

REPORT

GREEN AUDIT REPORT

VIVEKANAND EDUCATION SOCIETY'S INSTITUTE OF MANAGEMENT STUDIES AND RESEARCH



Submitted to:

***Vivekanand Education Society's
Institute of Management Studies and Research
495-497, Hashu Advani Memorial Complex,
Collector's Colony, Chembur,
Maharashtra 400074***

Submitted by:

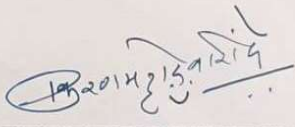
***Green Era Management Pvt. Ltd.
Bldg No. 6, Office No.212,
2nd Floor, Sri Sai Industrial Premises
C.S.L, Jogani Industrial Complex
Chunabhatti, Sion,
Mumbai – 400022***

Date of Audit: March 15, 2023

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Green Audit Completion Certificate

Name of the Installation	Vivekanand Education Society's Institute of Management Studies and Research
Details of Facility Audited	Building of Institute of Management, G+7 Floors, 495-497, Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai - 400074
Date of Green Audit	15 th March 2023
Name of EMS Auditor	Mr. Kiran Shinde
Name of Co-Auditor	Mr. Mahesh Chhatre
Name of Auditing Company	Green Era Management Pvt. Ltd. Bldg No. 6, Office No.212, 2 nd Floor, Sri Sai Industrial Premises C.S.L, Jogani Industrial Complex Chunabhatti, Sion, Mumbai – 400022
Validity of Report	30 th April 2024
Signature of Auditor	
EMS Auditor	Mr. Kiran Shinde
Certification Number	: ISO 14001:2015 _ 35142852 02 Delegate No 168345 Dated 15.04.2019
Stamp of Company	 

Green Audit Committee

Chairperson - Dr. Satish Modh -	Director, VESIMSRSR
Dr. Vivek Prabhu	Registrar, VESIMSRSR
Dr. Pradip Kumar Mitra	Member Secretary, IQAC (Internal Quality Assurance Cell)
Dr. Swati Singh	Member, IQAC
Dr. Anju Motwani	Member IQAC
Mr. Hari Om Singh	Purchase Manager

1.0 INTRODUCTION

It all began in 1962. Vivekanand Education Society (VES) – a premier education institution came into being. Conceptualized and instituted by a great humanitarian and visionary Late Shri. Hashu Advani, VES was one of the first educational institutions in Mumbai that made education accessible to students from all strata of society.

The journey that began with just 256 students is today expanded to include 25,000 students who enrol in various courses across 23 educational institutions run by VES. The year 1994 was a milestone year in the history of VES. A new-age business school-Vivekanand Education Society Institute of Management Studies and Research (VESIMSR) was instituted on 31st march 1994. Currently the student intake is 180 students in MMS. This allows the institute to help more deserving students, who are aiming for glorious corporate careers.

Since the inception, VESIMSR has been at the forefront of business studies, developing business leaders who strive to make a positive impact on companies they work with, people they meet, and the society they serve.

VESIMSR's success as one of the leading business schools in Mumbai is due to its humanistic approach to management education. The approach is complemented by a state-of-the-art infrastructure, world-class faculty, and transformative pedagogic practices, an interactive and experiential teaching methodology, and a growing distinguished alumni network of professionals who are equipped to lead their business or organisations into the future.

The Institute strives to create socially responsible business leaders of tomorrow. The campus offers a positive environment for learning, as well as personal, professional, and intellectual growth.

VESIMSR is accredited by the National Assessment and Accreditation Council with the CGPA of 2.56 on Seven Point Scale with B+ Grade.

The College offers following courses. They are as follows:

- Vivekanand Education Society Institute of Management Studies and Research offers the Master of Management Studies (MMS) program. MMS is a two-year, full-time management program, spread over four semesters (two per year), and approved by AICTE, Govt. of India, and recognized by the University of Mumbai. The program has received NBA accreditation for academic years 2016-2017 to 2018-2022.

- VESIMSR's Ph.D. Program in Management is designed for research scholars who wish to excel in Management Science by adopting various pedagogical approaches in Management Education.
- VESIMSR's Faculty Development Programme (FDP) aims at improving teaching and research capabilities of management educators employed in various business schools, universities, staff training and management institutions in India.
- One year full time course in Digital Marketing.

Certification Courses:

1. Banking and Finance
 - NISM Certified Course in Securities Market
 - NISM VES Investment Advisory Program
2. Entrepreneurship
 - Program in Entrepreneurship and Design Thinking
 - Diploma in Entrepreneurship and Business Management
 - Program in Digital Marketing
3. People Analytics

Table 1: VESIMSR's College Staff & Students:

Sr. No.	Details	Numbers
1	Teaching Staff	22
2	Non-Teaching Staff	30
3	Students	360

1.1 VISION & MISSION

Vision:

To be amongst the most preferred institutes for higher management education in India with a global outlook.

Mission:

- To develop socially responsible managers and entrepreneurs well grounded in theory and real world application, who can lead in their respective field.
- To develop an institute that emphasizes on research and innovation with cutting edge technology with an approach of high impact international dimension.
- To develop faculty capable of synthesizing, creating knowledge and communicating with industry, peers, alumni and students.

Values

- To impart quality education and contribute towards character building.
- Delivery of contemporary courses that nurtures holistic development with professional integrity and social consciousness.
- Inculcating consciousness of social needs, fair, transparent and ethical standards in all practices towards personal and professional conducts.
- Encouraging innovative approaches to promote inclusive growth.

1.2 PREAMBLE

Green audits serve as a means to identify opportunities to sustainable development practices, enhance environmental quality, improve health, hygiene and safety, reduce liabilities and save money and achieve values of virtue. Green audits can be a highly valuable tool for institutions in a wide range of ways to improve their environmental and economic performance and reputation -- while reducing wastages and operating costs. Once a baseline data is prepared after the auditing process, the data can serve as a point of departure for further action in campus greening. It will also help the institute to compare its programmes and activities with other peer institutes, identify areas for improvement and prioritise the implementation of future projects. The data will also provide a basis for calculating the economic benefits of resource conservation projects by establishing the current rates of resource use and their associated costs. Simple but effective system was devised and applied to prepare a baseline data and monitor the environmental performance of VESIMSR. The aim of green auditing is to help the institution to apply sustainable development practices and to set examples before the community. The present audit is focusing on the activities and environmental status of VESIMSR for the period July 2021 to June 2022.

Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. The intention of organizing Green Audit is to upgrade the environment condition in and around the institutes & colleges. It is carried out with the aid of performing tasks like waste management, energy saving and others to turn into a better environmental friendly institute.

1.3 SCOPE OF WORK

The general objective of green audit is to prepare a baseline report on biodiversity and other resources, measures to mitigate resource wastage and improve resource quality and sustainable practices.

The specific objectives are:

- i. To suggest measures to improve biodiversity within VESIMSR.
- ii. To monitor the energy consumption pattern.
- iii. To assess the quantity of water usage within VESIMSR.
- iv. To suggest sustainable energy usage and water conservation practices.
- v. To find out various sources of organic and solid waste generation and mitigation possibilities.
- vi. To inculcate values of sustainable development practices through green audit mechanism.

1.4 BENEFITS OF GREEN AUDIT

- ✦ More efficient resource management,
- ✦ To provide basis for improved sustainability,
- ✦ To create a green activity premises,
- ✦ To enable waste management through reduction of waste generation, solid- waste and water recycling,
- ✦ 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,
- ✦ Enhancement of Institute profile,
- ✦ Developing an environmental ethic and value systems in stakeholders and society.

2.0 TARGET AREAS OF GREEN AUDITING

Green audit forms the 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". 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 carbon footprint.

❖ **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 liters 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 entity 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 entity examine its water use practices

❖ **Auditing for Energy Management**

Energy cannot be seen, but we know it is there because we can see its effects in the forms of heat, light and power. This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, and vehicles. Energy use is clearly an important aspect of sustainability and thus requires no explanation for its inclusion in the assessment. An old incandescent bulb uses approximately 60W to 100W while an energy efficient light emitting diode (LED) uses only less than 10 W. Energy auditing deals with the conservation and methods to reduce its consumption related to environmental degradation. It is therefore essential that any environmentally responsible institution examine its energy use practices.

❖ **Auditing for Waste Management**

Pollution from waste is aesthetically displeasing 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 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 biomedical waste, cleaning chemicals and fuels. 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 often includes wasted material resources that could otherwise be channelled into better service through recycling, repair, and reuse. Thus the minimization of solid waste is essential for a sustainable operations of Institute. It is therefore essential that any environmentally responsible entities examine its waste processing practices.

❖ **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 21.77 kg. 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. So while students are busy studying and working on earning those good grades, all the trees on campus are also working hard to make the air cleaner for us. Trees in the 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.

❖ **Auditing for Carbon Footprint**

Commutation of stakeholders has an impact on the environment through the emission of greenhouse gases into the atmosphere consequent to burning of fossil fuels (such as petrol). The most common greenhouse gases are carbon dioxide, water vapour, methane, nitrous oxide

and ozone. Of all the greenhouse gases, carbon dioxide is the most prominent greenhouse gas, comprising 402ppm of the Earth's atmosphere. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions.

An important aspect of doing an audit is to be able to measure the impact so that we can determine better ways to manage the impact. In addition to the water, waste, energy and biodiversity audits we can also determine what our carbon footprint is, based on the amount of carbon emissions created. One aspect is to consider the distance and method travelled between home and Institute every day. It undertakes the measure of bulk of carbon dioxide equivalents exhaled by the VESIMSR through which the carbon accounting is done. It is necessary to know how much the organization is contributing towards sustainable development. It is therefore essential that any environmentally responsible entity examine its carbon footprint.

3.0 METHODOLOGY OF GREEN AUDITING

The purpose of the audit was to ensure that the practices followed in the Institute campus are in accordance with the environmental standards adopted by VESIMSR. 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:

3.1 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:

- The auditor visited each section and department such as classrooms, auditorium, office, Library, terrace etc.
- Data about the general information was collected through visual observation, photographs and interview with the concern persons.

3.2 DATA ANALYSIS

Detailed analysis of data collected include: analysis of latest water and electricity bill of the campus, understanding the tariff plan provided by the State Electricity Board (SEB) or Private company who is supplying electricity. Data related to water usages, waste generation and management aspects shall also be analysed.

3.3 RECOMMENDATION

On the basis of results of data analysis and observations, some steps for reducing Waste and water consumption will be recommended.

4.0 GREEN POLICY STATMENT

Policy of Green campus initiative addresses, the issue of water efficiency, energy efficiency, reduction in the use of fossil fuel and conserving natural resources. Policy will include the strategies, plans and other allied tasks of conservation and removing wasteful inefficiencies.

4.1 MAIN OBJECTIVES OF GREEN CAMPUS POLICY:

1. Main objective is to develop a clean and green campus.
2. To promote the utilization of conventional sources of energies for its daily power needs, Correct disposal handling, purchase of environment friendly supplies and effective recycling program.

4.2 GREEN POLICY STATEMENT

POLICY ON GREEN CAMPUS

I. Introduction:

Being a signatory member of PRME. The Green Campus initiative policy is a conscious effort taken by the college to manage and implement strategies with the aim of developing a clean and green campus. This policy has been framed to foster a culture of self-sustainability and make the entire campus environmental friendly.

II. Policy Statement:

1. Organize Awareness Programs for the students, faculty and society.
2. Pollution due to single use plastic items has become an important environmental challenge confronting all countries. India is committed to take action for mitigation of pollution caused by littered Single Use Plastics. Ensuring complete ban on same
Ref: <https://mpcb.gov.in/waste-management/plastic-waste>
3. Ensure complete implementation of Maharashtra plastic and thermacol products (MUSTH & S) Notifications in the campus.
Ref: <https://mpcb.gov.in/sites/default/files/plastic-waste/rules/plasticwasteenglish419102020.pdf>
4. Implementation of policies of VES management with respect to restricted entry of vehicles in the campus to maintain green campus.
5. Have a well maintained pedestrian friendly pathway.

6. From time to time have tree plantation drive in the campus as a part of green campus initiative.

Approved by

Dr. Satish Modh
Director
VESIMSR

5.0 AUDIT OBSERVATIONS AND FINDINGS

GOOD POINTS OBSERVED

1. Institute is taking efforts for sustainable development on the VESIMSR campus,
2. VESIMSR has formed the team of faculty and student which works to maintain biodiversity on the campus and also participates in preventing pollution in society through various drives,
3. VESIMSR has installed one Bio-composting units within the premises (near Medicinal Plant Area) but at present it is not in working condition. VESIMSR management has plan to revive.
4. VESIMSR has developed special garden of medicinal plant to make aware the students and staff about the medicinal plants.
5. Plantation and Environmental awareness drives are carried out in the campus,
6. E-waste is disposed to authorised vendor for proper recycling of waste.
7. VESIMSR is in a process of installing Rain Water Harvesting (RWH).
8. Student classrooms are designed in such a way maximum natural light will be available in the classroom with good ventilation.

MAJOR RECOMMENDATIONS

1. VESIMSR do have Environmental Policy but target oriented environmental management plan (EMP) should be developed for achieving environmental sustainability,
2. At present Sewage from building and canteen is discharged to municipal sewer system through septic tank. It is recommended to install Sewage Treatment Plant for treating wastewater which can be used for gardening purpose and toilet flushing purpose,
3. VESIMSR can plan to install solar panels after assessing the requirement,
4. More number of water meters should be installed in the building premises for monitoring floor wise water consumption,
5. Water saving faucets and toilet flush tanks are recommended,
6. Drinking water, Ambient Air, Noise and Lux monitoring should be carried out regularly from National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited and Ministry of Environment, Forest and Climate Change (MoEF&CC) approved laboratory,

5.1 WATER AND WASTEWATER

VESIMSR receives water from Municipal Corporation of Greater Mumbai (MCGM) which is metred and charged by MCGM. Water meter number is 8919398. Main Water Uses in the VESIMSR is tabulated as follows:

Tabel 2: Water Usage

Sr. No.	Months	Water Bill (July 2021-22)	
		Consumption	Bill Amount
1	July, 2021	2375	24,584.00
2	August, 2021		
3	September, 2021		
4	October, 2021		
5	November, 2021	2004	20,687.00
6	December, 2021		
7	January, 2022		
8	February, 2022	1486	15,606.00
9	March, 2022		
10	April, 2022		
11	May, 2022	1218	13,282.00
12	June, 2022		
13	July, 2022		

Table 3: Other Water data is as follows:

SR. No.	Aspect	Details
1.	Water Usage per month	590 KL (Consumption as per the water bills for the period July 2021 to July 2022 issued by MCGM)
2.	Wastewater Generation per month	472 KL
3.	Wastewater treatment system.	Wastewater is discharged through septic tank to municipal sewer system outside the campus. At present sewage is discharged without any treatment.
4.	Water cooler with drinking water filtration.	01
5.	Number of urinals and toilets	Western WC – 30 Urinals – 49
6.	Number of bathrooms	16

SR. No.	Aspect	Details
7.	Number of water taps	42
8.	Number of borewell	01
9.	Number of ponds	Nil
10.	Water pumps	Two Submersible Pump (1W+1S/B)
11.	Water charges paid	Rs. 74159 @ Rs. 6,36 per KL.) paid to Municipal corporation for the period July 2021 to July 2022.
12.	Number of water tanks for water storage	Total 02 Tanks Under Ground -12756 Litres, Over Head – 01 Tank (33000 Litres)

As a good initiative institute has initiated installation of Rain Water Harvesting in the campus

Rain Water Harvesting piping provisions (visible in the adjacent photo) has been completed which will be connected to recharge pit.	
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Being an environmental conscious entity VESIMSR is aware of their responsibilities and do regular check for identifying water leakages or wastages. At present there are no leakages or over usages of water.

OBSERVATIONS - WATER USAGES AND CONSERVATION PLAN

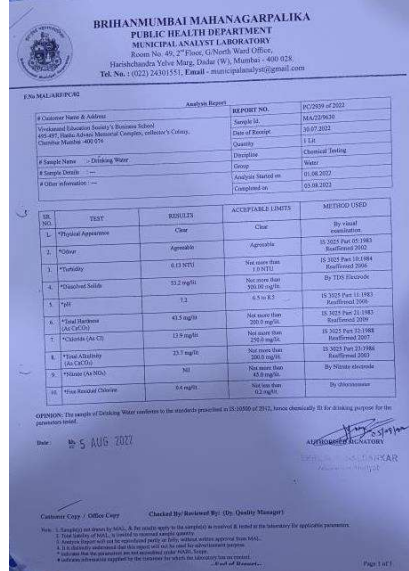
1. At present wastewater is not recycled or reused in any form in the college premises
2. Water meters are not installed in the building premises to monitor the water consumption at every floor,
3. VESIMSR regularly obtains drinking water analysis reports from MCGM (BMC) confirming to the standards of IS 10500 and maintains the record.
4. Drip irrigation and sprinklers are not used for watering the garden,

5. VESIMSR does not have any vehicle and hence there is no water usage for vehicle maintenance,
6. Faucets and toilet flushes should be of water saving nature though the water saving posters are displayed.

RECOMMENDATIONS

VESIMSR administration may consider theses on top priority:-

1. To establish and implement the Water Conservation and Management Plan as per Environment Protection Act 1986
2. Install Water meters on each floors to monitor the water consumption
3. To eliminate the spillage and over usage of water in washbasins, urinals and toile, sensors and water efficient devises should be installed,
4. For the gardening, drip irrigation and sprinkler system should be installed,
5. It is recommended to analyse all 64 parameters under IS 10500 standards for drinking water.
6. Water conservation awareness campaigns should be organised regularly.

Drinking water records obtained from MCGM (BMC) dated August 05, 2022	
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5.2 ENERGY

Collective data of Energy

Sr. No.	Aspect	Details
1.	Electricity charges	Avg. Rs. 105500 / month
2.	Number of Gas cylinders used per annum	LPG commercial Gas Cylinders- 90/ annum
3.	Cost of Gas cylinders used	Rs.1,80,000 /Annum @ Rs. 2000 per cylinder.
4.	Number of Generators	01 of 40 KVA capacity
5.	Cost of generator fuel	Rs.2356 / Annum (25Lit consumption per annum @ Rs. 94.27 per litre)
6.	Avg. Power Consumption	10000 kWh per month
7.	Total cost of energy	Rs.106614 /month
8.	CFL bulbs	0
9.	LED Tube lights	750
10.	Tube lights with Choke	188
11.	Fans	71
12.	Air conditioners	138
13.	Laptops	63
14.	Computers	154
15.	Printers	26
16.	Projectors	01
17.	Photocopiers	01
18.	Televisions	10
19.	Microwave	00
20.	Sanitary Napkin Machine	01
21.	Sanitary Napkin Disposal Machine	00

OBSERVATIONS – ENERGY

1. VESIMSR has not installed solar panels for their Management Building,
2. Energy sources used in the VESIMSR are Electrical, Diesel, Petrol and LPG,
3. All the computers are set on a power saving mode,
4. VESIMSR do not have any CFL or tubelights with choke. All the lights are LED.

RECOMMENDATIONS:

1. 5–star rated Air Conditioners & power saving fans should be used in future,
2. Cleaning of tubelights to be done periodically, to remove dust over it.
3. Install solar panels,

4. Diesel consumption records should be maintained,
5. VESIMSR administration should run switch-off drill on regular basis which will help in power saving,

5.3 WASTE

Waste management is important for an eco-friendly campus. In VESIMSR different types of wastes are generated. The following data provide the details of the waste generated and the disposal method adopted by the college.

Types of waste	Particulars	Disposal method
E-Waste	Computers, CPU, monitors, printers and Television sets	Disposed through authorised recycler 'Ecostar Recycling'
Solid Waste	Paper waste, Metal Waste, food wastes	Except food waste all other solid waste is sold to local recycler and food waste is sent to municipal waste.
Plastic Waste	Pen, Refill, Plastic water bottles and other plastic containers, wrappers etc	Direct Selling
Wastewater	Bathrooms, urinals, washing.	Discharge to municipal sewerage

Paper waste yearly generation is 300Kg. which is disposed to local recyclers for recycling purpose.

E-Waste Disposal Certificate



**ECOSTAR
RECYCLING**

Certificate No. ESR/2021-22/104

CERTIFICATE
OF E-WASTE DISPOSAL

MPCB Reg No. - MPCB/RO(HQ)/HSMD/Author/26/EW-17 - Valid upto 31-12-2025

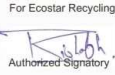
This is to certify that **E-Waste** received .200.Kg/No's of disposal items picked from VIVEKANAND EDUCATION SOCIETY INSTITUTE OF MANAGEMENT, MUMBAI.

On .31/07/2021. have been Disposed off in an Environment Friendly manner as per E-Waste Management and Handling Rules.

We Appreciate YOUR CONTRIBUTION Towards the Green Environment.



For Ecostar Recycling


Authorized Signatory

Office Address: 1st Floor, Gala No.31,32, Khuriya Estate Opp. Ashok Apartment, CST Road, Andheri, Santacruz East, Mumbai - 400098

+91 99694 25168 | INFO@ECOSTARRECYCLING.COM | WWW.ECOSTARRECYCLING.COM

WASTE TREATMENT:

At present canteen food waste is disposed to municipal waste collection centres. After reviving existing bio-composting plant the biodegradable waste shall be sent to composting unit and manure generated shall be utilised for in-house garden.

RECOMMENDATIONS:

1. Detailed monthly inventory of paper, plastic, metal and e-waste to be prepared and maintained,
2. Regular drives should be arranged in the campus for waste reduction awareness,
3. Recycle and reuse of paper waste and paperless communications should be promoted within the VESIMSR,
4. E-waste generated in the campus should be stored separately as per the pollution control board standards before dispatching it to authorised recycler.

5.4 GREEN CAMPUS

The Green campus drive is an initiative protecting the environment. The campus protects age old trees in addition to several new trees and plants planted. The campus is lush green with gardens, lawns, flowers and plants wherever there is open space.

Total number of plant species identified	54
Tree cover of the campus	3964 Sq.m.
Total campus area	19821.5 sq. m
Built up area	4836.82 sq.m
Management College Area	2023.43Sq.m

Type and number of trees planted in the VES premises:

Sr. No.	Tree Name	Botanical Name	No. of Tree
1.	Ajwon	Trachyspermum ammi	3
2.	Brahmi	Bacopa monnieri	1
3.	Capsicum	Capsicum annum	2
4.	Cactus	Cactaceae	5
5.	Aloe Vera	Aloe barbadensis miller	2
6.	Pudina	Mentha arvensis	1
7.	Kalmegh	Andrographis paniculata	2
8.	Lemon Grass	Cymbopogon	2
9.	Vekhand	Acorus calamus	1
10.	Lajallu	Mimosa pudica	2
11.	Tulsi	Ocimum tenuiflorum	3
12.	Hast Jod	Alkanna tinctoria	2

Sr. No.	Tree Name	Botanical Name	No. of Tree
13.	Karela	Momordica charantia	1
14.	Mogra	Jasminum sambac	5
15.	Jaswand	Hibiscus rosa-sinensis	1
16.	Champa	Magnolia champaca	1
17.	Amla	Phyllanthus emblica,	1
18.	Ashwagandha	Withania somnifera	4
19.	Madhumalti	Combretum indicum	3
20.	Bael	Aegle marmelos	2
21.	Clove	Syzygium aromaticum	1
22.	Chitrak	Plumbago zeylanica,	1
23.	Jatropha	Jatropha	1
24.	Datura	Datura stramonium	5
25.	Jambhul	Syzygium cumini	1
26.	Turmeric	Curcuma longa	2
27.	Pepper	Piper nigrum	1
28.	Vinca	Vinca	10
29.	Henna	Lawsonia inermis	2
30.	Pomogranate	Punica granatum	2
31.	Putranjiva	Putranjiva roxburghii	1
32.	Tej-Patta	Cinnamomum tamala	2
33.	Coconut	Cocos nucifera	3
34.	Arjuna	Terminalia arjuna	3
35.	Jack fruit	Artocarpus heterophyllus	2
36.	Nut meg	Myristica fragrans	1
37.	Eucalyptus	Eucalyptus globulus	1
38.	Fig	Ficus carica	1
39.	Neem	Azadirachta indica	2
40.	Gulmohar	Delonix regia	4
41.	Orange	Citrus sinensis	1
42.	Mango	Mangifera indica	4
43.	Lemon	Citrus limon	1
44.	Guava	Psidium guajava	2
45.	Papaya	Carica papaya	1
46.	Lilly	Lilium	10
47.	Pipal	Ficus religiosa	2

Sr. No.	Tree Name	Botanical Name	No. of Tree
48.	Drumstick	Moringa oleifera	1
49.	Shatavari	Asparagus racemosus	1
50.	Karvanda	Carissa carandas	1
51.	Vasaka	Justicia adhatoda	3
52.	Rose	Rosa rubiginosa	1
53.	Ashoka	Saraca asoca	1
54.	Sita - Ashoka	Saraca asoca	1
		TOTAL	120

GREEN INITIATIVES BY VESIMSR TEAMS

Plantation by Students



Glimpse of Green Campus:

Medicinal Plant Garden



Medicinal Plant Garden



Common Garden Area



Classrooms with Large Windows



5.5 CARBON FOOTPRINT

The carbon footprint data is important to estimate and minimise the carbon dioxide (CO₂) emission in the atmosphere. Carbon dioxide is one of the main green house gases among others which are responsible for damaging ozone layer of the earth. The summary of fossil fuel usage observed in the campus as follows:

Number of persons using cycles = 0
 Number of persons using cars = 22
 Number of persons uses two wheelers = 11
 Number of visitors per day = 20
 Average distance travelled by stake holders = 25 kms/day
 Diesel used for D.G. Set per month = 2 Litres

CO₂ Emissions from Purchased Electricity:

Purchased Electricity	Emission Factor	Total Kg. CO ₂
10000 KWh/ month	0.97	9700 Kg CO ₂ / month

CO₂ Emissions from Wastewater Generation:

Wastewater Generated (Lits/day)	Emission Factor	Total Kg. CO ₂
15733	0.21	3303 Kg CO ₂ / day
	Total	99119 Kg. CO₂/ month

CO₂ Emissions from Paper Waste:

Paper Waste (Kg/Month)	Emission Factor	Total Kg. CO ₂
300	2.42	726 Kg CO ₂ / month

CO₂ Emissions from DG Fuel and LPG:

Fuel	Quantity	Emission Factor	Total Kg. CO ₂
Fuel For DG	20 KG/ annum	2.653	53.06 Kg CO ₂ / annum
LPG (19.2Kg.)	1728 Kg/annum	2.983	5154 Kg CO ₂ / annum
	Total		5207 Kg CO₂/annum

Burning of fossil fuels is the main source and cause of carbon dioxide release to the atmosphere. Reducing the fuel consumption, electricity consumption, paper waste generation, will lead to reduce carbon dioxide emissions in the atmosphere.

RECOMMENDATION:

- 1) For reducing Carbon Footprint in VESIMSR as well as students can observe 'No Vehicle Day' on definite interval,
- 2) Reduce the usage of LPG cylinders,
- 3) Reduce water consumption as it contributes to the total carbon emission.
- 4) Develop target oriented energy reduction plan based of Carbon emission potential.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Green Audit is the most efficient way to identify the strength and weakness of environmental sustainable practices and to find a way to solve problem. Green Audit is one kind of professional approach towards a responsible way in utilising economic, financial, social and environmental resources. Green audits can “add value” to the management approaches being taken by the VESIMSR and is a way of identifying, evaluating and managing environmental risks (known and unknown). There is scope for further improvement, particularly in relation to wastewater and water management. VESIMSR in recent years consider the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. The recommendations in this report highlighted more ways in which the VESIMSR can work to improve its actions and become a more sustainable entity.

VESIMSR does have Green policy that showcase their environmental commitment. Green policy is the commitment of an institute towards the laws, regulations, and other policy mechanisms concerning environmental issues. These issues generally include air and water pollution, waste management, ecosystem management, maintenance of biodiversity, the management of natural resources. Policy should be reviewed periodically based on revised environmental goals. VESIMSR can develop environmental management system to address above mentioned issues with reduction plan.

Water and Wastewater management can be the areas of improvement for VESIMSR. At present VESIMSR is not treating and reusing/ recycling the sewage generated through the washing & toilet areas. VESIMSR can plan to install Sewage Treatment Plant and use the treated wastewater for gardening purpose or toilet flushing purpose. Water quantity measurement is carried out only at BMC water inlet point. Further water quantification is not carried out anywhere in the VESIMSR. It is recommended that VESIMSR can install water meters at each floor to monitor the water usage at microlevel. Monitoring the water flow will also help VESIMSR to plan water conservation targets. There are no waterless urinals available at present in the premises. VESIMSR can think of installing waterless urinals to reduce down the water usage in the future.

E-waste disposal to authorised recycler (Ecostar Recycling) is practised in the premises. Inventory management of different types of wastes are recommended. VESIMSR has issued a notice for banning the use of plastic in the premises of VESIMSR. To control the noise pollution within campus institute is following ‘No Honking’ policy. VESIMSR can assess the feasibility for installing biogas plant. Colour coded waste segregation bins are recommended in the premises.

VESIMSR is very conscious about energy management. Maximum LED tube lights are used in the premises. The fans of older generation and non-energy efficient present in the building premises can be phased out by replacing with new energy efficient fans.

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Location Map of VESIMSR (On Google Earth) :

