

**CH.S.D.ST.THERESA'S COLEGE FOR WOMEN, (AUTONOMOUS)
ELURU-WEST GODAVARI –Dist.**



ENVIRONMENTAL AUDIT REPORT



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Introduction

The rapid environmental degradation at local, regional and global level is real, which is leading us to global “Environmental poverty”. Stabilization of human population, adoption of environmentally sound and sustainable technologies, reforestation, and ecological restoration are crucial elements in creating an equitable and sustainable future for all humankind in harmony with nature. Thus, academic leaders must initiate and support mobilization of internal and external resources and knowledge so that their institutions respond to environmental challenges. Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience.

Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

Ch.S.D.St.Theresa’s Autonomous College for Women, Eluru is a prestigious Institution deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. We deeply subscribe to the fact that humans should be stewards of Mother Nature and that we all have a profound responsibility to protect the earth’s resources in perpetuity. Being a premier institution of higher learning, The College has resolved to play a major role in the education, research, policy formation, and information exchange necessary for a sustained environmental campaign.

The current environmental audit represents the first stage in our effort to build environmental sustainability on the campus. For this project, we defined environmental sustainability as, all campus activities will sustain resources and cause no or less damage to the environmental integrity of local, regional and global ecosystems, and ensure continued availability of all natural resources to the future generations.

The audit was conducted by a team of faculty and students lead by Mr.Venkateswarlu, Environmental Engineer, Andhra Pradesh, Pollution Control Board, West Godavari District, Eluru. It is indeed the reflection to exercise leadership in promoting sustainability and an institutional obligation to instill in all graduates and each of us, and those in the broader community a sense of environmental stewardship. This commitment leads to action that primes to transformation and real on field change. We have conducted this audit not only for the institution itself, but just as importantly to be a role model institution for others to emulate and bring the environmental concerns and related mitigating measures to the public of Eluru Municipal Corporation, West Godavari District, the State of Andhra Pradesh.

The overall goals of this project:

- (1) To introduce students to real concerns of environment and its sustainability of the Campus as a study site
- (2) To analyze the pattern and extent of resource use on the Campus
- (3) To establish a baseline data to assess future sustainability plans
- (4) To make the College a more environmentally sustainable institution of higher learning
- (5) To bring out a status report on environmental compliance.

This environmental audit is the reflection of institutional sustainability, planning process which quantifies whether or not current and/or future environmental efforts are actually making a difference to our resolve to eradicate environmental poverty.

There are many reasons for undertaking an Environment audit including:

- To introduce and aware students to real concerns of environment and *its* Sustainability.
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use of the campus.
- To reduce air pollution by planting and maintaining more trees in and around the College campus.
- To provide good quality potable water and improve fertility of the soil
- To identify behavioral change opportunities by evaluating eco-friendly operations.

In recent time, the Green Audit of an institution has been becoming a paramount important for self assessment of the institution which reflects the role of the institution in mitigating the present environmental problems.

Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The Environment audit process includes 5 categories.

1. Air Issues
2. Water Issues
3. Waste
4. Biodiversity
5. Environment

Methodology:

The students were divided into five groups and under the guidance of the teaching staff of the Department of Zoology and Botany, each group collected data on the assigned topics. The assigned topics were as follows.

1. Identification of Plant species and Bio-diversity.
2. Analysis of Water quality and usage.
3. Analysis of Energy consumption and costs.

4. Analysis of waste generation and disposal all the data were united and based on these, a report was formulated.

Environment Report.1

Despite the institution's substantial growth in student, faculty, and staff populations during the last decade, the college has undertaken several steps to move towards becoming environmentally sensitive and a more sustainable campus. The campus is spread over 7 acres of sprawling campus in Sanivarapupet panchayati and is a heritage landmark of the old world amidst canopy of trees. The College has nearly 2500 students and 170 faculty. The institution is committed to academic excellence and scholarship, and provides students opportunities to develop as scientific leaders and Alumina of the college settled all over the World.

Biodiversity:

A scientific survey of flora and fauna of the campus is carried out covering rainy, winter and summer seasons during 2015-16. This biodiversity/green audit has revealed more than 200 species of plants consisting of 25 species of Algae, 2 Bryophytes, 5 Pteridophytes, 2 Gymnosperms and 166 species of Angiosperms besides number of cultivated species.

Faculty and students have taken up a no. of tree plantation activities like Vanam Manam Programme, Neeru Chettu, Jalashakthi under many committees like Eco Club, NSS, NCC, Red Ribbon Club, Botany Department etc.

Various species of Mammals, Aves, Reptiles, Arthropods and Annelida were also recorded. The An Aquarium in Zoology lab and two Aquarium fish ponds in the college campus add beauty of life. This indicated excellent composition of Flora and Fauna quite unique considering that the campus is situated nearer to Kolleru lake, many birds are reported to breed in the campus seasonally.

Vegetation Analysis in Ch.S.D.St.Theresa's College for Women (A), Eluru

A) Names of the Plants in College Campus

S.No	Name of the Plant	Family	Local Name	Habit	No.
1	<i>Cissus quadrangularis</i>	Vitaceae	Nalleru	Climber	2
2	<i>Albizia lebbek</i>	Mimosaceae	Dirisina	Tree	3

			chettu		
3	<i>Emblica officinalis</i>	Euphorbiaceae	Rathi usiri	Tree	3
4	<i>Ficus bengalensis</i>	Moraceae	Marri chettu	Tree	2
5	<i>Shorea robusta</i>	Dipterocarpaceae	Sal chettu	Tree	1
6	<i>Zizipus jujube</i>	Rhamnaceae	Regu chettu	Tree	2
7	<i>Sapindus emarginatus</i>	Sapindaceae	Kunkudu chettu	Tree	3
8	<i>Hibiscus rosa sinensis</i>	Malvaceae	Mandara	Shrub	50
9	<i>Nerium odorum</i>	Apocynaceae	Ganneru	Shrub	24
10	<i>Vinca rosea</i>	Apocynaceae	Billa ganneru	Herb	20
11	<i>Bougainvillea spectabilis</i>	Nyctaginaceae	Kagitham puulu	Climber	25
12	<i>Caesalpine pulcherrima</i>	Caesalpinaceae	Ratnagandhi	Shrub	8
13	<i>Cassia occidentalis</i>	Caesalpinaceae	Kasindha	Herb	4
14	<i>Cassia auriculata</i>	Caesalpinaceae	Tangedu	Shrub	2
15	<i>Crotalaria verrucosa</i>	Fabaceae	Janumu	Herb	2
16	<i>Tephrosia maxima</i>	Fabaceae	Vempali	Herb	15
17	<i>Eucalyptus globulus</i>	Myrtaceae	Jamoil	Tree	50
18	<i>Millingtonia hortensis</i>	Bignoniaceae	Kadamalli	Tree	15
19	<i>Jasminum sambac</i>	Oleaceae	Jasmine	Shrub	20
20	<i>Tagetus petula</i>	Asteraceae	Banthe	Herb	200
21	<i>Tagetus erecta</i>	Asteraceae	Karapu banthe	Herb	100
22	<i>Chrysanthemum indicum</i>	Asteraceae	Chamanthe	Herb	100
23	<i>Artabotrys odoratissimus</i>	Annonaceae	Sampenga	Climber	2
24	<i>Ficus religiosa</i>	Moraceae	Ravi	Tree	2
25	<i>Tectona grandis</i>	verbenaceae	Teak	Tree	110
26	<i>Mimusops elengi</i>	Sapotaceae	Bogada	Tree	23
27	<i>Cocos nucifera</i>	Arecaceae	Coconut	Tree	250
28	<i>Areca catechu</i>	Arecaceae	palm	Tree	50
29	<i>Agave americana</i>	Asparagaceae	Kittali	Herb	6
30	<i>Murraya koenigii</i>	Rutaceae	Curry leaves	Shrub	20
31	<i>Citrus aurantifolia</i>	Rutaceae	Nimma	Shrub	2
32	<i>Ocimum sanctum</i>	Lamiaceae	Tulasi	Herb	70
33	<i>Ocimum basilicum</i>	Lamiaceae	Sabja	Herb	6
34	<i>Mangifera indica</i>	Anacardiaceae	Mango	Tree	20
35	<i>Azadirachta indica</i>	Meliaceae	Neem	Tree	15
36	<i>Rosa alba</i>	Rosaceae	Rose	Shrub	100
37	<i>Musa paradisiaca</i>	Musaceae	Banana	Shrub	100
38	<i>Canna indica</i>	Cannaceae	Matta tamara	Shrub	10
39	<i>Annona squamosa</i>	Annonaceae	Seethaphalan	Tree	2
40	<i>Polyalthia longifolia</i>	Annonaceae	Ashoka	Tree	200
41	<i>Brassica nigra</i>	Brassicaceae	Avalu	Herb	24
42	<i>Murraya paniculata</i>	Rutaceae	China box	Shrub	16
43	<i>Coccinia indica</i>	Cucurbitaceae	Donda	Climber	6
44	<i>Coriandrum sativum</i>	Apiaceae	Kothimeera	Herb	20

45	<i>Helianthus annus</i>	Asteraceae	Sun flower	Shrub	15
46	<i>Calotropis gigantia</i>	Asclepiadiaceae	Jilledu	Shrub	18
47	<i>Mentha avensis</i>	Lamiaceae	Mint	Shrub	25
48	<i>Euphorbia hirta</i>	Euphorbiaceae	Raddi vari nanubalu	Herb	100
49	<i>Phyllanthus niruri</i>	Euphorbiaceae	Nela usiri	Herb	110
50	<i>Cicca acida</i>	Euphorbiaceae	Usiri	Tree	6
51	<i>Oryza sativa</i>	Poaceae	Paddy	Herb	150
52	<i>Areva lanata</i>	Amaranthaceae	Kondapindi aaku	Herb	170
53	<i>Annona muricata</i>	Annonaceae	Lakshmanaph alam	Tree	3
54	<i>Cleome viscosa</i>	Capparadiaceae	Vampali	Herb	40
55	<i>Gynandropsis pentaphylla</i>	Capparadiaceae	Kukka vaminta	Herb	35
56	<i>Abitulon indicum</i>	Malvaceae	Duvvana kaya	Shrub	10
57	<i>Abelmoschus esculentus</i>	Malvaceae	Banda	Herb	150
58	<i>Hibiscus micranthus</i>	Malvaceae	Nityamalli	Shrub	4
59	<i>Hibiscus cannabinus</i>	Malvaceae	Gongura	Herb	200
60	<i>Sida cordifolia</i>	Malvaceae	Sida	Herb	20
61	<i>Abrus precatorius</i>	Fabaceae	Guruvinda	Climber	2
62	<i>Clitoria ternata</i>	Fabaceae	Sanku	Climber	5
63	<i>Dolichos lab lab</i>	Fabaceae	Chikkudu	Herb	100
64	<i>Tephrosia purpurea</i>	Fabaceae	Vempali	Herb	50
65	<i>Trigonella foenumjraecum</i>	Fabaceae	Menthi	Herb	150
66	<i>Bauhinia purpurea</i>	Caesalpinaceae	Addaku	Tree	20
67	<i>Bauhinia Vahlil</i>	Caesalpinaceae	Addaku	Tree	20
68	<i>Cassia occidentalis</i>	Caesalpinaceae	Kasinda	Herb	10
69	<i>Tamarindus indica</i>	Caesalpinaceae	Chinta	Tree	2
70	<i>Mimosa pudica</i>	Mimosaceae	Attipatti	Herb	15
71	<i>Benincasa hispida</i>	Cucurbitaceae	Budida gummadi	Climber	2
72	<i>Cucurbita maxima</i>	Cucurbitaceae	Gummadi	Climber	2
73	<i>Cucumis sativus</i>	Cucurbitaceae	Cucumber	Climber	30
74	<i>Luffa acutangula</i>	Cucurbitaceae	Angular gourd	Climber	30
75	<i>Momordica charantia</i>	Cucurbitaceae	Bitter gourd	Climber	30
76	<i>Daucus carota</i>	Apiaceae	Carrot	Herb	20
77	<i>Carum copticum</i>	Apiaceae	Vamu	Herb	2
78	<i>Piper Betel</i>	Piperaceae	Tamalapaku	Climber	5
79	<i>Centella asiatica</i>	Apiaceae	Saraswathi aaku	Herb	100
80	<i>Ixora coccinia</i>	Rubiaceae	Nuruvarahalu	Shrub	50
81	<i>Anthocephalus cadamba</i>	Rubiaceae	Kadambam	Tree	5
82	<i>Oldenlandia umbellata</i>	Rubiaceae	Oldenlandia	Herb	200

83	<i>Eclipta alba</i>	Asteraceae	Guntagalagar	Herb	100
84	<i>Parthinium hysterophorus</i>	Asteraceae	Pichhi masupatri	Herb	150
85	<i>Solidago canadensis</i>	Asteraceae	Golden rods	Herb	100
86	<i>Tridax Procumbens</i>	Asteraceae	Gaddi chamanthi	Herb	200
87	<i>Ageratum conyzoides</i>	Asteraceae	Ageratum	Herb	50
88	<i>Achras sapota</i>	Sapotaceae	Sapota	Tree	4
89	<i>Gymnema sylvestris</i>	Asclepiadiaceae	Podapathri	Climber	1
90	<i>Ipomea aquatica</i>	Convolvulaceae	Tutukada	Climber	2
91	<i>Adathoda vasica</i>	Acanthaceae	Addasara	Shrub	2
92	<i>Andrographis echioides</i>	Acanthaceae	Nalavemu	Herb	30
93	<i>Barleria cristata</i>	Acanthaceae	December flowers	Herb	4
94	<i>Barleria strigosa</i>	Acanthaceae	Nelabaram	Herb	10
95	<i>Coleus amboinicus</i>	Lamiaceae	Vamuaku	Herb	10
96	<i>Coleus blumei</i>	Lamiaceae	Namilipinche m	Herb	350
97	<i>Achyranthus aspera</i>	Amaranthaceae	Uttareni	Herb	40
98	<i>Acalypha indica</i>	Euphorbiaceae	Muripinda	Herb	50
99	<i>Pongamia pinnta</i>	Fabaceae	Ganuga	Tree	20
100	<i>Ricinus Communis</i>	Euphorbiaceae	Amudham	Shrub	15
101	<i>Spathoglottis plicata</i>	Orchidaceae	orchid	Herb	20
102	<i>Dracaena angustifolia</i>	Liliaceae	Dracaena	Herb	100
103	<i>Borassus flabellifer</i>	Palmaceae	Tadi	Tree	35

Plants in the College Campus

S.No	Habit	No.of Varieties	No.of Plants
1.	Herbs	44	3,794
2.	Shrubs	19	491
3.	Climbers	14	144
4.	Trees	26	866
Grand Total		103	5295

B) Medicinal Plants List 2020 - 21

S.No	Common Name	Botanical Name	Habit	Part Used	Medicinal Uses	No.
1	Rathi Usiri	Emblica officinalis Fam - Euphorbiaceae	Tree	Fruit	Vitamin - C, Cough , Diabetes, cold, Laxative, hyper acidity	1

2	Aswagandha	Withania somnifera Fam: Solanaceae	Herb	Root, Leaves	Restorative Tonic, stress, nerves disorder,	2
3	Podapatri	Gymnema sylvestris Fam: Asclepiadaceae	Climber	Leaves	Diabetes, hydrocele, Asthma.	2
4	Nelavemu	Andrographis paniculata Fam :Acanthaceae	Herb	Whole Plant	Diabetes, Fever, weakness, release of gas.	10
5	Pepper	Piper longum Fam : Piperaceae	Climber	Fruit, Root	Appetizer, enlarged spleen Bronchitis, Cold, antidote	1
6	Pippermint	Mentha piperata Fam:Lamiaceae	Herb	leaves, Flower, Oil	Digestive, Pain killer.	4
7	Sarpagandha	Rauwolfia serpentina Fam: Apocynaceae	Herb	Root	Hyper tension.	2
8	Pilli teegalu	Asparagus racemosus Family: Liliaceae	Climber	Tuber, root	Enhance lactation, general weakness, cough	2
9	Tulasi	Ocimum sanctum Fam: Lamiaceae	Herb	Leaves/Seed	Cough, Cold, bronchitis, expectorant	10
10	Billa Ganneru	Vinca rosea Fam :Apocyanaceae	Herb	Whole Plant	Leukemia, Hypertensive, Antispasmodic , Antidote	10
11	Guntagalagara	Eclipta alba Fam: Compositae	Herb	Seed/whole	Anti-inflammatory, Digestive, hair tonic	10
12	Neem	Azadirachta indica Fam : Meliaceae	Tree	whole	Sedative, analgesic, epilepsy, hypertensive.	10
13	Vasa	Acorus calamus Fam :Acoraceae	Herb	Rhizome	Clarity of speech, Sedative, analgesic, epilepsy, hypertensive	20
14	Addasaram	Adhatoda vasica Fam :Acanthaceae	Shrub	Whole Plant	Antispasmodic, respiratory, Stimulant	2
15	Vattivellu	Vetiveria zizinoide Fam :Poaceae	Herb	Root	Burning, ulcer, Skin, Vomiting. water purifier	10
16	Saraswathi aaku	Centella asiatica Fam : Umbelliferae	Herb	Whole plant	Jaundice, Diuretic, Diarrhoea. Improves memory power	40
17	Dalchinachekka	Cinnamomum zeylanicum Fam : Lauraceae	Tree	Bark, Oil	stimulant, expectorant Bronchitis, Asthma, Fever.	111
18	Nela Usiri	Phyllanthus amarus Fam :Euphorbiaceae	Herb	Whole Plant	Anemic, jaundice, Dropsy	20
19	Kalabanda	Aloe vera Fam: Liliaceae	Herb	Leaves	Laxative, Wound healing, Skin burns, moisturizer, Ulcer	10

20	Ataka mamidi	Boerhavia diffusa Fam: Nyctaginaceae	Herb	Root	tonic to liver problem, jaundice, asthma	10
21	Jilledu	Calotropis gigantea Fam: Apocynaceae	Shrub	Leaf	toothache, earache, epilepsy, diarrhea and mental disorder	2
22	Ummethha	Datura metel Fam: Solanaceae	Shrub	Leaf	antibacterial, antimicrobial activity	2
23	Amudham	Ricinus communis Fam: Euphorbiaceae	Shrub	Leaf	Purgative, antimicrobial and anti-inflammatory activity	2
24	Athhipathhi	Mimosa pudica Mimosaceae	Herb	Whole plant	Bronchitis	4
25	Buddabudasa	Passiflora foetida Passifloraceae	Climber	Leaf	Skin diseases	1
26	Gurivindha	Abrus precatorius Fabaceae	Climber	seeds	Toxic to neuromuscular system	2
27	Vavili aaku	Vitex negundo Fam: Lamiaceae	Tree	Leaf	Joint pain, anti-inflammatory, bronchial relaxant.	1
28	Lemon grass	Cymbopogon citratus Fam: Poaceae	Herb	Whole plant	insect bites	10
29	Zinger	Zingiber officinale Fam: Zingiberaceae	Herb	rhizome	promotes digestion	1
30	Muripinda	Acalypha indica Fam: Euphorbiaceae	Herb	leaves	cold and cough	10
31	Termeric	Curcuma longa Fam: Zingiberaceae	Herb	rhizome	cold and cough, kills intestinal worms	4
32	Reddivaarinaan ubaalu	Euphorbia hirta Fam: Euphorbiaceae	Herb	Stem, leaves	decreases body temperature	10
33	Nimma	Citrus limon Fam: Rutaceae	Tree	Whole plant	aids digestion, for constipation, cough, laxative, antiseptic, bronchitis	1
34	Sadapaaku	Ruta graveolens Fam: Rutaceae	Herb	Whole plant	Epilepsy, Hysteria	1
35	Krishna thulasi	Ocimum americanum Fam: Lamiaceae	Herb	Whole plant	bronchitis	10
36	Lavangam	Eugenia caryophyllata Fam: Myrtaceae	Shrub	cloves	aphrodisiac, expectorant, toothache	1
37	Duvvena kaya	Abutilon indicum Fam: Malvaceae	Shrub	Whole plant	Piles, Diarrhea	1
38	Kondapindi	Aerva lanata	Herb	Stem, leaves	Remove kidney stones	2

	aaku	Fam: Amaranthaceae				
39	Nalleeswari	Aristolochia indica Fam: Aristolochiaceae	Herb	Roots, leaves	Itching, Snake bite, indigestion	1
40	Kottimeera	Coriandrum sativum Fam: Apiaceae	Herb	Whole plant	Diarrhea, digestion, gastric problems	10
41	Nalleru	Cissus quadrangularis Fam: Vitaceae	Climber	Stem, leaves	Fractures, Joint pains, obesity, diabetes	1
42	Thamalapaaku	Piper betle Fam: Piperaceae	Climber	Leaves	Stomachic, carminative, ulcers	2
43	Miryalu	Piper nigrum Fam: Piperaceae	Climber	fruits	Diabetes, dental, Digestive, Cough, cold	1
44	Ponnagantiaku	Alternanthera sessilis Fam: Amaranthaceae	Herb	Leaves	Tender twigs used as a curry for eye diseases	10
45	Sithapalam	Annona squamosa Fam: Annonaceae	Tree	Shrub	liceidal, insecticide	1
46	kachorum	Kaempferia galanga Zingiberaceae	Herb	Rhizome, leaves	Cough, headache, cold	2
47	vamaku	Coleus aromaticum Fam: Lamiaceae	Herb	leaves	Malarial fever, cough, bronchitis	4
48	Pulla jemudu	Euphorbia tirucalli Fam: Euphorbiaceae	Shrub	Whole plant	Bronchitis, asthma, tumors	1
49	Allspice plant	Pimenta dioica Fam: Myrtaceae	Tree	Leaves, seed	Cold, cough, digestion	1
50	Multi vitamin plant	Sauropus androgynus Fam: Euphorbiaceae	Shrub	Tender shoot leaves	Leafy vegetable, multi vitamin sources	1
51	Brahma Tulasi	Ocimum species Fam: Lamiaceae	Shrub	Leaves/Seed	Cough, Cold, bronchitis, expectorant	2
52	Sabja	Ocimum basilicum Fam: Lamiaceae	Shrub	Leaves/Seed	Gives cooling effect, piles, skin diseases	2
53	Rama Tulasi	Ocimum sanctum Fam: Lamiaceae	Herb	Leaves/Seed	Cough, Cold, bronchitis, expectorant	4
54	Line thotakura	Alternanthera dentata Fam: Amaranthaceae	Herb	Leaves, stem	Kidney stones, stomach pain	10
55	Naramaamidi	Polyalthia longifolia	Tree	Leaves, bark	Uterus disorders, intestinal worm	10

		Fam: Annonaceae				
56	Candy leaf (Stevia)	Stevia rebaudiana Fam: Asteraceae	Herb	Leaves	Sweet in taste, diabetes	1
57	oxygen plant (Saganaara)	Dracaena trifasciata Fam: Asparagus	Herb	Whole plant	Air purifier, decreasing stress	10
58	Yelakulu	Elettaria cardamomum Fam: Zingiberaceae	Shrub	Seed pods, Seeds	Digestion, anti-inflammatory, toothaches,	1
59	Chengalva Kostu	Costus speciosus Fam: Zingiberaceae	Herb	rhizome	Ear pain, headache, piles	10

Plants in Herbal garden

S.No	Habit	No.of Varieties	No.of Plants
5.	Herbs	32	272
6.	Shrubs	11	17
7.	Climbers	8	12
8.	Trees	8	26
Grand Total		59	327

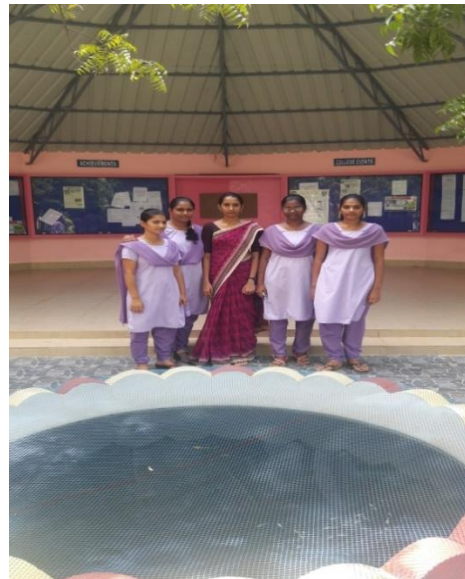


Vanam Manam Programme



Naming the Trees by the Botany Department

Aquarium Maintenance





Avian Fauna



Reptiles



Butterflies

Waste management:

The waste management is in order with the installation of dust bins. Daily cleaning is carried out and most of the non-biodegradable waste is lifted, and the College has adopted an environmentally sound practice of converting biodegradable waste into vermicompost a useful resource. The whole paper waste is converted into recycling material of different types in Recycling Unit established in the year 2015. The whole produce of vermicompost, recycling paper crafts are available in the outlet running by the College. The importance of handling and disposal of hazardous waste is recognized and though the amount of waste is very minimal. The pathogenic waste from Microbiology lab is disposed safely using standard methods and lab

attendants are well trained in this. Various types of chemical waste are collected and disposed by the Department of Chemistry. Eco Club and NSS also involved in conducting awareness activities, campus cleaning and also in the College surroundings.



Campus cleaning



Vermicompost Unit



Vermicompost Maintenance



Training the DWACRA women and Engineering College students



Vermicomposting of the plants



Awareness campaigning



Campus cleaning by NSS

Paper recycling unit:

Paper Recycling unit has been installed in the campus to reuse all the waste paper from various department and to recycle waste office stationery. The waste has been used to prepare office files, folders and personalized stationery.

The main purpose of installing the recycling unit is to create efficient, economical environment and to reduce the energy consumption by recycling.

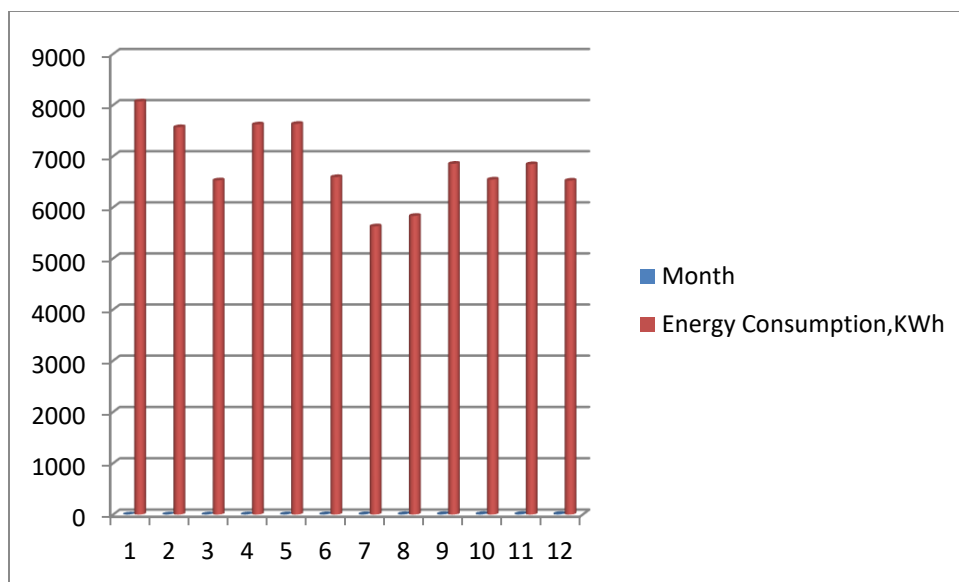


Energy audit:

Energy audit is carried out by Physics and Electronics Department and the annual mean electricity consumption is around 7000 kW which a purchased power drawn from the State grid. The college is in the LT2A tariff category of BESCO with a sanctioned load of 0.5 hp + 3 kW.

To ensure uninterrupted power the college has 35-KVA DG set and 20-KVA UPS are used for power backup. A medium solar power tapping is done and suggestions are given to reduce electricity consumption by replacing tubes and adopting solar power and replacing 40W FTLS with 28 FTLS.

As a follow up, GSC has installed 100KV solar power from HAL through their Corporate Social Responsibility scheme coordinated by TERI, Bangalore. As a result, there is 35-40% reduction in monthly electricity bill.



April 2015 to March 2016

Water and Waste water management:

The efforts of the institution in water usage and management is satisfactory and no unnecessary water wastage is noticed in the campus. Keeping in mind that the city is facing water crisis, College has dug a bore well and is self-reliant in its water requirement. To avoid power consumption, GSC has built 15 roof top storage tanks for 35000 Litre capacity. The daily water usage is 20000-28000 Litre depending on the nature of academic activity. To prevent wastage, push button taps are installed in most of the places of common usage. The campus has good drainage and sewage connection. The sewage connection was properly rebuilt outside the campus. Efforts of the institution to harvest and recharge its ground water table is commendable. It is significant that the College has constructed 10 Rainwater harvesting sunken pits in the college Campus. The students and staff have taken up Jalashakthi programme to motivate the student and community on the importance of water harvesting and its methods in the year 2019.

The per capita water usage is 17 Lt which is much lesser than the National average water usage in educational institutions which is pegged at 45 Litres. Therefore, it is evident that the College has adopted adequate water usage.





Jalashakthi Programme

Carbon neutrality and Institutional Carbon foot print:

Air pollution is a matter of serious concern in the campus owing to its urban location. Ch.S.D.St.Thertesa's Autonomous College as a responsible institution understand the importance of its carbon footprint and developed a plan to reduce greenhouse gas emissions in all its activities. The Department of Chemistry is having an Fuming Cup Board to control Air Pollution from the Chemistry Lab. The endeavour is to take leadership role in environmental stewardship

and become one of the nation’s best institutions of higher education to accept the goal of climate neutrality by undertaking Carbon Neutrality commitment. Faculty and students observing No Vehicle Day on all second Saturdays is a testimony.

The estimated Carbon contributed to atmosphere through various campus activities is 67.81 Tonnes as against 4996 Tonnes gained by the institution. Therefore it is remarkable that Ch.S.D.St.Thertesa’s Autonomous College is a “Carbon Neutral/Surplus Campus”, the first of its kind in the State.

SN	Parameter	Carbon emitted (Tonnes)/Year	Carbon gained (Tonnes)/Year	Impact
1	Cars	1.5		
2	Bikes	6.5		
3	Buses	2.0		
4	Electricity	5.0		
5	Heating	Minimal		
6	Cooling	Minimal		
7	Tree Canopy		3250	
8	No Vehicle Day		5.2	
9	Solar Street Lights			+ve
10	Tree Plantation			+ve
11	Tammeleru restoration			+ve
12	Domestic Animals			+ve
13	Vermicompost			+ve
14	Environmental Research			+ve
	Total			

The institution has surplus carbon to its credit and therefore declared Carbon Neutral Campus



Fuming Cupboard

Research:

Considering the fact that the institution is predominantly an undergraduate college, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. The faculty and students were all have taken up a Mega project on Solid waste Management in Eluru Municipal Corporation under Swachh Bharat and submitted the report to Municipal commissioner. The College initiated TSBA-Theresian Swachh Bharat Abhiyan, under this, Katta subba rao thota area was adopted and taken up many activities like solid waste mangement, Tree plantation programme, Tammeleru restoration activities and so on. Students were also involved in Swachh Survekshan-2017. The faculty of Zoology department completed their major project on restoration of Kolleru Lake. The adoption of Tammileru and its

restoration and Bio-monitoring research focusing on urban pollution and its recommendations to prevent water pollution from the residents. The Department of Zoology also taken up Jalashakthi programme in the year 2020, under this the students from BZC and ZNC conducted project work on Water Harvest methods followed in selected villages of West Godavari District to motivate the public towards need for water conservation methods.

These are just a few of the many examples of Ch.S.D.St.Thertesa's Autonomous College for Women, Eluru going green and becoming a model institution in being a "Carbon Surplus Campus".