



Y.V.N.R GOVERNMENT DEGREE COLLEGE
Kaikaluru, Krishna Dist., A.P – 521333.
Affiliated to Krishna University
NAAC Grade “B” [CGPA 2.61], ISO Certification 9001: 2015.



Website: www.yvnrgdc.ac.in

E-mail: gdcjkc.kaikaluru@gmail.com

Mobile: +919948422020

GREEN AUDIT

2020-2021



SUPPORTED BY



COMMISSIONERATE OF COLLEGIATE EDUCATION

ANDHRA PRADESH

CONTENTS

INTERNAL AUDIT TEAM

EXTERNAL AUDIT TEAM

CHAPTER-I: INTRODUCTION

- 1.1 About College
- 1.2 Aim and Objectives of Green Audit
- 1.3 Advantages of the Green Auditing

CHAPTER-II: PRE-AUDIT

- 2.1 Introduction on green auditing
- 2.2 Pre-auditing report
- 2.3 Areas of green auditing
- 2.4 Methodology

CHAPTER-III: ONSITE AUDIT OBSERVATIONS AND RECOMMENDATIONS

- 3.1 Auditing of Water management
- 3.2 Auditing of Energy
- 3.3 Auditing of Green Area
- 3.4 Auditing of waste management
- 3.5 List of the Trees and Plants in the campus

CHAPTER-IV: POST AUDIT REPORT

CONCLUSIONS

ACKNOWLEDGEMENTS

AUDIT TEAM

1. **Dr. B.Raghuatha Reddy** : Principal
2. **Dr. R. Jala Babu** : Coordinator, IQAC.
3. **Smt. Y. Gnana Prasunamba** : Convener, HOD, Dept. of Botany.
4. **Sri. V. Madan mohan** : Lecturer in Botany.
5. **Dr. S. D.VSatyanarayana** : NSS Program officer.
6. **Smt. A. Sujana vesley** : Lecturer in Botany.

CHAPTER-I: INTRODUCTION

1.1 About College

Y.V.N.R. Government Degree College, Kaikaluru is a public-funded educational institution. This college, popularly known as GDC kaikaluru is located in the world-famous wetland Ramsar, Kolleru Lake. The College has a unique logo with the citation “Knowledge is Power”. The citation depicts the ancient adage the “knowledge is power”. The logo is flagged by the rising sun, Kolleru Lake, Kolleru men, and Kolleru birds. The required knowledge to cope with the current trends in the competitive world is being inculcated in the students at various levels by the institute. The students are benefitted from the power to sustain in the community. The rising sun in the logo is the symbol of knowledge. Like the sun shining the institute provides the radiance of knowledge to the community. The other parts of the logo i.e., Kolleru birds and Kolleru fishermen are presentations of the community. All of them depict a communal approach with enriched knowledge imparted to the stakeholders in the institute. The college was established in the year 1982. Sri Yerneni Raja Rama Chandar, Yerneni Nagendranath, Yerneni Sitha Devi (former Education Mnister, Govt. of AP) and Yerneni family members generously came forward and raised funds from the public for the establishment of this institution.

The college development committee secretary Sri Gurajada Narasimha Rao coordinated the activities of the development committee and with in time with the support of the state government under the Telugu Grameen Kranthi Padham, buildings were constructed. With the generous assistance of philanthropists and the elite of the village - Sri Kammili Vital Rao, Sri Rama Raju, Sri Naidu, Sri Undukuri satyanarayana Raj, CPDC members – Sri Gadiraju Bhaskara Varma, Sri Potluri Vijaya Bhaskar, Sri S. Satyanarayana Murthy, Sri Kare Sarat Babu, Sri B D Srinivas, Sri G. Chandra Mohan, Sri Udaya Sankar along with government funds, additional class rooms were built. In the 2017 2nd Cycle NAAC Accreditation, it is gratifying to see this college maintain a better position than the grade achieved in the previous first cycle by achieving a B+ grade with 2.61 CGPA in Government Degree Colleges. Achieving this grade involves the hard work of lecturers and students under the leadership of the then principal. That is why the proverb that people become sages if they work hard does not come with ease. Most importantly, due to the efforts of the college governing body CPDC, with the help of donors and financial assistance for the infrastructure, Rs.2 crores was obtained in RUSA 2.0 by getting a B grade in the 2nd cycle. Classrooms and labs are already under construction under RUSA Funds and the college computer lab is

modernized with these funds. It is the result of the efforts of our CPDC. In addition, AISHE and NIRF Ranking are helping to enhance student and lecturer skills for this position. The state government will soon provide the necessary infrastructure for the college through the scheme NADU NEDU. The new courses will be starts from 2 this academic year 2020-2021. These new courses are mainly market-oriented courses. With the efforts of our honorable M.L.A, these new courses will be started in B.Sc Data Science and B.Sc Aquaculture. These courses provide employment opportunities for students in this area.

1.2 Aim and Objectives of Green Audit

Clean and Green environment is a healthy environment. Any person can feel comfort, pleasant and peace of mind in clean and green environment. Therefore teaching and learning is effective and provides a stress less learning environment. Green auditing is one among the various efforts around the world to address environmental education issues. Once a baseline is established, the data can serve as a point of departure for further action in campus greening. The main aim of the green audit is to study ground reality of different issues regarding environment such as water and power conservation, waste management, and clean & green in the campus. The main objective of the green audit is to promote the environment, management and conservation in the college campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green Audit are

- To recognize, diagnose and resolve the environmental problems and secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus
- To minimize the consumption of water and energy, provide baseline information to enable organization to evaluate and manage environmental change, threat and risk.
- To train all stakeholders of the organization and empower them to contribute and participate in the environmental protection and facilitate them with different aspects of disaster management
- To identify the risks of hazards and implement the policies for safety of stakeholders and to set up procedure for disposal of all types of harmful wastes
- To bring out a status report on environmental compliance.

1.3 Advantages of the Green Auditing

- To maintain greenery in campus
- To facilitate waste management through reduction of waste generation, solid- waste and water recycling
- To create plastic free campus
- To bring awareness in health consciousness among the stakeholders
- To provide a basis for improved sustainability
- To instruct environmental education through systematic environmental management approach and Improving environmental standards
- Financial savings through a reduction in resource use

CHAPTER-II: PRE-AUDIT

2.1. Introduction on green auditing

The systematic identification, quantification, recording, reporting and analysis of components of environmental diversity is called Green Audit. The main aim of ‘Green Audit’ is to analyze environmental practices within the college campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

2.2. Pre-auditing report

A pre-audit meeting was held on 12-11-2020 in our college campus. It gave an opportunity to gather documents that the audit team can study before arriving on the site. The audit protocol and audit plan were handed over at this meeting and discussed in advance the audit itself. The meeting provided an opportunity to reinforce the scope and objectives of the audit and discussions were held on the practicalities associated with the audit. The committee is decided to audit different areas like water management, energy management, waste management in our college campus.

Our principal sir has shown great interest and dedication towards green auditing during the pre-audit meeting. He encouraged all green activities such as awareness programmes on waste management, clean and green campus and planting more trees on the campus etc. The management of the college will formulate policies based on the green auditing report. The college development committee is an indicator which addresses institutional commitment, governance, and investment policy. College administration is vital to the process of realizing campus sustainability and college policy is an essential instrument for any substantial change in the campus environment.

2.3. Areas of green auditing

The study area is an eco-friendly, rural background, and rich in biodiversity. The Department of Botany is maintaining a Botanical Garden of 0.5 acre. In this garden, we have grown medicinal plants, and flowering plants for botanical studies as a part of academics. In

this context, the Department is maintaining and monitoring almost 8 medicinal plants and 25 potted and 50 ornamental plants along with ferns and wild plants like Calotropis, Catharanthus. The college has a total of 257 in which there are 44 Trees, 34 shrubs, 154 herbs and 25 potted plants.

2.4. Methodology

Green auditing was conducted during February - March 2021 by our committee with the help of teaching , non-teaching and NSS students. The green audit began to physical verification on different facilities at the college, determining the different types of appliances and utilities like lights, taps, toilets, etc. as well as measuring the usage per item (Watts indicated on the appliance or measuring water from a tap) and identifying the relevant consumption patterns (such as how often an appliance is used) and the impact that they have.

For our study convenience the entire college was divided into 5 blocks. viz., Room no.10, Botany garden, Entrance Ground, the department of chemistry. The college and its premises were visited and analyzed by the audit-team several times to gather information. Campus trees were counted and identified; play grounds, library, office rooms and parking grounds were also examined to collect data.

CHAPTER-III: ONSITE AUDIT OBSERVATIONS AND RECOMMENDATIONS

3.1. Auditing of Water management

Water is life, life without water can't imagine. After life gas oxygen, water component plays a vital role for beings. Our students and staff follow the best practice “**SAVE WATER-SAVE LIFE**”. Water, it is not only life; it is the backbone of economy of every country. Auditing of water management is an onsite survey which includes water sources, water consumption, irrigation, storm water, appliances and fixtures, and assessment to determine the water use and hence improving the efficiency of its use.

Observations

- ✓ The study observed that , Bore well and municipal running water are the two major sources of water.
- ✓ The data collected from all the departments is examined and verified and on an average the total use of water in the college is 3000 L/day, which include 1000 L/day

for domestic purposes, 1500 L/day for gardening and 300 L/day for different laboratories.

- ✓ Water is used for drinking purpose, toilets, laboratory and gardening.
- ✓ The students and staff use sufficient quantity of water and turn off taps immediately.
- ✓ we have a drinking water point, fifteen water points for hand wash and cleaning lunch boxes
- ✓ Five urinal wash points and five toilets.
- ✓ Utmost care is taken to flow water through pipes and reach terminal points to fulfil our basic needs without any leakage
- ✓ Waste water is channelled into sock pits to improve ground water level.
- ✓ The waste water generated by RO Plant is channelized into the plants in front of the chemistry department.
- ✓ During the survey, no loss of water was observed, neither by any leakages nor by over flow of water from the overhead tanks.

Recommendations

- Monitor and control of overflow is essential and supervision is essential periodically.
- Recycle of water system is necessary to reuse the waste water if any
- Minimize wastage of water and use of electricity during water filtration process, if used such as RO filtration process
- Ensure that all cleaning products used by college staff should be biodegradable and non- toxic.
- Install waste water system for chemistry department.
- Establish water waste and energy management systems
- Increase the number of water taps and set up recycling of water system

3.2. Auditing of Energy

Auditing of Energy was taken up separately by the energy audit team and addressed energy sources, energy monitoring, energy consumption, lighting, appliances and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

3.3. Auditing of Green Area

Plants produce oxygen and give shelter to organisms. They are also used as medicines to cure various chronic diseases for animals and human beings. Plants produce wonderful therapeutic drugs to cure very dangerous and normal diseases. Green area auditing includes plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programmes.

Observations

- Huge number of variety of trees of age above 30 years is found in our college campus. Conocarpus trees (sound absorbing) t maintained in front of our college i.e. at the entrance.
Some plants are grown at the Department of Botany, they are medicinal plants.
- Beautiful flower plants are planted on the campus
- 44 trees of different species are on campus. among them, 5 are medicinal plants.
- Various tree plantation programs were being organized during the month of July and August on the college campus through NSS unit. There was various type of indigenous species of ornamental and medicinal wild plant species.

Recommendations

- Planting of trees in every year in the campus
- Set up a nursery for plants to be distributed to the students
- Set up vegetable and medicinal plant gardens
- Reviews periodically the list of trees planted in the garden, allot numbers to the trees and keep records. Give scientific names to the trees.
- Promote environmental awareness as a part of course work in various curricular areas, independent research projects, and community service.
- Create awareness of environmental sustainability and takes actions to ensure environmental sustainability.
- Establish a College Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy. The Environmental Committee shall be the source of advice and guidance

3.4. Auditing of waste management

Waste production and disposal, plastic waste, paper waste, food waste and recycling comes under auditing of waste management. Solid waste has a number of adverse environmental impacts, most of which are well known and not in need of elaboration. Solid waste can be divided into two categories: general waste and hazardous waste. General waste includes what is usually thrown away in class rooms and roads such as paper, plastics tins and glass bottles. Hazardous waste is waste that is likely to be a threat to one's health or the environment like cleaning chemicals and petrol.

Observations

- The possible ways of generation of solid waste in our college campus are from plants dry leafs, grass, food stuff, paper, glass, plastic, use and through pens, single use water bottles, water packets, single use poly bags, electrical, electronic and packing materials ect. The total solid waste collected in the campus is 15 Kg/day
- Early in the morning sweeper sweeps the campus to make it clean and neat, during the process She collects and then separate the whole solid waste into biodegradable solid waste (plants dry leafs, grass, food stuff, paper), plastic and polymer waste (plastic, use and through pens, single use water bottles, water packets, single use poly bags)
- Single sided papers are reused for writing and printing in all departments

Recommendations

- Set up a common waste water treatment plant
- Installation of vermiculture and compost units
- Adopt an environment policy for the college
- Establish an e-waste collection centre
- Participation of students and teachers in local environmental issues
- Conduct seminars and workshops on environmental education
- Avoid plastic plates and plastic items in the college functions
- Introduce UGC environmental science course to all students
- Declare the campus plastic free and arrange awareness programmes to make the campus plastic free

3.5 List of the Trees and Plants in the campus

S.NO	SCIENTIFIC NAME OF THE PLANT	COMMON NAME	FAMILY	HABIT t/T/S/H/C	USES	
1	Terminali arjuna	Tella maddi	Combretaceae	T	Medicinal	
2	Pongamia pinnata	Ganuga	Fabaceae	T	Medicinal	
3	Samanea saman	Nidra ganneru	Fabaceae	T	Medicinal	
4	Conocarpus eructus	Buttun wood	Combretaceae	S	Ornamental	
5	Azadirachta indica	Neem	Meliaceae	T	Medicinal	
6	Cassia fistula	Golden shower	Fabaceae	S	Ornamental	
7	Cassia siamea	Tangedu	Fabaceae	S	Medicinal	
8	Bauhinia	Addaku	Fabaceae	T	Avenue	
9	Albergia lebek	Womens tongue	Fabaceae	T	Avenue	
10	Delonix regia	Gulmohar	Fabaceae	T	Ornamental	
11	Shyzigium cumini	Neredu	Myrtaceae	T	Medicinal	
12	Prosopis juliflora	Thumma	Mimosaceae	T	Timber	
13	Cycas revoluta	Sagopalm	Cycadaceae	S	Ornamental	
14	Plumaria rubre	Red frangipani	Apocynaceae	S	Ornamental	
15	Plumaria abtusa	White frangipani	Apocynaceae	S	Ornamental	
16	Calotropis procera	Tella jilledu	Asclipidaceae	S	Medicinal	
17	Datura metal	Ummetha	Euphorbiaceae	S	Medicinal	
18	Zizipus jujube	Regu	Rhamanceae	S	Medicinal	
19	Murraya konigi	Curry leaves	Rutaceae	S	Medicinal	
20	Dracaena coloroma	Dragon tree	Liliaceae	H	Ornamental	
21	Tecoma stans	Suvarna ganneru	Bignonaceae	S	Ornamental	

22	Crinum asiaticum	Spider lilly	Amarilladaceae	H	Ornamental	
23	Dracaena fragrans	Snapdragon	Liliaceae	H	Ornamental	
24	Codiaeum variegatum	Multicolour croton	Euphorbiaceae	H	Ornamental	
25	Alovera	Kalabandha	Liliaceae	H	Medicinal	
26	Tinospora cardifolia	Tippateega	Menispermaceae	C	Medicinal	
27	Eclipta alba	Guntakalagara aaku	Asteraceae	H	Medicinal	
28	Phyllanthus niruri	Nela usiri	Euphorbiaceae	H	Medicinal	
29	Cymbopogon flexuosus	Lemon grass	Poaceae	H	Medicinal	
30	Achyranthus aspera	Uttareni	Acanthaceae	H	Medicinal	
31	Aerruva lenata	Kondapindaku	Amaranthaceae	H	Medicinal	
32	Curcuma longa	Pasupu	Zinzeberaceae	H	Medicinal	
33	Bryophyllum pinnatum	Ranapala	Crasulaceae	H	Medicinal	
34	Catharanthus roseus	Billaganneru	Apocynaceae	H	Medicinal	
35	Adenium	Lucky plant	Apocynaceae	H	Ornamental	
36	Tabernaemontana	Nandivardhana	Apocyanaceae	S	Ornamental	
37	Hibiscus rosa sinensis	Mandara	Malvaceae	S	Ornamental	
38	Sansevieria trifaciata	Snake plant	Asparagaceae	H	Ornamental	
39	Canna indica	Mettatamara	Cannaceae	H	Ornamental	
40	Hamelia	Firebush	Rubaceae	S	Ornamental	
41	Ixora coccinea	Nooruvarahalu	Rubaceae	S	Ornamental	
42	Cormona retusa	Scorpion bush	Boraginaceae	H/S	Fencing	

CHAPTER-IV: POST AUDIT REPORT

1. Green auditing should be conducted by the College in every two years. College should also offer consultancy projects on environmental auditing for other academic and research institutions
2. Irrespective of the academic programmes, environmental education should be part of curriculum for the under-graduate programmes, at least one credit on environmental education or sustainable development as elective should be made compulsory.
3. Rainwater harvesting facilities may be established at both administrative and academic campuses, foreseeing future needs of water. Rainwater pits can be prepared at appropriate places identified with the assistance of Department of chemistry and restoration activities may be initiated to sustain the health of ponds and wetlands in the campus
4. Specific waste management plans should be adopted to manage solid waste in the campus with the assistance of State Swatcha Mission and use of plastic carry bags, thermocol cups/plates and flex boards should be banned inside the college.
5. All the blocks in the Campus should develop a garden in front of the building and the expenditure for the same may be met from the College Development Fund.
6. Green habitat concept should be adopted for all the building construction activities of the college in future. Further, more green spaces should be established all around the campus around larger trees and shades for the benefit of the students
7. More public toilets may be established in the campus; separate toilets are required for differently abled students.'

SOME OF MEDICINAL PLANTS IN BOTANY GARDEN







Samanea saman



Calotropis procera(jilledu)



Cycas circinalis (QueenSago)



Murraya koengii (Curry Leaf)

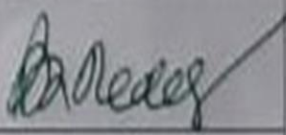
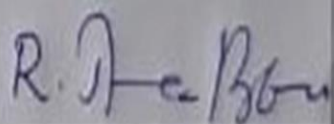
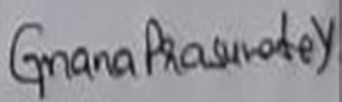
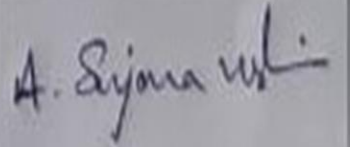
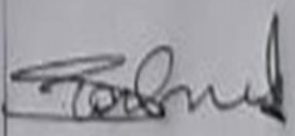
Conclusions

Green audits or environmental audits should be implemented strictly. It is a continuous process. College development committee administrative staff, teaching & non-teaching staff and stakeholders should understand the process of environmental auditing, and the importance and impact of green auditing. Though academic institutes take part in restoring the environment, still there is scope for further action.

Acknowledgements

The audit committee sincerely thanks the principal, vice-principal and IQAC coordinator and the physical director and NSS programme officer Sri S.D.V. Sathyanarayana for their support in the entire onsite auditing. We are thankful to the heads of the departments and college staff for providing us necessary facilities and cooperation during the audit. We are also very much thankful to all office staff for providing supply with the required data from time to time which helped very much in making the audit a grand success.

AUDIT TEAM

S. No	Name	Designation	Signature
1	Dr.B.Raghunath reddy	Principal	
2	Dr. R.Jala babu	Coordinator, IQAC	
3	Smt.Y.Gnana prasunanmba	Convener HOD, Dept. of Botany	
4	Smt.A.Sujana Vesley	Lecturer, Dept. of Botany,	
5	Dr.S.D.V.Satyanarayana	NSS Program officer Dept.of Physical education	





INFRONT OF BOTANY DEPARTMENT



**FRONTVIEW OF YVNR GOVERNMENT DEGREE COLLEGE
KAIKALURU**