Green Audit Report

VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES (VISTAS)

Velan Nagar, P.V. Vaithiyalingam Road, Pallavaram, Chennai-600 117, Tamil Nadu, India

Audit Date: 17th Mar 2020

Pragnaa Pragnaa Shree Venture India Pvt. Ltd
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INDEX

S. No	Contents	Page No
1	Executive Summary	3
2	Introduction to VISTAS	5
3	General Information of VISTAS	10
4	Facilities	11
5	VISTAS Layout	13
6	Vision, Mission and Core Values	14
7	Management Commitment	16
8	Scope and Goals of Green Audit	17
9	Benefits of Green Audit	18
10	Target Areas of Green Audit	19
11	Methodology	20
12	Auditing Green Campus	22
13	Recommendations – Green Campus	30
14	Participation and Consultation	31
15	Best Practices / Initiatives	34
16	Conclusion	40
17	Disclaimer	41

Section 1: Executive Summary

Educational institutions now a day are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly. To preserve the environment within the campus, various viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the energy savings, recycle of waste, water reduction, water harvesting etc... The activities pursued by the university can also create a variety of adverse environmental impacts. Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. Green audit is defined as an official examination of the effects a University has on the environment. As a part of such practice, internal audit (Green Audit) is conducted to evaluate the actual scenario at the campus.

Green audit can be a useful tool for a University to determine how and where they are using the most energy or water or resources; the University 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. Green auditing and the implementation of mitigation measures is a win-win situation for all the University, the learners and the planet. It can also create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. Green auditing promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers.

The audit process involved in Initial Data Collection, Site walk through with the team of VISTAS with the views management including the policies, activities, documents and records.

This was followed by staff and student interviews, collection of data, review of records, observation of practices and observable outcomes.

The baseline data collected from Vels University, VISTAS, Pallavaram, Chennai are analyzed and conclusion made.

We thank the Management of VISTAS, Dr. Arun, Director-IAQC and Professor CSE and other team members for supporting the complete audit process.

We are happy to submit this green audit report to the **VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES (VISTAS).**

Mr. S.K. Srinivasan
Mr. R. Murali
Mr. S. Babu

Pragnaa Shree Venture India Pvt. Ltd

Section 2: Introduction to VISTAS

Vels Group of Institutions run by the Vael's Educational Trust, a charitable, non-profitable organization was established in 1992 by Dr.Ishari K.Ganesh to commemorate the fond memory of his father Shri.Isari Velan, the Former Deputy Minister in the popular Govt. of Dr.M.G.R who was also associated with the film industry. Taking education to the humble thresholds of first-generation learners and weaker sections of the society has ever been the objective of Vael's Trust. The vision of Vael's is to inculcate self-reliance and discipline among the youth and also to improve the quality of higher education.

The multifaceted, need based, magnificent Vels Group of Institutions under Vael's Educational Trust highlight the commitment and dedication towards the noble cause of higher education. Lighting the lamp of education on countless thresholds hidden in the folds and crevices of India, Vael's holds high the blazing beacon of quality Education

Indeed, this institution of higher learning and excellence is a leviathan in the ever-expansive ocean of education. The moving spirit behind Vels success story is the founder Chairman and Managing Trustee Dr. Ishari K.Ganesh. Believing staunchly in the philosophy of work, placed on the pedestal of worship, he is a visionary and inspiring academician, who breathed into generations and generations of students, the unsullied breath of quality education, tempered by discipline and enlivened by dedication.

Vels College of Pharmacy was started in 1992. Subsequently, Vels College of Physiotherapy (1993) and Vels College of Science (1993) were started. The Deemed to be University status was conferred, to the above different colleges, after fulfilling all the procedures on 04.06.2008 by the MHRD, Govt. of India with the registered name **VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES (VISTAS).**

Now VISTAS has blossomed into a multi-disciplinary Institute offering more than 100 UG & PG programs, besides Doctoral programs, through 15 Schools and 45 Departments. Programs have the approval of the relevant Statutory Regulating Agencies such as UGC, AICTE, PCI, BCI, NCTE, DGS etc. VISTAS has a student strength close to 13000 and faculty strength close to 696 with 329 of them having terminal degree. The School of Maritime Studies was awarded "A" grade by the Indian Register of Shipping (IRS) in Nov-2016. VISTAS has been accredited by NAAC with a CGPA of 3.01 / 4 (A) grade in March 2019. B.E., Mechanical Engineering, B.E., Computer Science & Engineering, Master of Business Administration, B.Pharmacy and B.E., Marine Engineering programmes have been accredited by the NBA. VISTAS is also recognized as a Scientific and Industrial Research Organization (SIRO) by the Ministry of Science and Technology, Government of India. The green and plastic free Main Campus is located at Pallavaram around 2 km from Pallavaram railway station and nearly 4 km from Chennai Airport. The School of Physiotherapy and the School of Maritimes Studies are located on a separate campus at Thalambur, 20 km away from the main campus.

The structure of Governance in VISTAS facilitates Autonomy, Transparency and Accountability through participation of various stakeholders. It provides the differentiation and integration of various activities in VISTAS. The Organizational structure has been designed as per UGC Regulation. The Regulatory bodies of VISTAS include Board of Management, Academic Council, Planning and Monitoring Board, Board of Studies and Finance committee. They have been functioning as per guidelines of UGC and Memorandum of Association and they meet periodically. The various key stakeholders of VISTAS, which includes faculty, students, parents, industry experts, academic peers and alumni, are involved in decision making at every level. For smooth functioning of VISTAS several sub-committees comprising the faculty and student representatives have been constituted. In order to decentralize administrative / academic machinery, authority has been delegated by setting up of Deans for various Schools, Admissions, Academics, Research, Student Affairs, Faculty, IQAC, etc., For transparent functioning, the Admission, Academics, Administration, Accounts and Examination processes are automated by using ERP.

An enriched teaching, learning and evaluation process is carried out in VISTAS catering to the diversity of students and faculty. Students entering VISTAS enjoy a multivariate learning process. Bridge Courses are conducted to prepare the students to their respective study environments. The entire Teaching-Learning process is student centric focusing on LMS, KMS, and E-Learning resources. Interactive and instructional lectures, classroom deliberations, practical classes, hands-on training, projects, presentations, workshops and guest lectures help students to hone their technical skills. Comprehensive lesson plans are prepared regularly by faculties for effective teaching. Independent, Interactive, Collaborative and Participatory learning is encouraged and the required facilities are available for students in terms of SMART Classrooms, Wi-Fi enabled Campus, Industrial Interactions, Projects and visits. Video lectures of VISTAS recorded using EduTech, NPTEL, EDX and other MOOCs to enhance student learning. Virtual learning through the AVIEW and Moodle programs of IIT are available. VISTAS employs an effective Mentor-Mentee system for guidance and counselling students on regular basis. Class committee meetings are conducted regularly for all types of learners. Remedial and tutorial classes are conducted for slow learners to enhance the learning. Fast learners are involved in NPTEL courses, industrial problems and projects. All the programs offered by VISTAS have clearly defined POs, PSOs and COs and the outcomes are assessed through direct and indirect methods. VISTAS adopts Continuous Aassessment System, where both formative and summative assessments are ensured to measure the attainment of course outcomes.

VISTAS core values are aligned to its vision and mission and are reflected in the curricular and professional growth of the VISTAS community. With Equity as its premier value and a Women's Forum as its mouthpiece, VISTAS promotes gender sensitivity among all stakeholders. Girls are given special counselling to overcome depression, abnormal behaviour etc. VISTAS have a well-defined Environment policy. The campus is green, serene and pleasant. Steps have also been taken to conserve energy and reduce carbon footprint by installing three windmills and solar street lamps. VISTAS has been adhering to the best practices such as Herbal Garden, Tobacco-Free Campus, Green Campus, Bio-gas plant, Rain Water harvesting, Renewable energy and carbon neutrality. The E-waste is again sold back to the contractors for disposal. Recently a modern waste processing machine has been installed in the

campus, for converting biodegradable waste into manure. Being situated in the heart of city, VISTAS enjoys the privilege of creation of direct and indirect employment opportunities for the local unemployed youth. Good connectivity and presence of industries in the vicinity are major advantages. The core values and the developments stated above are displayed on the Institute website. Promoting a cosmopolitan culture, VISTAS observes National festivals and birth/death anniversaries of great Indian personalities.

VISTAS follows the Best practices such as Outcome Based Education, Student Mentoring, External Academic and Administration Audit, ERP in all the activities, NSS Unit-Swach Bharat Abhiyan, Student`s Feedback about Teachers, MHRD Digital Initiatives, Research culture, Institution-Industry Interaction, Use of Renewable Energy, Internship for Students, Parent Corner in the Website etc. The Industry-Institution relationship is very strong at VISTAS. Industries are busy in developing products at the Incubation Centre. Some academic programs such as B.Tech and MBA are run in collaboration with M/s IBM. Experienced Professors are active in solving industrial problems as part of consultancy projects. Our vision is to provide quality education. Hence, as part of ensuring quality, External Academic and Administrative Audit is performed in all the departments every year.

A centre, named, 'Centre for Advanced Research and Development' (CARD) has been established with the aim of promoting research. Besides 12 advanced dedicated research labs in various schools, a Central Instrumentation lab is set up housing advanced instruments such as BET Surface Area Analyzer, Field Emission Scanning Electron Microscope, High Performance Thin Layer Chromatography, X-Ray Diffractometer, Particle Size and Zeta Potential Analyzer, Raman Spectrometer, etc. Research scholars from nearby universities also use VISTAS lab for research. Due to strong Industry – Institutional tie-up, senior faculty are busy in solving industrial problems as consultancy projects. Ten industries are active at Incubation Centre in developing products useful to the society. Staff members are given incentives to publish papers and attend seminars. During the last three years 1374 research papers have been published in the UGC listed journals. *Turnitin* software is available to eliminate plagiarism.

Under Unnat Bharath Abhiyan program, VISTAS has initiated promotion of institutional social responsibility through activities undertaken in the neighbourhood rural community. Generic Medicines are made available to the Society through Pradhan Mantri Jan-Aushadhi Yojana Scheme.

The road map of VISTAS is well-drawn. Our vision is to make this an International Institute wherein students from all the countries will assemble to enrich themselves in terms of knowledge. We want to provide physical and academic infrastructure including lab facilities which will create "reverse flow" of students. Our ambition is to have at least 100 crores worth of research projects by 2030.

Several are the paths and avenues to be explored, and exploited. Countless are the feathers to be added to the Vels cap of success. The endeavours continue with determination, "to strive, to seek, to find and not to yield". On the whole, the Institute is committed to excellence in every activity, intelligent planning of each activity and ensuring focused effect on each of them for attaining excellence. **WE HAVE ACHIEVED A LOT, STILL WE FEEL WE HAVE MILES TO GO AND OUR JOURNEY IN HIGHER EDUCATION CONTINUES.**

Section 3: General Information

S. No	Description (2019-20)	Male	Female
1	Students	8754	3453
2	Teachers	336	360
3	Non-Teaching Staff	259	221
4	Total	9349	4034

Total Number of Working Days (April 2019- May 2020)	196

	School Wise - Students Enrollment & Staff details - 2019-2020		
S. No	Name of the School	No. of Students	No. of Staff
1	School of Management Studies & Commerce	3037	107
2	School of Computing Sciences	1501	66
3	School of Life Sciences	715	39
4	School of Mass Communication	852	19
5	School of Maritime Studies	613	37
6	School of Engineering	1774	142
7	School of Basic Sciences	483	52
8	School of Hotel & Catering Mgmt.	242	14
9	School of Pharmaceutical Sciences	653	47
10	School of Physiotherapy	493	26
11	School of Ocean Engineering	157	14
12	School of Law	906	30
13	School of Languages	181	67
14	School of Education	309	28
15	School of Music & Fine Arts	82	03
16	Dept. of Aviation	209	05

Section 4: Facilities Available

- Boys Hostels
- Girls Hostels
- Staff Quarters
- Three air-conditioned auditoria with a capacity of 1200, 250 & 120
- Three air-conditioned seminar halls with a seating capacity of 150
- Main Canteen is available which can cater to 200 persons at a time and Three smaller canteens are also available
- Bank with ATM
- Pharmacy
- RO Plant
- Transport facilities
- Nine Diesel Generators
- Three Wind Mills
- Waste Management
- Solar Plant
- Insurance for all students and staff members

VISTAS has three playgrounds and other facilities such as:

- Football Field
- Volleyball Court
- Basketball Court
- Ball Badminton Court
- Badminton Courts (Outdoor)
- Throw ball Court
- Tennikoit Court
- Taekwondo
- Cricket Practice Pitch (nets)
- Kabaddi Court
- Swimming Pool (25mtsX14 mts)

Facilities Available

- 200 mtrs Track
- Fitness Centre (gymnasium)
- Indoor hall to play Table Tennis, Carrom and Chess
- All the Fire Safety Equipment are provided in the premises
- Having necessary Wheel Chairs and Ramps in all the buildings in campus.
- The institution is having adequate toilet facilities for physically challenged persons.
- Lift facilities are available
- All members of staff (Teaching, Non-teaching & Students) are covered through accident cum hospitalization insurance.
- Two separate Health Clinics are available - One for Boys and One for Girls.
- One Male Medical Officer and One lady Medical Officer are available.
- Tie-up with nearby hospitals namely Kamatchi Hospital, Parvathy Hospital
- Apollo Shine Clinic located within the campus.
- 24 Hrs Ambulance facility
- Nursing Assistants

Pallavaram Campus

Total Area Size of the Campus   - 14.58 acres -   59003.167 sqm.

Build-up area   - 64117 sqm (3 Buildings) = 64117/3=21372 sqm

Greenery area   - 17700 sqm.

Section 5: Layout
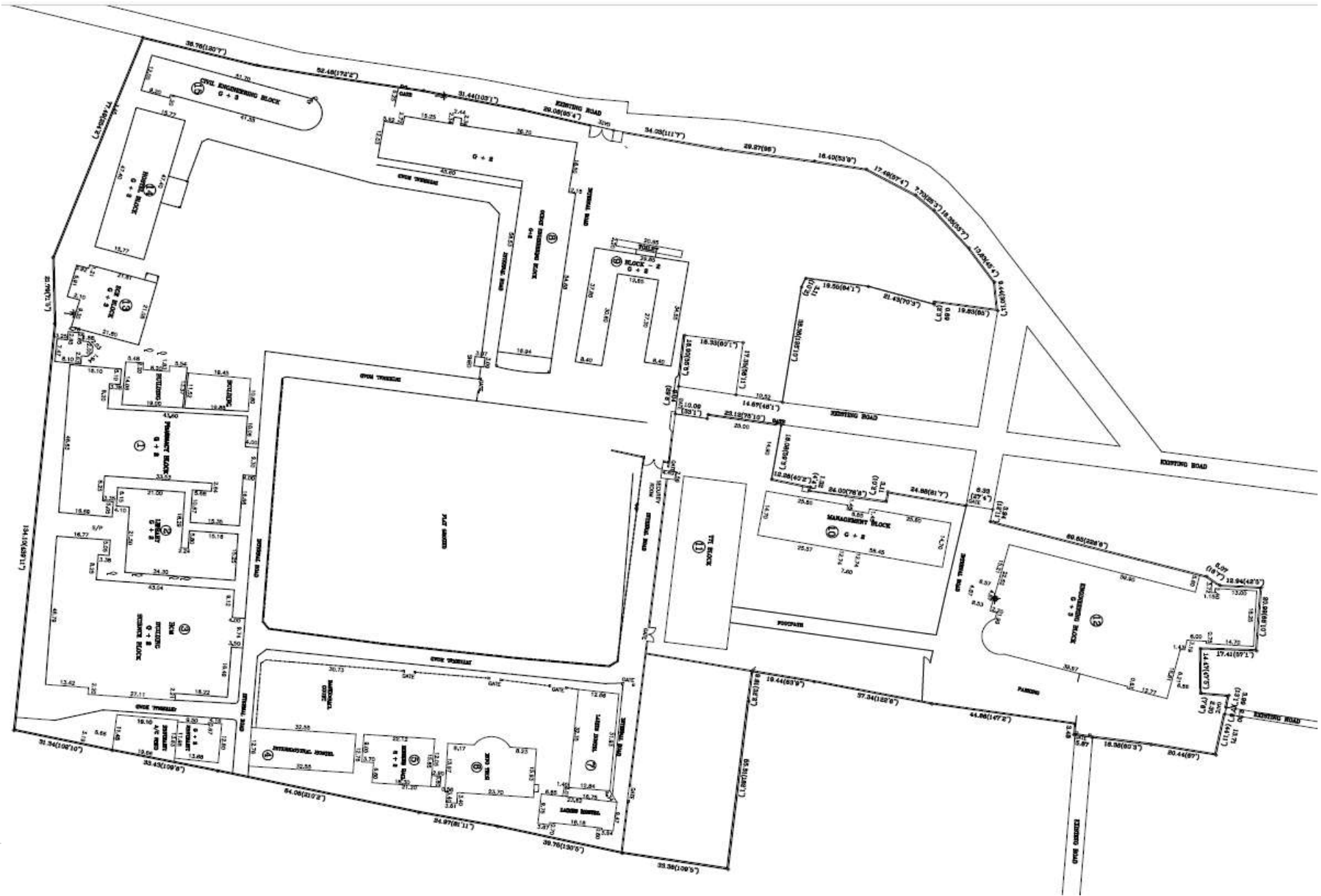
Section 6: Vision, Mission and Core Values

Vision

- To make the Institute an epitome of excellence in higher education providing high quality education and rigorous training in multiple streams of choice with ample scope for all-round development for the betterment of the society.

Mission

- Effectively **imparting knowledge** and inculcating **innovative thinking**.
- Facilitating **skill enhancement** through add on courses and **hands on training**.
- Doing original, socially relevant, **high quality research**.
- Facilitating appropriate **co-curricular, extracurricular and extension activities**.
- Instilling the **spirit of integrity, equity, professional ethics and social harmony**.

Core Values

VISTAS believe that:

- VISTAS students and scholars should be well-founded on the pursuit of knowledge through, teaching and learning research, with fellowships required on the basis of intellectual merit, ability and the potential for excellence.

- Perspectives, arising from diverse knowledge background, that re-define our identities, deepen scholarly inquiry and enrich path breaking newer knowledge horizon.

- Cherish the key values of academic freedom, creative and innovative thought, ethical standards and integrity, accountability and social justice, nurturing open mind and open society.

- Foster inquiry-led and evidence-based approach to creative knowledge; facilitate a vibrant academic ambience to the nurture the intellectual climate.

Section 7: Management's Commitment

The Management of the VISTAS has shown the commitment towards the green auditing during the audit meeting. They were ready to encourage all green activities. It was decided to promote all activities that are environment friendly such as awareness programs on the environment, campus farming, planting more trees on the campus etc., after the green auditing. The management of the University was willing to formulate policies based on green auditing report.

Section 8: Scope and Goals of Green Auditing

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues. Green Audit is the most efficient and ecological way to manage environmental problems. It is a kind of professional care which is the responsibility of each individual who are the part of economic, financial, social, environmental factor. It is necessary to conduct green audit in University campus because students become aware of the green audit, its advantages to save the planet and they become good citizen of our country. Thus, Green audit becomes necessary at the University level.

Section 9: Benefits of the Green Auditing

o More efficient resource management

o To provide basis for improved sustainability

o To create a green campus

o To enable waste management through reduction of waste generation, solid-waste and water recycling

o To create plastic free campus and evolve health consciousness among the stakeholders

o Recognize the cost saving methods through waste minimizing and managing

o Point out the prevailing and forthcoming complications

o Authenticate conformity with the implemented laws

o Empower the organizations to frame a better environmental performance

o Enhance the alertness for environmental guidelines and duties

o Impart environmental education through systematic environmental management approach and Improving environmental standards

o Benchmarking for environmental protection initiatives

o Financial savings through a reduction in resource use

o Development of ownership, personal and social responsibility for the University and its environment

o Enhancement of University profile

o Developing an environmental ethic and value systems in youngsters.

o Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the University.

Section 10: Target Areas of Green Auditing

Green audit forms part of a resource management process. Although they are individual events, the real value of green audits is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Eco-campus concept mainly focuses on the efficient use of energy and water; minimize waste generation or pollution and also economic efficiency. All these indicators are assessed in process of "Green Auditing of educational institute". Eco-campus focuses on the reduction of contribution to emissions, procure a cost effective and secure supply of energy, encourage and enhance energy use conservation, promotes personal action, reduce the institute's energy and water consumption, reduce wastes to landfill, and integrate environmental considerations into all contracts and services considered to have significant environmental impacts. Target areas included in this green auditing are water, energy, waste, and Environment.

Section 11: Methodology of Green Auditing

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the document, interviewing responsible persons and data analysis, measurements and recommendations. The methodology adopted for this audit was a three-step process comprising of:

1. Data Collection – In preliminary data collection phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements.

   Following steps were taken for data collection:

   - Site Visit
   - Data about the general information was collected by observation and interview.
   - The power consumption of appliances was recorded by taking an average value in some cases.

2. Data Analysis - Detailed analysis of data collected include: calculation of energy consumption, analysis of latest electricity bill of the campus, Water consumption, Waste Generation and Greenery Management.

3. Recommendation – On the basis of results of data analysis and observations, some steps for reducing power and water consumption were recommended. Proper treatments for waste were also suggested. Use of fossil fuels has to be reduced for the sake of community health.

The above target areas particular to the University was evaluated through questionnaire circulated among the students for data collection.

The following data collected for the following areas during the assessment.

1. Environment & Waste Management
2. Energy Management
3. Water Management

Section 12: Auditing for Green Campus Management

Unfortunately, biodiversity is facing serious threats from habitat loss, pollution, over consumption and invasive species. Species are disappearing at an alarming rate and each loss affects nature's delicate balance and our quality of life. Without this variability in the living world, ecological systems and functions would break down, with detrimental consequences for all forms of life, including human beings. Newly planted and existing trees decrease the amount of carbon dioxide in the atmosphere. Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere, and release it as oxygen. The amount of oxygen that a single tree produces is enough to provide one day's supply of oxygen for people. Trees on our campus impact our mental health as well; studies have shown that trees greatly reduce stress, which a huge deal is considering many students are under some amount of stress.

Greenery

S. No	Type of Trees	Numbers
1	Mango Tree	13
2	Neem Tree	65
3	Portia Tree	17
4	Albizia saman	17
5	Five Star	23
6	Guava	8
7	white Gulmohar	13
8	Gulmohar	103
9	Palm Tree	59
10	CoconutTree	15
11	Royal Palm	18
12	Badam Tree	10
13	Banana	30
14	Teak Wood	19
15	Black Plum	4
16	Ashoka Tree	14
17	Pison Tree	76
18	Mimusoselengi Tree	23
19	Phoenix sylvestris	15
20	Pencil Tree	8
21	Casuarina Tree	30
22	Bougainvilea tree	32
23	Cycas	9
24	Millingtonia hortensis Tree	4
25	Chinaberry Tree	5
26	Oleander	46
27	Crotons five types	800
28	Ixora Coccinea	800
29	Epipremnum aureum	15
30	Hibiscus	43
31	Jasmine	20

Medicinal Plants

S. No	Common Name	Botanical Name	Tamil Name
1	Balloon Vine	Cardiospermum halicacabum	முடக்கத்தான் கீரை
2	Shameplant	Mimosa pudica	தொட்டாச்சுருங்கி
3	Butterfly Pea	Citorea ternatea	சங்கு கன்னிக்கொடி
4	Turmeric	Curcuma longa	மஞ்சள்
5	Indian Aloe	Aloe vera	கற்றாழை
6	Kachnar	Bauhinia variegata	மந்தாரை
7	Malabar nut	AdhatodaVasica	ஆடாதொடை
8	Mango	Mangifera indica	மாங்காய்'
9	Chikoo	Manilkara zapota	சப்போட்டா
10	Senna	Cassia angustifolia	ஆவாரை
11	Nerium.	Nerium oleander	அரளிப்பூ
12	Tulsi	Ocimum sanctum	துளசி
13	Jasmine	Jasminum sambac	மல்லிகை
14	Pencil tree	Euphorbia tirucalli	கள்ளி
15	Cassia	Cinnamomum cassia	இலவங்கப்பட்டை
16	Curry leaves	Murraya koenigi	கருவேப்பிலை
17	Thuthi	Abutilon indicum	துத்தி
18	Hibiscus	Hibiscus rosa-sinensis	செம்பருத்தி
19	Indian lilac	Melia azedarach	மலைவேம்பு
20	Black plum	Syzygium cumini	நாவல்
21	Indian beech tree	Pongamia pinnata	புங்கை
22	Keezhanelli	Phyllanthus nirruri	கீழாநெல்லி

S. No	Common Name	Botanical Name	Tamil Name
23	Bhringraj	Eclipta prostrate	வெண்கரிசாலை
24	Punarnava	Boerhavia diffusa	மூக்கரட்டிசாரை
25	Snake-needle grass	Oldenlandia diffusa	இன்புராவேர்
26	Llilac chaste tree	Vitex negundo	காட்டுநொச்சி
27	Vinca	Catharanthus roseus	நித்திய கல்யாணி
28	Neem	Azadirachta indica	வேம்பு
29	Henna	Lawsonia inermis	மருதாணி
30	Datura	Datura stramonium	ஊமத்தை
31	Arugambul	Cynodon dactylon	அருகம்புல்
32	Amla	Phyllanthus emblica	நெல்லிக்காய்
33	Guava	Psidum guajava	கொய்யாப் பழம்
34	Parijatham	Nyctanthes arbor-tristis	பவழமல்லி
35	Vallarai	Centella asiatica	வல்லாரை
36	Vetrilai	Piper bettle	வெற்றிலை
37	Omavalli	Plectranthus amboinicus	கற்பூரவல்லி
38	Cissus	Cissus quadrangularis	பிரண்டை
39	Calotropis	Calotropis gigantea	நீல எருக்கு
40	Thumbai	Leucas aspera	தும்பை
41	Chrysanthe -mum	Chrysanthemum morifolium	மல்லிகை
42	Kesavardhini	Eclipta prostrate	செம்பனை எண்ணெய்
43	Capsicum	Capsicum annuum	குடைமிளகாய்
44	Pomergranate	Punica grantum	மாதுளை
45	Seenthil	Tinospora cordifolia	சீந்தில்
46	Brahmi	Bacopa monnieri	நீர்ப்பிரமி

S. No	Common Name	Botanical Name	Tamil Name
47	Indian copper leaf	Acalypha indica	குப்பைமேனி
48	Indian long pepper	Piper longum	திப்பிலி
49	Rose	Rosa damascene	ரோஜா
50	Sweet Basil	Ocimum basilicum	திருநீற்றுப் பச்சிலை

Greenery in the University

VISTAS Medicinal Garden

VISTAS Lawn

VISTAS Girls Hostel

Section 13: Recommendations Green Audit

Common Recommendations

- o Increase Green belt coverage

- o Plant more carbon dioxide absorbing plants like Pine, Oake, Douglas, Neem, Peepal, Black walnut, Bamboo, Cassia, Banyan Matoe , Saga….. which will help in Carbon Neutralising.

Section 14: Participation of Teams

In VISTAS the green auditing was done with the help of Pragnaa Shree Venture India Pvt. Ltd involving different student groups, teaching and non-teaching staff. The green audit began with the teams walking through all the different facilities at the college, determining the different types of appliances and utilities (lights, taps, toilets, fridges, etc.) as well as measuring the usage per item (Watts indicated on the appliance or measuring water from a tap) and identifying the relevant consumption patterns (such as how often an appliance is used) and their impacts. The staff and learners were interviewed to get details of usage, frequency or general characteristics of certain appliances. Data collection was done in the sectors such as Energy, Waste, Greening, Carbon footprint and Water use. College records and documents were verified several times to clarify the data received through survey and discussions.

Hostel Advisory Committee

S. No	Name	Function	Designation
1	Dr. A.Subramanian	Chairman	Dean Student Affairs.
2	Dr.C.Dhanasekaran	Member	Professor & Head, Department of Mechanical Engg. School of Engineering
3	Dr.Jagadeesan.P	Member	Professor & Head, Dept. of Commerce (General) School of Management Studies & Commerce
4	Dr. S.Prasanna	Member	Professor & Head, Computer Application School of Computing Sciences
5	Mr.P.Gunasekaran	Member	Residential Director, Hostel (Men & Women)
6	Mr.S.Subramaniyan	Residential Warden	Men's Hostel-UG & PG
7	Ms.Y.V. Umamaheswari	Residential Warden	Women's Hostel-UG & PG
8	Mr. Krishnasamy.S	Student	B.E. Civil Engg. – II Year –A Section
9	Mr. Bharath.M	Student	B. Pharm – IVth Year – A Section
10	Mr. Vaizhnavi.V.S.	Student	B. Tech-Bio-Tech – IInd Year-A Section

Greenery Committee

S. No	Name	Function	Designation
1	Dr. Jino.R	Chairman	Assistant Professor Dept. of Civil School of Engineering.
2	Dr. Satheeshkumar.S	Member	Professor & Head, School of Pharmaceutical Sciences
3	Dr. Gavaskar.D	Member	Assistant Professor Dept. of Chemistry School of Basic Sciences.
4	Mr. Sriraman.M	Member	Assistant Professor Dept. of Civil School of Engineering.
5	Mr. Siva Perumal.P	Member	Site Engineer Dept. of Maintenance.
6	Monish Ram J B	Student	Civil Department 2nd Year
7	K. Mohamed Attaul Haseeb	Student	Civil Department 2nd Year
8	Rashika	Student	Civil Department 2nd Year

Section 15: Best Practices / Initiatives done by the University;

Solar System

Wind Solar Hybrid System

Terrace Organic Farming

Rain Water Harvesting

Bio Composter

- o The waste is segregated at each level and source.
- o The Maintenance workers in each floor collect, clean, segregate and compile the waste in the dustbins (Green and Blue) provided at each floor.
- o The institution has contacted an authorized vendor who collects the waste from the designated place, segregates them, recycles them and disposes them at the landfills authorized by the government.
- o Normal conversion of biodegradable solid waste into manure takes 20 days

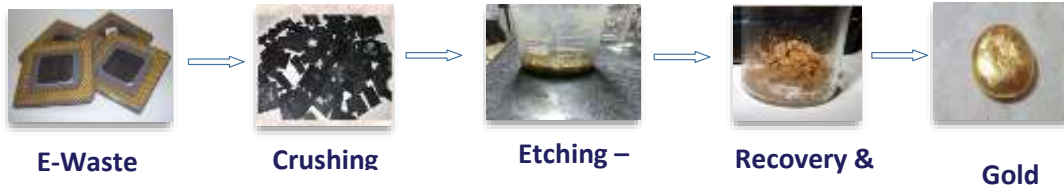# Solid Waste Management – Bio Gas Plant

The Bio Gas Collected from the plant is used for Cooking

Liquid Waste Management – Portable Sewage Treatment (Laboratory)

E-Waste Management Plant - Hydrometallurgy Plant
Precious Metal Recovery

| E-Waste | → | Crushing | → | Etching – | → | Recovery & | → | Gold |

- o Biogas plant erected
- o Machinery is installed for conversion of biodegradable solid waste into manure.
- o Solar lighting systems in VISTAS's campus.
- o Wind Energy is used through our 3 Wind mills under the agreements with TANGEDCO.
- o Water harvesting and effective waste management.
- o Extensive green covering of campus
- o Energy Audit, Safety Audit, Green Audit are being conducted regularly.
- o The Institution has initiated an eco-club consisting of students and faculty to identify places for planting trees and to take care of soil fertility. Plantation and maintenance of saplings have become the rudimentary activities towards realizing the "go green" vision of the Institution.
- o VISTAS is selected as one of the HEIs to actively take part under Unnath Bharath Abhiyam Program.
- o Pradhan Mantri Bhartiya Janaushadhi Kendra (PMBJK) is an initiative to ensure the availability of quality medicines at affordable prices to all. Based on the vision of the Prime Minister, PMBJK was inaugurated by Dr. S Manivanan,

Deputy Drugs Controller, CDSCO on 19th March 2018. This generic medical store provides quality medicines at affordable cost to the public.

o Green areas and lung spaces are well maintained and the university has conducted green audit of its campus

o The University identified areas of environmental pollution and initiated steps towards reducing the same.

o Sprinkles are used for watering of lawns.

o Green generators are installed to overcome the energy crises.

o A dedicated Medicinal plants garden is maintained.

o Smoking is prohibited in the campus and the campus is non-smoking campus.

o Only non-toxic paints, eco-friendly cleaning materials are used.

o Effective waste management system is in practice.

o Use of recyclable materials for construction and interiors reduce the waste.

o Tree plantation is done periodically and the greenery is maintained in the campus.

o Our green cover is around 30% of the total surface area.

o Only Bharath3 fuel efficient vehicles are used and vehicles are allowed to park only in selected area and not within campus.

o Gen set usage is restricted and is used only sparingly.

o Minimization of paper usage by adopting online communications and ERP systems.

o The Herbal Garden is maintained by the School of Pharmaceutical Sciences.

o Campus cleaning day is observed periodically with the help of NSS.

o Emphasize is on paper less governance.

o Adequate measures have been taken to protect the trees in and around the campus.

o The campus is well maintained with trees and ornamental plants.

o Tree planting is the popular scheme adopted by our NSS students and "Go Green" is another slogan to motivate our students to go for tree planting.

o New trees are planted regularly as and when required.

o Inverter is used when there is power shutdown for short duration instead of operating generators.

o The LED lamps are progressively used in the place of other lamps.

- Partitioning the big halls in small size / falls roofing are carried to minimize the power consumption.
- Renovation of wiring and replacement of transformers are done regularly.
- All the rooms have instruction boards to switch-off fans, lights, and AC and Computer terminals when not in use.
- The University has installed three wind mills with a Capacity of 250 KW H.T. (Each) and Annual Wind Power Generation in average is around 85,028 units. Three Wind Mills are supplying power to the Tamil Nadu Power Grid and withdraws the power from the grid to the university`s requirements.
- Solar lights are used in the main roads of the university.
- The Biogas plant is in operation and the Biogas produced from food waste, decomposable organic materials and kitchen wastes is used in Hostel.

Section 16: Conclusion

The green audit assists in the process of monitoring and verifying the performance in the environmental arena and is fast becoming an indispensable aid to decision making in VISTAS.

The green audit reports assist in the process of attaining an eco-friendly approach to the sustainable development of the University. Hope that the results presented in the green auditing report will serve as an opportunity to improving the environment related practices and resource usage at the university as well as new activities and innovative practices. A few recommendations are added to the waste management using eco-friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus and thus sustainable environment and community development.

It has been shown frequently that the practical suggestions, alternatives, and observations that have resulted from audits have added positive value to the audited Organisation. An outside view, perspective and opinion often helps staff who have been too close to problems or methods to see the value of alternative approaches. A green audit report is a very powerful and valuable communications tool to use when working with various stakeholders who need to be convinced that things are running smoothly and systems and procedures are coping with natural changes and modifications that occur.

Section 17: Disclaimer

Pragnaa Shree Venture India Pvt. Ltd has prepared this report for Vels University based on input data submitted by the representatives of the University.

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