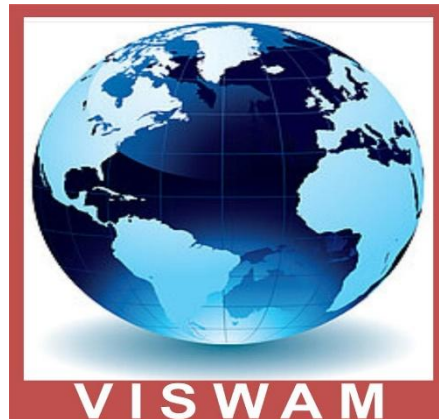


Green Audit Report

of



VISWAM ENGINEERING COLLEGE

(Formerly Sir Vishveshwaraiah Institute of Science & Technology)

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu

(An ISO 9001-2015 Certified Institution)

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Acknowledgement

KSRG Green Energy Services Pvt Ltd (called “KSRG” hereafter) places on record, its sincere gratitude to the Management of “**Viswam Engineering College**, for entrusting the prestigious project of Green Audit of their College located at Madanapalle, AP State.

We also wish to thank the Principal & HODs, Lecturers, Executives & non- teaching staff of the institute for providing necessary support extended during audit study.

The Green Audit Report also presents green initiatives followed and taken up by the institution and provides suggestions and recommendations to improve environmental sustainability.

KSRG Green Energy Services Pvt Ltd
Hyderabad

Executive Summary

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. Viswam Engineering College, Madanapalle is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends.

Eco campus is a concept implemented in many educational institutions, all over the world to make them sustainable because of their mass resource utilization and waste discharge in to the environment. Waste minimization plans for the educational institute are now mandatory to maintain the cleanliness of the campus.

To create and conserve the environment within the campus and to solve the environmental problems such as promotion of the energy savings, energy conservation, water reduction, water harvesting, solid waste management, improvement in the air quality of the campus, control on noise pollution, and minimizing the use of Plastic, etc. is one of the prime objective of the college. To find out the environmental performance of the educational institutions and to analyze the possible solutions for converting the educational campus as eco-campus the conduction of Green Auditing of institution is essential

This is the first attempt to conduct green auditing of this college campus. This audit was mainly focused on greening indicators like consumption of energy in terms of electricity and fossil fuel, quality of water, vegetation, waste management practices and carbon foot print of the campus etc.,

A report pertaining environmental management plan with strength, weakness, and suggestion on the environmental issue of campus are documented

M/s KSRG Green Energy Services Pvt Ltd has conducted Green Audit at “Viswam Engineering College, Madanapalle in April 2022.

a) Existing Practices

- 1) Segregation of waste separately, i.e., Solid waste, paper waste, & E-waste
- 2) Awareness towards water & energy conservation
- 3) Avoid or less usage of plastic in the campus
- 4) Green belt development
- 5) Reject RO water used for gardening
- 6) Roof top solar power plant for reducing GHG emissions
- 7) Solar hot water system for reducing GHG emissions

b) Identified opportunities

- 1) Rain water harvesting pits to recharge bore wells
- 2) Rain water harvesting from building roof tops and use for domestic purpose.
- 3) More awareness programmes/activities like environmental day, Energy Conservation Day, Water Day, and others
- 4) Efficient taps and faucets for optimizing water use
- 5) Water & air quality testing from third party once in six month.
- 6) Display board for trees
- 7) Management can construct a Sewage Treatment Plant for the entire campus and treated water can be used for gardening and other purposes

CHAPTER 1

Introduction

1.1 Green Audit

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. 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. Green audit is assigned to the criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India which declares the institutions as Grade A, B or C according to the scores assigned during the accreditation

1.2 About Viswam Engineering College

VISWAM ENGINEERING COLLEGE (VISM) is promoted by the Viswam Educational Society registered in the year 1991. The society is involved in improving both the primary and secondary education of the rural poor of this area. Under its influence, the society is running from LKG to PG since 1991. With the establishment of Technological Institute in the year 2006 the dream of the people located in and around this place is fulfilled. VISWAM ENGINEERING COLLEGE (VISM) was established at Angallu with the Nobel idea of imparting technical education for the poor in and around Madanapalle, a draught prone area. The required approvals from AICTE, New Delhi and affiliation from JNTU, Anantapur were obtained. From its inception the management has been taking many progressive steps to improve standards in technical education. Both the parents and students appreciated the measures and getting benefitted.

Many steps are taken up to impart training not only in academics but also in nurturing the creative and cultural talents, there by developing the all-round personality of the students. Utmost care is taken to improve their communicative, analytical and logical skills by employing separate faculty for the purpose, providing a slot in the time table, so that it is a continuous process till they reach final year. With a committed mission to develop academic environment in a poverty stricken area as the western block of the district, Sri.M.Prabhakar Reddy the Chairman of the group of Viswam Institutions has been making his maximum efforts to make the institution an Icon.

Courses offered

- CSE
- Civil Engineering
- AI & DS
- EEE
- ECE
- Mechanical Engineering
- MBA
- Basic Sciences & Humanities

The college is affiliated to JNTU, Ananthapur.

The college has good infrastructure and facilities available for students and spread over sprawling area of over 20 acres land inclusive of other colleges. The College is situated in an eco-friendly area with good greenery and huge plants.

- Training and placement
- Library
- Sports
- Seminar Hall
- Open air auditorium
- Laboratories
- Transportation
- Hostel for boys and girls separately
- Healthcare
- Internet
- Cafeteria
- Computer Labs
- Gymnasium facility for students
- RO water for drinking
- Extracurricular activities for better exposure in various fields
- Skill development programs in various fields for the students

HOSTELS & ACCOMMODATION

- On campus girls accommodation
- Separate for boys accommodation
- Comfortable pleasant hostel rooms
- 24/7 hot & cold water.

- 24/7 UPS power supply
- 24/7 Purified drinking water
- Healthy hygiene food
- Housekeeping & medical care
- Internet & Wi-Fi access
- Separate hostel blocks for seniors & juniors

The total strength of the college is 1064 students and teaching staff is 103 and 30 non-teaching staff.

1.3 Objectives of the Green Audit






The main aim objectives of this green audit is to assess the environmental quality and the management strategies being implemented in Viswam Engineering College. The specific objectives are:

- ❖ To assess the water usage and quality of the water in the VEC campus
- ❖ To monitor the energy consumption pattern of the college
- ❖ To quantify the liquid and solid waste generation and management plans in the campus.
- ❖ To identify the gap areas and suggest recommendations to improve the Green Campus status of the VEC College.
- ❖ To assess the carbon foot print of the college
- ❖ To impart environment management plans to the college

1.4 Methodology Adopted for conducting the Green Audit study

KSRG has conducted Green audit study studies at the institute in April 2022. The methodology included different tools such as preparation of questionnaire, physical inspection of the campus, observation, and review of the documentation, interviewing key persons and data analysis, measurements, and recommendations.

The study covered the following areas to summarize the present status of environment management in the campus:

-  *Energy Conservation*
-  *Water management*
-  *Waste management*
-  *Air Quality*
-  *Green area management*

CHAPTER 2

Green Audit –observations & Recommendations

The chapter presents the observations, recommendations covering the various areas as a part of Green Audit carried out in the campus

2.1 Energy Inputs/Sources

Energy sources for the institute are:

-  Electricity
-  HSD

Electricity is major energy source for the institute for lighting, fans, Air conditioners, pump motors etc.

The management also installed 70 KW roof top solar power plant for to offset grid electricity.

2.2 Details of Solar Power Plant GHG Emissions Reduction

The management has installed a roof top SPV Power plant as an initiative to offset GHG emissions to the world. The capacity of the SPV power plant is 70 kW and was commissioned in the year 2020 with net metering facility.

So far, about 98 MWh during the year 2021-22, the total electricity generated and is used for captive requirement for the campus, the power is also exported to grid during holidays. Due to solar power plant, about 90 tons of CO₂ is avoided to the climate.

2.2.1 Electrical Energy Analysis

Grid electricity is supplied by the AP Southern Power Distribution Company Limited (APSDCL). The contract load of the college is 70 kVA.

Data on monthly RMD, billed units, solar power consumption and bill amount for period year from January 2022 to March 2022 is collected, analyzed, and presented in Table 2.1 below:

Table 2.1: Month-wise Recorded MD, Billed Units, Solar Export and Bill Amount

S.NO	MONTH	CMD	RMD	BMD	PF	kWh	kVAH	Bill Nett Payable Rs.	Solar Units
1	Jan-22	70	29.2	56	1.00	4090	4090	39682	2850
2	Feb-22	70	43.3	56	1.00	3748	3749	39743	3083
3	Mar-22	70	30.9	56	1.00	3333	3334	39547	3168
					1.00	11171	11173	118972	9101
		70.0	34.5	56.0	1.0	3723.7	3724.3	39657.3	3033.7

Note: -sign indicates, solar power export to grid after captive use of solar energy

Table 2.2: Summary of Electrical Energy Consumption Data of the entire campus

S. No.	Item	Value
1	Contract Maximum Demand (CMD), kVA	70
2	Average recorded demand , kVA	39.2
3	Demand variation, kVA	29.2 to 43.3
4	Solar power plant capacity of the campus, kW	70
5	Solar power used for captive requirement and export, kWh	36,404
6	Annual grid electricity consumption, kVAh /year (estimated)	98,677
7	Total annual electricity bill, Net Payable bill Rs. Rs. lakhs/year (estimated)	10.45
8	Average cost of electricity, Rs/kWh (only grid power)	11.0

Considered Rs 11.00/kWh for electrical energy savings in the report

2.2.2 Electrical Energy conservation measures

(a) Replace Old fans with Energy efficient fans

There are about 519 fans in the campus in class room, staff rooms, labs, and other areas. Fans connected load is about 41.5 kW.

- ✓ Fans are provided with fixed and running capacitor. The speed drops if the value deteriorates with time. Timely replacement of capacitor is necessary.
- ✓ Presently, in many rooms conventional electrical regulators are installed and it is suggested to replace old conventional regulators with new electronic type regulators.
- ✓ In majority of the rooms, the fans are old and consume more power than rated.

Energy savings can be achieved by replacing the existing old ceiling fans with 5 Star Rating (BEE) energy efficient ceiling fans or Super fans.

- ➔ Option 1: 5 Star rated Fans
- ➔ Option 2: Super Fans

Initially, it is recommended to replace old fans of 50 nos. and after successfully achieving the savings, other fans can be replaced in a phased manner. The energy savings made for a sample of replacement of 50 fans under two Options are furnished below:

Table 2.3: *Energy savings of replacing Fans with 5 Star Rated & Super-Efficient Fans*

Description	Unit	Option1: 5 Star Rated Fans	Option2: Super- Efficient Fans
Number of Fans (Considered 50 Nos. as sample for case study)	Nos.	50	50
Actual power consumed	Watts	80	80
Power consumption of new Fan	Watts	40	30
Average operation	hours/day	5	5
	Days/year	250	250

Annual savings energy	kWh/yr.	2,500	3,125
Cost of energy	Rs/kWh	11	11
Total Annual saving	Rs	27,500	34,375
Cost of new Efficient fans	Rs/Fan	2,000	2,750
Investment	Rs	1,00,000	1,37,500
Simple Payback period	Months	44	48

Note: Price is subjective and be further reduced if taken on bulk quantity. The average life of fans is 10 years.

(b) Energy Savers for Air conditioners

The observations made on air conditioners are as follows:

- ➔ It is beneficial to install 5 Star rated ACs in future as 5 star rated ACs will consume less power than 3 star rated, and additional investment is less.
- ➔ Install energy savers for ACs for reducing electricity consumption

Table 2.4: Cost-benefit Analysis - Installation of AC Saver (14 no's)

Description	Unit	Split AC
Total number of ACs	Nos.	14
Total AC load	kW	25.2
No. of hours of operation/ day	Hours/day	6
No. of days per annum	Days/year	150
Annual Energy Consumption	kWh/year	22,680
Power saving due to AC Saver @15%	kWh/year	3,402
Annual monetary savings(@Rs.10.0 per kWh)	Rs.	37,422
Investment for AC Savers (@Rs.4,000 x 6 no's)	Rs.	56,000
Payback period	Months	18

c. Lighting

The college has 404 old florescent lights of 40 Watt. It is suggested to replace old fluorescent tube lights with LED tube lights. The cost benefit analysis of replacing old fluorescent tube lights with LED tube lights is furnished below:

Table 2.5: Cost-benefit Analysis – replacing old tube lights with LED tube lights

Description	Unit	details
Total number of tube lights (old)	Nos.	404
Wattage	W	40
No. of hours of operation/ day	Hours/day	6
No. of days per annum	Days/year	200
Annual Energy Consumption	kWh/year	19,392
Power saving due to LEDs @50%	kWh/year	9,696
Annual monetary savings(@Rs.11.0 per kWh)	Rs.	1,06,656
Investment for (@Rs.300/- per LED tube light	Rs.	1,21,200
Payback period	Months	14

2.2.3 Awareness about Energy Conservation

In class Rooms, hostel rooms and laboratories, it is suggested to have Display Messages or Posters regarding optimum use of electrical appliances in the room like, lights, fans, computers, and projectors. Few sample posters is furnished below:

(i) Sample Posters for Awareness towards Energy Conservation



Also have stickers/labels of slogans/lines for energy saving in Class rooms/ Common areas

- Energy saved is energy produced.
- Switch of Lights/ Fans if not used
- Conservation: It doesn't cost. It saves.
- Spare a Watt; Save a Lot
- Save Today. Survive Tomorrow
- Energy misused cannot be excused

2.3 Water - Source, Usage, Management & Conservation

This indicator addresses water consumption, water sources, water management, water conservation and water treatment plants, and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use.

2.3.1 Sources of water

The main source of water intake for the institute is ground water through bore wells and is drawn through the submersible pumps. The college has also RO plant to supply water for drinking water purpose for college and hostel.

2.3.2 Water usage

The source of water to the plant is groundwater supplied from bore wells. The campus has 5 no's bore wells and is common for all the colleges covering entire campus. Out of 5, only 3 bore wells are operated. These 3 bore wells are located at Degree College, Engineering College and other is nearby canteen

- The bore wells pumps are operated as per requirement. The water is drawn through the pumps and is supplied to raw water tanks. From the raw water tanks, water is supplied to washrooms, Labs & other usage areas as domestic usage.
- Raw water is used in the college for sanitation and other purposes.
- Domestic water is supplied to an overhead tank (OHT) through the pump and from OHT, the water is supplied to different floors of the College
- RO reject water is used in the gardening
- Waste water is drained in the drainage system of the campus.

The water is used in the institute for different applications as below:

- Domestic consumption
- Laboratory
- Drinking
- Gardening/trees

On an average the total use of water in the college is 9,000 L/day, which include 1,300 to 1700 L/day for drinking water and balance for sanitation requirement & domestic requirement, and for gardening purposes.

Water saving initiatives by the management

1. The rain water harvesting pits are planned to recharge ground water and also roof top water to the trees
2. The reject water generated in the RO plant is used for gardening
3. The drip system is planned in the campus for the trees for reducing water consumption in the botanical garden

2.3.3 Water Management & Conservation

In campus small scale/medium scale reuse and recycle of water system is necessary.

- (1) Rain water Harvesting
- (2) Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e., they are biodegradable and non-toxic,
- (3) Garden /plantation watering by drip system to minimize water use as a good practice followed by management towards water conservation in the campus.
- (4) Sewage treatment plant can be constructed for the entire campus to treat water and can be used gardening and ground water use can be minimized.

(i) Rainwater harvesting management

The concept of rain water harvesting is an ancient one and has become popular in recent times because of the vagaries of the monsoon, depleting water resources, its user friendliness. It has become an important and eco-friendly tool to protect ground water, useful and cost-effective method to boost water resources in any area. Rainwater harvesting is the technique of collection and storage of rainwater at surface or in sub-surface aquifers before it is lost as surface run-off.

- A) It is observed that, only rain surface run off was only considered for rain water harvesting for recharging purpose in the college campus.

As the college has good roof top areas of 1200 Sq. meters, however it is observed that drain pipelines are provided for roof top rainwater and the same can be channeled through water channels or trenches to the percolation pit for effective ground water recharge and harvesting the rain water or rain water can be diverted to the fountain or sumps for reuse of water

The amount of rain water that can be directed from roof top of is about 1971 KL /year based on average rainfall of 900 mm** in Madanapalle area in which campus located.

ii) Water conservation Opportunities in Wash rooms

(a) Faucets

Water efficient faucets and fixtures are available in the market now days to reduce water consumptions in wash basins by reducing flow without compromising comfort level of user. It is observed that flow of existing tap/faucets is 6 Liters per Minute (LPM). Faucets flows can easily be reduced without affecting the comfort of the water user by using appropriate flow regulator technology for these fixtures. This will result in impressive savings of around 40-50 percent of faucets water use. Flow regulators, especially the aerators are inexpensive and are easy to install and maintain. Therefore, they are often considered as the low hanging fruits of water saving programs.



Figure 1: *Water efficient faucets*

The present taps are of flooded type in the college and hostel. It is suggested to replace old taps new water efficient faucets can be installed, and the investment required is marginal.

(b) Toilets

A dual-flush toilet is a variation of the flush toilet that uses two buttons or handles to flush different levels of water. A significant way to save water in buildings is to replace single-flush toilets with dual flush toilets. The standard dual-flush toilets use six Liters of water on full and three Liters on a half-flush.

Replacing old toilets flush tanks will result to a reduction of toilet water consumption. More cost-effective results can be achieved by replacing only the toilet trim system.

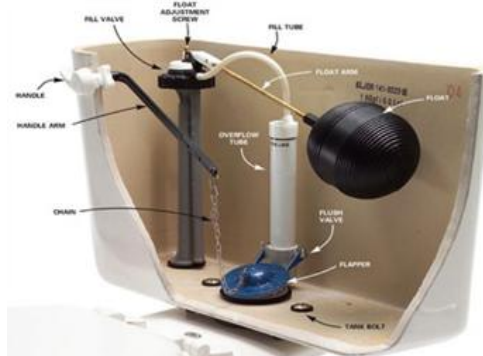


Figure2: Dual Flush Toilet System

The audit team has conducted the survey to toilets available in the campus. It is recommended to install dual flush system in the toilets.

B) Awareness on water conservation

College has about 1200 nos. (Including students, teaching & non-teaching & other workers and major water usage is for domestic consumption by them.

It is suggested that the student's staff at all levels should be made aware and trained on 'Water Saving & Conservation' and 'Good Housekeeping Practices.'

Therefore, it is recommended to periodically organize Awareness Programs for students/Staff including workers on Water Conservation.

It is also suggested that prominent water saving labels/posters should be placed/located in the college at noticeable locations like water filters/ wash rooms/ hand washing taps/display boards etc.

This will create awareness & sense of responsibility among students/staff/employees/visitors.

2.4 Waste Management

Wastes cannot be avoided in any environment. Wastes can be classified as Biodegradable and Non- biodegradable wastes. Biodegradable wastes include food wastes, which can be easily decomposed by the bacteria in soil. But non-biodegradable wastes are those which cannot be degraded by any organism and remain as such for many years.

Types of wastes generated in the campus are Food waste, Paper, Scrap & E-waste. Liquid waste. No Hazardous chemical waste is generated from the campus

Construction waste being taken by the municipal corporation and being disposed as per their practices

2.4.1 Present practice of waste disposal or treatment

- Waste generation from tree droppings and lawn management is a major solid waste generated in the campus.
- The waste segregation at source by providing separate dustbins for Bio-degradable and Plastic waste. Dust bins are provided in each floor of the blocks and at required areas too.
- The solid waste in the campus is given to local village panchayat and disposed by their methods.
- Very less plastic waste is generated in the campus. The students also advised by the management and not to use plastic in the campus and hence very less plastic is generated in the campus
- Single sided used papers reused for writing and printing in all departments and recently both side printing is carried out as per requirements.
- The waste generated by newspapers/ paper/ Cartoon boxes etc., are around 500 kg/month. Presently the same being sent to local vendors and planning to identify the recycling vendors of paper mills.
- Very less metal waste and wooden waste is generated and the same stored and given to authorized scrap agents for further processing once in six months.

- College Management has made awareness among the students by campaigns to reduce the plastic usage in the campus
- Sometimes waste generated from auditoriums/ few leafy waste/ plastics being burnt in ring
- All the E-Waste like monitors, key boards, mother boards, and printers etc., generated in the college premises is stored in a separate room and disposed on yearly basis to the authorized vendor for recycling.

2.4.2 Waste Management-Recommendations

- 1) Adequate numbers of garbage bins to be provided in every room and in every floor in blocks & hostel as well as in the academic area and canteen too and they can be used for disposing of waste as and when required.
- 2) The practice of burning the leafy dried leafy / plant waste , paper waste, small plastic waste which is the usual practice needs to be discontinued and better options tried.
- 3) Though the quantities are not very huge, composting/ Compost generation can be option

2.5 Air Quality & Noise Pollution

2.5.1 Outdoor Air quality

Air is one of the essential elements of sustainability of life on this planet. It is required to monitor its quality frequently to establish its goodness. Due to greenery and absence of any industries in the vicinity of the campus, the air quality is good. Also, road sides are covered with plants & trees improving the air quality.

Air quality determination: AQI is 83 for the location and which is moderate

Presently no Air quality monitoring being done by the management in the campus.

So, it is recommended to have Environmental monitoring (Ambient Air quality, water quality from approved laboratories) on half yearly or yearly basis to understand air quality

2.5.2 Indoor Air Quality (IAQ)

Indoor Air Quality (IAQ) refers to the air quality within & around buildings and structures, it relates to the health and comfort of building occupants. Common indoor pollutants are listed as below:

- Carbon monoxide – Sources of carbon monoxide are incomplete combustion of fossil fuels
- Volatile organic compounds (VOCs) – VOCs are emitted by paints and lacquers, paint strippers, pesticides, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions etc.
- Carbon dioxide – Due to human respiration
- Particulate matter – Due to construction and maintenance activities, vehicular pollution
- Nitrogen Oxides- Due to vehicular pollution

Observations:

- During day- time Air Quality Index (AQI) of location is in the range of 83 to 87.
- In classrooms the mode of ventilation is natural draft (through windows) and is enhanced by fans. Large windows and cross-ventilation are observed in corridors.
- Exhaust fans are provided in chemistry laboratory and all kitchens.
- Green belts consisting of tall trees have been set up in campus area
- IAQ awareness signage was missing in Campus.

2.4.3 Noise pollution

- Also, students are advised to not to use vehicles unnecessarily within the campus to minimize the air pollution.
- Even though state highway runs beside the campus, no noise pollution harms the learning environment, as the buildings are away from the road and also the tall trees inside the campus acts as obstructurals for noise transmission.

2.5 Green Belt & Green Area Management

This includes the 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.

2.5.1 Observations

The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organised by the management and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and controlling climate by moderating the effects of the sun, rain, and wind

Campus is located in the vicinity of several types of plantations such as species, trees, flower, medicinal plants, fruit plants, climbing plants, etc. approximately 30 types (species) trees. The plantation program includes several types of indigenous species of ornamental and medicinal. The dominant species in green belt are Ashoka, Neem, Grape jasmine, Charles Philip Brown Tulsa, Plantain tree.

- ✚ Large trees and potted plants were seen in the campus. Plantation improves aesthetics and helps as buffer in reducing noise level, maintaining temperatures of the area. As informed by the garden supervisor, around 40 varieties of plants/trees are present in the campus
- ✚ Organic fertilisers and pesticides are used for plants if necessary.
- ✚ More than 60% of the area is open and greenery is developed
- ✚ NSS groups of college organize green activities and awareness campaigns under Green Initiatives.
- ✚ Drip system proposed for watering the plantations/ botanical garden

Sample photographs of the trees, botanical garden, green house, water harvesting pits etc. are provided in Annexure 01 in this report

2.5.2 Recommendations

- ✚ Display boards to major plants to be provided
- ✚ There are only a few fruit trees in the college to attract birds
- ✚ The biodiversity is to be maintained while considering the plantation in future
- ✚ The selection of trees species to be based on environmental conservation and carbon sequestration value
- ✚ Watering schedule to be planned according to the season
- ✚ Special Tree Plantation shall be celebrated every year on environment day and also competitions for bird species identification and knowing the tree values in terms of medicinal and environment conservation

2.5 Transportation

Majority of the students are coming by public transport system and cycles also. About 250 students are coming by two wheelers also. As the college is near all the locations Madanapalle Town, the emissions due to fuel consumption of the vehicles used for transport is minimal.

2.5.1 Carbon Foot Print Audit

- ✚ College has not yet taken any initiative for carbon accounting.
- ✚ Encourage students and staff to use bicycles to reduce carbon emissions.
- ✚ As a part of clean environment and sustainable development, already the management installed 70 kWp capacity solar roof top power plant, which is cleaner energy will offset the Carbon foot print.

2.6 Environmental Initiative

Every year college need to celebrate World Environment Day, World Water Day, Energy Conservation Day, and Ozone Day in the campus.

The main focus of these programmes is to provide awareness to the students about the importance of the environment, its conservation and sustainable use of environmental resources.

Display of environment protection banners, posters like save water, save energy at prominent places, save energy, waste disposal bins for wet and dry waste disposal are some of the initiatives taken and also to be practiced in future too.

Principal

Annexure 01: Sample Photo graphs : Green belt in Campus

