A Policy on "Environment and Sustainability"

Introduction

A pristine and hygienic environment aids effective learning and also provides an environment that is most effective for learning. In order to address the environmental issues, various efforts have been put forward in different parts of the world. Environmental Management Systems (EMS) is very popular in the industrial sector and International environmental standards do not suit the existing Indian educational system. Therefore, **Vignan's Foundation for Science, Technology & Research(Deemed to be University)** has come up with a compatible system by developing locally-applicable techniques for sustainable environment. An indigenized system that is simple has been devised in order to monitor environmental performance of educational institution. The system comes with a set of questions that are to be answered on a regular basis. Environmental conditions may be monitored from angles that are relevant to Indian requirements, without stress on legal issues or compliance. This highly innovative scheme is user- friendly and also voluntary. This monitoring system aids the institution to set environmental examples for the community and also to instruct young learners.

Green and Environment audit

Green and Environment audit plays a key role in the environmental sustainability and creates awareness among staff and students about suitable use of resources.

- It's a process that involves analysing the different components of environmental diversity that includes systematic identification, quantification, recording, reporting and analysis which will lead to various establishments.
- It brings an eco-friendly ambience within and outside of the concerned sites through the environmental practices.

- It is crucial for the conservation of resources by making an estimate of how and where they are using the major amount of energy and water resources.
- It also works on the recycling plans in which it determines the volume and the type of the waste along with the waste minimization plan.
- It helps every individual to take part in knowing the importance of health consciousness and environmental awareness along with the ethics and values.

The environmental sustainability is paving its way in the current world and educational institutions should make their contribution towards it. Vignan's Foundation for Science, Technology & Research (Deemed to be University), should make its own contributions towards a sustainable future.

Concept of a Green campus.

VFSTR believes that **Concept of a green campus** advocates a model for global environmental sustainability where all the processes and operational functions of the campus are closely knit, providing educational and practical value to the institution and the surrounding environment as there is an urgent need to address these fundamental problems. Being a visionary institution with a slogan of technology with human face, the university has initiated Green Campus' initiative measures which includes biogas generation, vermicompost production, herbal garden development etc. The Green campus comprises optimum land use, environmental planning which includes improving energy efficiency and conserving resources. Advancing the system in order to inculcate the Green Campus ideology for the institute leads to sustainable development It ensures that the practices followed in the campus are according to the initiatives of the Environmental Policy of the institution.

VFSTR Environmental Principles :

The VFSTR is committed to conserve natural environment, develop sustainable solutions, innovations and starups, promote rural technologies and control energy consumption, incorporating **Environmental principles** for building Environmentally sustainable society that satisfies the basic needs of its people without depleting or degrading its natural resources and thereby preventing current and future generations of humans and other species from meeting their basic needs.

The Following **Environmental principles** are guiding us in making Environmental policy decisions

1.The Humility Principle: Our understanding of Nature and of the consequences of our actions is quite limited.
2.The Reversibility Principle: Try not to do something that cannot be reversed later if the decisions turns out to be wrong.
3.The Precautionary Principle: When much evidence indicates than an activity threatens human health or the environment, take measures to prevent or reduce harm.
4.The Prevention Principle: Whenever possible, make decisions that help prevent a problem from occurring or becoming worse.
5.The Polluter Pays Principle: Develop regulations and use economic tools such as full cost pricing to ensure that polluters bear the cost of the pollutants and wastes they produce.
6.The Integrative Principle: Make decisions that involve integrated solutions to environmental and other problems
7.The Public Participation Principle: Citizens should have open access to environmental data and information and the right to participate in developing, criticizing and modifying environmental policies.
8.The Human Rights Principle: All people have a right to an environment that does not harm their health and well-being.
9.The Environmental Justice Principle: Establish environmental policy so that no group of people bears on unfair share of the harmful risks from operations or from the education of the environmental laws, regulations and policies. Environmental justice means that every person is entitled to protection from environmental hazards regardless of race, gender,age, national origin, income, social class, or any other factor.

Environment policy

An Environment policy consists of Laws, rules and regulations related to an environment problems that are developed, implemented and enforced by VFSTR, includes educating students and employees on environmental concerns and sustainability; Research and Development programs that could turn an institute into a carbon-negative institute; environment concerns in planning and decision making; encouraging collaborations among institutes & also with

International environment related organisation such as UNEP, WHO, UNDEP, FAO, WORLD BANK, GEP, GEF, IUCN etc.,

VFSTR Management strategy

VFSTR is entering a new era by shifting to something more flexible that can adapt quickly to changing conditions. The new model is that of a network instead of a hierarchy. In this network model, the Management is playing a vital role in leading the organization by developing the Vision, Values and Objectives for VFSTR Environment policy and promoting feedback from employees, encourage innovation and adaptation, and establishing employee performance goals. An important aspect of emerging network organization is its use of adaptive management strategies to cope with new information and changing conditions, to learn from experience, end to modify plans quickly as needed. This approach uses the basic techniques of Science and Systems analysis to develop computer models for examining alternative plans and projecting possible outcomes or scenarios. The primary goal is to anticipate problems rather than simple react to them.

Objectives:

- To sustain Natural resources, Environmental quality in VFSTR campus includes Biodiversity, Water, Soil, Food, Renewable energy resources and Human society.
- To sustain Biodiversity by converting VFSTR campus into Terrestrial Ecosystem with species approach and promoting environmental management and conservation with enhancement of awareness among students & staff of the campus.
- To develop eco-economics by using sustainable agriculture, building sustainable communities and eliminating poverty.
- To make an assessment, document on Green area of the campus, the waste minimization & recycling, ambient environmental condition of air, water and noise in the campus periodically and make a report on the status of the environmental compliance.

Methodology:

1.Bioenergy technologies use renewable biomass resources to produce an array of energy related products including electricity, liquid, solid & gaseous fuels, heat, chemicals and other materials. Research on

Biofuels(Biodiesel & Bioethanol)which is already initiated in VFSTR Can be strengthened and other Bioenergy technologies such as production of Biological Hydrogen, Bioremediation of organic wastes & Biogas technology, Fuel wood farming & Petro crop biomass processing, Biomass Gasification, Pyrolysis, Liquefaction etc.,

Travel & Transport: Introducing Bicycles and battery operated trolleys as alternatives to the cars in the campus. Advantages are-No Pollution, Quiet, Very Energy efficient & provide exercise. Use of buses & cars for staff and students for long distance transport is advantages which is already implemented by VFSTR. It can be extended to other routes also as needed and can greatly reduce individual car use and air pollution, more flexible.

2. Solid Waste Recycle & Reductions:

A. Recycling is an important way to collect waste materials and turn them into useful products that can be sold in market place. Five major types of materials that can be recycled – Paper products (includes news papers, magazines, office paper & card boards), glass, aluminium, steel and some types of plastics.

b. Composting bio-degradable organic waste mimics nature by recycling plant nutrients to the soil.

C. Hazardous waste is any discarded solid or liquid material that is toxic, ignitable, corrosive, or reactive enough to explode or release toxic fumes. We can burn, bury, detoxify, reuse, recycle, or not produce hazardous waste.

Develop and implement waste management practices that prioritize disposal in line with the waste hierarchy to reduce the institutions waste output to landfill.

3.Water Management: We are withdrawing ground water which is good source of water for drinking & irrigation. Advantages are: Available year-round, renewable, no evaporation losses, cheaper. Summer storage tanks can be constructed as alternative source of water during summer period. Drip & Sprinkler systems can be used to conserve the water. Treated sewage water can be treated and used for irrigation. We waste about two-thirds of the water we use but using water more efficiently could reduce wastage to about 15%.

Reducing water wastage by developing landscape yards with plants that require little water, using of Drip & Sprinkler irrigation, fixing water leaks, using water meters and charging, using waterless composting toilets (Bio toilets / Water Saving toilets),Collecting and using water to irrigate lawns & non-edible plants, purifying and reusing water for irrigation by constructing sewage treatment plants.

- Underground drainage system, Sewage Treatment Plant (STP) and Effluent Treatment Plant (ETP) to be established in the VFSTR campus.
- Additional number of noise testing meters (05 No.) and Respirable Dust Samplers (05No.) are required for continuous monitoring of noise and Total Suspended Particles (TSP).

Drinking water through RO Systems has to be periodically monitored related to Physico-chemical & Microbiological quality at source& different distribution points.

4. Biodiversity & Conservation:

One of the core competencies of India is Biodiversity, which combined with technology, will yield value-added products. To tap the immense power of biodiversity, technology is needed for developing a genetically engineered seed or transforming a molecule extracted from a herb into a drug. VFSTR felt the need of integration of productivity in Agriculture, Biodiversity & technology and establishing the Centres of Excellence on Horticulture crops with organic farming & Ayurveda.

Nature's Pharmacy: Parts of medicine plants and a number of other plants and animals are used to treat a variety of human ailments and diseases. Nine of the ten leading prescription drugs originally came from wild organisms. About 2,100 of the 3,000 plants identified by the National Cancer Institute as sources of cancer-fighting chemicals come from tropical forests. Despite their economic can health potential, fewer than 1% of the estimated 1,25,000 flowering plant species in tropical forests have been examined for their medicinal properties. Many of these tropical plants species are likely to become extinct before we can study them in VFSTR, we are conserving important medicinal plants in Herbal garden of VFSTR.

In addition to the existing plants species, as a part of landscape development of VFSTR campus a number of new ornamental and flowering plants have been introduce recently.

VFSTR can undertake Plant species survey to ascertain the biodiversity baseline, identify the potential impact of our activities on biodiversity, assess the risks, and take measures to minimize negative impacts and promote positive actions, consider seasonality of species during development of new projects in the campus to reduce the risk of plant loss and minimize the use of watering, conserve and introduce local species through the implementation of a biodiversity action plan.

5. E-Waste :

The VFSTR has committed towards the maintenance of the friendly ecosystem of its campus. In order to maintain the wellbeing and healthy environment in the campus, the standard process for e-waste Management is put in practice for proper disposal of end of life, and non-functioning electronic computing equipment's after reducing, reusing and refurbishing to the maximum.

The broad policy guidelines are:

- Each department to consolidate the end of life and non-functioning electronic and computing equipment.
- To minimize the new procurement of IT Assets, the centralized IT department initiates the process for reusing through refurbishment/recycling of electronic and electrical components, replace the spares and repairing the non-functioning the IT assets to reduce the e-waste to the maximum.
- The centralized IT department to consolidate the final non-functioning electronic and computing components and put forward the proposal to purchase committee once in a year for proper disposal of e-waste without causing any environmental problems.

VFSTR Existing Trees-Carbon Sequestration quantification:

The project activity is to measure the carbon sequestered in the plantations that are located in VFSTR campus. The information provided was about the different trees that are planted in an area of 40 acres within the campus. The species information was made available and based on the availability of

Allotmetric equations and / or Biomass Expansion Factors the quantum of carbon sequestered in the plantations was measured.

MONITORING REPORT	
Title of the project activity	Vignan Campus Carbon Sequestration quantification
Completion date of this monitoring report	03-Oct-2020
Monitoring period number	01
Duration of this monitoring period	01 Jan 2020 – 30 Oct 2020
Applied methodologies and standardized baselines	AR-AM0004 ver. 3 – Reforestation or afforestation of land currently under agricultural use
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period	3301.46
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	5000.00

The measurements were arrived based on preliminary information without site visit. The necessary information pertaining to Diameter at Breast Height (DBH) and Height of the trees were not captured. Based on further assessment and field visit, the actual GHG emission reductions can be calculated taking into

The measurements were arrived based on preliminary information without site visit. The necessary information pertaining to Diameter at Breast Height (DBH) and Height of the trees were not captured. Based on further assessment and field visit, the actual GHG emission reductions can be calculated taking into consideration the SOC, litter, and dead wood that is lying in the plantation areas.

As preliminary information the above values are arrived based on the type of trees and the extent of area that has been covered by the same in VFSTR Campus.

The plantation programme is part of the Landscapedevelopment/ Botanical Garden development of VFSTR, which is on-going programme & measurement of the carbon sequestered in the new plantations will be carried out periodically.

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