



## **GRIZZLY COLLEGE OF EDUCATION**

*Recognized by ERC, NCTE Bhubaneswar  
(Affiliated to Vinoba Bhave University & JAC, Ranchi)*

*Accredited by NACC*

# **Green Audit Report 2022-2023**



Prepared by  
**CONSULTIA INTERNATIONAL**



# **GRIZZLY COLLEGE OF EDUCATION**

*(Affiliated to NCTE, Bhubaneswar & Vinoba Bhave University, Hazaribagh)*

*Accredited by NAAC*

## **GREEN AUDIT REPORT**

**(2022-23)**

**Gumo Satpulia, P.O. Jhumri Telaiya  
Dist. Koderma, Jharkhand, PIN-825409**



## Contents

Acknowledgements.....	4
Disclaimer.....	5
Audit Certificate.....	6
Audit Participants.....	7
Executive Summary.....	8
Concept and Background.....	9
Introduction.....	10
Overview of college.....	11
Objectives.....	14
Green Audit Analysis.....	15
Questionnaire Based Answers.....	15
Particular 1: General Information.....	15
1.1: Was any Green Audit conducted earlier?.....	15
1.2: What is total strength of the college.....	15
1.3: What is total number of working days of your college in a year?.....	15
1.4: Where is the college located?.....	15
1.5: Which of the following area available in your college?.....	15
Particular 2: Waste Management.....	16
2.1: Does your college generate any waste? If so, what are they?.....	16
2.2: Approximate amount of waste generated.....	16
2.5: How is the waste managed in the campus?.....	16
2.6: How is the waste paper used in your college?.....	16
2.7: How is the waste managed in the campus?.....	16
2.8: Method adopted for spread of “No Plastic use” message in the campus.....	16
Particular 3: Green Campus.....	17
3.1 Total green cover area in the campus.....	17
3.2: Is there a garden in your institute?.....	17
3.3: Do students spend time in the garden?.....	17
3.4: Total number of Trees, Plants and Shrubs in Campus?.....	17
3.5: Is the College campus having any Horticulture Department?.....	17
3.6: How many Tree Plantation Drives organized by campus per annum?.....	17
3.7: Is there any Plant Distribution Program for Students and Community?.....	17



3.8: Is there any Plantation drive?.....	17
Particular 4: Water and Waste Water management .....	21
4.1: Total water storage capacity in the campus .....	21
4.2: Do the campus have water harvesting facility?.....	21
4.3: Water usage in the campus per day.....	21
4.4: How does the college store water?.....	21
4.5: How the college manage water resource? (water saving technique) .....	21
4.6: Is the campus have rain water harvesting facility? .....	21
Particular 5: Carbon Footprint –Emission & Absorption.....	22
5.1: Total emission of CO <sub>2</sub> from electricity .....	22
5.2: Total emission of CO <sub>2</sub> from petrol .....	23
5.3: Total emission of CO <sub>2</sub> from diesel .....	23
5.4: Total emission of CO <sub>2</sub> from LPG.....	23
5.5: Total Carbon (CO <sub>2</sub> ) emission in the campus.....	23
5.6: Does the college have solar panel installed?.....	23
Green Initiative .....	24
Recommendations.....	26
Conclusion .....	28
References.....	29
Annexure.....	30



## Acknowledgements

---

Consultia International would like to thank the management of grizzly college of education for assigning this important work of Green Audit. We appreciate the co-operation to the team for the successful completion of the assessment. We would also like to thank Dr Sanjita Kumari, Deputy Director, Grizzly College for education for her continuous support and guidance, without which the accomplishment of this Audit will not be possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field study. Last but not the least, we would like to thank the college for giving us this opportunity to evaluate the environmental performance of the campus.



## Disclaimer

---

This report for Grizzly College of Education has been prepared by the Consultia International Audit Team using input data that was provided by college representatives and the expert team's best judgment.


Details in this report have been put together in good faith using the information that has been acquired, even though every reasonable precaution has been taken in its compilation.

It is also informed that the conclusions are based on the best estimates available, and that the Audit Team does not make any representations, warranties, or undertakings—express or implied—or take responsibility for any direct or indirect losses resulting from using the data, statements, or forecasts in this report.

All information pertaining to your organization is confidential to Consultia International team and expert members, who will not divulge it to any other party unless it is in the public domain, required by law, or mandated by appropriate accrediting organizations.

Consultia International, its agents, and accreditation organizations have all executed individual confidentiality agreements, meaning that sensitive information will only be disclosed to those who have a “need to know” basis.

MD  
Consultia International

  
Dr. Adil Sultan



## Audit Certificate

---

This is to certify that the **Green Audit Report** of **Grizzly College of Education** is based on the original data collected during the period of study. Further, it is also certified that the baseline data submitted to us, was collected and prepared by the internal audit team of Grizzly College of Education. The accuracy and reliability of the base line data has been individually approved by the Green Audit Team. The information used in the study is unique and has never been presented or published before.

**Date: 12-06-2023**

**Signatories: -**

**Dr. Adil Sultan  
(Expert)**

**Mr. Md. Asif Iqbal  
(Expert)**

**Mrs. Shamza Alam  
(Expert)**

**Prof. (Dr.) Baishnab Charan Swain**

**Mr. Avinash Kumar Seth**

**Mr. Saurabh Sharma**

**Dr. Salma Khatoun**





## Audit Participants

---

<b>Dr. Adil Sultan</b> (Expert)	Scientist, Ph.D. (Nano Particles) Department of Applied Chemistry iNurture Education Solution Pvt. Ltd. Bangalore
<b>Mrs. Shamza Alam</b> (Expert)	Environmental Science Consultia International
<b>Mr. Md. Asif Iqbal</b> (Expert)	SDO, PHED Government of Bihar
<b>Prof. (Dr.) Baishnab Charan Swain</b>	Principal Grizzly College of Education
<b>Mr. Avinash Kumar Seth</b>	Secretary Grizzly College of Education
<b>Mr. Saurabh Sharma</b>	Assistant Professor, Member IQAC Grizzly College of Education
<b>Dr. Salma Khatoon</b> Coordinator Consultia International	Fellow Delhi Assembly Research Centre (DARC), Govt. NCT Delhi

---







## Executive Summary

---

Green auditing is an important step to identify and define whether the institutions practices are sustainable and ecological. Earlier, we were upright and efficient users of natural resources. But over the period of time, excessive usage of resources like water, electricity, petrol, etc. have become usual for everyone especially, in urban and semi-urban areas. It is actually the right time to check if we are using more than required resources? Whether we are using resources rationally? Green audit regulates all such practices and provides an efficient way to use natural resources. In the time of climate change and resource collapse it is necessary to re-check the processes and convert it in to green and sustainable, Green Audit provides a method for increasing the overall awareness among the people working in institution towards the eco-friendly environment. This is the first attempt by the college to conduct green audit of this College campus for fulfilment of NAAC criteria. This audit was mainly to understand the greening indicators like consumption of energy in terms of electricity and fossil fuel, water usage, vegetation, waste management practices and carbon foot print of the campus. A checklist was shared to know about the existing resources of the campus and resource consumption pattern of the students and staffs in the College.





## Concept and Background

---

The green audit, which is sometimes referred to as an environmental audit or a sustainability audit is the systematic evaluation of environmental performance, policies, and practices of any institutions or organizations. According to ICC the green audit defined as “A management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of safeguarding the environment and natural resources in its operations/projects.” A green audit’s main goals are to evaluate the institution’s environmental effect and pinpoint areas that need to be improved in terms of ecological responsibility and sustainability. It also tries to examine the environmental practices within and outside the College campus, which impact directly or indirectly on the atmosphere. Through this method, the institution may better evaluate their environmental impact and take action to reduce any unfavorable consequences.

Apart from the social responsibility of the institution, the National Assessment and Accreditation Council (NAAC) has also made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. This audit concentrates on the institution's operations related to the Green Campus, Waste Management, Water Management, Air Pollution and Energy Management, among other areas.





## Introduction

---

Educational institutions are becoming more environmentally conscious these days, and as a result, fresh ideas are being presented to make them eco-friendly and sustainable. Many educational institutions use a variety of approaches to address environmental issues in order to protect the environment within the campus. These approaches include encouraging energy conservation, recycling garbage, reducing water use, collecting water, and much more. The institution's operations may have a negative influence on the environment. The term "green audit" refers to the methodical identification, measurement, documentation, reporting, and analysis of environmental diversity components. It is an official assessment of the environmental impact of an institution. The purpose of the Green Audit is to assess the real-world situation on the campus of the organization. A college may utilize a green audit to find out where and how they are consuming the most water, energy, or other resources. From there, the institution can decide how to make adjustments and save money. In order to enhance waste reduction plans or for recycling projects, it may also be used to ascertain the kind and volume of garbage. The implementation of mitigation measures and green audits benefits all institutions, students, and the environment. Additionally, it may raise knowledge of health issues and advance environmental awareness as well as values and ideas. It gives employees and students a greater awareness of the institution's green effect. Green auditing maintains cost savings by utilizing less resources. It provides a chance for educators and learners to grow in taking responsibility for their own personal and societal responsibilities. Primary data collection, a site visit with the college team, and an evaluation of the policies, programs, papers, and records are all part of the audit process.





## Overview of college

---

Grizzly College of Education is a co-educational college located in Jhumri Telaiya, Jharkhand, India. It was founded in 2007 by Grizzly Charitable Trust. The College is affiliated with Vinoba Bhave University, Hazaribagh, and is recognized by NCTE, Bhubaneswar. The College has made significant contributions in the field of higher education by providing quality education and research output. The College with all its glorious academic achievement and ceaseless scholastic pursuits had already created a distinct position for itself in India and beyond to develop a socially competent, culturally accepted, nationally recognized, and educationally fitted with demands of global trends in the field of Teachers' Education. To foster total development of personality of the student's college provides integrated courses in teacher education, marked and defined by value-education, global outlook and interdisciplinary approach.

It is one of the premier College in Jharkhand offers B.Ed. and D.El.Ed. and having clean and green campus with imposing building. Surrounded by natural greenery, the 4565 sq meter campus offers an intellectually stimulating atmosphere with two large blocks having well-ventilated three storey building. The college has three well-maintained garden area in the campus.







## Vision

The Institution becomes a knowledge hub where the next generation teachers would be equipped with a multidisciplinary perspective of knowledge; grounded with values rooted in Indian culture and history; empowered with twenty-first-century skills; and committed to professional excellence to produce manpower for the country as well as for the global world.

- To Provide experience-based learning for multifaceted development
- To contribute to National development through teacher education
- To integrate pedagogy and technology for learning
- To promote self-learning and group learning
- To develop global competencies and life skills among students
- To acquire multilingual skills and demonstrate effective communication
- To relate knowledge with day-to-day experience
- To adopt technology to address the explosion of knowledge
- To imbibe constitutional and human values based on Indian culture
- To follow inclusive practices in all activities organized by the institution
- To identify the uniqueness of every learner and nurture him/her

## Mission

### Geo Location

Geo Coordinates from Google Map  
24.428173393074335, 85.50494392873561





### Overview of the college

S. No.	Particulars	Fact
1	Name of the college And code given by the NCTE	Grizzly College of Education APP/00799
2	College Address	Gumo Satpulia, P.O. Jhumri Telaiya, Dist. Koderma, Jharkhand, PIN-825409
3	Whether the college is accredited by the NAAC	Yes
		If Yes, Grade- B
4	Date, Month & Year of establishment	21 <sup>st</sup> March, 2007
5	Current programs offered by the institution	B.Ed.
6	Whether there are other Courses offered in the same building	Yes, D.El.Ed.

### General Facilities of the college

S. No.	Particular	Total	S. No.	Particular	Total
i	Class Room	08	ii	Multi-purpose Hall	01
iii	Library cum Reading Area	01	iv	ICT Room	01
v	Teaching Learning Resource Centre for Arts & Work Experience	01	vi	Health & Physical Education Resource Centre	01
vii	Principal Office	01	viii	Administrative Office	04
ix	Girls Common Room	01	x	Boys Common Room	01
xi	Conference Room	01	xii	Canteen	01
xiii	Toilet (Male)	17	xiv	Toilet (Female)	11
xv	Urinal (Male)	03	xvi	Urinal (Female)	04
xvii	Pantry	01	xviii	HoD Room	01
xix	Psychology Resource Centre	01	xx	No. of Lab	04
xxi	Store Room	05	xxii	Examination Cell	01



## Objectives

---

The main objectives of this audit are as follows:

- To evaluate the environmental viability of the college.
- To impart the sustainable practices in the college.
- To encourage the judicious use of natural resources in the college.
- To develop accountability for the environmental safety among the students in the college campus and outside.
- To inculcate environmental ethic and value systems in young minds.







## Green Audit Analysis

### Questionnaire Based Answers

#### Particular 1: General Information

##### 1.1: Was any Green Audit conducted earlier?

No, this is the first systematic study of the environmental aspect of the college.

##### 1.2: What is total strength of the college

Population	Male	Female	Total
Students	183	186	369
Teaching Staff	20	05	25
Non-teaching Staff	15	05	20
Total	218	196	414

##### 1.3: What is total number of working days of your college in a year?

There are two hundred fifty-three (253) working days in the college.

##### 1.4: Where is the college located?

The campus is located at Gumo Path, Jhumri Telaiya, Jharkhand – 825409

##### 1.5: Which of the following area available in your college?

• Garden area	✓ YES
• Play ground	✓ YES
• Kitchen	✓ YES
• Toilets	✓ YES
• Garbage or Waste Store Yard	✓ YES
• Laboratory	✓ YES
• Canteen	✓ YES
• Hostel Facility	✓ YES
• Guest House	✓ YES



## Particular 2: Waste Management

### 2.1: Does your college generate any waste? If so, what are they?

Yes, Solid Waste: Paper, Waste from canteen, E-Waste etc.

### 2.2: Approximate amount of waste generated.

1. Solid Waste	23 Kg/day
2. Biodegradable Waste	15 Kg/day
3. Non-biodegradable waste	08 Kg/day
4. E-Waste	0.5 Kg/day

### 2.3: How much solid waste recycled every day?

08 Kg

### 2.4: How much solid waste disposed off every day?

15 Kg

### 2.5: How is the waste managed in the campus?

- Paper waste management is done by Vermi compost and later used for gardening purpose.
- The biodegradable waste generation from tree and plants as well as food are also used for making manure through Vermi composting.
- Non-biodegradable waste is mainly collected by the municipal corporation of Jhumri Telaiya.
- E-waste mainly collected and got recycled through authorized vendor.

### 2.6: How is the waste paper used in your college?

- Paper waste management is done by Vermi compost and later used for gardening purpose.

### 2.7: How is the waste managed in the campus?

- Paper waste management is done by Vermi compost and later used for gardening purpose.

### 2.8: Method adopted for spread of “No Plastic use” message in the campus.

- “No to Plastic” in board in campus.
- Seminars and lectures.



## Particular 3: Green Campus

<b>3.1 Total green cover area in the campus</b>
5040 sq. fit
<b>3.2: Is there a garden in your institute?</b>
Yes, Rose Garden and Seasonal Plants Garden.
<b>3.3: Do students spend time in the garden?</b>
Yes
<b>3.4: Total number of Trees, Plants and Shrubs in Campus?</b>
913
<b>3.5: Is the College campus having any Horticulture Department?</b>
Yes
<b>3.6: How many Tree Plantation Drives organized by campus per annum?</b>
Yes, 4-5 times
<b>3.7: Is there any Plant Distribution Program for Students and Community?</b>
Yes, Trees distributed to nearby schools
<b>3.8: Is there any Plantation drive?</b>
Yes





## Green Campus: List of Trees

S. No.	Common Name	Scientific Name	QTY
<b>Tree</b>			
1	Ashok Tree	Saraca asoca	19
2	Kadam Tree	Neolamarckia cadamba	5
3	Jackfruit Tree	Artocarpus heterophyllus	2
4	Coconut Tree	Cocos nucifera	3
5	Mango Tree	Mangifera indica	7
6	Pomegranate Tree	Punica granatum	6
7	Sugar- Apple Tree	Annona squamosa L.	2
8	Papaya Tree	Carica papaya	3
9	Guava Tree	Psidium guajava	15
10	Bael Tree	Aegle marmelos	1
11	Neem Tree	Azadirachta indica	10
12	Sagwan Tree	Tectona grandis	1
13	Sakhua Tree	Shorea robusta	3
14	Lemon Tree	Citrus limon	3
15	Amla Tree	Phyllanthus emblica	2
16	Chandan Tree	Santalum album	1
17	Blackberry Tree	Rubus fruticosus	3
18	Udhul Tree	Hibiscus rosa-sinensis L	73
19	Gambhar Tree	Gmelina arborea	2
20	Sheesham Tree	Dalbergia sissoo	5
21	Christmas Tree	Araucaria columnaris	4
22	Orange Tree	Citrus sinensis	1
23	Palmyra Palm	Borassus aethiopum	9
24	Khajoor Palm	Phoenix dactylifera	12
25	Tezz Patta	Cinnamomum tamala	1
26	Mayur Tree	Platycladus orientalis	9
27	Bargad Tree	Ficus benghalensis	2
28	Litchi Tree	Litchi chinensis	1



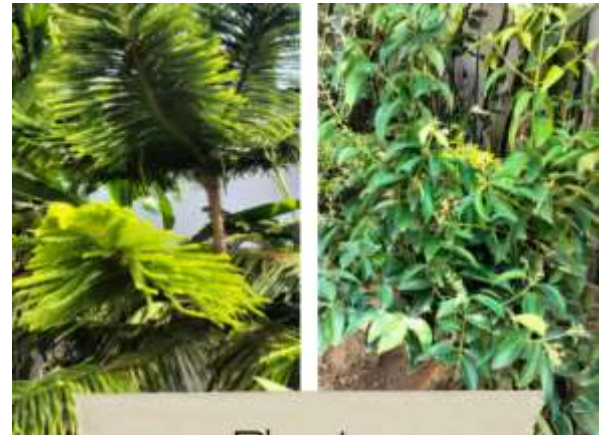
## Green Campus: List of Plants and Shrubs

S. No.	Common Name	Scientific Name	QTY
<b>Plants &amp; Shrubs</b>			
29	Bougainvillea	Bougainvillea	7
30	Dal chini Tree	Cinnamomum verum	1
31	Rose Plant	Rosa	88
32	Raat Rani	Cestrum nocturnum	5
33	Genda Flower	Tagetes	47
34	Elaichi	Elettaria cardamomum	14
35	Euodia	Euodia daniellii	12
36	Aloe Vera	Aloe barbadensis miller	16
37	Haldi	Curcuma longa	14
38	Strawberry	Fragaria ananassa	1
39	Nagfani	Crataegus	1
40	Banana	Musa acuminata	41
41	Croton Plant	Codiaeum variegatum	29
42	Rajni Gandha	Polianthes tuberosa	4
43	Red Hedge	Buxus sempervirens	73
44	Green Hedge	Buxus sempervirens	344
45	Tulsi Plant	Ocimum tenuiflorum	11
46	Bottle Palm	Hyophorbe lagenicaulis	12
47	Foxtel Palm	Wodyetia bifurcata	10
48	Jhumko Lata (Rakhi)	Passiflora	11
49	Ficus	Ficus carica	8
50	Pinwheel Plant	Tabernaemontana divaricata	4
51	Rangon	Combretum indicum (L.) DeFilipps	8
52	Mini Rangon	Combretum indicum (L.) DeFilipps	4
53	Labongo Latika		5
54	Jungle Geranium	Ixora Coccinea	6





Trees



Plants



Plants



Shrubs and Tree





## Particular 4: Water and Waste Water management

### 4.1: Total water storage capacity in the campus

9000 liters

### 4.2: Do the campus have water harvesting facility?

Yes

### 4.3: Water usage in the campus per day.

<input type="checkbox"/> Drinking	800 liters
<input type="checkbox"/> Gardening	1500 liters
<input type="checkbox"/> Toilet and other	500 liters

### 4.4: How does the college store water?

Overhead Tanks

### 4.5: How the college manage water resource? (water saving technique)

- ✓ Avoid overflow of water from water tank.
- ✓ Close the taps after usage.
- ✓ Water conservation awareness to the students through various means: seminars, lectures, poster-making etc.
- ✓ The college RO water purifier for drinking purposes, the waste water from RO is use for gardening purposes.
- ✓ Ensures regular maintenance of water tanks and water tanks and water coolers are checked every 3 months, and RO systems are regularly changed.

### 4.6: Is the campus have rain water harvesting facility?

Yes







## Particular 5: Carbon Footprint –Emission & Absorption

### 5.1: Total emission of CO<sub>2</sub> from electricity

Input value (in KWh/Year) X 0.85 (Emission Factor) = Output value in (Kg of CO<sub>2</sub>)

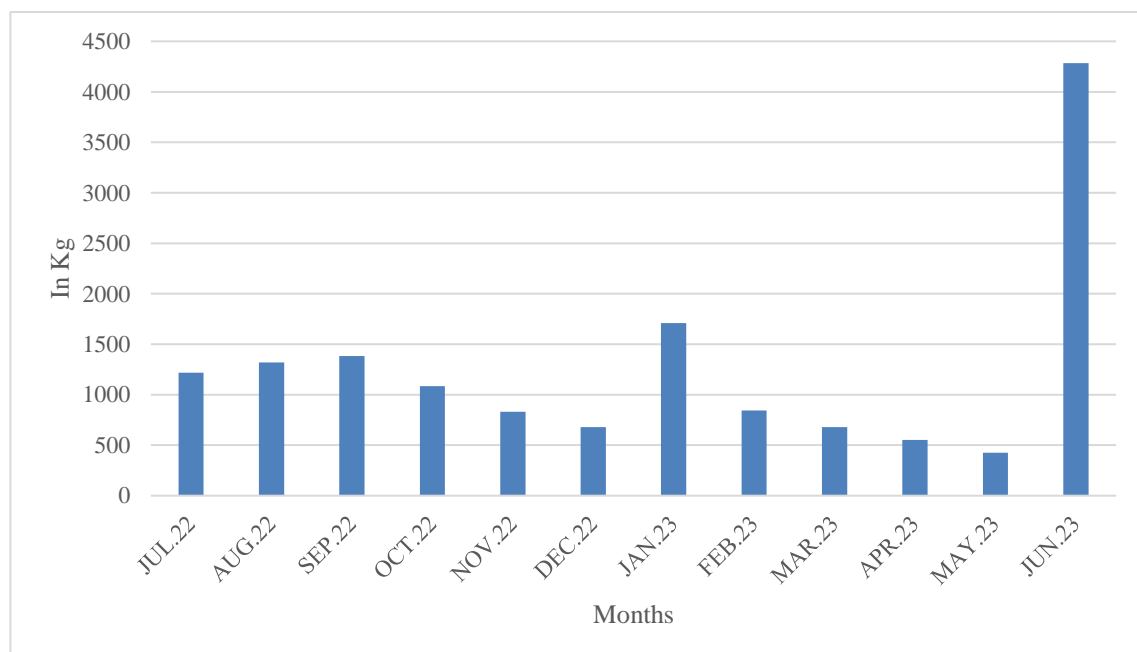
17000 KWh X 0.85 = 14450 Kg

**14.45 tons**

### Monthly CO<sub>2</sub> Emission from Electricity

Months	CO <sub>2</sub> Emission
July 2022	1218.9
August 2022	1319.2
September 2022	1382.1
October 2022	1083.75
November 2022	830.45
December 2022	680
January 2023	1710.2
February 2023	844.05
March 2023	680
April 2023	552.5
May 2023	425
June 2023	4283.15

### Monthly CO<sub>2</sub> Emission from Electricity





### 5.2: Total emission of CO<sub>2</sub> from petrol

Input Value (In Litres/Year) X 2.296 (Emission Factor) = Output value in (Kg of CO<sub>2</sub>)

$$422.4 \times 2.296 = 969.83 \text{ Kg}$$

**0.97 tons**

### 5.3: Total emission of CO<sub>2</sub> from diesel

Input Value (In Litres/Year) X 2.653 (Emission Factor) = Output value in (Kg of CO<sub>2</sub>)

$$92.3 \times 2.653 = 244.87 \text{ Kg}$$

**0.24 tons**

### 5.4: Total emission of CO<sub>2</sub> from LPG

Input Value (In Kg/Year) X 2.983 (Emission Factor) = Output value in (Kg of CO<sub>2</sub>)

$$511.2 \times 2.983 = 1524.91 \text{ Kg}$$

**1.52 tons**

### 5.5: Total Carbon (CO<sub>2</sub>) emission in the campus

Add emission from electricity + petrol + diesel + LPG = Output value in (tons of CO<sub>2</sub>)

$$14.45 + 0.97 + 0.24 + 1.52 = \mathbf{17.18 \text{ tons}}$$

### 5.6: Does the college have solar panel installed?

Yes, college has solar panel installed but only one plates has been installed in the campus



## Green Initiatives

### ❖ **Solar Energy Installation**

Grizzly College of Education has demonstrated a forward-thinking approach by installing solar panels across its campus. This sustainable energy source not only reduces the institution's carbon footprint but also serves as a model for renewable energy adoption in educational settings.

### ❖ **Tree Plantation Drive**

Emphasizing the importance of green cover, the college has initiated tree plantation drives, adding to the campus's biodiversity. These efforts not only enhance the aesthetic appeal but also contribute to environmental conservation and promote a healthier ecosystem.

### ❖ **Waste Management and Recycling Programs**

With a commitment to responsible waste management, the college has established comprehensive recycling programs. By promoting waste segregation and recycling initiatives, GCE ensures minimal environmental impact while fostering a culture of sustainability among students and staff.

### ❖ **Water Conservation Measures**

Recognizing the value of water conservation, the college has implemented various measures such as rainwater harvesting systems, water-saving fixtures, and awareness campaigns. These initiatives aim to optimize water usage, reduce wastage, and promote responsible water stewardship within the campus community.

### ❖ **Green Building Practices:**

GCE prioritizes sustainable infrastructure development through green building practices. By incorporating energy-efficient designs, sustainable construction materials, and eco-friendly landscaping, the college strives to minimize its environmental footprint while creating conducive learning environments.

### ❖ **Sustainable Transportation:**

Encouraging eco-friendly commuting options, the college promotes sustainable transportation initiatives. With dedicated bike lanes, carpooling incentives, and



public transportation partnerships, GCE fosters a culture of responsible commuting among students, faculty, and staff.

❖ **Environmental Education and Awareness Programs:**

To instill environmental consciousness, the college integrates environmental education and awareness programs into its curriculum. Through workshops, seminars, and awareness campaigns, GCE educates the campus community about sustainability, climate change, and ecological conservation.

❖ **Biodiversity and Green Spaces:**

Emphasizing biodiversity conservation, the college focuses on developing green spaces and preserving native flora and fauna. By maintaining gardens, planting native trees, and enhancing green areas, GCE creates a harmonious environment that supports biodiversity and ecological balance.

❖ **Green Campus Development:**

GCE envisions a sustainable future with its comprehensive green campus development initiatives. By integrating various sustainability measures, the college aims to transform its campus into a model of environmental stewardship and innovation.

❖ **Energy Efficiency Upgrades:**

Committed to energy efficiency, the college undertakes regular upgrades and maintenance of its infrastructure. By adopting energy-efficient technologies and practices, GCE reduces energy consumption, lowers operating costs, and minimizes its carbon footprint.

❖ **Green Audit and Reporting:**

In alignment with its commitment to transparency and accountability, the college conducts regular green audits. These audits assess the institution's environmental performance, identify areas for improvement, and guide future sustainability initiatives. By publishing comprehensive green audit reports, GCE reaffirms its dedication to environmental responsibility and continuous improvement.

By implementing these green initiatives, Grizzly College of Education can strengthen its commitment to environmental sustainability, foster a culture of eco-consciousness among its stakeholders, and contribute to a greener and more sustainable future for all.



## Recommendations

---

Based on the information provided in the Green Audit Report for Grizzly College of Education, here are some recommendations to further enhance its environmental sustainability efforts:

- 1. Expand Renewable Energy Usage:** Consider investing in renewable energy sources like solar panels or wind turbines to further reduce the college's carbon footprint from electricity consumption.
- 2. Enhance Waste Management:**
  - Implement a comprehensive recycling program for plastics, metals, and other recyclable materials.
  - Explore partnerships with local organizations for efficient e-waste management and recycling.
- 3. Water Conservation Initiatives:**
  - Install water-saving fixtures and technologies across the campus.
  - Introduce awareness campaigns to educate students and staff about responsible water usage.
  - Consider expanding rainwater harvesting systems to capture and utilize more rainwater.
- 4. Carbon Offset Programs:** Develop initiatives to offset the remaining carbon emissions, such as tree plantation drives, which can help absorb CO<sub>2</sub> and contribute to campus aesthetics.
- 5. Sustainable Transportation:** Encourage the use of sustainable transportation methods among students and staff, such as promoting carpooling, cycling, or using electric vehicles within the campus.
- 6. Green Infrastructure Development:**
  - Continue to maintain and expand green spaces on campus, enhancing biodiversity and providing natural habitats.
  - Introduce more native plants that require less water and maintenance.
- 7. Environmental Education and Training:**
  - Incorporate sustainability and environmental awareness modules into the curriculum.



- Organize workshops, seminars, and guest lectures focusing on green practices, climate change, and ecological conservation.
- 8. Regular Monitoring and Reporting:** Establish a dedicated team or committee responsible for regularly monitoring the college's environmental performance, setting measurable targets, and reporting progress.
  - 9. Engage Stakeholders:** Foster collaboration with alumni, local communities, and industry partners to share best practices, resources, and innovative solutions for sustainable development.
  - 10. Continuous Improvement:** Conduct periodic reviews of the Green Audit recommendations, seeking feedback from students, faculty, and staff to identify areas for continuous improvement and innovation.

Implementing these recommendations will not only strengthen Grizzly College of Education's commitment to environmental sustainability but also inspire and educate the campus community about the importance of adopting green practices for a sustainable future.



## Conclusion

---

The Green Audit Report provides a comprehensive overview of Grizzly College of Education's current environmental practices, policies, and initiatives, highlighting both achievements and areas for improvement.

GCE has demonstrated a commendable commitment to promoting sustainability and environmental responsibility within its campus and broader community. From waste management and water conservation to renewable energy usage and carbon offset initiatives, the college has taken significant steps to reduce its ecological footprint and foster a culture of environmental stewardship among students, faculty, and staff.

However, as with any institution striving for sustainability, there remain areas that warrant further attention and enhancement. Recommendations outlined in the report, ranging from expanding renewable energy usage and enhancing waste management practices to promoting sustainable transportation and fostering environmental education, provide a roadmap for GCE to advance its green initiatives further.

Moving forward, it is crucial for GCE to integrate these recommendations into its strategic planning and operational framework, fostering collaboration, innovation, and continuous improvement across all aspects of environmental sustainability. By doing so, the college not only aligns with national and international standards but also sets a benchmark for educational institutions aspiring to create a more sustainable and resilient future.

In conclusion, the Green Audit Report underscores Grizzly College of Education's commitment to environmental sustainability while highlighting opportunities to further enhance its green initiatives. By embracing these recommendations and fostering a culture of sustainability, the college is well-positioned to lead by example, inspiring positive change within its community and beyond, ensuring a brighter and more sustainable future for all.





## References

---

- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006).
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006).
- Energy Conservation Act 2010.
- Energy Conservation Act 2010.
- E-waste management rules 2016.
- E-waste management rules 2016.
- EPA:1989 (Amended in 2005).
- The Air (Prevention & Control of Pollution) Rules – 1982.
- The Air [Prevention & Control of Pollution] Act – 1981 (Amended 1987).
- The Air [Prevention & Control of Pollution] Act – 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982.
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle.
- The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle.
- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010).
- The Environment [Protection] Act – 1986 (Amended 1991) & Rules-1986 (Amended 2010).
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981).
- The Gas Cylinders Rules – 2016 (Replaces the Gas Cylinder Rules – 1981).
- The Petroleum Act: 1934 – The Petroleum Rules: 2002.
- The Petroleum Act: 1934 – The Petroleum Rules: 2002.
- The Water [Prevention & Control of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975.
- The Water [Prevention & Control of Pollution] Act – 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975.



## Annexure

### Photographs of the campus



Well-ventilated building structure



Green Campus



Well maintained Clean Campus



Solid waste collection



Solid waste management



Water Harvesting



E-Waste



Solar System



**GRIZZLY COLLEGE OF EDUCATION**

## Green Audit Report- 2022-23



Prepared by  
**CONSULTIA INTERNATIONAL**



**Gumo Satpulia, P.O. Jhumri Telaiya  
Dist. Koderma, Jharkhand, PIN-825409**