

## CERTIFICATE OF COMPLETION

*This is to certify that*

---

*Sri Chintalapati Varaprasada Murthy Raju*  
*Government Degree College*

---

*has successfully completed*

**GREEN LAND SCAPE AUDIT**

The study was completed by Rekhapalli Environmental Solutions &  
Technologies Pvt Ltd



**Dr Rekhapalli Srinivasa Rao**

*Green, Eco & Energy Lead Auditor*  
*Certified ISO-14001 Auditor*



Issued by

**Rekhapalli Environmental Solutions & Technologies Pvt Ltd**

Aug 2021



## Green Landscape Audit

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# Acknowledgements

REST Pvt Ltd

**Dr Rekhapalli Srinivasa Rao**  
Green, Eco & Energy Lead Auditor  
Certified ISO-14001 Auditor

31 Aug 2021

## Green Landscape Audit

The REST Pvt Ltd acknowledges with thanks the cooperation extended to our team for completing the study at Sri Chintalapati Varaprasada Murthy Raju Government Degree College

(SCHVPMR) by Eco-club team and Staff.

We deeply appreciate the interest, enthusiasm, and commitment of SCHVPMR team towards environmental sustainability.

We are sure that the recommendations presented in this report will be implemented and the SCHVPMR team will be further improve their environmental performance.

Kind regards

Your sincerely



**Dr Rekhapalli Srinivasa Rao**

Green, Eco & Energy Lead Auditor  
Certified ISO-14001 Auditor  
REST Pvt Ltd

# Executive Summary

The growth of countries across the world is leading to increased consumption of natural resources. There is an urgent need to establish environmental sustainability in every activity we do. In a modern academy, environmental sustainability will play a critical role in the very existence of an organization.

An educational institution is no different. Built environment, especially an educational institution, has a considerable foot print on the environment. Impact on the environment due to energy consumption, water usage and waste generation in an educational institution is prominent. Therefore, there is an imminent need to reduce the overall environmental footprint of the institution.

As an institution of higher learning, Sri Chintalapati Varaprasada Murthy Raju Government Degree College (SCHVPMR) firmly believes that there is an urgent need to address the environmental challenges and improve their environmental footprint.

True to its belief, SCHVPMR maintain an excellent landscaping in its campus. The whole campus is lush green, and trees are seen everywhere around the campus. REST congratulates the SCHVPMR for their efforts to create a truly green campus.

Based on the data submitted by SCHVPMR team, following improvement opportunities have been identified in the campus in terms of landscaping.

- Implement ecosystem restoration by development of theme gardens in used areas of the campus
- Develop green corridors between existing areas in the campus
- Develop natural areas to encourage bird roosting and nesting in built-up areas
- Increase tree density and canopy cover in the built-up areas by planting more fruit yielding trees.
- Conduct regular flora surveys for improving the existing data
- Develop strategies for regular monitoring prevention of invasive plant species.

By addressing the improvement opportunities, the campus would be able to achieve the following benefits:

- Identifying & implementation of proper measure for conservation of endangered floral species in the campus
- Reduce the microclimate temperature of the campus by 1-2° which is significant
- As many of the species have the capability to absorb contaminants in the air and therefore this would lead to better air quality in the campus
- This can evolve as an excellent educational campus for spreading awareness on biodiversity and benefit the nation at large.

# Introduction

## **Urbanisation and its effect on loss of biodiversity**

Urbanization causes biodiversity to decline. As cities grow vital habitat is destroyed or fragmented into patches not big enough to support complex ecological communities. In the city, species may become endangered or even locally extinct as natural areas are swallowed up by the urban jungle.

Ironically, it is urban growth that is often responsible for the introduction of non-native species, either accidentally or deliberately, for food, pets or for aesthetic reasons.

## **Documentation of Flora**

Knowledge on biodiversity of any geographical region is a paramount importance for sustainable management and conservation plans. The foremost task in the conservation process is to prepare an inventory of species. It is necessary to have full knowledge regarding the habit, habitat, distribution and phenology of various plants for their proper conservation.

The documentation of flora will help in identifying, documenting and promoting the conservation of native flora in India. This in turn will help in promoting native species for landscapes as they suit one growing interest in “Low maintenance” gardening and landscaping.

Many species are vigorous & hard and can survive winter, cold, and summer heat. These species once established, can flourish without irrigation or fertilization and are resistant to most pests & diseases.

## **Need for documentation of Flora**

The knowledge building on significance and importance of various flora existing around us is the need of the hour. Loss of the biodiversity is likely to result in loss of various other taxonomic groups.

## **Serve as a ready reckoner:**

Most of the campuses have huge landscape with diverse floral species. Nevertheless, the availability of information on these species is minimal. Hence, the documentation of the species would serve as an educational material on the details of species existing within the campus.

**Public Visibility:**

Despite having various biodiversity initiatives in place within the campus most of the campuses lack the visibility of the measures taken in conservation. The study will create awareness & visibility of the campus on various conservation measures implemented to the occupants as well as to the visitors.

Also, the organization will gain globally amongst its shareholders for the positive steps taken towards protecting biodiversity.

**Conservation of Species:**

Due to Urbanization most of the floral species are under tremendous pressure. The need of the hour is to conserve and protect these species. The study would help in identifying such species in the campus which need to be conserved.



# SCHVPMR carbon sequestration through plantation

Carbon sequestration through plantation is one of the important steps towards achieving carbon neutrality. In carbon footprint calculation of SCHVPMR, carbon sequestration through plantation is considered and due credit has been given.

No. of trees considered for carbon footprint calculation	: 80 trees
CO2 absorbed by a tree in one year	: 18 KG
Total CO2 sequestered	: 80trees x 18 KG of CO2/year
	: 1440 KGS of CO2





# Plantation & Maintenance techniques

## Selection of species

- Native species like *Azadirachta indica* (Neem), *Pongamia pinnata* (Pongam tree), *Cassia fistula* (Indian shower tree), *Butea monosperma* (Flame of the forest) and also fruit bearing species like *Mangifera indica* (Mango), *Manilkara sapota* (Chikoo), *Syzygium cumini* (Jamun Tree), *Psidium guajva* (Guava), *Annona squamosa* (Custard apple), *Punica granatum* (Pomegranate), *Phyllanthus emblica* (Indian Gooseberry), *Citrus sinensis* (Sweet lime) and *Citrus limon* (Lime) to be selected for plantation
- Saplings of 2-3 ft height to be considered for plantation in public areas
- Plantation can be taken up as avenues (roadside plantation) and green belts (thick plantation in one area)
- Fruit plantation can be taken up in protected areas, institutions with large areas. Special care to be taken in maintenance since these plants also generate revenue

## Digging of pits

Pits to be dug about one month prior to the plantation date and it should be exposed to sunlight

This will help in killing of harmful disease-causing bacteria and virus.

1. In places of no availability of proper sunlight, dry trash to be filled in the pit and burnt.
2. Pit size should be normally 2ft or 3ft and in soils which are very hard 4ft<sup>3</sup> or above to be dug.
3. Further to the digging of pit, the bottom of the pit should be loosened up to 6-9 inches.
4. While digging, we can observe different soil profiles. Topsoil will be soft and contains enough nutrients for nourishing the plant. The topsoil should be deposited on one end and hard soil on the other end. While filling the pit with soil, the topsoil only should be used. The topsoil from the non-plantation area around the pit to be collected and mixed with manure and used for filling of the pit.

## **Transportation**

- Visit to the nurseries and enquire about plant species like availability, size, age and girth prior to the plantation. Also, the size of the packet in which the plant is existing to be enquired.
- Ensure that the material is available in the nursery and allotted to pick up
- The saplings to be watered one or two days prior to the movement of plants to plantation area
- The plants to be procured at least 15 days prior to plantation.
  - The saplings to be watered as soon as they reach the plantation area and regularly thereafter.
  - They should be kept in shade, non-windy & protected areas.

The above said steps to be followed for movement of plants near to the pits within the plantation area. Enough water to be stored for watering the plants after plantation. Also, tools and manpower to be kept in place to ensure proper plantation of saplings. If the sapling is bushy with many branches, then the branches are to be trimmed before plantation.

## **Plantation**

- The poly bag around the root ball to be carefully cut with a knife / sickle / scissors without disturbing the roots
- Rope and stakes are to be kept ready to support the plant after plantation.
- Regular watering to be done to the plants followed by mulching (loosening of top 3-4 inches of soil)
- Mulching will help in conservation of moisture, aeration of roots and control of weeds.
- Note: At least 5% of extra plants to be procured for timely gap filling and to ensure 100% survival. Care to be taken for these plants like other plants.

# Recommendations for Enhancing Flora in Campus

## 1. Implement Ecosystem Restoration

- Theme Gardens' can be developed in unused areas of the campus to increase proportion of natural area

## 2. Enhance Ecosystem Protection

- Protect and maintain the existing Open Area segments

## 3. Planting more fruit yielding trees

- Increase tree density and canopy cover in the built-up areas

## 4. Increase number of Native Plants in the Landscape area

- Increase native plants to boost native biodiversity
  - Bees, butterflies and other insects
- Healthy native plant growth will help in easy identification of invasive alien species

## 5. Introduce more native species in Open Areas

## 6. Preventing/ Decreasing Invasive Alien Species Spread

- Identify potential threatening species in advance and implement quarantine measures
- Mass Eradication techniques for larger spreads
- Commitment to complete eradication
- Manual Uprooting of small populations

## 7. Develop natural areas to encourage bird roosting and nesting in built-up areas

## 8. Improve measures for rainwater harvesting in paved and un-paved areas

- Open fields, parks, pavement landscapes, etc.
- Open Classroom

# Conclusion

As seen in the carbon sequestration calculation, tree plantations lead to a tremendous reduction in net emissions of the campus. Therefore, SCHVPMR needs to develop a roadmap to include tree plantation as a strategy to reduce overall carbon emissions of the campus.





# CERTIFICATE

(GREEN, ENERGY & ENVIRONMENT AUDIT)





This is to certify that *Environmental, Energy and Green Audit* has been conducted at SCHVPMR Government Degree College Ganapavaram by the *Green Audit Committee* constituted by the *Principal of SCHVPMR Government Degree College Ganapavaram*. The *Committee* has verified the *Green initiatives* carried out by the *College* and the *College* has successfully demonstrated knowledge on *Energy Conservation, Water Conservation, Biodiversity, Waste Management and Carbon footprint*. The *Green Audit Committee* is pleased to declare the below grades in the following categories for the satisfactory performance of the *College*, and this certification is valid for one year from August 2020 to July 2021.


**Green Initiatives: A**


**Energy Conservation: B**

**Environmental Protection: A**

  
Dr. Ramudu Machavarapu  
School of Sciences  
NIT AP, Tadepalligudem

  
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Dept. of Botany  
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Tadepalligudem

  
Dr. V. Sandhya  
Dept. of Zoology  
SCHVPMR Govt. Degree College,  
Ganapavaram

**GREEN AUDIT REPORT  
(2020-2021)**

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**Acknowledgement**

*Green Audit Assessment Team thanks the SCHVPMR GOVERNMENT DEGREE COLLEGE for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process. Our special thanks are due to the Principal and Team of colleagues for giving us necessary inputs to carry out this very vital exercise of Green Audit.*

*We are also thankful to the IQAC Coordinator and other staff members who were actively involved while collecting the data and conducting field measurements.*



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## 1. Introduction

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development. We at SCHVPMR GOVERNMENT DEGREE COLLEGE have taken the initiative to make significant contributions in creating a sustainable eco friendly environment. Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. Green Audit helps us to identify and mitigate the ill effects through a sustained and seamless application of remedial measures identified during the audit, to replenish the environment and make the surrounding conducive for a healthy living. An interdisciplinary board of SCHVPMR GOVERNMENT DEGREE COLLEGE is formed with specific goals towards environmental sustenance in the campus. The total area of the campus is 3.5 acres. SCHVPMR GOVERNMENT DEGREE COLLEGE from its time of establishment to date maintains a well developed play ground with flora and fauna to maintain the ecological balance and also an eye feast to stakeholders.

As a major step towards controlling greenhouse gasses, the Principal of SCHVPMR GOVERNMENT DEGREE COLLEGE encourages NSS students to conduct awareness campaigns on plantation under the "JanmaBhoomi" program, a plantation drive initiated by the Govt. of Andhra Pradesh State. Under the audit process the II&III B.Sc. Life Sciences group students and Botany faculty members actively participated in surveying the plant species in the campus.

## 2. Objectives of the Study

1. To introduce and aware students to real concerns of the environment and its Sustainability.
2. To identify, verify and assess the available resources and their management at the college.
3. To share the findings of the audit among the student, staff and Management

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fraternity to increase the awareness of ecological imbalances and their ill effects.

4. To identify avenues to save energy, water resources and effective waste management to reduce losses due to the usage of these resources

**GREEN AUDIT COMMITTEE:**

NAME	DESIGNATION
Dr. M. Syambab	Convenor, Principal, SCHVPMR GDC Ganapavaram
Dr. Ramudu Machavarapu	Assistant Professor of Physics (Ad Hoc) NIT AP, Tadepalligudem
Dr.Ch.CHaitanya	Assistant Professor of Botany, SRBGNR(A)Khammam, Telangana
Sri. NVNB Srinivas Rao	Lecturer in Chemistry, DRG GDC Tadepalligudem
Dr. V. Sandhya	Lecturer in Zoology, SCHVPMR GDC Ganapavaram

**3. Methodology**

In order to perform green audit, the methodology included collection of information related to College Building, laboratories, office- based environmental impacts like built-up area, utility bills, energy-saving devices and IT equipments etc. Hence, physical inspection of the campus, observation and review of the documentation, interviewing key persons were carried out. This information needs to be documented and tabulated for arriving at a clear picture of the Institution's annual greenhouse gas emissions and impact of the reduction measures to be undertaken.

**Green Audit Process:**

- ❖ Teams were formulated with clear instructions and scope of the Audit to collect the data.
- ❖ Documentation of physical evidence based on the verification and valuation of the resources and assets.
- ❖ Analysis of the data to identify the areas of improvement
- ❖ Discussion with subject matter experts and relaying the information to the stakeholders for further analysis and its implementations with action plans to meet the desired standards.

## 4. Observations

### 4.1 Physical Structure

The college campus is spread across 3.6 acres of land on Tadepalligudem road. With a built-up area of 1476 square meters, the college is functioning in its own pucca building with two floors (G+1) and RUSA-supported 2nd floor is under construction. Slab work for the entire floor is completed and three computer labs are already arranged there. There are 9 classrooms for conventional teaching and 2 ICT-enabled classrooms, including one smart room, one Virtual Class room on the 1st floor.

Classrooms	9
Staff rooms	1
Laboratories	6
Seminar Hall	1
Library	1
Administrative Office	1
Principal's Office	1
Washrooms	10

## 4.2 Water Use and Management

The study observed that Municipal connection is the major source of water in college. Water is used for drinking purposes, toilets and gardening. There is one RO plant on the premises that caters to the drinking water requirements. The waste water from the RO plants is redirected for cleaning purposes, watering plants and sometimes the open ground to prevent dust from infiltrating into the air. During the survey, no loss of water is observed, neither by any leakages, or by over flow of water from overhead tanks. On an average the total use of water in the college is 1700 L/day, which include domestic, gardening and drinking purposes. One rain water harvesting unit is also functional for recharging ground water level.

### Water Conservation Strategies:

- Water consumption in laboratories is minimized by closing the main valves to avoid any kind of leakage.
- Used organic solvents after physical experimentation are not let into the drains; they are recovered and reused for cleaning.
- Organic compounds prepared in the chemistry lab by BSC students are bottled and issued during the subsequent semester for organic compound analysis.

## 4.3 Energy Use and Conservation

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

Energy source utilized by the campus is electricity only. Total average energy consumption is determined as 507 KWH/month. The entire campus including common facility centers are equipped with tube lights and bulbs. Campus administration runs a switch-off drill on a regular basis.

### Annexure: 1

S.No	ITEMS/ Equipments	Numbers
1	Tubes & Bulbs	65
2	Fan	104
3	LED Bulbs	nil
4	Air Conditioners	3

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5	Projector	1
6	Computers	94
7	Printers	9
8	<b>Other Electrical equipments/ gadgets</b>	
	i. Fridge	3
	ii. Oven	nil
	iii. Freezer	nil
	iv. Amplifier	nil
	v. Microwave	0
	vi. Geyser	0
	vii. LCD/Television	6
	viii. Ice cube maker	0
	ix. Ro plant	1
	x. Water cooler	2
	xi. Cyclostyling Machine	0
	xii. UPS	1
	xiii. CCTV SYSTEM	1
	<b>Total: Other Electrical equipments/ gadgets</b>	<b>8</b>

Transportation is a necessary evil in our society. The institute does not have any self owned buses. The teaching staff, students and members of the office and support staff use their own or public transport for commuting to the college from their respective places of residence. Students staying close by are encouraged to walk or cycle to the institute. Approximately 60% students avail the Government provided bus services to commute to the college at a concessional rate. The office and the staff and students observe no vehicle day on every second Tuesday to promote a clean and green environment.

#### 4.4 Waste Generation and disposal

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc. and recycling. Waste generation

from tree droppings is a major solid waste generated in the campus. These dried leaves were collected and placed in compost pits for compost preparation. The waste is segregated at the source by providing separate dustbins for Biodegradable and Plastic waste.

Single sided used papers reused for writing and printing in all departments and recently both side printing is carried out as per requirements. Very less plastic waste is generated by the department, office, garden etc. Metal waste and wooden waste is stored and given to authorized scrap agents for further processing.

The solid waste is collected by the municipal corporation and disposed of by their methods. E-waste generated in the campus is very less in quantity. Administration conducts the awareness programs regarding E-waste Management with the help of various departments. The E-waste and defective item from the computer laboratory is being stored properly. The institution has decided to contact approved E-waste management and disposal facilities in order to dispose of E-waste in a scientific manner.

#### 4.5 Green Area

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. Various tree plantation programs are being organized at the college campus with the help of NSS (National Service Scheme) unit, Department of Botany and the Eco Club. This program helps in encouraging an eco-friendly environment which provides pure oxygen within the institute and awareness among villagers.

#### Annexure: 2 FLORA

Plants type	Total Nos
Tree	40
Shrubs	30
Climbers	nil
Total	70

#### Annexure: 3 Water Management in the College

<b>Sources of Water in the College:</b>	Municipal, Tank water Supply
<b>Storage Facility</b>	Sump facility

**Annexure:4 Transportation management**

Particulars	Own Transport	Public Transport	By walk	Total
Number of students	25	210	115	345
Number of Teaching & non teaching staff	18	3	3	24
Total	33	223	103	359

**Annexure:5 Waste management**

Type of Waste	
Dry Waste	1-2kgs
Wet Waste	>1 kgs per day
Plastic Waste	>1 kgs per day
E waste	>1kg per day
Total	≤3-4 kgs per day

**5.Recommendations**

- To dig one more compost pit in the campus
- To encourage eco-friendly dustbins.
- To grow herbs that are medicinally important and also purify the air
- To establish a solar panel on the campus

**6. Conclusions**

Considering the fact that the institution is located in the mandal headquarters, there is significant environmental awareness for both faculty and students. The environmental awareness initiatives are substantial. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco-friendly and scientific techniques. Also installation of a Solar Panel (renewable energy source) would minimize the energy consumption, this may lead to a prosperous future in the context of Green Campus & thus



sustainable environment and community development.

**Annexure 6: List of plants growing in College premises.**

Name of the Tree	Scientific Name of the Tree	Family
Jackfruit	<i>Artocarpus heterophyllus</i>	Moraceae
Neem tree	<i>Azadirachta indica</i>	Meliaceae
Palmyra palm	<i>Borassus flabellifer</i>	Arecaceae
Garden red sandal	<i>pterocarpus santalinus</i>	Santalaceae
Carrot grass	<i>Parthenium hysterophorus</i>	Asteraceae
Areca palm	<i>Dypsis lutescens</i>	Arecaceae
Ice cream bean	<i>Inga edulis</i>	Fabaceae
Tamarind pulp	<i>Dialium indum</i>	Fabaceae
White goose foot	<i>Chenopodium album</i>	Amaranthaceae
Blackboard tree	<i>Alstonia scholaris</i>	Apocynaceae
Red wisteria	<i>Sesbania grandiflora</i>	Fabaceae
French broom	<i>Genista monspessulana</i>	Fabaceae
Jurema preta	<i>Mimosa tenuiflora</i>	Fabaceae
Monkey bread	<i>piliostigma thonningii</i>	Fabaceae
River red gum	<i>Eucalyptus camaldulensis</i>	Myrtaceae
Black Siris	<i>Albizia odoratissima</i>	Fabaceae
Perfume tree	<i>Cananga odorata</i>	Annonaceae
Argentina mosquito tree	<i>Proposis alba thornless</i>	Fabaceae
Syrian oregano	<i>Origanum syriacum</i>	Lamiaceae

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# GREEN AUDIT REPORT

(2019-2020)

SCHVPMR GOVERNMENT DEGREE COLLEGE

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Washrooms	10

## 4.2 Water Use and Management

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S.No	ITEMS/ Equipments	Numbers
1	Tubes & Bulbs	65
2	Fan	104
3	LED Bulbs	nil
4	Air Conditioners	3



5	Projector	1
6	Computers	94
7	Printers	9
8	<b>Other Electrical equipments/ gadgets</b>	
	i. Fridge	3
	ii. Oven	nil
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	vi. Geyser	0
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	ix. Ro plant	1
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	xi. Cyclostyling Machine	0
	xii. UPS	1
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	<b>Total: Other Electrical equipments/ gadgets</b>	<b>8</b>

Transportation is a necessary evil in our society. The institute does not have any self owned buses. The teaching staff, students and members of the office and support staff use their own or public transport for commuting to the college from their respective places of residence. Students staying close by are encouraged to walk or cycle to the institute. Approximately 60% students avail the Government provided bus services to commute to the college at a concessional rate. The office and the staff and students observe no vehicle day on every second Tuesday to promote a clean and green environment.

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This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. Various tree plantation programs are being organized at the college campus with the help of NSS (National Service Scheme) unit, Department of Botany and the Eco Club. This program helps in encouraging an eco-friendly environment which provides pure oxygen within the institute and awareness among villagers.

#### Annexure: 2 FLORA

Plants type	Total Nos
Tree	40
Shrubs	30
Climbers	nil
Total	70

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<b>Sources of Water in the College:</b>	Municipal, Tank water Supply
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Particulars	Own Transport	Public Transport	By walk	Total
Number of students	35	240	120	395
Number of Teaching & non teaching staff	18	3	3	24
Total	33	223	103	359

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Type of Waste	
Dry Waste	2-3 kgs
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Plastic Waste	1.5kgs per day
E waste	>1kg per day
Total	≤ 8 kgs per day

**5.Recommendations**

- To dig one more compost pit in the campus
- To encourage eco-friendly dustbins.
- To grow herbs that are medicinally important and also purify the air
- To establish a solar panel on the campus

**6. Conclusions**

Considering the fact that the institution is located in the mandal headquarters, there is significant environmental awareness for both faculty and students. The environmental awareness initiatives are substantial. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco-friendly and scientific techniques. Also installation of a Solar Panel (renewable energy source) would minimize the energy consumption, this may lead to the prosperous future in the context of Green Campus & thus







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**Green Initiatives: A**

**Energy Conservation: B**

**Environmental Protection: A**

*M. Ramudu*

Dr. Ramudu Machavarapu  
School of Sciences  
NIT AP, Tadepalligudem

*Chaitanya*

Dr. Ch. Chaitanya  
Dept. of Botany  
SR & BGNR Govt. Arts & Science  
College(A), Khammam

*NVNB*

NVNB Srinivas Rao  
Dept. of Chemistry  
DRG Govt. Degree College,  
Tadepalligudem

*Sandhya*

Dr. V. Sandhya  
Dept. of Zoology  
SCHVPMR Govt. Degree College,  
Ganapavaram



# GREEN AUDIT REPORT

(2018-2019)

SCHVPMR GOVERNMENT DEGREE COLLEGE

GANAPAVARAM

v



## Acknowledgement

*Green Audit Assessment Team thanks the SCHVPMR GOVERNMENT DEGREE COLLEGE for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process. Our special thanks are due to the Principal and Team of colleagues for giving us necessary inputs to carry out this very vital exercise of Green Audit.*

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5. Recommendations	
6. Conclusions.....	

## 1. Introduction

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development. We at SCHVPMR GOVERNMENT DEGREE COLLEGE have taken the initiative to make significant contributions in creating a sustainable eco friendly environment. Green Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. Green Audit helps us to identify and mitigate the ill effects through a sustained and seamless application of remedial measures identified during the audit, to replenish the environment and make the surrounding conducive for a healthy living. An interdisciplinary board of SCHVPMR GOVERNMENT DEGREE COLLEGE is formed with specific goals towards environmental sustenance in the campus. The total area of the campus is 3.5 acres. SCHVPMR GOVERNMENT DEGREE COLLEGE from its time of establishment to date maintains a well developed play ground with flora and fauna to maintain the ecological balance and also an eye feast to stakeholders.

As a major step towards controlling greenhouse gasses, the Principal of SCHVPMR GOVERNMENT DEGREE COLLEGE encourages NSS students to conduct awareness campaigns on plantation under the "JanmaBhoomi" program, a plantation drive initiated by the Govt. of Andhra Pradesh State. Under the audit process the II&III B.Sc. Life Sciences group students and Botany faculty members actively participated in surveying the plant species in the campus.

## 2. Objectives of the Study

1. To introduce and aware students to real concerns of the environment and its Sustainability.
2. To identify, verify and assess the available resources and their management at the college.
3. To share the findings of the audit among the student, staff and Management



fraternity to increase the awareness of ecological imbalances and their ill effects.

4. To identify avenues to save energy, water resources and effective waste management to reduce losses due to the usage of these resources

#### GREEN AUDIT COMMITTEE:

NAME	DESIGNATION
Sri. P. Madhu Raju	Convenor, Principal (FAC), SCHVPMR GDC Ganapavaram
Dr. Ramudu Machavarapu	Assistant Professor of Physics (Ad Hoc) NIT AP, Tadepalligudem
Dr.Ch.CHaitanya	Assistant Professor of Botany, SRBGNR(A)Khammam, Telangana
Sri. NVNB Srinivas Rao	Lecturer in Chemistry, DRG GDC Tadepalligudem
Dr. V. Sandhya	Lecturer in Zoology, SCHVPMR GDC Ganapavaram

### 3. Methodology

In order to perform green audits, the methodology included collection of information related to College Building, laboratories, office- based environmental impacts like built-up area, utility bills, energy-saving devices and IT equipment etc. Hence, physical inspection of the campus, observation and review of the documentation, interviewing key persons were carried out. This information needs to be documented and tabulated for arriving at a clear picture of the Institution's annual greenhouse gas emissions and impact of the reduction measures to be undertaken.

#### Green Audit Process:

- ❖ Teams were formulated with clear instructions and scope of the Audit to collect the data.
- ❖ Documentation of physical evidence based on the verification and valuation of the resources and assets.
- ❖ Analysis of the data to identify the areas of improvement
- ❖ Discussion with subject matter experts and relaying the information to the stakeholders for further analysis and its implementations with action plans to meet the desired standards.

## 4. Observations

### 4.1 Physical Structure

The college campus is spread across 3.6 acres of land on Tadepalligudem road. With a built-up area of 1476 square meters, the college is functioning in its own pucca building with two floors (G+1) and RUSA-supported 2nd floor is under construction. Slab work for the entire floor is completed and three computer labs are already arranged there. There are 9 classrooms for conventional teaching and 2 ICT-enabled classrooms, including one smart room, one Virtual Class room on the 1st floor.

Classrooms	9
Staff rooms	1
Laboratories	6
Seminar Hall	1
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## 4.2 Water Use and Management

The study observed that Municipal connection is the major source of water in college. Water is used for drinking purposes, toilets and gardening. There is one RO plant on the premises that caters to the drinking water requirements. The waste water from the RO plants is redirected for cleaning purposes, watering plants and sometimes the open ground to prevent dust from infiltrating into the air. During the survey, no loss of water is observed, neither by any leakages, or by over flow of water from overhead tanks. On an average the total use of water in the college is 1700 L/day, which include domestic, gardening and drinking purposes. One rain water harvesting unit is also functional for recharging ground water level.

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Energy source utilized by the campus is electricity only. Total average energy consumption is determined as 6735 KWH/month. The entire campus including common facility centers are equipped with tube lights and bulbs. Campus administration runs a switch-off drill on a regular basis.

### Annexure: 1

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1	Tubes & Bulbs	65
2	Fan	104
3	LED Bulbs	nil
4	Air Conditioners	3

5	Projector	1
6	Computers	94
7	Printers	9
8	<b>Other Electrical equipments/ gadgets</b>	
	i. Fridge	3
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Transportation is a necessary evil in our society. The institute does not have any self owned buses. The teaching staff, students and members of the office and support staff use their own or public transport for commuting to the college from their respective places of residence. Students staying close by are encouraged to walk or cycle to the institute. Approximately 60% students avail the Government provided bus services to commute to the college at a concessional rate. The office and the staff and students observe no vehicle day on every second Tuesday to promote a clean and green environment.

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This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. Various tree plantation programs are being organized at the college campus with the help of NSS (National Service Scheme) unit, Department of Botany and the Eco Club. This program helps in encouraging an eco-friendly environment which provides pure oxygen within the institute and awareness among villagers.

#### Annexure: 2 FLORA

Plants type	Total Nos
Tree	40
Shrubs	30
Climbers	nil
Total	70

#### Annexure: 3 Water Management in the College

<b>Sources of Water in the College:</b>	Municipal, Tank water Supply
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Number of students	15	220	80	315
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sustainable environment and community development.

**Annexure 6: List of plants growing in College premises.**

Name of the Tree	Scientific Name of the Tree	Family
Jackfruit	<i>Artocarpus heterophyllus</i>	Moraceae
Neem tree	<i>Azadirachta indica</i>	Meliaceae
Palmyra palm	<i>Borassus flabellifer</i>	Arecaceae
Garden red sandal	<i>pterocarpus santalinus</i>	Santalaceae
Carrot grass	<i>Parthenium hysterophorus</i>	Asteraceae
Areca plam	<i>Dypsis lutescens</i>	Arecaceae
Ice cream bean	<i>Inga edulis</i>	Fabaceae
Tamarind pulp	<i>Dialium indum</i>	Fabaceae
White goose foot	<i>Chenopodium album</i>	Amaranthaceae
Blackboard tree	<i>Alstonia scholaris</i>	Apocynaceae
Red wisteria	<i>Sesbania grandiflora</i>	Fabaceae
French broom	<i>Genista monspessulara</i>	Fabaceae
Jurema preta	<i>Mimosa tenuiflora</i>	Fabaceae
Monkey bread	<i>piliostigma thonnigii</i>	Fabaceae
River red gum	<i>Eucalyptus camaldulensis</i>	Myrtaceae
Black Siris	<i>Albizia odoratissima</i>	Fabaceae
Perfume tree	<i>Cananga odorata</i>	Annonaceae
Argentina mosquito tree	<i>Proposis alba thornless</i>	Fabaceae
Syrian oregano	<i>Origanum syriacum</i>	Lamiaceae

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# GREEN AUDIT REPORT

(2017-2018)

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- To establish a solar panel on the campus

**6. Conclusions**

Considering the fact that the institution is located in the mandal headquarters, there is significant environmental awareness for both faculty and students. The environmental awareness initiatives are substantial. Besides, environmental awareness programmes initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using eco-friendly and scientific techniques. Also installation of a Solar Panel (renewable energy source) would minimize the energy consumption, this may lead to the prosperous future in the context of Green Campus & thus

sustainable environment and community development.

**Annexure 6: List of plants growing in College premises.**

Name of the Tree	Scientific Name of the Tree	Family
Jackfruit	<i>Artocarpus heterophyllus</i>	Moraceae
Neem tree	<i>Azadirachta indica</i>	Meliaceae
Palmyra palm	<i>Borassus flabellifer</i>	Arecaceae
Garden red sandal	<i>pterocarpus santalinus</i>	Santalaceae
Carrot grass	<i>Parthenium hysterophorus</i>	Asteraceae
Areca plam	<i>Dypsis lutescens</i>	Arecaceae
Ice cream bean	<i>Inga edulis</i>	Fabaceae
Tamarind pulp	<i>Dialium indum</i>	Fabaceae
White goose foot	<i>Chenopodium album</i>	Amaranthaceae
Blackboard tree	<i>Alstonia scholaris</i>	Apocynaceae
Red wisteria	<i>Sesbania grandiflora</i>	Fabaceae
French broom	<i>Genista monspessulara</i>	Fabaceae
Jurema preta	<i>Mimosa tenuiflora</i>	Fabaceae
Monkey bread	<i>piliostigma thonnigii</i>	Fabaceae
River red gum	<i>Eucalyptus camaldulensis</i>	Myrtaceae
Black Siris	<i>Albizia odoratissima</i>	Fabaceae
Perfume tree	<i>Cananga odorata</i>	Annonaceae
Argentina mosquito tree	<i>Proposis alba thornless</i>	Fabaceae
Syrian oregano	<i>Origanum syriacum</i>	Lamiaceae

#####



# Certificate



*This is to certify that **S Ch V P M R Government Degree College, Ganapavaram , AP** is now a **Recognized Swachhta Action Plan Institution**. The Institution has successfully formed the Swachhta Action Plan Committee and constituted the working groups Post COVID-19 for **Sanitation & Hygiene, Waste Management, Water Management, Energy Management and Greenery** along with the observation of two environment related days to inculcate in faculty, students and community, the practices of Swachhta and Reduction, Reuse and Recycling of Resources.*

**Dr. W G Prasanna Kumar**  
**Chairman**

**Mahatma Gandhi National Council of Rural Education**  
**Department of Higher Education, Ministry of Human Resource Development**  
**Government of India**

5BXMZ4-CE000019



# SCHVPMR GOVT. DEGREE COLLEGE

## Green campus initiatives

A few initiatives are taken to protect the environment, and keep the campus clean and green.

### **1. Restricted entry of automobiles**

An institutional best practice is 'vehicle-free day'. Vehicle-free day is observed on the second Tuesday of every month by the students as well as the staff. On this specific day, no vehicle is observed on the premises of the college except bicycles. All fuel-run vehicles are strictly prohibited from the campus on the day. The staff come to college, either by bicycles or on foot. Those who come from a little farther away would come by public transport. Towards the end of the day, an awareness meeting with all the students and staff is arranged, and the issues related to environment protection are discussed at length with a view to preparing the students for an eco-friendly lifestyle. At times, an expert in the subject is also invited to make a speech and interact with the students.

### **2. Use of bicycles**

Bicycles are said to be the best vehicle from an environmental, economy and health point of view. Out of 363 students on roll, about 150 students come to college on bicycles. Only 15 to 25 students come on bikes. A few staff members also come on bicycles to college daily. About 150 to 200 students come by bus or auto.



### **3. Pedestrian-friendly pathways**

The pathways on the college premises are customized to suit the pedestrians needs.

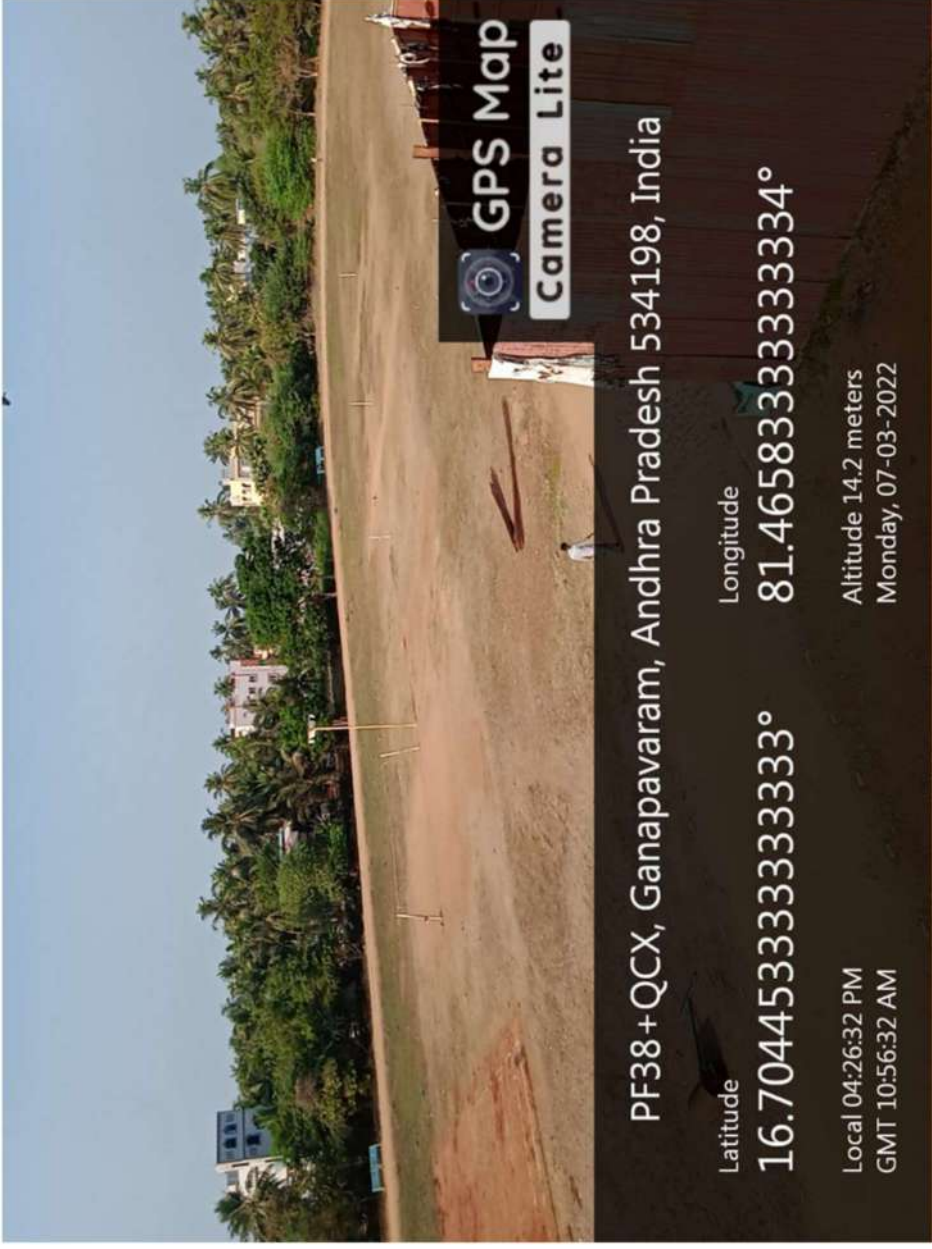


**4. Ban on use of plastic**

The use of plastic is completely restricted and polythene bags are banned on the campus.

**5. Landscaping with trees and plants**

The college campus is beautifully surrounded by trees. Further, the college ground is on the bank of a flowing canal on two sides.



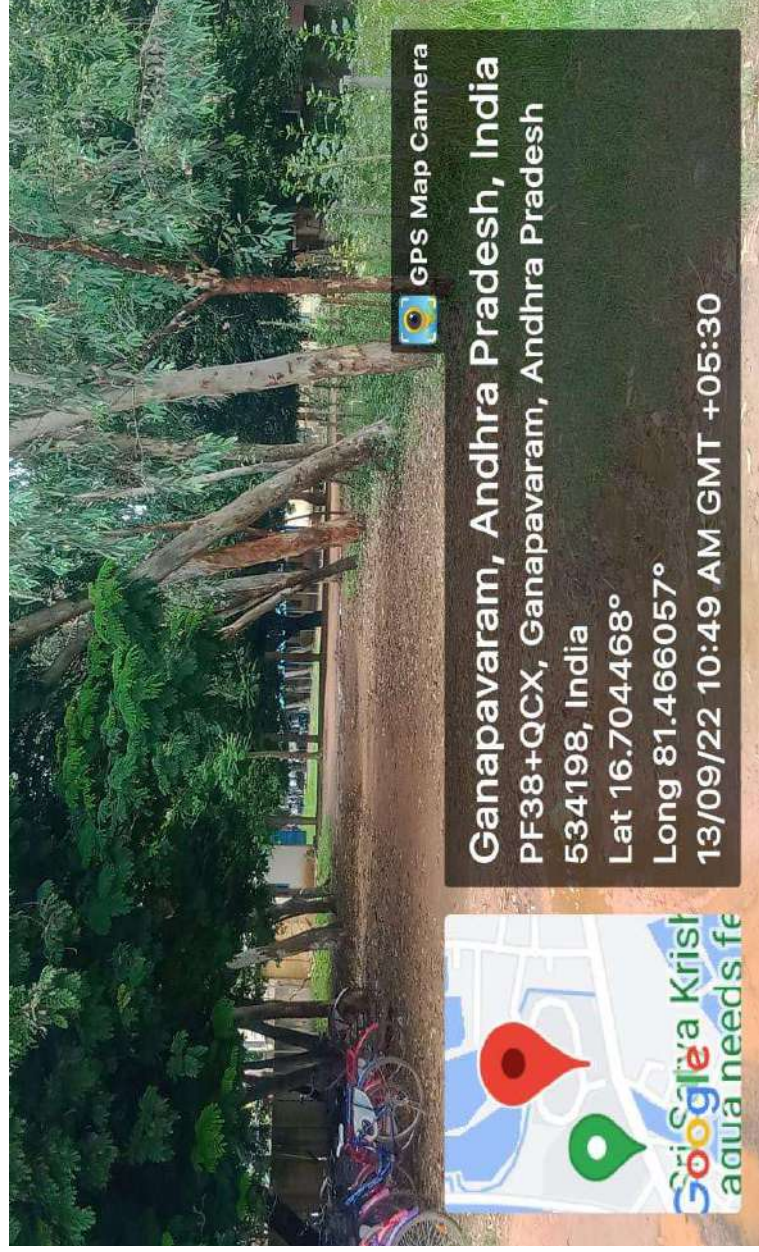
### 3.2.1 Developing Ecosystem - Images

#### Offering Saplings to Guests on dais



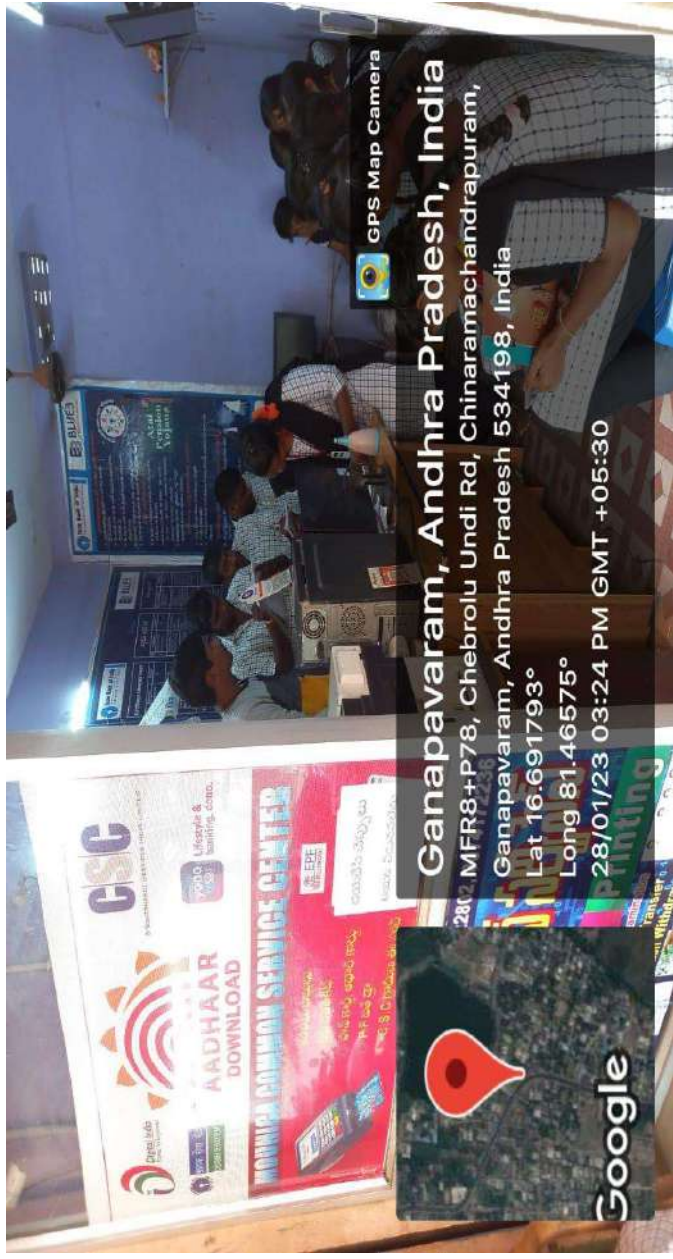


# Vehicle Free Days





## Students visit to Common Service Center



## Planting saplings by Guests





**SRI CHINTALAPATI VARA PRASADA MURTHY RAJU**  
**GOVERNMENT DEGREE COLLEGE**

GANAPAVARAM-534 198

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## **INSTITUTIONAL BEST PRACTICE – 3**

(Presented in NAAC format)

### **1. Title of The Practice**

## **“VEHICLE-FREE DAY”**

### **2. Goals**

#### **A) Aims & Objectives**

- To sensitize students about environmental issues.
- To let them understand the benefits of fuel saving.

#### **B) Principles or Concepts**

- Apart from academic knowledge and skills, it is essential for the students to understand the benefits of an eco-friendly lifestyle.
- Fuel saving is considered in India as a nation-building activity.

### **3. The Context**

One of the most important concerns for the modern world, especially in the 21st century, is environmental issues. Fuel consumption is skyrocketing and the temperatures across the globe are alarmingly increasing. In the present context, it is highly necessary for the youth of the country to understand the environmental issues and the benefits of fuel saving. They are to be trained for an eco-friendly lifestyle, and further, they need to make their own contribution for the protection of nature.

### **4. The Practice**

Vehicle-free day is observed on the second Tuesday of every month by the students as well as the staff. On this specific day, no vehicle is observed on the premises of the college except bicycles. All fuel-run vehicles are strictly prohibited from the campus on the day. The staff come to college, either by bicycles or on foot. Those who come from a little farther away would come by public transport. Towards the end of the day, an awareness meeting with all the students and staff is arranged, and the issues related to environment protection are discussed at length with a view to preparing the students for an eco-friendly lifestyle. At times, an expert in the subject is also invited to make a speech and interact with the students.

**Constraints & Limitations:** Nil

**5. Evidence of Success**



- Students developed environment-consciousness and are extending their awareness in other activities of life by avoiding polythene bags and planting saplings etc.
- They are vowed to create this kind of awareness in their neighborhood too.

#### **6. Problems Encountered & Resources Required**

- In the beginning, there is some resistance from the students; however, they are enlightened about the brighter side of the practice.
- Resources for organizing awareness programs are borne by the Institution.

#### **7. Notes**

As it is said in the UN Environment Program, world car-free day on September 22<sup>nd</sup> is a great opportunity to reduce air pollution. Taking inspiration from such moves, the Institution observes vehicle-free days in the campus. Fewer vehicles into the campus means less exhaust emissions, thus less air pollution. The emissions do not only increase global warming but also be harmful for the health of people. Moreover, this method saves money for the individuals too.

\*\*\*

  
PRINCIPAL  
S.CH.VPMR GOVT Degree College  
Accredited 'B' by NAAC  
GANAPATI/ANAM-534198, (Ehru Dist.)

PRINCIPAL

SCHVPMR GOVT DEGREE COLLEGE





## ECO-CLUB ACTIVITIES 2021-2022

**II. Observation of Earth Day on 22-04-2022:** We Observed Earth Day awareness to students was given and also Placard making activity was conducted in the Department of Zoology And Eco Club.



Every year, World Nature Conservation Day is observed on July 28 to raise awareness regarding the protection of nature and its resources. The world is facing a lot of issues related to nature and its conservation. The challenges are based on climate change, urbanization, pollution, deforestation, and damage to the rich flora and fauna.

So the prime focus for this day is to preserve the environment and nurture it. And the objective is to draw attention to the flora and fauna species that have a threat of extinction in the near future.

In this connection Eco-Club conducted Elocution competitions to all students.



-Sk. Parveen, In-charge

# SCHVPMR GOVERNMENT DEGREE COLLEGE GANAPAVARAM

## ECO-CLUB

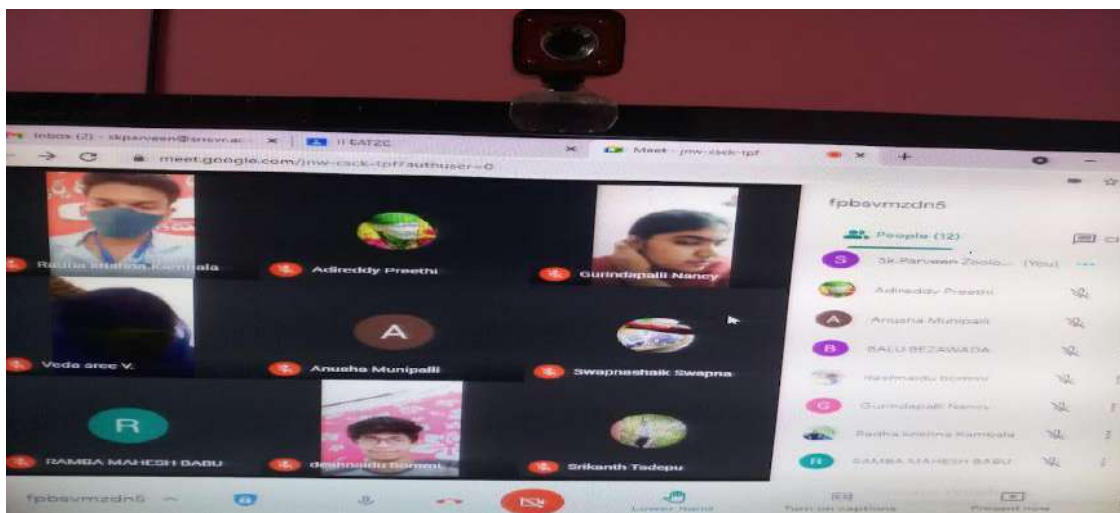
### ACTIVITIES CONDUCTED

2020-2021.

#### **On-line Awareness on Corona during Lock down.**

During the period of lockdown, a feeling of fear has gripped the minds of the people, which is worse than Corona virus . People are so scared that they have lost their social nature. Some people don't want any guest to visit their home, because they fear that the guest may be infected with Corona virus. At the moment 9 every person seems to be haunted by fear and all people are afraid of one another. Fear is deadlier sensation than corona virus, so people want to live in isolation and nobody wants to come in contact with other people, social feeling has become extinct. In this connection an online class about preventive measures to be taken about spread of corona will be delivered to students on 14-08-2020.

We can prevent of COVID-19 by following the steps ----- 1. Wash hands regularly and carefully with soap or sanitizer. 2. Maintain a safe distance from anyone who is coughing or sneezing. 3. Wear a Mask that covers your nose and mouth to help protect yourself and others. 4. Get vaccinated when it's your turn. Follow local guidance about vaccination. 5. Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.





## **Clean and Green Program**

Cleanliness is Godliness. A clean campus promotes hygiene and also an aesthetic sense that promotes learning process. Cleanliness encourages learners to take pride in their college, which makes them less likely to drop litter and as such they will potentially make a bigger effort to maintain their environment. The main aim of this program is to bring awareness among the students about the hazards of spoiling the environment. It also encourages students to understand each individual's responsibility to take small steps in saving the environment. Eco Club of GDC Ganapavaram has organized a Clean and green program on 28-11-2020 to make the college campus clean. The students went to all the classes and briefed about the importance of cleanliness of the campus. Students were advised not to throw paper plates, water bottle, paper cups, tissues, and many unwanted things on campus garden, sitting Area, corridors, class rooms, pathway and other open areas which is very unhygienic to all of us. After the interactive instruction session all the students were involved in cleaning the campus.



## **No Plastic Day**

Plastic is everywhere and is contributing to deterioration of the Earth's climate. Eco club has taken initiative to create awareness on the demerits of plastic usage and also attempted to keep the campus area as plastic free zone. The students of GDC Ganapavaram were divided into

groups of four. Each group distributed themselves to different areas on the campus and picked up all the plastic waste present on the college campus on 20-02-2021





## **SCHVPMR GOVERNMENT DEGREE COLLEGE GANAPAVARAM**

### **ECO-CLUB**

#### **ACTIVITIES CONDUCTED**

**2019-2020**

#### **Report On Tree Plantation**

The whole world is facing the problem of global warming and to recover from such problem planting the trees has become one of the most important activities. Eco Club in association with the NSS Unit of GDC Ganapavaram organized “Tree Plantation” program on 05-06-2019 in the college campus. It was attended by NSS Programme Coordinator, college staff and 10 student volunteers. Students planted 15 number of trees. The students also placed bricks as barricades and each student took the responsibility to nourish and maintain the allocated plant.



#### **Clean and Green Program**

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Club of GDC Ganapavaram has organized a Clean and green program on 13-09-2019 to make the college campus clean. The students went to all the classes and briefed about the importance of cleanliness of the campus. Students were advised not to throw paper plates, water bottle, paper cups, tissues, and many unwanted things on campus garden, sitting Area, corridors, class rooms, pathway and other open areas which is very unhygienic to all of us. After the interactive instruction session all the students were involved in cleaning the campus.



### **Report on Audio-Visual**

It is clear that audio visual aids are important tools for teaching learning process. It helps the teacher to present the lesson effectively and students learn and retain the concepts better and for longer duration. Use of audio visual aids improves student's critical and analytical thinking. In this connection eco-club conducted awareness programme on effects on usage of plastic on 27-07-2019.





### **Report on Ozone day**

Eco-Club along with Department of Botany has organized “Classroom Awareness” on the eve of “World Ozone Day” i.e. 16th September, . Every year September 16th is we celebrate World Ozone Day. The main aim is to remind the world about the depletion of the ozone layer and its dangers. Students were asked to express their views on the Ozone day and the facts related.

## **SCHVPMR GOVERNMENT DEGREE COLLEGE GANAPAVARAM**

### **ECO-CLUB**

#### **ACTIVITIES CONDUCTED**

**2018-2019**

#### **Report On Tree Plantation**

The whole world is facing the problem of global warming and to recover from such problem planting the trees has become one of the most important activities. Eco Club in association with the NSS Unit of GDC Ganapavaram organized “Tree Plantation” program on 18-06-2018 in the college campus. It was attended by NSS Programme Coordinator, college staff and 10 student volunteers. Students planted 10 number of trees. The students also placed bricks as barricades and each student took the responsibility to nourish and maintain the allocated plant.



#### **No Plastic Day**

Plastic is everywhere and is contributing to deterioration of the Earth’s climate. Eco club has taken initiative to create awareness on the demerits of plastic usage and also attempted to keep the campus area as plastic free zone. The students of GDC Ganapavaram were divided into

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## **SCHVPMR GOVERNMENT DEGREE COLLEGE GANAPAVARAM**

### **ECO-CLUB**

#### **ACTIVITIES CONDUCTED**

**2017-2018**

#### **Report On Tree Plantation**

The whole world is facing the problem of global warming and to recover from such problem planting the trees has become one of the most important activities. Eco Club in association with the NSS Unit of GDC Ganapavaram organized “Tree Plantation” program on 05-06-2017 in the college campus. It was attended by NSS Programme Coordinator, college staff and 10 student volunteers. Students planted 15 number of trees. The students also placed bricks as barricades and each student took the responsibility to nourish and maintain the allocated plant.



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