans installed 6 Hours per day & 25 days (Avg)

14. Energy used by each fan per month? (kWh).

10.60 kWh

15. How many air conditioners are installed in your college? Mention use (Hours used/day, for how many days in a month)

5 Air Conditioners only used in summer

16. Energy used by each air conditioner per month? (kWh).

7.0 kWh

17. How many electrical equipment including weighing balance are installed at your college? Mention the use (Hours used/day for how manydays in a month)

S.No	Electrical Appliances	Number	Number of Hours used per Day	Number of Days used in a Month
1	LED TUBES	192	6	25
2	FANS	178	6	25
3	COMPUTRS	92	2	25
4	PROJECTERS	07	4	25
5	PRINTERS	18	1	20
6	REFRIGERATOR	02	24	30
7	LAPTOPS	02	4	20
8	A/C	05	1	15
9	EXHAUST FAN	06	4	25
10	PHOTOSTAT MACHINE	02	2	20
11	INVERTOR	02	1	30
12	TV	01	1	25

18. Energy used by each electrical equipment per month? (kWh).

SLNO	Electrical Appliances	NUMBER	POWER(W)/UNIT	TOTAL POWER (W)	KW	OPERATION / DAY	KW/hr	NO.OF DAYS IN MONTH TOTAL	TOTAL CONSUMATION PER MONTH (KWH)
1	LED TUBES	192	20	3840	3.84	6	23.4	25	585
2	FANS	178	60	10680	10.6	6	63.6	25	1590
3	COMPUTERS	92	250	23000	23	4	92	25	2300
4	PROJECTERS	7	280	1960	1.96	1	1.96	25	49
5	PRINTERS	18	60	1080	1.08	1	1.08	20	21.6
6	REFRIGERATOR	2	150	300	0.3	24	7.2	30	216
7	LAPTOPS	2	50	100	0.1	4	0.4	20	8
8	A/C	5	7000	35000	35	1	35	15	525
9	EXHAUST FAN	6	32	192	1.92	4	7.68	25	182
10	PHOTOSTAT MACHINE	2	150	300	0.3	2	0.6	20	12
11	INVERTOR	2	250	500	0.5	2	1	30	30
12	TV	1	70	70	0.07	1	0.07	25	1.75
								TOTAL	5520

19. How many computers are there in your college? Mention the use(Hours used/day for how many days in a month)

92 Computers - 4 hours – 25 days

20. Energy used by each computer per month? (kWh).

25 kWh

21. How many photocopiers are installed by your college? Mention use(Hours used/day for how many days in a month).

02– 2hrs used 20 days

22. How many cooling apparatus are in installed in your college? Mention use (Hours used/day for how many days in a month)

NO

23. Energy used by each cooling apparatus per month? (kWh) Mention use (Hours used/day for how many days in a month)

NO

24. Energy used by each photocopier per month? (Kwh) Mention the use (Hours used/day for how many days in a month) how many inverters your college installed? Mentions use (Hours used/day for how many days in a month)

Photocopier – 2

Hours used per day – 2 hours

Number of days used in a month – 20 days

Energy consumed - 12.5 kWh per month

Inverters installed – 2

Hours used per day – 1

Number of days used in a month – 30 days

Energy consumed – 30 kWh per month

25. Energy used by each inverter per month? (kWh).

15 kWh

26. How many electrical equipment are used in different labs of your college? Mention the use (Hours used/day for how many days in a month)

NO

27. Energy used by each equipment per month? (kWh)

NO

28. How many heaters are used in the canteen of your college? Mention the use (Hours used/day for how many days in a month)

Nil

29. Energy used by each heater per month? (kWh)

Nil

30. No. of street lights in your college?

02

31. Energy used by each street light per month? (kWh)

25.92 kWh

32. No. of TV in your college and hostels?

1 TV in our College

33. Energy used by each TV per month? (kWh)

1.75 kWh

34. Any other item that uses energy (Please write the energy used per month) Mention the use (Hours used/day for how many days in a month)

2 Refrigerators – 216 kWh per month energy used 24 hours and 30 days in a month.

35. Are any alternative energy sources/nonconventional energy sources employed / installed in your college? (Photovoltaic cells for solar energy, windmill, and energy efficient stoves, etc.) Specify

NO.

36. Do you run "switch off" drills at college?

Yes, regularly. Switch off electricity after use.

37. Are your computers and other equipment put on power-saving mode?

Yes

38. Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby mode most of the time? If yes, how many hours?

Yes, 2 hours a day.

39. What are the energy conservation methods adapted by your college?

1. Switch off electrical equipment when not in use.

2. Ensure power off of equipment during holidays.

3. Maintenance of Inverter Batteries/Distilled water level.

40. How many boards are displayed for saving energy awareness?

15

41. How much ash is collected after burning firewood per day in the canteen?

Nil

42. Write a note on the methods/practices/adaptations by which you can reduce the energy use in your college campus in future.

1. Maintaining classrooms with energy saving display boards

2. Switch off the electrical equipment after use.

3. Regular mock drills on energy saving.

AUDITING FOR WASTE MANAGEMENT

1. What is the total strength of students, teachers and Non-teaching staff in your College?

No. of students	1435
No. of Teachers	27
No. of Non-teaching staff	12
Gents	768
Ladies	706
Total	1474

2 .Which of the following are available in your College?

Give area occupied	2. acres.17 gunta
Garden area	3484.8 sq.ft.
Garbage dump (number)	1
Playground area	NIL
Laboratory	20
Kitchen	NIL
Canteen	1
Toilets	21
Car/scooter shed	1
Number of class rooms	21
Office rooms	1
Girls waiting hall	1
Store room	1
Examination Branch	1
Seminar Hall	1
NSS room	1
Library	1
Mana TV/T-SAT room	1
Gym	1

3. Which of the following are found near your college? Mark the level of disturbance it creates for the college in a scale of 1 to 9.

Municipal dump yard	NO
Garbage heap	NO
Public convenience Sewer line	NO
Stagnant water	NO
Open drainage Industry	NO
Bus / Railway station Market / shopping complex / public halls	NO

WASTE

Does your college generate any waste? If so, what are they?	YES
How much quantity?	2 KGS a day
Number or weight E-waste Hazardous waste (toxic) –	144 (not working)
Solid waste:	Paper waste, pencil waste, class room waste, used pens, Used Masks, used plant twigs & work material
Dry leaves:	1 kgs for a day
Canteen waste:	below 1kg for a day
Liquid waste	Nil (use water supply to garden)
Glass	Nil
Unused equipment	YES
Medical waste if any	NIL
Napkins Others (Specify):	NIL (using incinerator for napkin burning purpose)
Is there any waste treatment system in the college	1. Vermi compost.
	2. Bio compost
Is there any treatment for toilet/urinal/sanitary napkin waste	
Toilet	NO
urinal	NO
sanitary waste	YES (incinerator)

1. What is the approximate quantity of waste generated per day? (in Kilograms) Office Laboratories Canteen/kitchen :

below ½ kg paperwaste for a day

2. Why waste is a problem? : **waste if not segregated and composted**

3. Whether waste is polluting ground/surface water? How? : **NO**

4. Whether waste is polluting the air of the college? How? : **YES,**

incinerator smoke and chemical fumes from chemistry lab.

5. How is the waste generated in the college managed?Methods

adopted:

1) Composting

2) Reusing.

6. How many separate boxes do you think you would need to put into a classroom to start a waste segregation and recycling campaign?

2 (two)

What should be the use for each box? (Develop a Colour code with reasons)

Green- biodegradable; blue – Non- Biodegradable.

7. Do you use recycled paper in College?

Yes,Purchased recycled paper bundles from stationery used.

8. Is there any waste wealth program practiced in college?Approx. Bio

degradable < 1 kg.

Approx. Non-Bio degradable < **1 kg.**

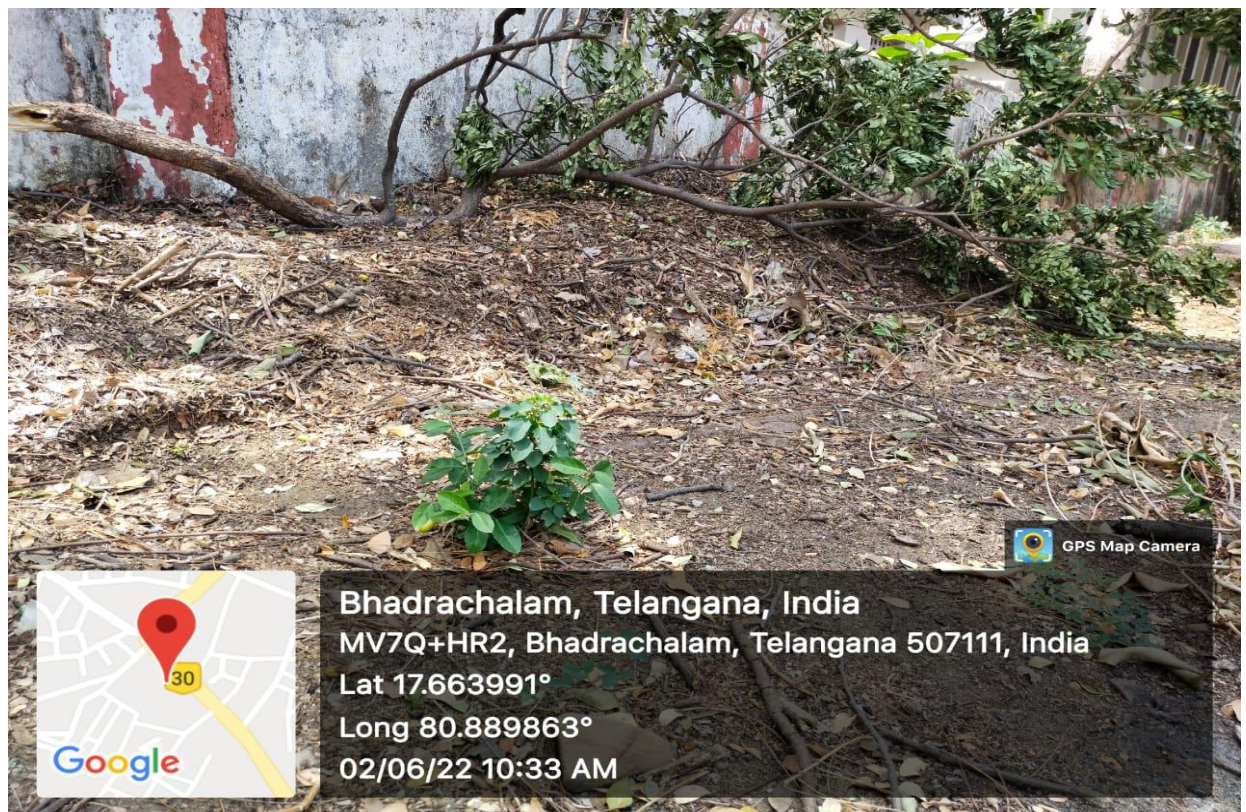
Approx. Hazardous Others - **Nil**

9. How would you spread the message of recycling to others in the community?
Have you taken any initiatives? If yes, please specify.

Eco club, NSS units participated in environmental extension activities in surrounding villages and dug 4 water harvesting pits.

10 .Can you achieve zero garbage in your college? (Reduce, Recycle, Reuse, Refuse) If yes, how?

Yes, 2 ways Reduce, Refuse 1). Vermicompost 2). BIOcompost





Bhadrachalam, Telangana, India
MV7Q+HR2, Bhadrachalam, Telangana 507111, India
Lat 17.663952°
Long 80.889836°
02/06/22 10:34 AM

GPS Map Camera

AUDITING FOR GREEN CAMPUS MANAGEMENT

1. Is there a garden in your college? Area?

- Yes
- It is located in about 1/2.Acres area

2. Do students spend time in the garden?

- Yes, Students regularly attend garden work and are involved in weeding, pruning and planting of saplings besides taking care of adopted plants

3. List the plants in the garden, with approx. numbers of each species.

GOVERNMENT COLLEGE, BHADRACHALAM BHADRADRI KOTHAGUDEM Dist		
LIST OF PLANTS IN BOTANICAL GARDEN		
S.No	Botanical Name	No.of Species
1	<i>Azadirachta indica</i>	4
2	<i>Mangifera indica</i>	1
3	<i>Acalypha indica</i>	numerous
4	<i>Achyranthes aspera</i>	numerous
5	<i>Agave americana</i>	3
6	<i>Albizia lebbbeck</i>	8
7	<i>Aloe vera</i>	5
8	<i>Andrographis paniculata</i>	numerous
9	<i>Andrographis umbellata</i>	numerous
10	<i>Aerva lanata</i>	numerous
11	<i>Euphorbia heterophylla</i>	6
12	<i>Hibiscus rosa sinensis</i>	1
13	<i>Ocimum tenuiflorum</i>	numerous
14	<i>Ricinus communis</i>	15
15	<i>Rosa</i>	20
16	<i>Tectona grandis</i>	2
17	<i>Tephrosia purpurea</i>	numerous
18	<i>Tinospora cordifolia</i>	2
19	<i>Tribulus terrestris</i>	5
20	<i>Tridax procumbens</i>	numerous
21	<i>Ruellia Tuberosa</i>	2
22	<i>Ficus Racemosa</i>	3
23	<i>Piptiques argenteus</i>	1
24	<i>Acalypha wilkesiana</i>	2
25	<i>Pipturus argenteus</i>	2

26	Albizia julibrissin	4
27	Phyllanthus urinaria	numerous
28	Crateva religiosa	2
29	Holoptelea integrifolia	2
30	Acacia mimosa	2
31	Mimosa pudica	numerous
32	Premna serratifolia	2
33	Emblica officinalis	4
34	Tithonia diversifolia	1
35	Cordyline fruticosa	5
36	Euphorbia tithymaloides	3

4. Suggest plants for your campus. (Trees, vegetables, herbs, etc.)

- Only Herbs & Ornamental plants required

5. List the species planted by the students, with numbers.

List Of Variants of Plants planted by Students

S.NO.	Name of Plant variant		Grand total
	Scientific Name	Local name	
1	Polyalthialongifolia	Asoka/ Naramamidi	4
2	Agave americana	Blue agave	3

6. Whether you have displayed scientific names of the trees in the campus?

- Yes displayed & Recently **Q.R. Codes also accommodated**

7. Is there any plantations in your campus? If yes specify area and type of plantation.

- Yes plantation proceeded in the part of Harithaharam

8. Is there any vegetable garden in your college? If yes how much area?

- No

9. Is there any medicinal garden in your college? If yes how much area?

- NO

10. What are the vegetables cultivated in your vegetable garden? (Mention the quantity of harvest in each season)

- NO

11. How much water is used in the vegetable garden and other gardens? (Mention the source and quantity of water used).

- About 1500 L

12. Who is in charge of gardens in your college?

- S. SYAM PRASAD, Asst.Prof. of Botany
- A.SRINU Lecturer in Zoology

13. Are you using any type of recycled water in your garden?

- No

14. List the name and quantity of pesticides and fertilizers used in your gardens?

- No pesticides utilizing for it, "Vermicompost" that prepared in the college campus utilized as a supplement to flowering & fruit yielding plants.

15. Whether you are doing organic farming in your college? How?

- No

16. Do you have any composting pit in your college? If yes, what are you doing with the compost generated?

- Yes, Vermicompost & Biocompost that prepared in the college campus utilized as a supplement to flowering & fruit yielding plants .

17. What do you doing with the vegetables harvested? Do you have any student market?

- No vegetable harvesting in the campus.

18. Is there any botanical garden in your campus? If yes give the details of campus flora.

- Yes

Details Of Flora in Botanical garden

S.NO.	Name of Plant variant		Grand total
	Scientific Name	Local name	
1	Phyllanthusemblica	Usiri	2
2	Bambusa vulgaris	veduru	1
3	Azadiractaindica	Vepa	4
4	Crinum lilly	white lilly	2
5	Nireum oleander	White MuddaGanneru	2
6	Opuntia	Brahmajemudu	2
7	Tecoma	Voilet bell flower plant	3
8	Tecoma	Orange bell flower plant	1
9	Tecomastans	Yellow bell flower	1

19. Give the number and names of the medicinal plants in your college campus.

S.NO.	Name of Plant variant	
	Scientific Name	Grand total
1	Tinospora cordifolia	2
2	Acalypha indica	numerous
3	Murraya koenigii	4
4	Aloe vera	10
5	Bryophyllum Pinnatum	6
6	Cymbopogon citratus	20
7	Catharanthus roseus	8
8	Hemidesmus indicus	n
9	Aerva lanata	numerous
10	Achyranthes aspera	numerous
11	Calotropis gigantea	numerous
12	Annona squamosa	20
13	Ocimum tenuiflorum	numerous
14	Sida cordifolia	numerous
15	Euphorbia hirta	numerous
16	Datura metulae	6
17	Aristolochia indica	20
18	Tephrosia purpurea	numerous
19	Eclipta alba	4
20	Tridax procumbens	numerous

20. Any threatened plant species planted/conserved?

- **NO**

21. Is there a nature club in your college? If yes what are their activities?

- Yes
- Plantation of saplings
- Protection
- Maintain Bio diversity

22. Is there any arboretum in your college? If yes details of the trees planted.

- No

23. Is there any fruit yielding plants in your college? If yes details of the trees planted.

- Yes

S.NO.	Name of Plant variant	
	Scientific Name	Grand total
1	<i>Syzygium cumini</i>	2
2	<i>psidium guajava</i>	1
3	<i>Emblicaofficinalis</i>	4
4	<i>Mangiferaindica</i>	1
5	<i>caryota mitis</i>	1

24. Is there any groves in your college? If yes details of the trees planted.

- No
-

25. Is there any irrigation system in your college?

- NO

26. What is the type of vegetation in the surrounding area of the college?

- Trees & Ornamental plants

27. What are the nature awareness programmes conducted in the campus?

- Haritha Haram
- Eco club

28. What is the involvement of students in the green cover maintenance?

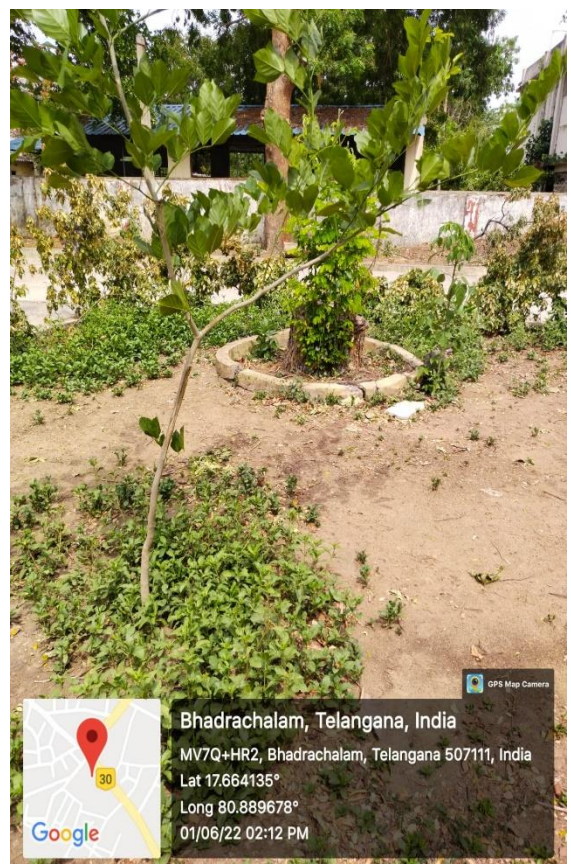
- Plantation of saplings
- Protection, Watering to plants
- Maintain Bio diversity

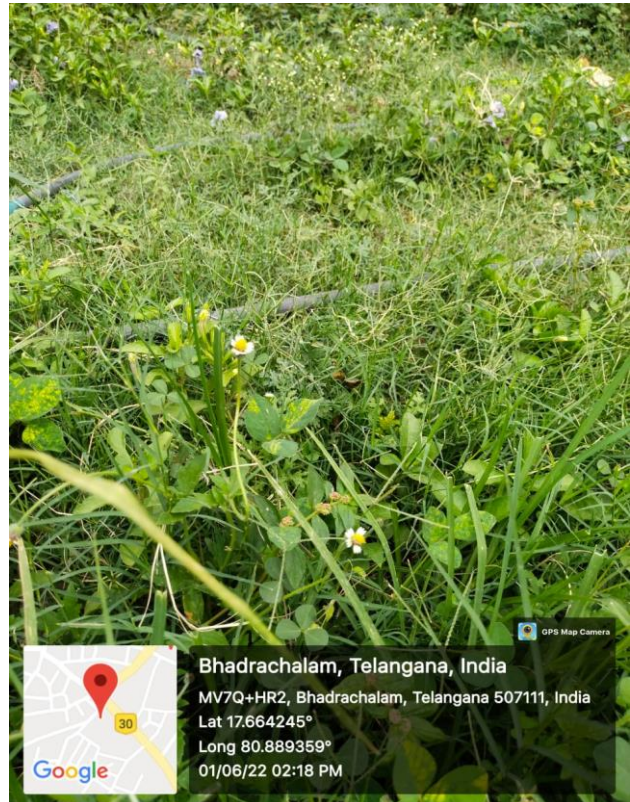
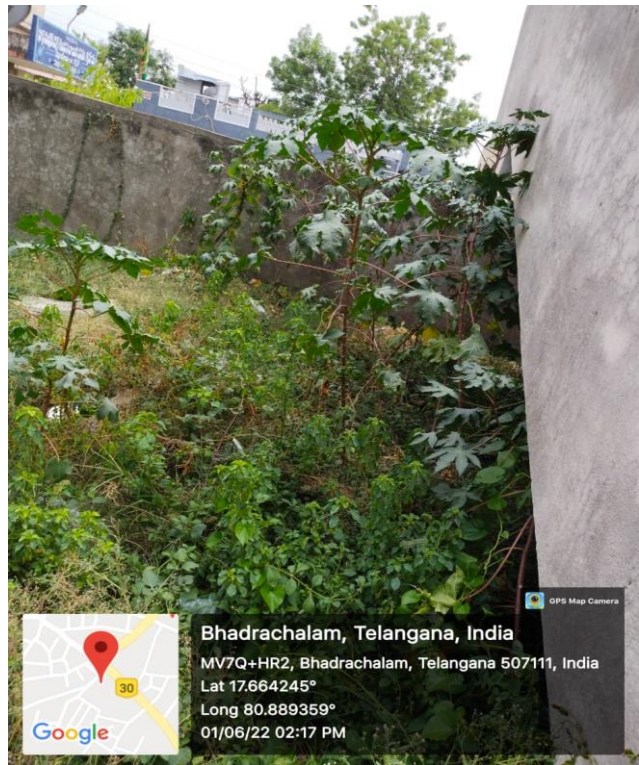
29. What is the total area of the campus under tree cover? Or under tree canopy?

- It is located in about 0.6 Acres area

30. Share your IDEAS for further improvement of green cover.

- Regular Plantation of saplings in Mansoon season in every year at the place of not survived plants.
- Maintenance& Protection
- Maintenance of Garden
- Plantation of New varieties of ornamental plants in the garden as planned manner
- Encourage the Involvement of students







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MV7Q+HR2, Bhadrachalam, Telangana 507111, India
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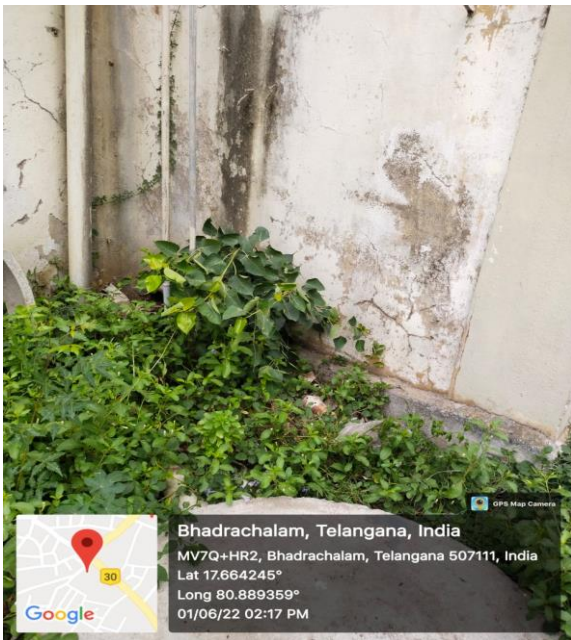
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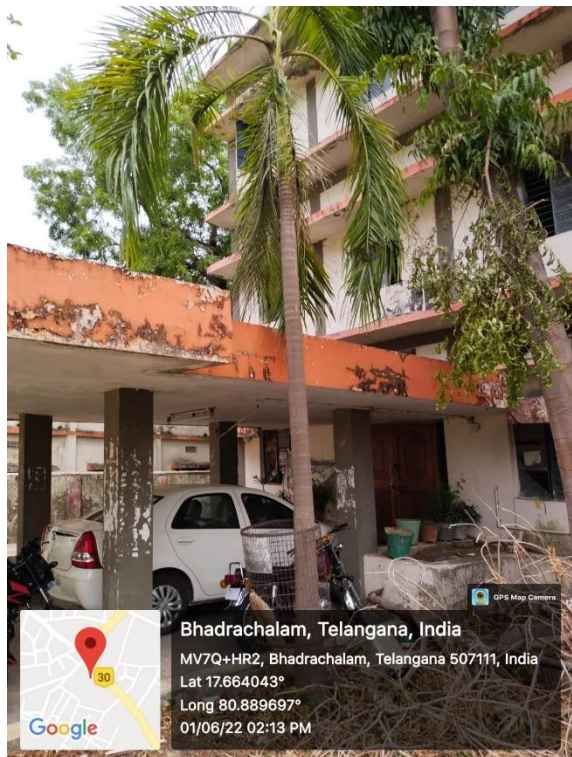


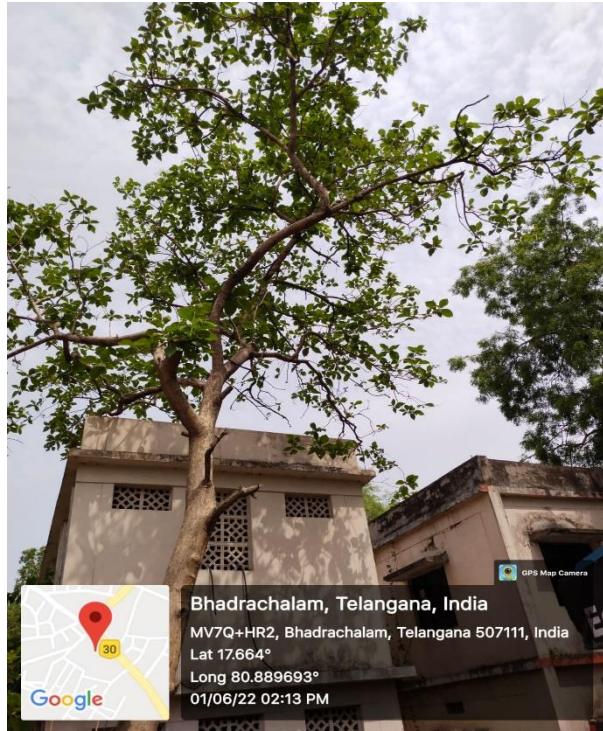
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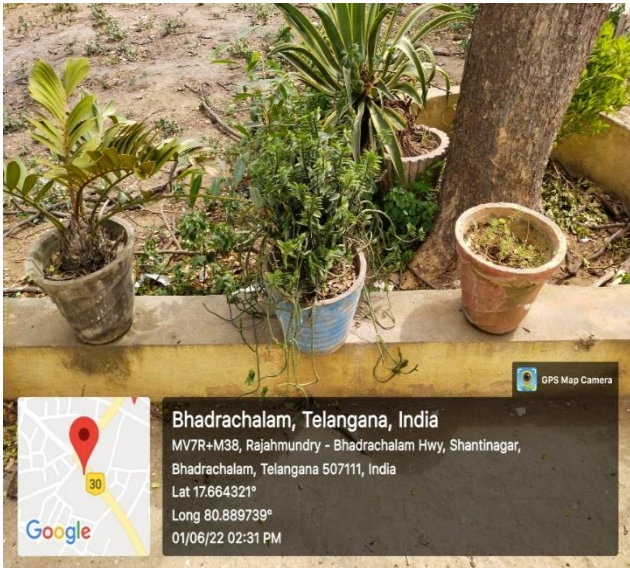
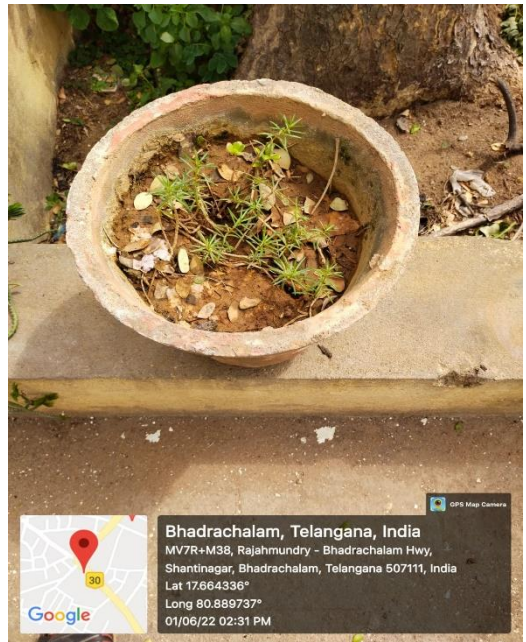


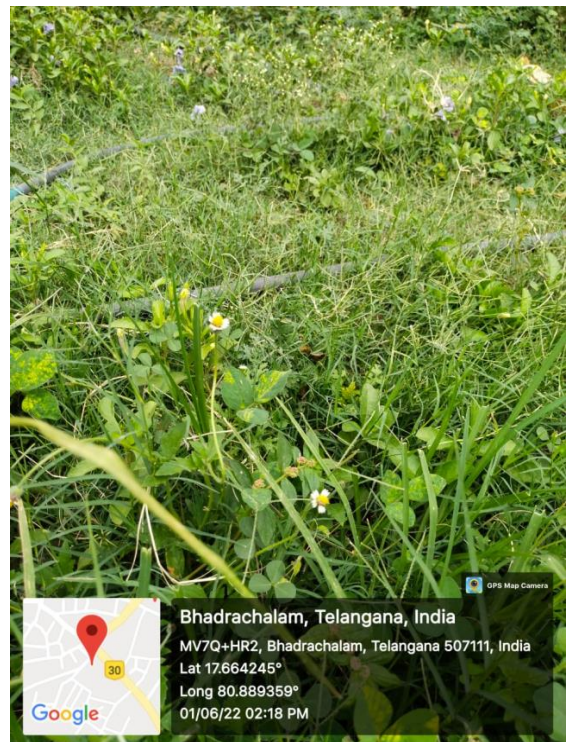
















AUDITING FOR CARBON FOOTPRINT

1. What is the total strength of students and teachers in your College?

No. of students	1435
No. of Teachers	27
No. of Non-teaching staff	12
Gents	768
Ladies	706
Total	1474

3. Total Number of vehicles used by the stakeholders of the college. (per day)

50-60

3. No. of cycles used : **20**

4. No. of two wheelers used: **15**

(average distance travelled 7KM and quantity 3 Lit. of fuel and 340 amount used per day)

5. No. of cars used : 1

(average distance travelled 40KM and quantity of fuel 5Lit and amount 500 used per day)

6. No. persons using common (public) transportation: **10**

(average distance travelled and quantity of fuel and amount used per day) 80 km and 15 lit/day Rs.560/-

7. No. of persons using college conveyance by the students, non-teaching staff and teachers (average distance travelled and quantity of fuel and amount used per day)

Students utilizing T.S R.T.C Concession Bus pass services

8. Number of parent-teacher meetings in a year? Parents turned up

Twice in a year.

9. Number of visitors with vehicles per day? **5**

10. Number of generators used per day (hours). Give the amount of fuel used per day.
Nil

11. Number of LPG cylinders used in the canteen (Give the amount of fuel used per day and amount spent). **1 cylinder per month. 850/-PER MONTH**

12. Quantity of kerosene used in the canteen/labs (Give the amount of fuel used per day and amount spent). **NIL**

13. Amount of taxi/auto charges paid and the amount of fuel used per month for the transportation of vegetables and other materials to canteen. **NIL**

14. Amount of taxi/auto charges paid per month for the transportation of office goods to the college. **100 Rs**

15. Average amount of taxi/auto charges paid per month by the stakeholders of the college. **NIL**

16. Use of any other fossil fuels in the college (Give the amount of fuel used per day and amount spent). **NIL**

17. Suggest the methods to reduce the quantity of use of fuel used by the stakeholders/students/teachers/non-teaching staff of the college.

1. Motivate to use Public Transport

2. Encourage use of bicycles and by walk

18. Are the Rooms in Campus are Well Ventilated? **Yes**

19. Window Floor ratio of the Rooms- **3:1**

Carbon Footprint - Report

□ Petrol used by two wheelers/day–3.25 Lt , 3.50 X 110 Rs.= 385 Rs per day

□ (Per person to and fro 4 Kms=250ML); Fuel for persons (total 5 Lt.persons)

20. 20 persons × 5 Lt = 65 Lt ; 65 Lt × 110 Rs, 7150 Rs. Per month

1. Water management

S NO	PARAMETERS	Response	Remarks
1	Source of water	Tube well	
2	No. of Wells	2	
3	No. of motors used	2	
4	Horse power – Motor	1 HP	
5	Depth of bore well –Total	120 bore well	
6	Water level	70 feet	
7	Number of water tanks	4	
8	Capacity of tank	6000 liters	
9	Quantity of water pumped every day	4000 liters	
10	Any water wastage/why?	NIL	
11	Water usage for gardening	Yes	
12	Waste water sources	Labs , toilets, general usage	
13	Use of waste water	Gardening	
14	Fate of waste water from labs	Drainage	
15	Whether waste water from labs mixed with ground water	No	
16	Any treatment for lab water	Yes	
17	Whether any green chemistry method practiced in labs	Yes	
18	No. of water coolers	NIL	
19	Rain water harvest available?	Yes	
20	No. of units and amount of water harvested	4 units, 6000 liters	
21	Any leaky taps	No	
22	Amount of water lost per day	nil	
23	Any water management plan used?	No	
24	Any water saving techniques followed?	Regular checkup for leakage of taps and fittings	
25	Are there any signs reminding peoples to turn off the water?	Display boards showing water management captions	

Results of water quality

Parameters	Bore Well water	Standard value (BIS)
Dissolved Oxygen (mg/l)	7.3	6-8
Acidity (mg/l)	110	200
Alkalinity (mg/l)	210	200
Chloride (mg/l)	98	250
Hardness (Total)	255	200
Conductivity (μ s)	632	
Ph.	7.41	6.5-8.5
Total Dissolved Solids (ppm)	500	500
Salinity (ppt)	0.6	
Total coliform	0.0	0
Fecal coliform	0.0	0

Water Quality analysis (Biological) report of college – II

S.No	Parameter/ WHO permissible level	Zooplankton (No of Samples/Sites)	Methodology
1	Protozoan (Ciliates)	Nil	NIL
2	Rotifers	Nil	NIL
3	Ostracods	Nil	NIL
4	Insect Larvae	Nil	NIL
5	Water Fleas	Nil	NIL
6	Bivalves	Nil	NIL
7	Snails	Nil	NIL
8	Mussels	Nil	NIL
9	Any Other (Specify)	Nil	NIL

Water Quality analysis (Biological) report of college – II

S.No	Phytoplanktons	Scientific Name and number	Methodology
1	Diatoms (Bacillariophyceae)	NIL	NIL
2	Dinoflagellates (Dinophyceae)	NIL	NIL
3	Coccolithophores (Prymnesiophyceae)	NIL	NIL
4	Green algae (Chlorophyceae)	NIL	NIL
5	Cyanobacteria (earlier Blue-green algae)	NIL	NIL
6	Others (specify)	NIL	NIL

1. ENERGY AUDIT

SLNO	Electrical Appliances	NUMBER	POWER(W)/UNIT	TOTAL POWER (W)	KW	OPERATION / DAY	KW/hr	NO.OF DAYS IN MONTH TOTAL	TOTAL CONSUMPTION PER MONNTH (KWH)
1	LED TUBES	192	20	3840	3.84	6	23.4	25	585
2	FANS	178	60	10680	10.6	6	63.6	25	1590
3	COMPUTRS	92	250	23000	23	4	92	25	2300
4	PROJECTERS	7	280	1960	1.96	1	1.96	25	49
5	PRINTERS	18	60	1080	1.08	1	1.08	20	21.6
6	REFRIGERATOR	2	150	300	0.3	24	7.2	30	216
7	LAPTOPS	2	50	100	0.1	4	0.4	20	8
8	A/C	5	7000	35000	35	1	35	15	525
9	EXHAUST FAN	6	32	192	1.92	4	7.68	25	182
10	PHOTOSTAT MACHINE	2	150	300	0.3	2	0.6	20	12
11	INVERTOR	2	250	500	0.5	2	1	30	30
12	TV	1	70	70	0.07	1	0.07	25	1.75
								TOTAL	5520.35

2. WASTE MANAGEMENT

Approximate quantity of waste generated per day (in kg)

Office				
Approx.	Biodegradable	Non - Biodegradable	Hazardous	Others
<1Kg	Below 1 kg	Below 1 kg	Nil	NIL
2-10Kg	--	-	-	-
>10Kg	-	-	-	-

Laboratories				
Approx.	Biodegradable	Non - Biodegradable	Hazardous	Others
<1Kg	Below 1 kg	Nil	Nil	Washed chemicals and reagents in laboratories
2-10Kg	-	-	-	-
>10Kg	-	-	-	-

Waste generated in the college?

Canteen/kitchen				
Approx.	Biodegradable	Non - biodegradable	Hazardous	Others
<1Kg	Below 1 kg	Nil	Nil	Not applicable
2-10Kg	-	-	-	-
>10Kg	-	-	-	-

5. How the waste generated in the college is managed?

A)Composting/ Vermicomposting	Yes	Nil
B)Recycling	yes	Nil
C)Reusing	yes	Nil
D)Other ways	yes	Nil
E-waste		56 computers (identified as e- waste)
Hazardous waste		Nil
Solid waste		Below 1 kg/day
Dry leaves		Approximate 3 kg/day
Canteen waste		Below 1 kg/day
Liquid waste		Washed chemicals and reagents in laboratories
Glass		Nil
Unused Equipment		yes
Napkins		Nil
Others (specify)		Nil

Do you use recycled paper in college?	Yes, Purchase the recycled paper bundles from stationery outlets.
Any waste management methods used?	Yes, 2 ways 1). Vermi-compost 2). BIO compost

Energy Audit Report

Room	Electrical device/items	Number	Power (in watt)	Usage time (hr/day)
Room 001	Tube lights	02	6*20=120	6 hours
	Fans	02	6*60=360	6
Room 002	Tube lights	07	6*20=120	6 hours
	Fans	05	6*60=360	6
Room 003	Tube lights	05	6*20=120	6 hours
	Fans	03	6*60=360	6
Room 005	Tube lights	04	6*20=120	6 hours
	Fans	02	6*60=360	6
Room 010	Tube lights	02	6*20=120	6 hours
	Fans	02	6*60=360	6
Room 011	Tube lights	05	6*20=120	6 hours
	Fans	03	6*60=360	6
Room 012	Tube lights	02	6*20=120	6 hours
	Fans	03	6*60=360	6
	Projector	01	1*280=280	1
Room 013	Tube lights	02	6*20=120	6 hours
	Fans	01	6*60=360	6
Room 016	Tube lights	03	6*20=120	6 hours
	Invertor	01		
	Fans	03	6*60=360	6
Room 017	Tube lights	02	6*20=120	6 hours
	Fans	02	6*60=360	6
Room 020	Tube lights	04	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 025	Tube lights	06	6*20=120	6 hours
	Projector	01	1*280=280	1
Room 029	Tube lights	11	6*20=120	6 hours
Principal Room	Tube lights	18	6*20=120	6 hours
	Fans	07	6*60=360	6
	Invertor	01	24*250=250	24
	A/C	02	1*7000=7000	1
OfficeRoom	Tube lights	08	6*20=120	6 hours
	Fans	06	6*60=360	6
P.G Room 01	Tube lights	05	6*20=120	6 hours
	Fans	04	6*60=360	6
P.G Room 02	Tube lights	05	6*20=120	6 hours
	Fans	04	6*60=360	6
P.G Room 03	Tube lights	05	6*20=120	6 hours

	Fans	04	6*60=360	6
Room 101	Tube lights	02	6*20=120	6 hours
	Fans	02	6*60=360	6
	Projector	01	1*280=280	1
Room 103	Tube lights	07	6*20=120	6 hours
	Fans	08	6*60=360	6
	Projector	01	1*280=280	1
Room 105	Tube lights	03	6*20=120	6 hours
	Fans	03	6*60=360	6
Room 110	Tube lights	02	6*20=120	6 hours
	Fans	03	6*60=360	6
	Projector	01	1*280=280	1
Computer Lab	Tube lights	04	6*20=120	6 hours
	Fans	05	6*60=360	6
	A/C	01	1*7000=7000	1
Room 113	Tube lights	02	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 114	Tube lights	04	6*20=120	6 hours
	Fans	05	6*60=360	6
Room 115	Tube lights	03	6*20=120	6 hours
	Fans	04	6*60=360	6
	Projector	01	1*280=280	1
Room 116	Tube lights	02	6*20=120	6 hours
	Fans	02	6*60=360	6
Room 117	Tube lights	02	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 118	Tube lights	04	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 119	Tube lights	02	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 203	Tube lights	03	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 204	Tube lights	05	6*20=120	6 hours
	Fans	06	6*60=360	6
Room 205	Tube lights	05	6*20=120	6 hours
	Fans	06	6*60=360	6
Room 207	Tube lights	03	6*20=120	6 hours
	Fans	06	6*60=360	6
Room 208	Tube lights	03	6*20=120	6 hours
	Fans	05	6*60=360	6
Room 209	Tube lights	05	6*20=120	6 hours
	Fans	04	6*60=360	6
Room 210	Tube lights	05	6*20=120	6 hours

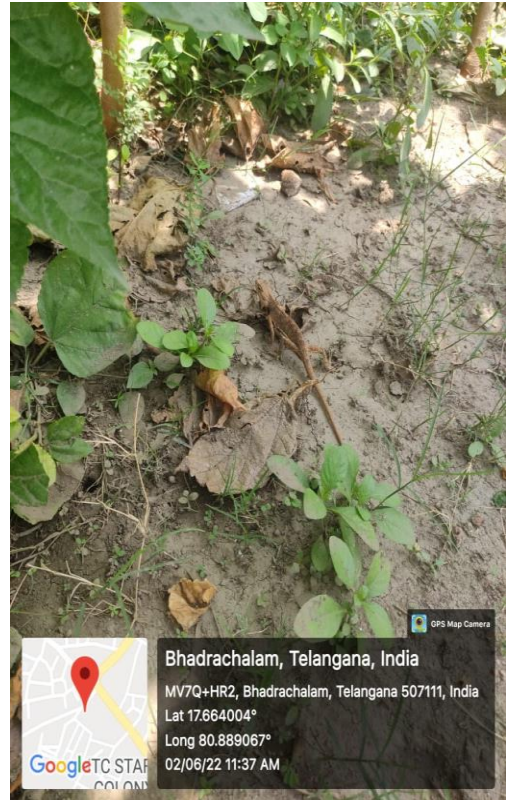
	Fans	05	$6*60=360$	6
Room 205	Tube lights	05	$6*20=120$	6 hours
	Fans	06	$6*60=360$	6
Room 214	Tube lights	03	$6*20=120$	6 hours
	Fans	05	$6*60=360$	6
Room 215	Tube lights	04	$6*20=120$	6 hours
	Fans	05	$6*60=360$	6
Room 216	Tube lights	07	$6*20=120$	6 hours
	Fans	08	$6*60=360$	6
Room 217	Tube lights	03	$6*20=120$	6 hours
	Fans	03	$6*60=360$	6
	Projector	01	$1*280=280$	1
Room 218	Tube lights	03	$6*20=120$	6 hours
	Fans	03	$6*60=360$	6
Room 220	Tube lights	03	$6*20=120$	6 hours
	Fans	06	$6*60=360$	6
Room 221	Tube lights	03	$6*20=120$	6 hours
	Fans	07	$6*60=360$	6
TSKC Room	Tube lights	03	$6*20=120$	6 hours
	A/C	02	$1*7000=7000$	1

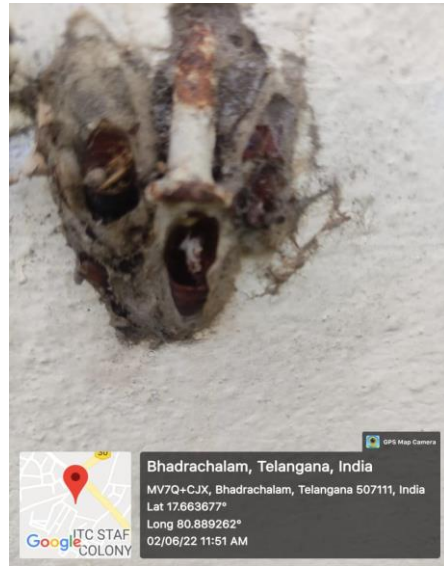
Faunal diversity in college campus (with Photographic evidence)

Faunal group	Scientific name	Number (If enumeration is done)	Seasonality
Spiders	Attached separate file	Many species were identified in college campus	All seasons
Moths & butterflies	Attached separate file	Many species were identified in college campus	Mostly in rainy, winter seasons only
Other insects: (Dragon Flies, Bees, Wasps, Bugs, and Beetles etc..)	Attached separate file	Many species were identified in college campus	Mostly in rainy , winter seasons only
Annelids	Attached separate file	Many species were identified in college campus	All seasons
Other Arthropods	Attached separate file	Many species were identified in college campus	All seasons
Amphibians	Attached separate file	Many species were identified in college campus	All seasons
Reptiles	Attached separate file	Many species were identified in college campus	All seasons
Birds	Attached separate file	Many species were identified in college campus	All seasons
Mammals	Attached separate file	Many species were identified in college campus	All seasons

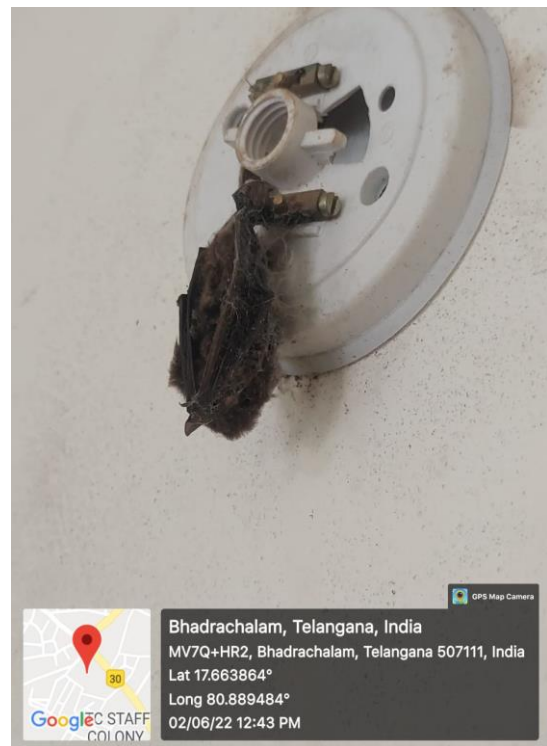
Note: all species were identified in the college campus

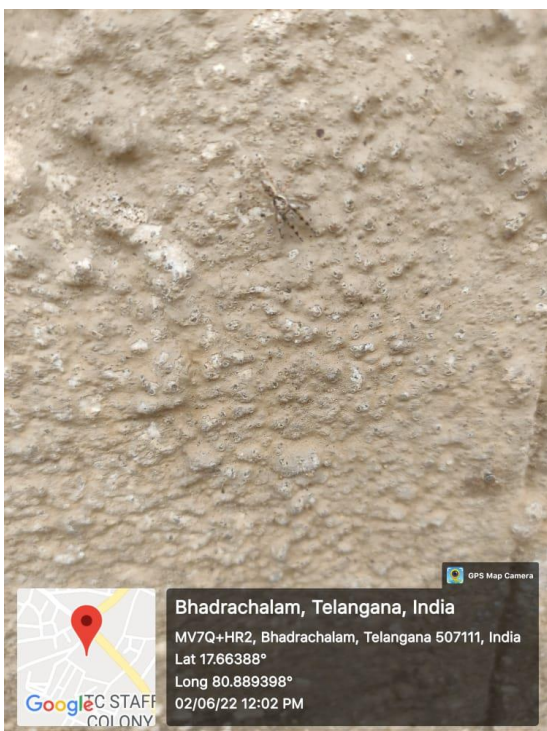
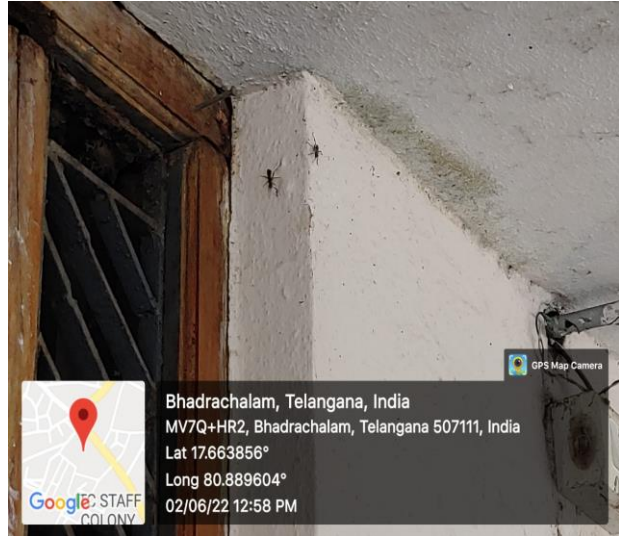
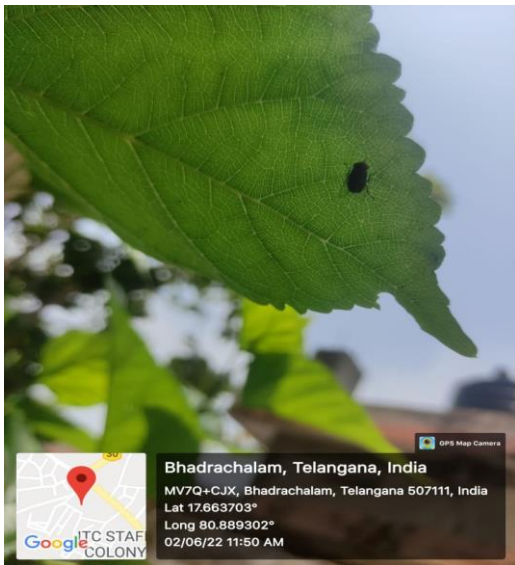
Sl. No	Name of the Group	Orders	Families	Genera	Species
1	Annelida: Oligochaeta	0	0	0	0
2	Annelida: Hirudinea (Leech)	0	0	0	0
3	Arachnida: Acari	0	0	0	0
4	Arachnida: Scorpionida	1	1	2	2
5	Arachnida: Araneae	1	3	5	10
6	Arachnida: Amblypygi, Uropygi & Solifugae	0	0	0	0
7	Crustacea: Branchiopoda: Cladocera	0	0	0	0
8	Crustacea: Copepoda	1	1	2	5
9	Crustacea: Ostracoda	0	0	0	0
10	Crustacea: Decapoda: Brachyura (Freshwater Crabs)	0	0	0	0
11	Crustacea: Decapoda: Palaemonidae (Freshwater Prawns)	0	0	0	0
12	Insecta: Collembola	0	0	0	0
13	Insecta: Odonata	0	0	0	0
14	Insecta: Orthoptera: Acrididae	1	1	1	5
15	Insecta: Dermaptera	1	1	2	4
16	Insecta: Mantodea	0	0	0	0
17	Insecta: Blattodea (Cockroaches)	1	1	2	5
18	Insecta: Blattodea (Termite)	1	1	1	2
19	Insecta: Hemiptera: Heteroptera (Aquatic and Semiaquatic)	0	0	0	0
20	Insecta: Hemiptera (Terrestrial)	1	2	10	15
21	Insecta: Hymenoptera: Chalcidoidea	1	1	2	8
22	Insecta: Hymenoptera: Bees	1	1	2	10
23	Insecta: Hymenoptera: Formicidae	1	1	1	5
24	Insecta: Hymenoptera: Vespoidea: Scoliidae	0	0	0	0
25	Insecta: Hymenoptera: Vespoidea: Vespidae	1	1	1	5
26	Insecta: Aquatic Coleoptera	0	0	0	0
27	Insecta: Coleoptera (Terrestrial)	1	2	10	20
28	Insecta: Neuropterida	0	0	0	0
29	Insecta: Trichoptera	1	1	1	2
30	Insecta: Lepidoptera (Butterflies)	1	2	15	31
31	Insecta: Lepidoptera: Heterocera (Moths)	1	1	10	22
32	Insecta: Diptera	1	4	13	24
33	Myriapoda: Chilopoda: Scolopendromorpha	1	1	1	2











ty Determination:

Air Quality Index (parameters studied/recorded/ Seasonal):

NO ₂	14 µg/m ³
NO	--
O ₃	41.5 µg/m ³
PM2.5	16.4 µg/m ³
PM10	76.2 µg/m ³
CO	1220 µg/m ³
Humidity	66.0 %
Barometric Pressure	1008 hPa
Wind Speed	5.12 m/s
Wind Direction	northwest
Sun Rise	5.54 AM
Sun Set	5.43 PM

Measurements of Noise level in and around the college

S.No	place (S)	Measurements (Duration in seconds)	Minimum (dBA)	Maximum (dBA)	Average (dBA)
1	Library	30 s	40	87	64
2	Canteen	45 s	35	86	64
3	Play ground	60 s	36	88	63
4	Auditorium	30 s	36	88	64
5	Science Block	50 s	40	87	65
6	Any Other (Specify)	--	--	--	--



**PRINCIPAL
GOVERNMENT DEGREE COLLEGE
BHADRACHALAM**