




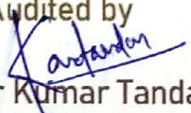
**GOVERNMENT
EKLAVYA COLLEGE
DONDILOHARA**

GREEN

AUDITING

2023-24


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(Principal I/C)
Govt. College Khertha

Audited by

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Govt. College Arjunda



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1. Introduction

1.1. Green Audit

The Green audit process was begun in the 1970s with an intention of identifying the activities carried out in a given institution or company against the growing concern over changing climate and related aspects.

Green audit is a tool to identify the range of environmental impacts and assess the compliance of the operations on the development and regular activities within an organization. It may also assess the compatibility of the operations within an organization or a company with existing applicable laws and regulations and the expectations of their various stakeholders. It further assesses the possible implications and effect of pollution due to the operations within the organization. The audit also seeks to identify possible means and methods to save investments, enhance work quality, improve health and safety of their employees, reduce liabilities and reduce the rate of environmental pollution. A continuous process of such audit might result in maintaining the quality of these aspects within the premises of any organization.

1.2 Objectives of the Green audit

The objectives of the Green Audit are -

- To ensure that the performance of the institution in the environmental activities they are involved in; is in compliance with existing laws and regulations.
- To check the functionality and their operating success including water supply, energy related matters and other similar matters that are related to green operations in the campus.

- To formulate or update the institution's environmental policy, if warranted.
- To measure the environmental impact of operational process related to green activities in the campus.
- To generate a database of green activities for continuous monitoring to assess the success of each of them.
- To identify future potential liabilities.
- To identify possible ways to reduce expenditure and running costs on equipments, appliances etc. or try enhance revenue income.

2. A brief account of Govt. Eklavya College Dondilohara

2.1 General Introduction: Government Eklavya College was established in 2006 with a humble enrollment of 25 students. Now it is a state government run college and caters an average of 1000 students yearly. It is affiliated to Hemchand Yadav University Durg, Chhattisgarh.

The college has been NAAC accredited with B grade. It offers 4 Postgraduate and 3 Undergraduate programs in arts, commerce and science disciplines. A total of 935 regular students are enrolled in the college for academic session 2023-24. There are 17 regular and guest faculties as teaching staff. 10 non-teaching staffs are there for office and support works. The college caters a diverse group of socio-economic background.

The college has a campus of 1.63 acre. The infrastructure is insufficient to run academic activity smoothly as it was built according to UG courses only. There are 12 Classrooms, 7 laboratories, a library, a girl's common room. Various cells and committees are there to support academic, curricular and extra- curricular activities. An NSS unit, a Youth Red Cross unit and a red ribbon club are also

actively running here.

2.2 Geography: The College is located in Batera, a village in Dondilohara block, District Balod of Chhattisgarh state. It is a semirural area but is well connected with the state highway. The geographical coordinates of the college is 20.77014° N 81.062918°

The college is built over a rocky surface which makes it hard to develop playgrounds or grow plants on it. However, an attempt to grow a medicinal garden was done after depositing a layer of soil over rocky surface. It neither was a great success nor a complete failure.

Every year plantation is done during rainy season. Some plants survive others not. Keeping campus green is a challenge. To encounter this challenge the college come up with a unique initiative which was later adopted as one of the best practice.

2.3 Green Initiative

Every year plantation activities are carried out in monsoon season starting from World Environment day. Due to

Donation and care of indoor plant by first year students

First year students are to donate an indoor plant with pot jointly with fellow students as a part of their environmental assignments. They need to take care of the donated plant throughout the year. The health of the plant may be a determiner to award internal scores in the environmental studies. Later these plants will be taken care of by students from higher classes and by the peons.

3. Preparation of Green Audit

3.1 Management: The Management of the college agreed upon conducting green audit. Dr. Yaser Quereshi, Principal I/C and Asst. Prof. of Botany from Govt. College Khertha, Dist- Balod, C.G. and Kishor Kumar Tandan, Asst. Prof. Botany from Govt. college Arjunda were contacted to carry the green audit out with the help of the faculties and students of the institute.

3.2 Teaching and Non-teaching staff: Following teaching and non teaching staffs were involved in the audit process-

S No.	Name	Designation	Role played	Audit involved
1.	Purushottam Bhuarya	Asst. Prof. Botany	Coordinator	Green Audit
2.	Mayank Mandavi	Asst. Prof. Commerce	Coordinator	Water Management
3.	Mr. Kuleshwar Patel	Asst. Prof. Chemistry	Coordinator	Carbon Footprint
4.	Sanjay Kumar Thakur	Asst. Prof. English	Coordinator	Data compilation

3.3 Students: Following students were involved in the audit process-

S No.	Name	Class	Role played	Audit involved
1	Chandani	B.Sc. III (Biology)	Surveyor	Green Audit
2	Ankita	B.Sc. III (Biology)	Surveyor	Green Audit
3	Ved	B.Sc. III (Biology)	Surveyor	Green Audit
4	Rajeshwari	B.Sc. III (Biology)	Surveyor	Green Audit
5	Yogeshwari	B.Sc. III (Biology)	Surveyor	Green Audit
6	Suman	B.Sc. III (Biology)	Surveyor	Green Audit
7	Sadhana	B.Sc. III (Biology)	Surveyor	Green Audit
8	Nandani	B.Sc. III (Biology)	Surveyor	Green Audit
9	Neha Rawte	B.Sc. III (Biology)	Surveyor	Green Audit

10	Durgeshwari	B.Sc. III (Biology)	Surveyor	Green Audit
11	Rukhmani	B.Sc. III (Biology)	Surveyor	Green Audit
12	Laxmi rai	B.Sc. III (Biology)	Surveyor	Green Audit
13	Surekha	B.Sc. III (Biology)	Surveyor	Green Audit
14	Yamini	B.Sc. III (Biology)	Surveyor	Green Audit
15	Laxmi	B.Sc. III (Biology)	Surveyor	Green Audit
16	Rustam Sen	B.Sc. I (Maths)	Surveyor	Green Audit
17	Vikas Kumar	B.Sc. I (Maths)	Surveyor	Green Audit
18	Bhuneshwar Sahu	B.Sc. I (Maths)	Surveyor	Green Audit
19	Gaurav	B.Sc. I (Maths)	Surveyor	Green Audit
20	Harish Patel	B.Sc. III (Maths)	Surveyor	Green Audit
21	Yugal Kishor Dubey	B.Com II	Surveyor	Water Management
22	Sanjay Kumar	B.Com II	Surveyor	Water Management
23	Vijay Sinha	B.Com II	Surveyor	Water Management
24	Usha	B.Com II	Surveyor	Water Management
25	Revati	B.Com II	Surveyor	Water Management
26	Akash Joshi	B.A. III	Surveyor	Carbon footprint
27	Roshan Kumar Dehari	B.A. III	Surveyor	Carbon footprint
28	Neha Deshmukh	B.A. III	Surveyor	Carbon footprint
29	Meena	B.A. III	Surveyor	Carbon footprint
30	Hulsi	B.A. III	Surveyor	Carbon footprint

4. Process of Green Audit

1. Selection of area/activities/parts of the campus.
2. Planning of visit to campus to discuss the audit process.
3. Identification of the scope of audit process after consultation with the home institute.
4. Drawing a plan of action.
5. Constitution of a team consisting of teachers, non-teaching staff and students to carry out specific tasks.
6. Data collection through on-site visit by the team.
7. Data analysis and evaluation.
8. Discussion on the findings.
9. Report preparation.

4.1 Survey and Inspection:

As mentioned earlier in 3.2 and 3.3, staff and students were teamed up to carry out different activities. Survey and inspections were carried out by these teams of coordinators and students which were later verified by the Audit team.

4.2 Data collection:

Data were collected by the teams concerned during survey and inspection.

4.3 Data tabulation and documentation:

Data collected during survey and inspection were later tabulated and documented by the team concerned.

4.4 Data analysis and Findings

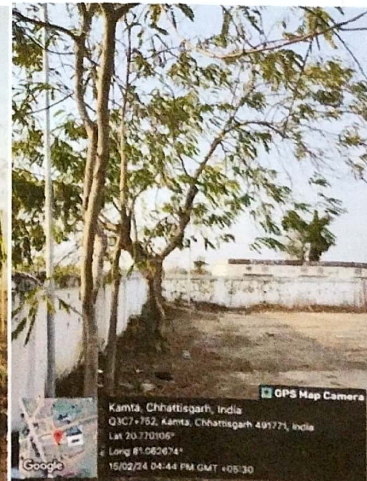
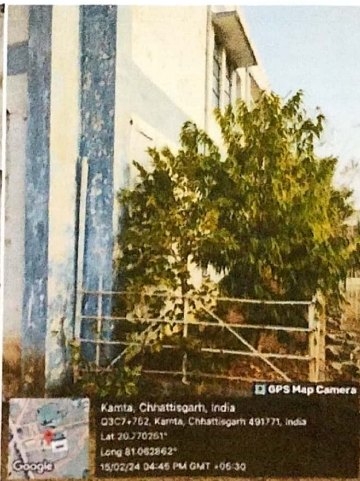
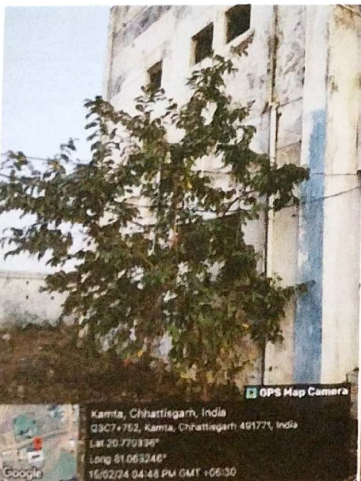
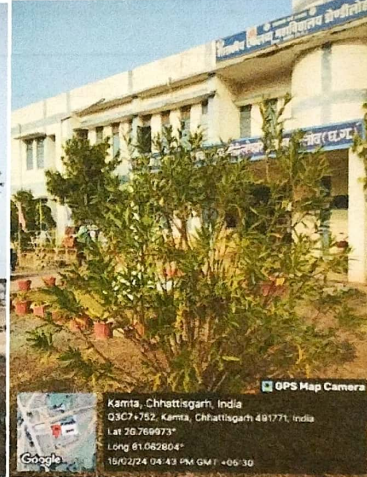
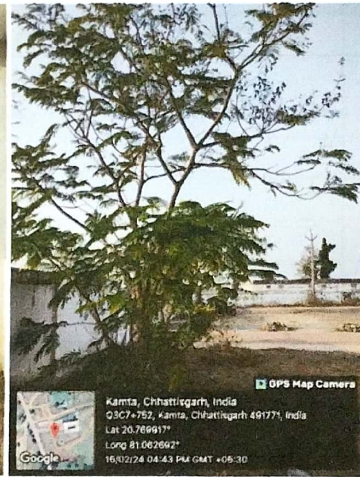
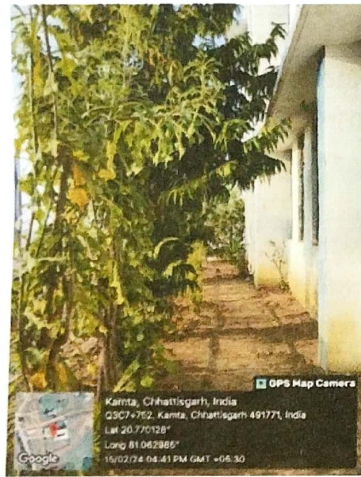
4.4.1 Analysis of Green initiatives in the campus

As mentioned above Government Eklavya College is built on a rocky surface therefore, natural flora around it is nothing but grasses. A few trees are here and there in distant lands around it. Plantation is difficult on the campus land. Every year plantation was done during rainy seasons as a result some surviving plants in the campus are as follows-

Outdoor Plants

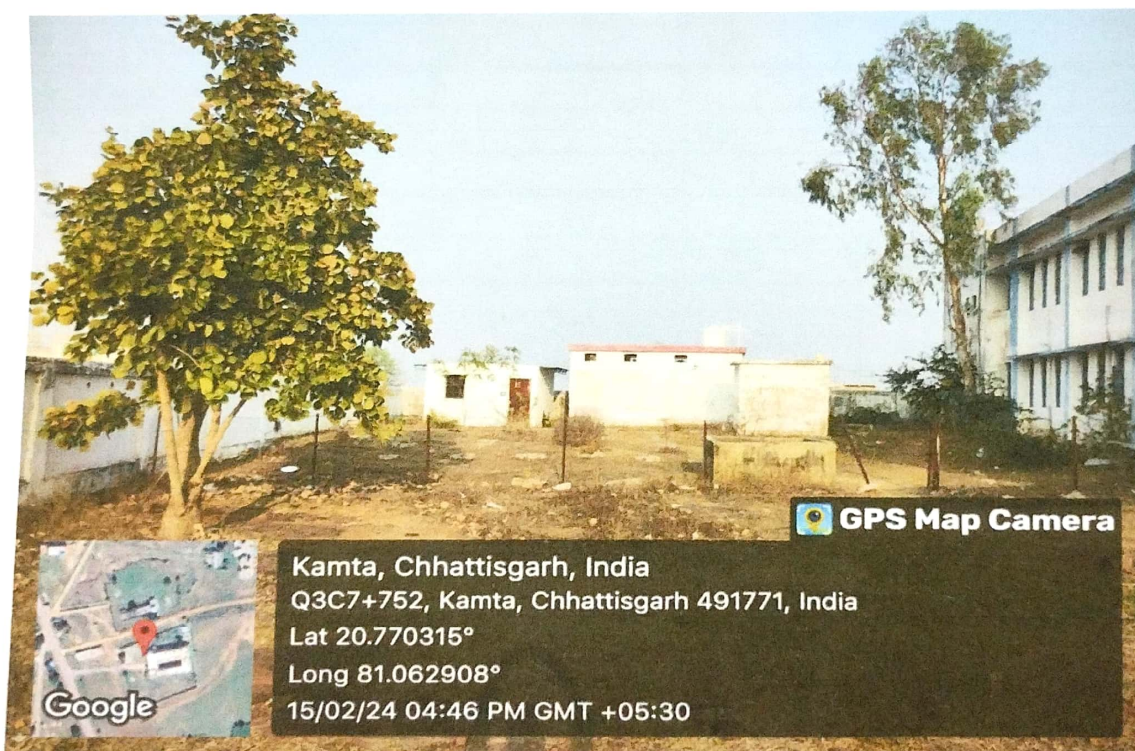
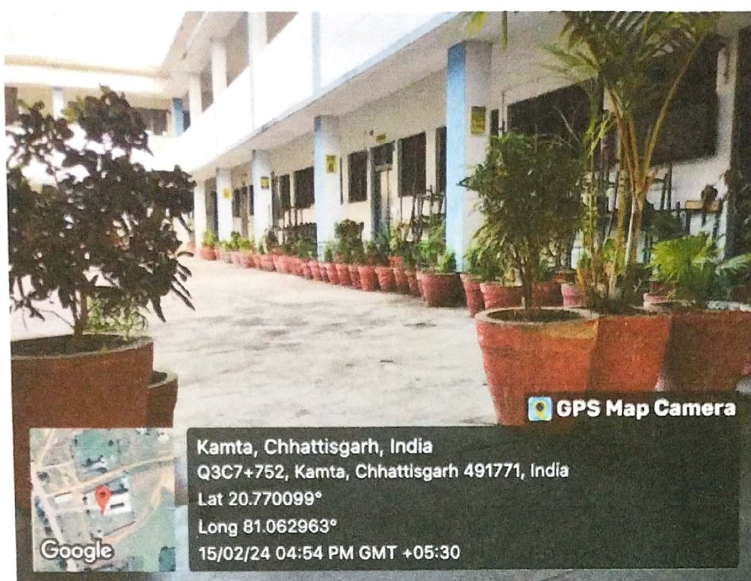
S.No	Common name	Scientific name	No. of plants
1	अशोक	<i>Saraca asoka</i>	6
2	अमरूद	<i>Psidium</i>	6
3	आंवला	<i>Phyllanthus emblica</i>	1
4	ऐलोवेरा	<i>Aloe barbadensis</i>	2
5	बेल	<i>Aegle marmelos</i>	2
6	बबुल	<i>Vachellia nilotica</i>	2
7	बेर	<i>Ziziphus mauritiana</i>	8
8	दुधमोंगरा	<i>Jasminum sambac</i>	2
9	मदार	<i>Calotropis procera</i>	1
10	धतूरा	<i>Datura stramonium</i>	1
11	गुलमोहर	<i>Delonix regia</i>	2
12	गुलाब	<i>Rosa chinensis</i>	7
13	जामुन	<i>Syzygium cumini</i>	1
14	करोँदा	<i>Carissa carandas</i>	2
15	कनेर	<i>Nerium oleander</i>	1
16	नींबू	<i>citrus limon</i>	16
17	मुनगा	<i>Moringa oleifera lam</i>	1
18	आम	<i>Mangifera indica</i>	3
19	गेंदा	<i>Tagetes</i>	5
20	नीम	<i>Azadirachta indica</i>	3

21	नीलगिरी	<i>Eucalyptus globulus</i>	1
22	परसा	<i>Butea monosperma</i>	13
23	पत्थरचट्टा	<i>Kalanchoe pinnata</i>	4
24	सीताफल	<i>Annona squamosa</i>	2
25	खेक प्लॉन्ट	<i>Dracaena trifasciata</i>	2
26	सेवन्ती	<i>Chrysanthemum multiform</i>	9
27	सायकस	<i>Cycas revolute</i>	5
28	तुलसी	<i>Ocimum sanctum</i>	4
29	चम्पा	<i>Plumeria alba</i>	4
30	क्रिसमस	<i>Araucaria columnaries</i>	6



Indoor Plants

S.No	Scientific name	No. of plants
1	<i>Agave desmetiang</i>	3
2	<i>Acalypha Indica</i>	3
3	<i>Agave Americang</i>	1
4	<i>Billbergia pyramidalis</i>	2
5	<i>Euphorbia ammak</i>	1
6	<i>Codiaeum variegatum</i>	3
7	<i>Euphorbia tithymaloides</i>	18
8	<i>Dracaena coloroma</i>	1
9	<i>Codigeum variegatum</i>	22
10	<i>Dracaema reelexa</i>	4
11	<i>Carandas plum</i>	1
12	<i>Nerium indicum</i>	1
13	<i>Coleus scutellarioides</i>	3
14	<i>Thuja orientalis</i>	14
15	<i>Ptychosperma macarthurri</i>	3
16	<i>Araucaria</i>	12
17	<i>Euphorbig tirucalli</i>	1
18	<i>Plumeria flower frangipani</i>	21
19	<i>Ficus elastica</i>	3
20	<i>Prosopis</i>	2
21	<i>Plivistong chinensis</i>	5
22	<i>Cissus quadrangularis</i>	2
23	<i>Evodia</i>	11
24	<i>Acanthophoenix</i>	12
25	<i>Euphorbia ingels</i>	1



First year students water the plants as a part of their environmental assignments on alternate days. During examinations and other days these plants are watered by peons and students from other classes.

4.4.2 Analysis of Water Management System:

There are two borewells in the college premises for water supply. There are three overhead water storage tanks for storage and continuous supply of water. Three water coolers are there for potable water. The daily consumption of water in the institution is as follows-

S. No.	Usage	Per head/unit use (in liters)	No. of heads/unit	Total consumption (in liters)
1	Drinking	0.7	550	385
2	Hand wash	0.3	550	165
3	Toilet	5.0	10	50
4	Urinal	0.7	900	630
5	Watering plants	1.0	125	125
6	In Labs	-	-	-
7	Washing utensils	1.5	10	15
8	Leakage of water	-	-	15
9	Overflow in tanks	-	-	60
Total				1445

It is evident that wastage of water is mainly due to leakage in water pipes and overflow in overhead tanks.

4.4.3 Analysis of Carbon footprint

Carbon dioxide is a major green house gas. Excess in green house gases is causing global warming. Apart from the carbon dioxide we emit during respiration, our fuel based transport engines are major contributors in CO₂ emission.

Major findings in the institution:

Type of vehicle	CO ₂ emission(Kg) /Km	No of vehicles
Car	0.12130	0
Bike/scooter	0.10086	38
Bicycle	NA	180

Since we don't have any reference data to compare with regarding carbon footprints, the interpretation of this data takes us nowhere. But one thing is positive towards the concern that there are very few users of fuel based vehicles. Most of the students either travel in public transport or by bicycles.

5. Recommendations

General Recommendations:

- Plants should be protected from animals.
- Arrangements to water the plants during summer season should be made.
- More native plants should be planted.
- Deposition of Fertile soil may help to grow vegetation.
- Eco club or similar other club can be constituted in the students to engage students actively in environmental activities.
- Students as well as Staff are to be sensitized against the wastage of water.

Water Management:

- Effective system should be made to stop overflow of water.
- Leakage should be minimized through new/repared pipelines.
- Rain water harvesting system should be there.
- Borewell recharge pit should be there.
- Channelization of the water should be in such a way that waste water from hand wash etc reaches to the vegetation.

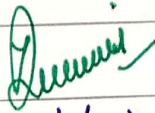
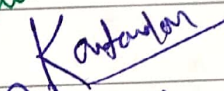
Energy Management:

- Non LED lights should be replaced with LED ones.
- Fans, lights should be kept off when not in use.
- Staff as well as students should be sensitized towards saving of energy.
- Solar panels can be installed as a source of alternate and green energy.

Carbon footprints:

- Staff and students should be sensitized about the use of public transport.
- Vehicle pooling should be encouraged.

Audit team:

1. Dr. Yaser Qureshi	
2. Kishor Kumar Tandan	
3. Purushottam Bhuaarya	