

Environment 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
25, First Floor, 1st Cross Street, Shastri Colony, Chromepet,
Chennai-600044, Tamil Nadu, India

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 Water Management | 22 |
| 13 | Recommendations – Water | 24 |
| 14 | Auditing Waste Management | 25 |
| 15 | Recommendations –Waste Management | 28 |
| 16 | Participation and Consultation | 29 |
| 17 | Best Practices / Initiatives | 32 |
| 18 | Conclusion | 37 |
| 19 | Disclaimer | 38 |

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 Assessment 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)

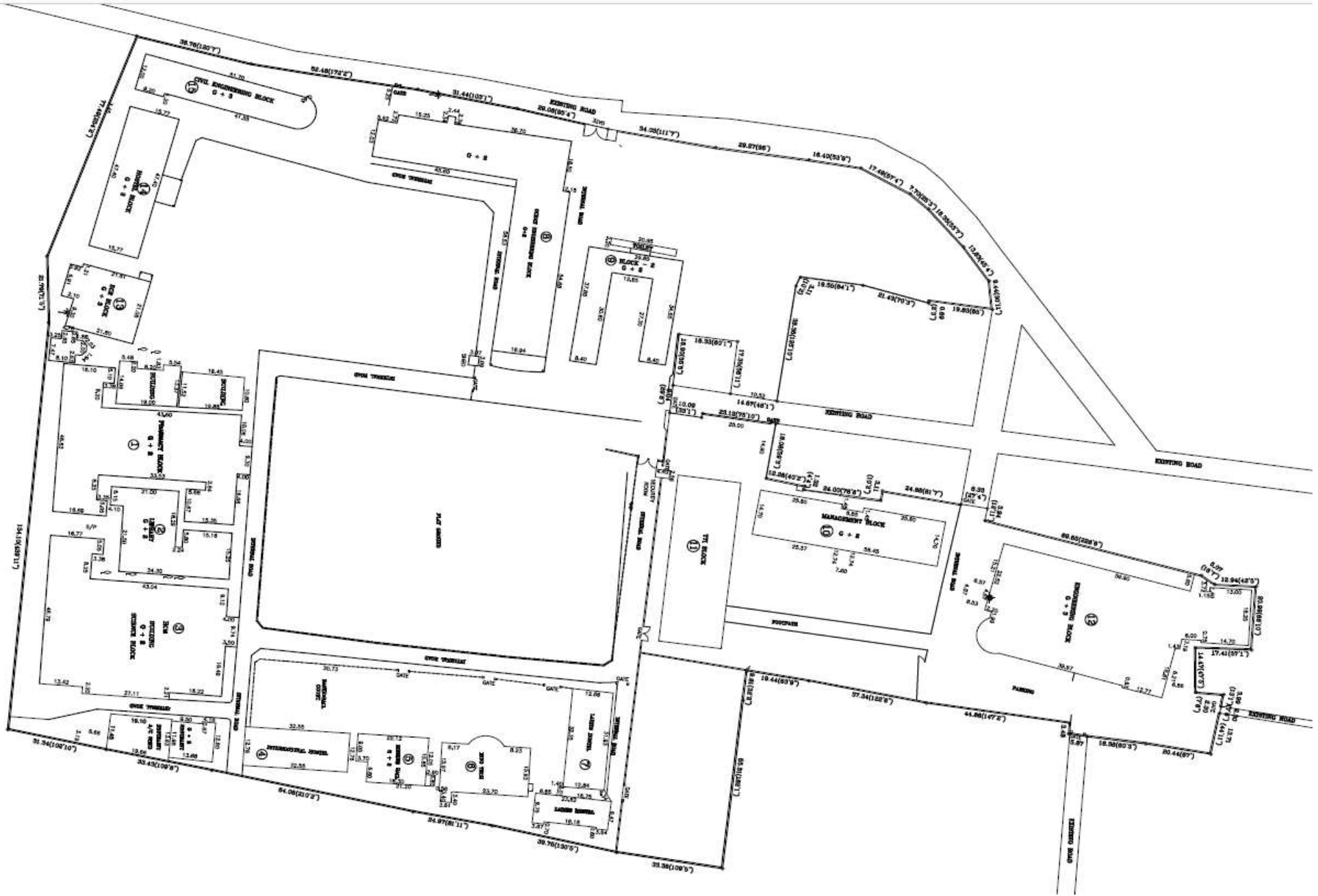
Facilities Available

- 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

- More efficient resource management
- To provide basis for improved sustainability
- To create a green campus
- To enable waste management through reduction of waste generation, solid-waste and water recycling
- To create plastic free campus and evolve health consciousness among the stakeholders
- Recognize the cost saving methods through waste minimizing and managing
- Point out the prevailing and forthcoming complications
- Authenticate conformity with the implemented laws
- Empower the organizations to frame a better environmental performance
- Enhance the alertness for environmental guidelines and duties
- Impart environmental education through systematic environmental management approach and Improving environmental standards
- Benchmarking for environmental protection initiatives
- Financial savings through a reduction in resource use
- Development of ownership, personal and social responsibility for the University and its environment
- Enhancement of University profile
- Developing an environmental ethic and value systems in youngsters.
- 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

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 Water Management

Water is a natural resource; all living matters depend on water. While freely available in many natural environments, in human settlements potable (drinkable) water is less readily available. We need to use water wisely to ensure that drinkable water is available for all, now and in the future. A small drip from a leaky tap can waste more than 180 litres of water to a day; that is a lot of water to waste - enough to flush the toilet eight times! Aquifer depletion and water contamination are taking place at unprecedented rates. It is therefore essential that any environmentally responsible institution should examine its water use practices. Water auditing is conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and reuse. The concerned auditor investigates the relevant method that can be adopted and implemented to balance the demand and supply of water. It is therefore essential that any environmentally responsible institution examine its water use practices.

Water Usage

| S. No | Description | Apr 19 | May 19 | Jun 19 | Jul 19 | Aug 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 |
|------------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | Water Consumption (in KL) – Drinking | 275 | 277 | 105 | 318.7 | 345.6 | 335.7 | 296.6 | 306 | 238.8 | 232.9 | 314.4 | 362 |
| Per Person (in Liters) | | 20.6 | 20.7 | 7.8 | 23.8 | 25.8 | 25.1 | 22.2 | 22.9 | 17.8 | 17.4 | 23.5 | 27.1 |

| S. No | Description | Apr 19 | May 19 | Jun 19 | Jul 19 | Aug 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 |
|------------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | Water Consumption (in KL) – Domestic Usage | 2873 | 2817 | 7151 | 3559 | 4778 | 5787 | 7546 | 5429 | 5327 | 6268 | 6743 | 6575 |
| Per Person (in Liters) | | 215 | 210 | 534 | 266 | 357 | 432 | 564 | 406 | 398 | 468 | 504 | 491 |

Section 13 - Recommendations- Water

Common Recommendations

Water:

- Drip irrigation for gardens to minimize water consumption.
- Establish Sewage Water treatment systems and Recycle the water which can be used for all the wash rooms and for gardening. Fresh water usage can be minimized.
- Awareness programs on water conservation to be conducted.
- Install display boards to control over wastage of water.

Specific Recommendations:

The average Water consumption per person 404 liter/ per person/ Year. Steps to be implemented to reduce the water consumption.

Section 14: Auditing for Waste Management

Pollution from waste is aesthetically unpleasing and results in large amounts of litter in our communities which can cause health problems. Plastic bags and discarded ropes and strings can be very dangerous to birds and other animals. This indicator addresses waste production and disposal, plastic waste, paper waste, food waste, and recycling. Solid waste can be divided into two categories: general waste and hazardous waste. General wastes include what is usually thrown away in homes and schools such as garbage, paper, tins and glass bottles. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals and petrol. Unscientific landfills may contain harmful contaminants that leach into soil and water supplies, and produce greenhouse gases contributing to global climate change.

Furthermore, solid waste covering Bio Degradable, Non Bio Degradable and Hazardous Wastes. These wastes are either in to recycling or reuse or combination of both. Thus, the minimization of solid waste is essential to a sustainable University. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems. It is therefore essential that any environmentally responsible institution examine its waste processing practices.

Waste Generation

| S. No | Description | Apr 19 | May 19 | Jun 19 | Jul 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 | Remarks |
|-------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 1 | Bio Degradable-Other than Food (in kgs) | 5 | 6 | 2 | 3 | 4 | 3 | 2 | 2 | 2 | 3 | 3 | |
| 2 | Bio Degradable - Food Waste (in kgs) | 75 | 60 | 50 | 75 | 80 | 60 | 40 | 60 | 30 | 30 | 40 | |
| 3 | Non Bio Degradable (in kgs) | 12 | 13 | 10 | 12 | 12 | 10 | 7 | 8 | 10 | 8 | 7 | |
| 4 | Hazardous Waste (in litres) | 150 | 145 | 25 | 120 | 100 | 150 | 70 | 60 | 100 | 50 | 40 | |

| S. No | Description | Apr 19 | May 19 | Jun 19 | Jul 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 | Remarks |
|-------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 5 | E-Waste (in Kgs) | - | - | - | 401.16 | - | - | - | - | - | - | - | |

Fuel Consumption

| S. No | Description | Apr 19 | May 19 | Jun 19 | Jul 19 | Aug 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 | Total |
|-------|-----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 4 | Diesel | 410 | 640 | 350 | 1270 | 710 | 1925 | 425 | 570 | 330 | 125 | 370 | 280 | 7405 |
| | Units Generated (in kWh or Units) | 170 | 594 | 344 | 1268 | 498 | 2142 | 138 | 716 | 216 | 164 | 363 | 357 | 6970 |

| S. No | Description | Apr 19 | May 19 | Jun 19 | Jul 19 | Aug 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 | Total |
|-------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 5 | LPG | 198 | 193 | 180 | 200 | 181 | 199 | 198 | 181 | 197 | 198 | 203 | 183 | 2311 |

Section 15: Recommendations – Environment & Waste

General Recommendations:

Environment:

- Establishing environmental policy for the overall University
- Conduct more seminars and group discussions on environmental education / Conservation of Water
- Establish water, waste and energy management systems.

Specific Recommendations:

Waste

- Increasing the capacity of bio gas plant.
- Practice of waste segregation at source to be initiated.

Section 16: 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.

Environmental Committee

| S. No | Name | Function | Designation |
|--------------|---------------------------------|-----------------|--|
| 1 | Dr. T. Ilango | Chairman | Associate Professor & H.O.D Dept. of Civil, School of Engineering. |
| 2 | Dr. Sudha.R | Member | Assistant Professor Dept. of Chemistry, School of Basic Sciences. |
| 3 | Ms. Durgalakshmi.S | Member | Assistant Professor Dept. of Civil, School of Engineering. |
| 4 | Ms. Sharmilaa Ganesan | Member | Assistant Professor Dept. of Civil, School of Engineering. |
| 5 | Mr.P.Gunasekaran | Member | Residential Director Hostel (Men & Women) |
| 6 | Ms. Rakshika. M | Student | Civil Department 2 nd Year |
| 7 | Mr. J.B. Monish Ram | Student | Civil Department 2 nd Year |
| 8 | Mr. K. Mohamed Attaul Haseeb | Student | Civil Department 2 nd Year |

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 – IIInd Year-A Section |

Section 17: Best Practices / Initiatives done by the University;
Solar System



Wind Solar Hybrid System



Terrace Organic Farming



Rain Water Harvesting



Bio Composter



- The waste is segregated at each level and source.
- The Maintenance workers in each floor collect, clean, segregate and compile the waste in the dustbins (Green and Blue) provided at each floor.
- 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.
- Normal conversion of biodegradable solid waste into manure takes 20 days

Solid Waste Management – Bio Gas Plant



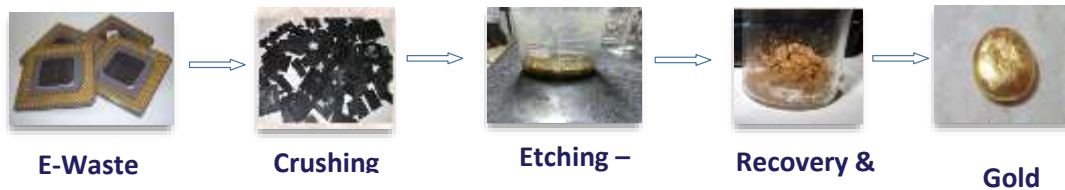
The Bio Gas Collected from the plant is used for Cooking



Liquid Waste Management – Portable Sewage Treatment (Laboratory)



E-Waste Management Plant - Hydrometallurgy Plant Precious Metal Recovery



- Biogas plant erected
- Machinery is installed for conversion of biodegradable solid waste into manure.
- Solar lighting systems in VISTAS's campus.
- Water harvesting and effective waste management.
- Extensive green covering of campus
- 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.
- VISTAS is selected as one of the HEIs to actively take part under Unnath Bharath Abhiyam Program.
- 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.

- The University identified areas of environmental pollution and initiated steps towards reducing the same.
- Sprinkles are used for watering of lawns.
- Smoking is prohibited in the campus and the campus is non-smoking campus.
- Only non-toxic paints, eco-friendly cleaning materials are used.
- Effective waste management system is in practice.
- Use of recyclable materials for construction and interiors reduce the waste.
- Only Bharath3 fuel efficient vehicles are used and vehicles are allowed to park only in selected area and not within campus.
- Gen set usage is restricted and is used only sparingly.
- Minimization of paper usage by adopting online communications and ERP systems.
- Campus cleaning day is observed periodically with the help of NSS.
- Emphasize is on paper less governance.
- The Biogas plant is in operation and the Biogas produced from food waste, decomposable organic materials and kitchen wastes is used in Hostel.

Section 18: 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 19: 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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