



GREEN/ENVIRONMENTAL AUDIT COMPLETION CERTIFICATE

d. Bheemabahu acknowledge and confirm that the Green/Environmental Audit was conducted on 14-2-2023 by the instructions of Dr. T. C. Ravichandra Kumar, Principal, Sri ABR Government Degree College, Repalle, Andhra Pradesh, India. This report is based on site visits and evidence collected from the site and is issued in accordance with metric 7.1.3 of NAAC Accreditation Manual. All efforts have been made to assess the extent of green practices on campus. The focus is on making a positive impact on the environment and society for better living. I will also verify and sign this certificate, if the organization requires demonstration, my team of experts will be happy to do so. We provide this report far beyond legal or mandatory compliance. This report is presented as per the statutory requirements of the NAAC Accreditation Regulations which includes Biodiversity and Water audit. Prepared audit reports on Green/Environment. Any changes, modifications and errors made after site visit are exclusive.


16/2/23
DISTRICT FOREST OFFICER
BAPATLA.

BIODIVERSITY AUDIT

The biodiversity audit is conducted to analyze the present biodiversity status of the college and to propose plans to enhance the existing biodiversity. Following the audit, students have identified the floral and faunal diversity at the college surroundings through transect and quadrant methods. It provides students with hands on experience outside the classroom; their observational and identification skills will be improved on identifying different flora and fauna. The random number of observation walks conducted during the last couple of months enabled the student community classify the rich biodiversity around them that provides the right ambience to pursue higher learning. The results indicate that the presence of higher floral diversity against limited space availability. However, the faunal diversity is moderate. A planned greening programme will make the campus with rich green cover including more native plants.

1. AIM

Conducting Biodiversity Audit on Sri ABR Government Degree College campus and proposing areas for their development.

2. OBJECTIVES

- To identify the floral and faunal diversity of the college campus
- To inculcate scientific temperament and culture in students through participatory research methods
- To propose suggestions for enhancing biodiversity in the college campus

3. METHODOLOGY

A baseline survey of the flora and fauna of the college campus was conducted. The total area of the college campus is 9.85 acres. This area is mainly divided into two parts- Part I and Part II. Part I covers a total area of 8.43 acres, with all the buildings, various activity areas and botanical gardens planted by the students. Part II consists mainly of unused land. The study was conducted between December 1, 2021 and January 31, 2022. A batch of 20 students from the Eco Club was assigned with the audit and the entire area was surveyed by them and the flora and fauna of the campus was identified. Data were recorded on tabular sheets supplied to them.

4. DISCUSSION

List of the Audited Plants in the campus.

S. No.	Scientific Name of Plant	Local Name	Family	Habit/ T/S/H/C	Uses	Nos
1.	Mangifera indica	Mango	Anacardiaceae	T	Timber	2
2.	Musa paradisiaca	Banana	Musaceae	T	Edible	8
3	Citrus lemon	Lemon	Rutaceae	T	Edible	2
4	Ixora coccinia	Vennamudda puvvulu	Rubiaceae	H	Ornamental	3
5	Crotan bonplandianum	Galivaana Mokka	Euphorbiaceae	H	weed	20
6	Tecoma stans	Suvarna ganneru	Bignoniaceae	T	Ornamental	1
7	Codiaeum variegatum	Multicolour croton	Euphorbiaceae	H	Ornamental	20
8	Annona squamosa	Seethaphalam	Annonaceae	T	Edible	3
9	Psidium guajava	Jama	Myrtaceae	T	Edible	2
10	Tectona grandis	Teak	Verbenaceae	T	Timber	2
11	Leucaena leucocephala	Subabul	Mimosaceae	T	Avenue	1
12	Acalypha hispida	Chenille plant	Euphorbiaceae	S	Ornamental	1
13	Rosa indica	Rose	Rosaceae	S	Ornamental	7
14	Jasmine officinale	Malli	Oleaceae	S	Ornamental	2
15	Alternanthera philoxeroides	Grisebach weed	Amaranthaceae	H	Weed	26
16	Hibiscus rosa-sciensis	Mandara	Malvaceae	S	Medicinal	3
17	Hibiscus arnottianus	White Mandara	Malvaceae	S	Medicinal	1
18	Asparagus densiflorus	Fern	Asparagusaceae	S	Ornamental	
19	Portulaca oleracea	Grass Plant	Portulacaceae	H	Weed	2
20	Physalis	Ground cherry	Solanaceae	S	Ornamental	3
21	Vernonia Cenera	Sahadevi	Asteraceae	H	Weed	20
22	Gynandropsis pentaphylla	Vaminta	Capparidaceae	H	Medicinal	10
23	Commelina benghalensis	Day flower	Commelinaceae	H	Medicinal	10
24	Nerium odoreum	Ganneru	Apocynaceae	T	Ornamental	2
25	Croton banplandianum	Gallivana Mokka	Euphorbiaceae	H	Weed	20
26	Casia Oxidentalis	Casinthe	Caesalpinaceae	H	Weed	20
27	Lantana camera	Lantana	Verbanaceae	S	Ornamental	5
28	Sphagneticola trilobata	Yellow creeping daisy	Asteraceae	C	Ornamental	10
29	Tridax procumbens	Gaddi Chamanthi	Asteraceae	H	Medicinal	50
30	Chrysophyllum cainite	Star apple	Sapotaceae	T	Avenue	2

31	<i>Causuarina equisetifolia</i>	Causurina	Causurinaceae	T	Timber	2
32	<i>Roystonea regia</i>	Royal Palm	Arecaceae	T	Ornamental	4
33	<i>Borassus Flabellifer</i>	Tadichettu	Arecaceae	T	Timber	2
34	<i>Coccinia Cordifolia</i>	Donda	Cucurbitaceae	H	Edible	5
35	<i>Epipremnum auream</i>	Money Plant	Araceae	C	Ornamnetal	4
36	<i>Delonix regia</i>	Turai chettu	Caesalpinaceae	T	Social forestry	4
37	<i>Pongamia pinnata</i>	Kanuga Chettu	Fabaceae	T	Medicinal	13
38	<i>Bahimia vahaly</i>	Adaku	Fabaceae	T	Avenue	3
39	<i>Albizia procera</i>	Karoi Tree	Fabaceae	T	Avenue	20
40	<i>Ingadulsi</i>	Seemachintha	Mimosaceae	T	Edible	2
41	<i>Saraka Indica</i>	Ashoka	Caesalpinaceae	T	Avenue	12
42	<i>Zinnia Elegans</i>	Zinnia	Asteraceae	S	Ornamental	2
43	<i>Cassia fistula</i>	Rella	Caesalpinaceae	T	Avenue	3
44	<i>Emblica officinalis</i>	Usiri	Euphorbiaceae	T	Medicinal	1
45	<i>Tagetus patula</i>	Bantheni	Asteraceae	H	Medicinal	4

List of the Audited Medicinal Plants in the campus.

S. No.	Scientific Name of Plant	Local Name	Family	Habit/ T/S/H/C	Uses	Nos
1.	<i>Azadirachta indica</i>	Vepa	Meliaceae	T	Medicinal	10
2.	<i>Aloe vera</i>	KALABANDA	LILLIACEAE	S	Medicinal	2
3	<i>Calatropis procera</i>	TELLA JILLEDU	ASCLIPEDIACEAE	S	Medicinal	15
4	<i>Oscimum sanctum</i>	Krishna TULASI	LAMIACEAE	S	Medicinal	5
5	<i>Datura metal</i>	Ummentha	Solanaceae	S	Medicinal	10
6	<i>Ricinus communis</i>	Castor	Euphorbiaceae	S	Medicinal	1
7	<i>Phyllanthus acidus</i>	Nelavusuri	Euphorbiaceae	H	Medicinal	2
8	<i>Muraya koengii</i>	Curryleaves	Rutaceae	T	Medicinal	2
9	<i>Terminalia catappa</i>	Almond	Combretaceae	T	Medicinal	4
10	<i>Solanum nigrum</i>	Kamanchi	Solanaceae	S	Medicinal	10
11	<i>Cleome viscosa</i>	Kukkavaminta	Capparidaceae	H	Medicinal	20
12	<i>Achyranthus aspera</i>	Uttareni	Amaranthaceae	H	Medicinal	20
13	<i>Acalypha indica</i>	Muripinda	Euphorbiaceae	H	Medicinal	50
14	<i>Sida acuta</i>	Chilakathotakura	Malvaceae	H	Medicinal	20
15	<i>Aerva lanata</i>	Kondapindaku	Amaranthaceae	H	Medicinal	50
16	<i>Phyllanthus niruri</i>	Nelavusuri	Euphorbiaceae	H	Medicinal	50
17	<i>Momordica charantia</i>	Kakara	Cucurbitaceae	S	Medicinal	3
18	<i>Bryophyllum pinnatum</i>	Ranapala	Crassulaceae	H	Medicinal	10
19	<i>Catharanthus roseus</i>	Billaganneru	Apocynaceae	H	Medicinal	20
20	<i>syzygium cumini</i>	Neredu	Myrtaceae	T	Medicinal	6
21	<i>Mimosa pudica</i>	Attipatti	Mimosaceae	H	Medicinal	20

Faunal Diversity of Sri ABR Govt. Degree College Campus

S. No.	Scientific Name	Common Name
1	<i>Corvus splendens</i>	House Crow
2	<i>Psittacula krameri</i>	Rose Ringed Parakeet
3	<i>Acridotheres tristis</i>	Common Myna
4	<i>Columba livia</i>	Rock Pigeon
5	<i>Corvus macrorhychos culminatus</i>	Large Billed Crow
6	<i>Ardeola grayii</i>	Indian Pond Heron
7	Trades Minors	Southern Bird Wing
8	<i>Papilio clytia clytia</i>	Common Mime
9	<i>Papilio demoleus demoleus</i>	Lime Butterfly
10	<i>Papilio polymnestor polymnestor</i>	Blue Murmon
11	<i>Catopsilia pomona pomona</i>	Common Emigrant
12	<i>Castalius rosimon</i>	Common Pierrot
13	<i>Eurema hecabe hecabe</i>	Common Grass Yellow
14	<i>Mycalesis perseus tabitha</i>	Common Bush Brown
15	<i>Junonia iphita iphita</i>	Chocolate Pansy
16	<i>Junonia atlites atlites</i>	Grey Pansy
17	<i>Brachythemis contaminata</i>	Ditch Jewel
18	<i>Bradinopyga geminata</i>	Granite Ghost
19	<i>Coptotermes formosanus</i>	Termites
20	<i>Apis cerena indica</i>	Honey Bee
21	<i>Diplopoda spp.</i>	Common Millipede
22	<i>Harpaphe haydeniana</i>	Yellow Spotted Millipede
23	<i>Hersilia savigly spacelucas</i>	Tree Spider
24	<i>Cheiracanthium</i>	Yellow Sac Spider
25	<i>Peucetia viridans</i>	Green Lynx Spider
26	<i>Plexippus sctipes</i>	Spider
27	<i>Camponotus pennsylvanicus</i>	Black Carpenter Ants
28	<i>Funambulus palmarum</i>	Indian Palm Squirrel
29	<i>Calotes versicolor</i>	Oriental Garden Lizard
30	<i>Pandinus Imperator</i>	Scorpion
31	<i>Oecophylla smargdina</i>	Weaver Ant
32	<i>Anoplolepis gracilipes</i>	Yellow Crazy Ant
33	<i>Tetramorium spp.</i>	Pavement Ant
34	<i>Monomorium spp.</i>	Pharaoh's Ant.
35	<i>Rhagonycha fulva</i>	Common Red Soldier Beetle
36	<i>Lampyridae spp.</i>	Lightning Bugs
37	<i>Tenebrionidae coleoptera</i>	Luprops Beetle
38	<i>Melanoplus differentials</i>	Grass Hopper
39	<i>Mantis religiosa Praying</i>	Mantis
40	<i>Musca domestica</i>	House Fly

According to the biodiversity audit conducted, the college has around 66 species of flora and 40 species of fauna. The diversity of trees in the college campus is significantly higher. The campus has a wide variety of garden plants and orchids. The floral diversity of the campus is comparatively better as the campus has native and exotic plant species. A planned effort has been launched to green every nook and cranny of the campus to improve diversity at all levels. However, the floral diversity can be improved by adding more native species, and creating themed gardens in the green areas of the campus to make it an aesthetic and educational hub of the college. The college has its own botanical garden. All these are part of the college authority's effort to educate students and public about various flora and their value in our daily lives. This is a great effort from the college. This can be improved by planting native trees and shrubs in these gardens. Thematic gardens include nectarine flowering plants for butterflies, fruit trees for birds and insects and a vegetable garden. It also fosters a protective attitude in others.

5. CONCLUSIONS AND RECOMMENDATIONS

Biodiversity audit was completed and data collection was done systematically to facilitate calculation of biodiversity indicators. In terms of fauna also the survey is completed. However, the basic understanding of the biodiversity in the campus of Sri ABR Government Degree College obtained through this survey, on the other hand, improves the knowledge and skills of the students and their passion for nature also.


DISTRICT FOREST OFFICER
BAPATLA.

WATER AUDIT

1. INTRODUCTION

Water audit provide stakeholders to examine the ways they use water every day and encourage students, teachers and college staff to make their college more waterefficient and cost-effective. By the audit, students and college staff learned about the amount of water consumed in the college for activities such as hand washing, drinking, use of laboratories, landscaping, and flushing toilets and urinals. From the results obtained, students and staff will consider better ways to improve water conservation across the college campus.

2. AIM

To study water usage pattern and find out water conservation measures in Sri ABR Government Degree College campus.

3. OBJECTIVES

- To find out the pattern of water consumption in the premises of Sri ABR Government Degree College
- To find out the amount of water wastage in Sri ABR Government Degree College campus
- To test the quality of water used in Sri ABR Government Degree College campus
- Prescribing preventive measures and water conservation practices

4. METHODOLOGY

The study was conducted from July 1, 2022 to August 31, 2022. The audit team observed the type, condition and leaks at each water tap points and noted them on the given data sheets. They also collected the capacity details of the water tanks in the college and also observed the quantity of water released from different types of taps, coolers and filters. Data were tabulated and analyzed.

5. RESULTS AND OBSERVATIONS


Water usage by different locations in the Sri ABR Government Degree College

Location	No. of Taps	Total water input (Liters)	Total water consumed (Liters)	Total consumers	Per capita use of water	Total losses	%of water Loss
Old building	42	2000	1895	623	3.0	131	6.6%
New Building	12	400	350	106	3.3	50	12.5%

Data on water consumption pattern of Sri ABR Government Degree College campus was assessed through a systematic and periodic survey. The total water consumption data is given in the table. The highest water consumption per day was observed in the old building. On an average, 518 people use water on a working day. Nine taps in the old building were leaking. In Outdoor water is used for gardening, play ground etc. As usual the major portion of water is used in the old building. One tank of 2000 liter capacity in old building and 1000 liter capacity in new building once filled in a day.

6. CONCLUSIONS & RECOMMENDATIONS

Water audit is an effective method to assess the water usage pattern and estimate the quantity of water used in the college. Moreover, it provides scientific measures to improve water conservation and prevent water wastage and lazy consumption habits. In the water audit conducted in the campus of Sri ABR Degree College, it has been found that the water consumption in the college is moderate and the loss of water in the college due to leakage is very less. Per capita water consumption and duration of water consumption were highest in the old building. Students should learn to conserve water by reducing water consumption. Water is properly managed and conserved, but some leaks need to be repaired. Students are keeping a constant vigil on methods like water usage, creating awareness about water conservation through banners and posters. Regular discussions among group members are necessary to come up with new methods and ways to conserve water in and around the campus.


Co-ordinator
IQAC
Sri A.B.R. Govt. Degree College
REPALLE 522 265
Guntur. (Dt.), A.P.



SRI A B R GOVERNMENT DEGREE COLLEGE

Repalle, Guntur Dt.522 265

Accredited by NAAC with ' B' Grade,



From
Dr. T.C. Ravi Chandra Kumar, M.Sc, M.Phil, Ph.D.,
Principal
Sri ABR Government Degree College,
Repalle,
Guntur District-522265

To
The Civil Surgeon Bacteriologist,
Regional Laboratory,
Medical College Campus,
Guntur-4.

Sir,

Sub: Sri ABR Government Degree College, Repalle, Guntur District-
Request for Physico chemical analysis of ground water fetched
from bore wells located on our college campus- Reg.

I bring to your kind notice that our college is going for accreditation by National Assessment and accreditation Council (NAAC), Bengaluru in ensuing months as part of periodical quality accreditation. It is mandatory to provide the green audit report which includes physico chemical analysis of the water sources present on the college campus for accrediting the institution.

I, therefore request you to kindly perform the physico chemical analysis of samples of water fetched from the three bore wells located on our college campus and send the reports for each sample at an earliest.

Thanking you sir,

Yours faithfully,

12/05/22

PRINCIPAL

Sri A.B.R. Govt. Degree College
REPALLE, Guntur Dt.

GOVERNMENT OF ANDHRAPRADESH
DIRECTORATE OF I.P.M.PH. LABS, FOOD (H) ADMN, Gollapudi, Vijayawada
REGIONAL PUBLIC HEALTH LABORATORY, GUNTUR

REPORT OF PHYSICO CHEMICAL ANALYSIS OF WATER

Sample from	Dr.T.C.Ravi Chandra Kumar, Principal, Sri ABR Government Degree College, Repalle, Guntur District.	Lab. Ref. No:	1499
		Collected on	07.03.2022
		Received on	07.03.2022
Collected by	Self	Source Profile	Bore well

S.No	Parameter	Source / Sample	Limits as per IS 10500:2012	
		Bore well ½ left side	Desirable (Acceptable limit)	Permissible limit in the absence of alternative source
Physical Parameters				
1	Colour (Hazen units)	<5.0	5	15
2	Turbidity in NTUS`	0.5	1	5
3	Odour	Unobjectionable	Unobjectionable	Agreeable
4	pH	7.4	6.5 – 8.5	No relaxation
5	Conductivity at 25 °C (Micro Mhos/ Cm)	1310	...	
6	TDS (mg/L)	865	500	2,000
Chemical parameters (mg/L)				
1	Alkalinity (as CaCO ₃)	Nil	...	
2	Total Alkalinity. Max	280	200	600
3	Total hardness max	340	300	600
4	Calcium hardness (as CaCO ₃)	80	..	
5	Magnesium hardness (as CaCO ₃)	260	..	
6	Calcium (as Ca)	32	75	200
7	Magnesium (as Mg)	63	30	100
8	Ammonical Nitrogen	Present	...	
9	Nitrite (as N)	Traces	...	
10	Chloride (as Cl)	200	250	1,000
11	Fluoride (as F)	0.5	1	1.5
12	Iron (as Fe)	Nil	0.3	No relaxation

Remarks: The above given water sample Ammonical Nitrogen and Nitrites are above limits, Physico chemically the water sample is unsatisfactory.

[Signature]
Senior Analyst (Water)
Regional Laboratory
Medical College Campus
Guntur-4.

[Signature]
CIVIL SURGEON BACTERIOLOGIST
REGIONAL LABORATORY
MEDICAL COLLEGE CAMPUS
GUNTUR-4.


GOVERNMENT OF ANDHRAPRADESH
DIRECTORATE OF I.P.M.PH. LABS, FOOD (H) ADMN, Gollapudi, Vijayawada
REGIONAL PUBLIC HEALTH LABORATORY, GUNTUR

REPORT OF PHYSICO CHEMICAL ANALYSIS OF WATER

Sample from	Dr.T.C.Ravi Chandra Kumar, Principal, Sri ABR Government Degree College, Repalle, Guntur District.	Lab. Ref. No:	1500
		Collected on	07.03.2022
		Received on	07.03.2022
Collected by	Self	Source Profile	Bore well

S.No	Parameter	Source / Sample	Limits as per IS 10500:2012	
		Bore well 2/2 middle	Desirable (Acceptable limit)	Permissible limit in the absence of alternative source
Physical Parameters				
1	Colour (Hazen units)	<5.0	5	15
2	Turbidity in NTUS`	0.5	1	5
3	Odour	Unobjectionable	Unobjectionable	Agreeable
4	pH	7.9	6.5 – 8.5	No relaxation
5	Conductivity at 25 °C (Micro Mhos/ Cm)	630	...	
6	TDS (mg/L)	416	500	2,000
Chemical parameters (mg/L)				
1	Alkalinity (as CaCO ₃)	Nil	...	
2	Total Alkalinity. Max	160	200	600
3	Total hardness max	200	300	600
4	Calcium hardness (as CaCO ₃)	80	..	
5	Magnesium hardness (as CaCO ₃)	120	..	
6	Calcium (as Ca)	32	75	200
7	Magnesium (as Mg)	29	30	100
8	Ammonical Nitrogen	Nil	...	
9	Nitrite (as N)	Traces	...	
10	Chloride (as Cl)	60	250	1,000
11	Fluoride (as F)	0.5	1	1.5
12	Iron (as Fe)	Nil	0.3	No relaxation

Remarks: The given sample physico chemically all the analysed parameters are within the desirable limits and satisfactory for drinking purpose.


Senior Analyst (Water)
Regional Laboratory
Medical College Campus
Guntur-4.


CIVIL SURGEON BACTERIOLOGIST
REGIONAL LABORATORY
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GOVERNMENT OF ANDHRAPRADESH
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REGIONAL PUBLIC HEALTH LABORATORY, GUNTUR

REPORT OF PHYSICO CHEMICAL ANALYSIS OF WATER

Sample from	Dr.T.C.Ravi Chandra Kumar, Principal, Sri ABR Government Degree College, Repalle, Guntur District.	Lab. Ref. No:	1501
		Collected on	07.03.2022
		Received on	07.03.2022
Collected by	Self	Source Profile	Bore well

S.No	Parameter	Source / Sample	Limits as per IS 10500:2012	
		Bore well 3/1 Right side	Desirable (Acceptable limit)	Permissible limit in the absence of alternative source
Physical Parameters				
1	Colour (Hazen units)	<5.0	5	15
2	Turbidity in NTUS`	0.5	1	5
3	Odour	Unobjectionable	Unobjectionable	Agreeable
4	pH	8.0	6.5 – 8.5	No relaxation
5	Conductivity at 25 °C (Micro Mhos/ Cm)	410	...	
6	TDS (mg/L)	271	500	2,000
Chemical parameters (mg/L)				
1	Alkalinity (as CaCO ₃)	Nil	...	
2	Total Alkalinity. Max	120	200	600
3	Total hardness max	140	300	600
4	Calcium hardness (as CaCO ₃)	20	..	
5	Magnesium hardness (as CaCO ₃)	120	..	
6	Calcium (as Ca)	8.0	75	200
7	Magnesium (as Mg)	29	30	100
8	Ammonical Nitrogen	Nil	...	
9	Nitrite (as N)	Nil	...	
10	Chloride (as Cl)	40	250	1,000
11	Fluoride (as F)	0.5	1	1.5
12	Iron (as Fe)	Nil	0.3	No relaxation

Remarks: The given sample physico chemically all the analysed parameters are within the desirable limits and satisfactory for drinking purpose.

lly
Senior Analyst (Water)
Regional Laboratory
Medical College Campus
Guntur-4.

B. Srinivasulu
CIVIL SURGEON BACTERIOLOGIST
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