Go Green: Save Earth by Green Technology

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Abstract

Mixing of undesirable elements in the atmosphere gives birth to environmental pollution. This relentlessly growing pollution causes Earth to suffocate and thereby presenting threat to the life. Along with pollution, the exploitation of ecosystems by humans has intensified the troubles. The consequences may appear in the form increased risks of natural disasters, health hazards and scarcity of food. Thus it requires a great attention and instant action to slow down this accrescent problem. Environmental crisis haven't emerged at once. It has turned into this horrifying picture as the result of long term ignorance and excessive exploitation. Thus one can't think of any immediate solution for it. It requires persistent efforts and patience as it will definitely take time to resolve. Out of all the steps taken, the best measure is switching to the use of Green Technology such as Organic Farming, using green energy, relying on green purchasing, constructing green buildings and many others. These technologies are environment-friendly as they promote sustainable management of available resources and focuses on creation of eco-friendly products and services. This article is a small effort by the researchers to bring into light that how the use of Green Technology prevents nature and helps to overcome the Environmental problems.

Keywords:- *Green technology, Geo-thermal energy, Green building, Nano solar energy, Organic Farming, Plastic roads.*

Introduction:-

The proverb that, "Excess of everything is bad" is proving itself true with reference to today's environmental conditions. Excess pollution, excessive destruction of natural entities, excessive usage of nature and its resources are becoming the symbol of life. At present, men have reached to the tip of devastation. In primeval times people use to lead their lives in obedience to the Nature, without doing any harm to it. The availability of greens including the reservoirs of natural resources were proportionately very high (approx. 60 people per 1,00,000 sq. km area) at that time. Moreover these people didn't stay at one place, so they were causing no or little harm to nature and natural resources. But with the passage of time they started getting settled at one place and picked farming for their livelihood. Gradually, there was a rise in population. Concomitantly their requirements also increased. Amidst all these there was a noticeable expansion in the domain of science as well as technology. The invention of means of transport, refrigerators, air conditioners, the machineries working on fossil fuels, coals, diesel and petrol etc. started causing tremendous harm to the environment. Along with these developments the indifferent attitude of human beings affected the environment a lot. On one hand, scientific advancement and on the other hand the excessive use of natural resources is resulting in the increased environmental crisis. The things responsible for such environmental conditions may be broadly categorized under two heads- pollution and exploitation of available resources and a major factor that underlies all

the problems is population explosion. So these factors needs to be focused and quick actions are required to be taken, to come out of all these problems.

Here in this paper certain measures are being suggested to overcome the problem of environmental pollution. But it doesn't means that the problem of exploitation of natural resources and rising population need not to be emphasized but all the problems can't be dealt together so the researcher is delimiting her area to the environmental pollution only.

Environmental pollution :-

Contamination of atmosphere owing to the existence of detrimental elements substances is known as environmental pollution. Foremost factor accountable for pollution in environment is dilation of waste. This endless rise in pollution causes Earth to suffocate and thereby presenting threat to the life on Earth. It is responsible for generating number of disease (typhoid, plague, lungs problem, problems related to kidney, heart, intestines, cancer and many other diseases) creating greenhouse effect, abatement of our defensive guard (ozone layer), global warming etc. Thus it requires great attention and instant action to slow down this quickly growing problem. Although this problem doesn't arouse at once, it took quite long time to turn into a giant, so it will certainly take time to resolve. Number of steps has been taken forth by different countries in this direction such as putting a check on unlawful cutting of trees, restraining the usage of coal and other non-renewable sources for food preparation (providing LPG in almost every house), promoting use of CNG in place of petrol and many more. One of these measures is switching to the use of Green Technology is environment friendly technology that focuses on the use of such electronic devices which aims at promoting sustainable management of available resources and creating eco-friendly products such as LED bulbs and flush less toilets and other energy efficient fixtures.

Green Technologies :-

Expeditious progress in Science and technology is the chief feature of current century. These developments equipped our lives in such a way that one cannot think of a life without technology. Besides providing comfort and ease to life these technologies are making it quite difficult also, as they are responsible for triggering pollution. The quantity of natural resources available on earth is quite limited and maximum amount of these reserves has already been consumed, tropical rain forest and fossil fuels are also diminishing and polar ice caps are melting at high rate. Thus, serious efforts are needed to save the entire population, which is tipping at the land slide of destruction. So the world is in dire need of such technology which is environment friendly and focuses on prevention of natural resources and environment. Green Technology is environment healing and centered on reduction of the harm and damages done to people and nature by the Chemicals and harmful technologies. In short, it can be said that Technology, in one way or the other, contributes towards environmental degradation while Green Technologies propagates and supports the use of organic resources that doesn't produce harmful gasses. Green technology makes use of renewable natural resources that never depletes such as sun, wind, water and so on. It aims at using innovative energy generating techniques which are eco-friendly. More specifically it aimed at changing the radical thinking associated with the use of prevalent technologies. It extenuate and inverse the effects of human deeds on the environment.

Goals of Green Technology :-

Green technology mainly focuses on certain activities which help human to overcome the problem of environmental crisis. Some of them are discussed here-

1. ***Recycling-*** Recycling here means to recycle the waste including paper, glass, aluminum foil, cardboard, plastic bags and bottles, egg cartons, gypsum, metal, brick, lead, clothing etc. and waste burning as well.
2. ***Renewing-*** Green technology focus on enhancing the use of renewable sources of energy as they are environment friendly.
3. ***Refusing-*** Green technology insist on refusal of the use certain things which are hazardous to the environment such as use of plastic bags, wastage of energy and so on. Several movements have been initiated by government in this respect such as '**say no to plastic bags'**
4. ***Reducing-*** Green technology focus on increasing awareness amongst people to minimize the use of resources that are essential for existence and are available in limited amount.
5. ***Rethinking-*** Eco-system and resources destroyed ones, can never be retrieved. So it becomes the responsibility of all the citizens to give their best in saving the environment. One should think several times before exploiting the available resources. Small efforts may yield great results.

Types of Green Technology :-

1. ***Green Energy-*** the energy generated by using natural resources like solar power, wind, and thermal power is termed as green energy (Kalyani et al., 2015).

Alternative sources of Energy

- **Enhanced Geo Thermal Systems-** In this system heat energy is harvested from the core or mantle of Earth to produce electricity. Geo thermal plants are usually established in the areas with thin crust in Mohorovicic discontinuity.
- **Nano Solar Energy-** This system was discovered in 2002. It insists on the fact that on a sunny day, the rays of sun emits approximately 1000wt of energy/sq. meter. If all of this energy is collected properly it will be sufficient to illuminate our houses and offices for free. Nano solar foils can be efficaciously utilized for this purpose.
- **Wave Power-** Waves have the power to generate a high amount of energy i.e.2700 GW. Waves are formed by airstream as it moves across the ocean surface. Thus wave power is considered as the most ecologically sound form of energy.

2. ***Green Building-*** A building which caters to effective utilization of resources all over its wheel of life i.e. from planning to design, construction, maintenance and destruction. Some key points that make a building green-

3. • Use of resources in well-organized style (Singh et al., 2012)

- Employ solar energy in preparation of foodstuff and illuminating the premises.
- Employment of proper waste disposing techniques.
- Adoption of proper measures to minimize pollution.
- Use of innocuous materials.
- Taking the environment into consideration while drafting, plotting as well as manufacturing the building.

Thus any construction that comprises of these characteristics may be labeled as Green building.

4. ***Green Purchasing-*** It aims at purchasing those products which have minimum negative and maximum positive effects (Xiaoyun Zhang and Feng Dong , 2020)on living beings as well as the environment. For example using organic compounds, organic clothing, energy and water saving products etc. These products also have high potential of working along with the feature of saving the environment
5. ***Green Chemistry-*** Green Chemistry focuses on designing less hazardous and eco-friendly organic goods. These substances/products are equally effective when compared to other chemical products but are quite safe for human health and environment. The philosophy of Green chemistry has its application in all the disciplines of Chemistry, leaving none of its branch. It stresses on application of inexhaustible feedstock over the exhaustible ones.
6. ***Green Nanotechnology-*** Green Nanotechnology also focuses on reducing the risks accompanying the production and usage of nanotechnology goods. It also promotes the exchange or replacement of the already existing nanotechnology products. The products developed using Green Nanotechnology are comparatively more eco-friendly and continued to be so all over its wheel of life.
7. ***Rainwater Harvesting-*** It is a technique of amassing and reserving the rain water from the areas receiving heavy rain falls, filtering it and storing it for further use (Jhakar et al., 2015). It is an effective technique which helps in maintaining the water level under the ground.

Global Application of Green Technology :-

Various efforts are taking place at global level for minimizing the harmful effects of gasses, global warming, managing wastes etc. Some of them are described here-

- ***Organic Solar Film-*** Heliatek, (German company) has manufactured extremely-thin and pliable solar panels that can be used on roofs, casements and automobiles. For Pilot study, company applied these solar films in the windows of their office which proved successful in generating energy. After completing the wheel of life these films can be recycled easily.
- ***Wooden Microchips-*** The problem of disposal of obsolete ICs is attracting attention of number of researchers. One of the best solutions to this problem is found by University of Wisconsin-Madison (United States) in collaboration with the U.S Dept. of Agriculture, they prepared a microchip made up of cellulose which is obtained from wood and known as Cellulose Nano fibrils (CNF). These chips are decomposable and reusable.
- ***Making clothes from Milk-*** The technique of producing fiber named Qmilch from high concentrations of casein (a milk protein) was discovered by a German fashion designer and Micro-biologist Anke Domaske. This fiber is pure and free from any type of chemical. It is 100% ecological product and has some health benefits also such as regulating blood circulation and body temperature. So this is again an effective green technology of producing fiber that is ecological and possess antibacterial qualities also.

India's status in context of Green Technology :-

Numerous programs have been instigated in India on the track of Green technology to subjugate the issues related to environment. Current status of Green Technology in India-

- **Geo Thermal Energy-**This type of energy is generated through natural hot springs, available beneath the surface of earth. It is such a renewable resource which is available 24*7 to the mankind. It has been assessed that India has the capacity of generating 10 gigawatt of geothermal energy. First Geo thermal energy plant was established in Chhattisgarh. Apart from this Himachal Pradesh, Ladakh, Gujarat, Maharashtra, Odisha, Chandigarh and Andhra Pradesh also have Geo Thermal power plants.
- **Tidal Energy-** In context of Tidal energy India is assessed to have the capacity of manufacturing approximately 12.45 GW. Two tidal power projects were started in West Bengal (3.75 MW) and Gujarat (50 MW) in 2007 and 2011 respectively. But due to the exorbitant cost both of these projects were dropped.
- **Nano Solar Energy-** With the development of nanotechnology everything in the world is moving into the sphere of miniaturization. This technology has shown an augmentation in the domain of everlasting sources of energy. One of these is Nano solar technology, which was founded in the year 2002. This technology has contributed significantly in transforming solar energy into current. It is non-harmful way of electricity production.
- **Plastic Roads-** Plastic roads are entirely made up of plastic or the composites of plastic with other materials (Kamboj et al., 2020). It is essential for road developers to utilize plastic waste for making roads since 2015. This type of construction was first noticed and tested in 2011 at Chennai. Where they used 1600 tons of plastic for constructing 1035.23kms of road. Besides Chennai several other cities are following this pattern of constructing roads they are- Pune, Jamshedpur and Indore and so on.
- **Green skills development program-** This program was launched in 2017 with the aim of developing certain skills in youth which may enable them to contribute in safeguarding and restoring the environment. In the pilot phase of these program two courses namely biodiversity conservationists and Para-taxonomists were introduced by the ministry.
- **Organic Farming-** Organic farming holds a significant place in green technology. As in non-organic farming synthetic chemicals are used widely which are very expensive as well as harmful for our health and environment. The crop grown and practices employed in organic farming are ecologically sound.

Conclusion :-

We all are aware about the fact that we can't live without technology but the use of the modern technologies is threatening entire life on planet. Thus the need is to replace it with such technologies that are equally effective, favorable and harmless to all the living beings as well as environment. Government is taking several steps and making a lot of provisions for sustainable development in this direction as stated above and a lot more is on the way. The measures taken by government will not suffice until the entire population contributes significantly, with whole-hearted devotion at their own level. So it becomes the responsibility of every citizen to replace synthetic chemicals, fossil fuels, petroleum, plastic etc. which damages our environment, with the products and processes developed keeping an eye the safety of environment that are based on Green technology.

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