St. Ann's College for Women

(Autonomous), Affiliated to Osmania University Accredited by NAAC with A⁺ Grade (3rd cycle), CPE by UGC

Mehdipatnam, Hyderabad.





CRITERION – VIIInstitutional Values and Best Practices

7.1.6 Quality audits on environment and energy are regularly undertaken by the institution.



St. Ann's College For Women

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College with Potential for Excellence by UGC
Mehdipatnam, Hyderabad -500 028

GREEN AUDIT REPORT 2021-22





Contents

S.No	Content
1.	Preface
2.	About The college
3.	Green Audit Committee
4.	Executive summary
5.	Observations –Water Mangement
6.	Waste Management
7.	Energy Management
8.	Landscape / Environment/Green Practices
9.	Haritha Haram -Tree Plantation:
10.	Celebrations Of Festivals Depicting Nature
11.	Green Agenda In Syllabus
12.	Recommendations

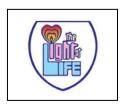


Preface

The aim of education is not 'Knowledge' but 'Action'. Since Vedic times it is well understood that the well-being of our Planet Earth depends on the preservation and sustenance of the five basic elements or the Pancha Mahabhoota of Nature "Aakash, (Sky) Vayu, (Air), Agni (Fire), Jal (Water) and Prithvi (Earth)". People of those times were careful to refrain from activities that could cause harm to Nature's bounties. But today the inappropriate human actions have altered the season's cycles, leading to Global warming and Climate change, polluting the air and surroundings. As educational institutions, colleges can play a pivotal role in pursuing environmentally sustainable solutions by adapting various green initiatives. Environmental awareness and protection are the need of the hour. Sustainability of Environment is the key to the future of mankind.

Green Audit is one such Green practice which can empower the organization to frame a better environmental performance. The Higher educational institutions in the country can promote the values of environmental education and awareness in several innovative measures to ensure sustainable practices among the students. The value of inculcating environmental knowledge to behave with positive attitude among youths provides ample number of opportunities for innovation in the field level.

Green audit practically involves energy conservation, use of renewable sources, rainwater harvesting, and efforts of carbon neutrality, plantation, hazardous waste management and E-waste management. This report serves to highlight the college accomplishments and to make recommendations for improving the college environmental sustainability. Green audit acts as a major tool for promoting good environmental management.



About The College

St.Ann's College for Women came into being in 1983 with two undergraduate courses and 106 students. At present, the college has a strength of over 3000 students and 120 well qualified staff members, belonging to as many as 28 different departments. The College cuts social, financial, cultural and linguistic barriers. Being a missionary college, the effort is to foster a rich campus culture with academic excellence and skill enhancement. The college continues to grow in quality, impact and reach. The college offered itself for assessment by NAAC in the year 2006 ,2013 and 2018. The concerted effort towards quality goals culminated in the award of 'A+' grade and further recognition came as a 'College with Potential for Excellence', both the times.

The college strives to maintain an environment which encourages all employees to upgrade their personal and professional goals and aspirations as college works towards achieving the mission of the college. The college provides a work environment in which everyone, staff and students alike accept responsibility to contribute to the success of the institution and empowered to do so.

The faculty at St. Ann's is the most valuable resource that brings along an incomparable set of skills and knowledge. The faculty boost of varied backgrounds in terms of specialization and experience. The academic, social and spiritual elements of St.Ann's college come together to offer the students a world of opportunity

The college is in the initial stages of carrying out the Green Audit and Evaluation. Therefore, college follows institutional policy to conduct green audit. The purpose of the audit is to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution.

Hyderabad- 500 028



Green audit and evaluation of the college is taken care by the following committee;

Green Audit Committee:

Chairperson: Principal Dr.Sr.P.Amrutha

Convenor : Mrs. AM Sylaja, Eco-Club

Members : Mrs.Beverly , NSS P.O

Ms. Roja, Lecturer, Department of Botany

Mrs.Pranathi Lecturer, Department of Commerce

Mrs Poonam Lecturer, Department of Zoology

Mrs. Vasavi Lecturer, Department of Chemistry

Mrs. Jyothi Lecturer, Outreach Convenor

Green Audit Report

2021-22

Executive Summary

The prime objective of the audit was to evaluate the adequacy of the management control framework of environment sustainability and the degree to which the college is in compliance with the applicable regulations, policies and standards. During the planning of the audit, an analysis was conducted to identify and evaluate the matters associated with the environmental sustainability.

The methodology used includes physical inspection of the campus, review of the relevant documents and interviews.

Statement of Assurance

This audit has been conducted in accordance with the institutional policy. In our opinion sufficient and appropriate audit procedures were completed. The conclusions are based on a comparison of the situations as they existed at the time of the audit with the established criteria.



Observations

The important observations are, all the departments and students are aware about the need for environmental protection at a general level. It was also observed that a number of best practices such as rain water harvest pit, compost pit, vermi-compost, water purifier (RO), energy conservation, maintaining plants, tree plantation in the neighbouring community, Haritha haram (Govt. of Telangana initiative), Biogas plant, E – waste management, recycling of paper, encouragement to use eco-friendly material in the campus, etc. are followed.

A) Water Management:

The major source of water in the campus is municipal supply and also bore well. Wise use of water is general practice in the college. Aqua guard water filters are installed in all the floors for drinking purpose. Quality of drinking water is tested on a regular basis by Microbiology Department of the college.

Rainwater harvesting pit is functional. College has two rain water harvesting pits which maintain the campus ecology. The rain water runoffs are prevented in the campus through strategic bunds to enable the rain water to seep into the ground, ensuring rainwater conservation. It has been observed that the ground water level in the campus has shown a significant rise indicated by the availability of bore water throughout the year.

Department of Botany and Eco club maintain and monitor the rain water harvesting project. Air quality testing is also done in various hotspots of the college by the department of Microbiology.



Rain water Harvest Pit



Rain water Harvest Pit

Sprinklers

Sprinklers are used to water plants in the Garden to conserve water





Borewell

RO Water Filter

Stainless Steel Water Dispensers



RO Water Filter @ Nutrition lab 100% Chemical Free:

No chemicals such as chlorine, bromine or iodine are used for purification of water unlike other water purifiers, thereby making water safe and healthy for consumption..Activated



carbon cartridge and silver impregnated carbon filter removes all chemical impurities like chlorine, as well as maintain healthy colour and odour of the water.

Stainless Steel Water Dispensers are installed in every floor of the college:

Food grade stainless steel water tanks are safe to use. Plastic tanks may get BPA found which raises health safety concerns. Stainless Steel Water Dispensers are more Durable:Plastic water storage tanks are highly non-durable when compared to steel water Matka. Plastic coolers when dropped from your hand accidentally would break easily while steel water tanks may get dents while they would still be useful and provide a good return for money along with lifetime durability.

Most plastic water dispensers are made from recycled plastic. Though it is better for the environment to use recycled plastic – it causes a greater health risk. The chemical emitted from plastic water tanks may cause serious diseases like cancer. Above all – plastic tanks get faded colors over time. While polishing on stainless steel tanks be it glossy or matte remains as it for a lifetime. Also, cleaning and storing when not in use is easy for such steel-made dispensers.

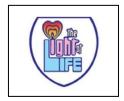
B) Waste Management:

Land filling is the general hazardous waste management strategy adopted by few life sciences departments like Department of Genetics

Biogas Plant is located in the backyard of the campus. The gas generated is utilized for practical classes. Solid waste generated is used or sent for vermi composting maintained by the Department of Zoology. Kitchen waste generated in Nutrition lab is used for composting in bins.

Chemistry Departments has installed distillation units to recycle and reuse the organic solvents. Stockpiling of chemicals is avoided by using an inventory management system, avoiding long term storing and avoiding the storage of expired chemicals. Green chemistry and Micro-scale experiment concepts are adopted to reduce the production of hazardous wastes. The toxic chemicals are neutralized and diluted before discarding.

Biological waste from other science laboratories are made harmless through autoclaving and then disposed. Hazardous waste generated in life sciences labs is disposed off in a scientific manner.



Department of Botany maintains the Botanical Garden of the college. The garden waste is converted into organic manure in an organic pit and is used as a biofertilizer in the botanical garden.

Used paper, Reagent bottles used in Chemistry and Biochemistry labs are given to vendors for recycling.

Production and sale of cloth bags at college and market places by volunteers of Eco Club and Chemistry Department.

Paper, Plastic and other dry waste is given for recycling to Greenwaves Environmental solutions. This is practiced by the departments of Biochemistry, Statistics, Nutrition, Zoology, Microbiology and Library.

Various awareness programs on segregation of waste, waste management have been organized both inside and outside the college like

Dry Waste is given for recycling

Eco club has trained students to segregate waste as dry and wet waste. Many campaigns, awareness programmes, invited talks, Guest lectures are organised to create awareness on the importance of Waste segregation. The twin bin system is being implemented in the college.

Regular Dry waste collection drives are organised and collected waste is given to Green Waves Environmental solutions for recycling. Eco club maintains a dry waste center where all the collected waste is stored and disposed of on a regular basis.



Eco club volunteers at Dry waste center



Biomedical waste disposal in Science labs

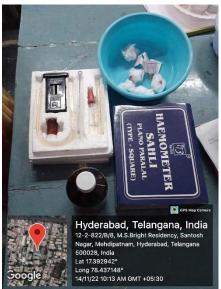
The collection of biodegradable waste involves use of different types of containers/bins For example, all the waste sharp metals like the needles used for pricking the fingers are disposed in white bin, cotton contaminated with blood is disposed in yellow bin and the disposable gloves used by the faculty and students are disposed of in red bin. Sharp needles are kept in puncture-proof containers to avoid injuries and infection to the attenders and help staff handling them. Each container is clearly labelled to show what is supposed to go into it. The waste is disposed of on a daily basis and the bins are sanitized and used.

.



Biomedical waste Disposal @ Zoology Lab





Autoclaving of used cultures before discarding @Microbiology Lab



Biohazard disposal @Microbiology lab



Activities conducted 2021-22 - Waste Management

- 1.Online session on Kitchen waste composting conducted on 11.11.2021 for Environment Education students
- 2. Vermi composting session was conducted on 18.11. 2021 for Environment Education students



2. Awareness session on Biodegradable Sanitary Pads/Menstrual waste management

As a part of creating awareness on Biodegradable sanitary pads Eco club on Feb 11 2022, organised an awareness session on Menstrual Hygiene and waste management ,disposal of sanitary pads, eco-friendly alternatives available to avoid plastic napkins hazards both to women using them and to the environment



3. Upcycling plastic waste -Plastic Bottle crafts



In order to create awareness of recycling and repurposing of plastic, Dharani ECO club conducted an activity "Plastic Bottle Crafts" where the students of Environment Education were asked to prepare some creative and useful things out of used plastic bottles. All the Students took part in the event by upcycling some of the plastic products. The participants shared their views saying that they have got to learn something creative through this event.

Upcycling Plastic waste activity -Nov 2021, Paper bag making activity Dec 2021

- 4.Newspaper bag Making/Sanitary pad pouch making was demonstrated to Eco club and Environment Education students by Mrs Pranathi to create awareness among students to avoid plastic bags Also students were taught to make sanitary pad disposal pouches using newspapers, to dispose of used pads properly. Students were asked to prepare a minimum of 5 bags each using different kinds of paper like newspaper, Magazines and calendars and handmade paper.
- **5.Quiz on Know Your Plastic Footprint:** To create Consciousness on the plastic waste and to know how it is polluting our environment a simple Quiz was conducted with the theme "Know your Plastic Footprint" were in questions related to usage of plastic in daily life were asked and points were allotted depending up how much of plastic waste is generated by an individual

6.Best Out Of Waste Activity:











Jute flower vase



Bird Feeder made with Mineral water can



7.Online session on Recycling and Why it is important on Jan 28, 2022 for Environment Education Students



8.Instagram, YouTube channel and twitter account created to share the e content created on reusing PVC banners and gunny bags for making Eco friendly banners

9.National level project ECHO 2021-22 WWF-India in partnership Dharini Eco club students worked on Echo Project-Building a Cadre of Green Entrepreneurs-National Project.

Prakrith Ki Pramithi -Designing Eco Banners from gunny bags, jute and textile waste to replace PVC banners.



Banner made out of Gunny bags and paper

ECHO 2021-22 Project Activities

- •Instagram, Youtube channel and Twitter account created
- The ECHO Team and Volunteers organized various competitions under this Prakrithi Ki Pramithi Initiative on the occasion of Earth Day celebrated on April 22 of every year.
- •1. Fingerprint painting competition Topic: Paint your favorite animal
- •2. Caption writing competition Topic: Let's talk about rubbish!
- •3. Nature Photography Competition Topic: BRB, just admiring nature!
- •4.Best out of waste Topic: Recycle for a life cycle!
- •5.I am an Eco-Conscious Consumer



https://drive.google.com/drive/folders/1-3kUplD8kLS54MFnyf4-Ws9bAL Ez58e?usp=share link





Sessions attended by ECHO Volunteers

- •How to create a WOW effect in your Entrepreneurship Journey
- •An expert talk on "Business Development For Entrepreneurs
- •Interactive session for ECHO Representatives and volunteers with Green waves Environmental Solutions Resource person Niharika on topic "Designing Eco banners from Gunny Bags
- 10. Projects on waste management were completed by a team of Environment Education students during May -June 2022

C) **Energy Management:**

Classroom has cross ventilation and sufficient natural lighting to minimize use of electricity. College takes steps to sensitize students and staff about energy conversation. High energy consuming fluorescent lights are found in use. The college has replaced them with LED or CFL lights in most of the places. Staff and students are encouraged to switch off all electrical appliances light, fans, air-conditions and lab equipment when not in use.

Electricity as energy source and the initiatives to save it are-

> Survey of electrical fixtures of college- class rooms, laboratories, departments and centers, based on which recommendations are made to save energy, Periodic



Recommendations to all the departments and classes, all eco club volunteers of the class follow simple electricity saving rules like switching off all fans and bulbs of the classrooms, LCD projectors, using natural air by keeping windows open, Green Stickers (Energy saving rules) are pasted in the classes and Laboratories, Save Energy poster are displayed in corridors, Zero power hour /week is followed every Saturday.

- Annual maintenance contracts of equipments and instruments are in place for infrastructural facilities in the college. e. g. Elevators, Air conditioners, Computers. Departments also have AMC for equipments. Solar panels are in place for evening lighting, Incandescent bulbs and tube lights are replaced with LED power saver bulbs,
- ➤ Use of sunlight –Natural light for microscopy in all life science departments.
- Computers and printers are operated in Energy saver mode. Computers are regularly maintained for performance and all faculty and students are advised to use systems in Power Saver mode. The Dot matrix Printers are replaced with Laser Printers where ever possible. All CRT monitors are replaced with LCD monitors and Energy Star equipment is purchased.
- > Power Efficient Equipment Energy Star and the Environment
- Energy STAR is an important tool in fighting climate change, improving air quality, and protecting public health. By reducing emissions of greenhouse gases and other air pollutants, Energy Star also provides states and local governments with more flexibility and reduced costs towards meeting their climate, air quality, and public health goals. With an ENERGY STAR certified refrigerator or cooler, we can maximize our energy and savings without sacrificing the features we want. Energy Star certified refrigerators are about 9 percent more energy efficient than models that meet the federal minimum energy efficiency standard. By properly recycling our old refrigerator and replacing it with a new ENERGY STAR certified refrigerator, we can save more money.
- ➤ ENERGY STAR certified refrigerators offer high performance features such as highefficiency compressors that create less heat and use less energy, improved insulation



that helps food stay cold, and temperature and defrost mechanisms that help the refrigerator operate more efficiently.

We at St.Ann's replaced old refrigerators with Energy Star Refrigerators.All life sciences and physical sciences labs have Energy star certified refrigerators.Energy efficient appliances use less electricity to achieve the same level of performance to similar models with the same size or capacity. The more energy efficient a model, the less energy it will use and the less it will cost to run.The more stars on the Energy Rating Label, the more energy efficient the appliance is.



Biochemistry Lab

Chemistry Lab

D) Landscape / Environment/Green Practices:

The college campus is greener with fair biodiversity. Most of the trees and plants have their scientific names displayed on them. The campus of the college itself is environmental friendly with trees, garden, medicinal plants, vegetable garden, lotus ponds Green lawns adorned with ornamental plants and shady trees make the campus look beautiful. Though space is limited, every vacant corner of the campus has been planted with trees, shrubs,

Hyderabad- 500 028



creepers, turfs and other plant species to make it look greener and more vibrant. The 5000 sq. ft. botanical garden is a consortium of fruits, vegetables, medicinal, ornamental plants, and pond ecosystem.

Green corridor concept should be adopted by increasing the number of potted plants in the college corridors. This can further reduce the carbon footprint.

E) Tree Plantation:

Telangana Ku Haritha Haram is a large-scale tree-plantation program of the Telangana Government to increase the tree cover in the southern Indian State. NSS, NCC, Eco club of College participates enthusiastically both within the college and outside

Department of Botany supports the cause of increasing the green coverage with good Biodiversity on campus

First Sunday of August is Friendship Day and at St Ann's College it is celebrated as **Green Greeting Day**. Green Greeting is a unique programme of Rotaract Club of St. Ann's. Every year students of the college are encouraged to gift saplings to their friends instead of gifting other gifts like friendship bands etc. The message of gifting sampling was nurture friendship; watch it grow.

Microbiological testing of soil, rhizosphere and phyllosphere is done regularly to optimize the health of plants as suggestive methods and recommendations are discussed in audit committee

F) Celebrations Of Festivals Depicting Nature:

- > Vasantpanchami depicted as beginning of spring by Hindi department.
- > Bathukamma- festival of flowers by Telugu department
- Ecofriendly ganesh making workshop and sale,
- Eco friendly gifts and greetings during conferences- Guests for all conferences and celebrations are greeted with Green Greetings in the college.
- ➤ No to plastic and sale of eco friendly bags by Chemistry Department and Eco club.
- Students and staff always try to pool up and commute and those living nearby walk to college.

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ISO 9001: 2015-ISO 14001: 2015 Hyderabad- 500 028



G) Green Agenda In Syllabus

Environment Education is offered as Co-Curricular Activity to first year students for two semesters on choice basis. This is a **activity based course** which encourages student participation in organizing as well participating in events such as plantation drives, cleanliness drives, Nature walks, Rallies, recycling activities, composting ,promoting eco-friendly products, celebrating festivals in eco-friendly ways ,creating awareness by way of organizing camps, essay writing competitions ,quiz, debate, observing Eco calendar.

Science and Environment course creates an awareness and sensitivity towards conservation of biodiversity. It promotes development of required skills in sustaining the ecological balance of the environment; understanding of the benefits and limitations of science and its applications in technological developments towards human welfare. This course is offered to all students in the III semester. Teaching methodology includes seminars, projects, Group Discussion etc., based on the curriculum and the latest updates in the same.

Environment Management Course trains students to manage environment risks and explore ways to reduce environmental footprint in day to day activities.

College observes Ozone day, Natural Recycling Day, World Earth Day, World population Day, Wildlife Week by organizing activities on environmental themes.

Paperless transactions by all Departments

E-Feedback Systems, E-Certificate, Online- Google Classroom and Google Form Assignment

Know Your Plant-Digital Display

The Department of Botany Encourages students in compiling a Green File for the display of articles on the noticeboard regarding the Environmental Issues. Digital and Seed Herbarium

Eco club in collaboration with Green Mitti encourages student internship on Five Modules pertaining to **Green Mitti Concept**

Sustainable Green cover Seed Balls preparation



Natural Farming,

Waste Segregation and Composting

Home Gardening

Hydroponic Gardening

Upcycling of Materials

Energy and water conservation

Biodiversity and Micro climate carbon footprint reduction

Bird and Butterfly Watching

Micro climate improvement

Recommendations from previous audit 2021

In order to improve their efficiency and consistency, certain practices could benefit them further

- > Green audit may be conducted on a periodical basis
- > Solar cookers can be used in Nutrition labs
- > Safely dispose computer, electrical appliances e waste in a scientific manner
- It is recommended to Install Incinerators, to dispose safely the sanitary napkins
- Numbers of bins in the washrooms are to be increased.
- > CFLs to be replaced with LED lights and solar lights
- College can apply for a Green and Clean campus award
- > Dry waste collection can be done on a regular basis
- Food waste can also be composted apart from kitchen waste
- > College has to plan and implement methods for recycling of waste water
- Food wastage is to be monitored and students to be sensitized on the issue
- Campus Flora and Fauna data record can be maintained
- List Of visiting birds and living birds can be maintained
- Increase number of projects or dissertations on Environmental issues



As per the recommendations in previous the college has taken few measures

- Green Audit is conducted on a regular basis
- o Most of the CFLs are replaced with LED lights
- o Initiated Dry waste collection on a regular basis
- Instead of incinerators, we are creating awareness on use of Biodegradable sanitary

Recommendations by Green Audit Team-Review Meeting 2022

- Energy Audit is also suggested to be conducted on a regular basis.
- Renewable energy sources to be initiated to save electricity
- A biodiversity survey of the campus can be done.
- Explore Measures to bring down carbon footprint in the campus
- All the CFLs to be replaced by LED lights.
- The college can apply for Green Awards
- Air Quality and water quality of the campus to be done on a regular basis
- Soil Testing also can be done
- Innovative projects to find solutions to environmental problems can be encouraged 0
- Campus Bird count can be done
- Earth Hour can be observed
- o Recycling initiatives can be enhanced

Dr. Sr. P. Amrutha Principal/

St. Ann's College For Women (Autonomous)

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