



## Global Warming



Global warming is the current increase in temperature of the Earth's surface (both land and water) as well as its atmosphere. Average temperatures around the world have risen by 0.75°C (1.4°F) over the last 100 years. About two thirds of this increase has occurred since 1975. Carbon dioxide, methane, Chlorofluoro Carbon, nitrous oxides are the green house gases warming the earth's surface. So it is also called green house effect. The CO<sub>2</sub> is the most important of the green house gases contributing to 50% of global warming. The burning of fossil fuel, and other biomass, deforestation result in CO<sub>2</sub>. In the past, when the Earth experienced increases in temperature it was the result of natural causes but today it is being caused by human activities. Global warming adversely affects agriculture, horticulture and ecosystem. Reduced rainfall, higher temperature and increased pest/weed growth hamper farming. Threats to health arise due to increase in disease carrying vectors such as mosquitoes resulting in malaria, dengue fever, encephalitis and yellow fever. An increase in the global average surface air temperature of such magnitude will bring about alarming changes in rainfall patterns and other climatic conditions, resulting in serious ecological disequilibrium.

## Climate Change

The climate change refers to seasonal changes over a long period with respect to the growing accumulation of greenhouse gases in the atmosphere. Recent studies have shown that human activities since the beginning of the industrial revolution.

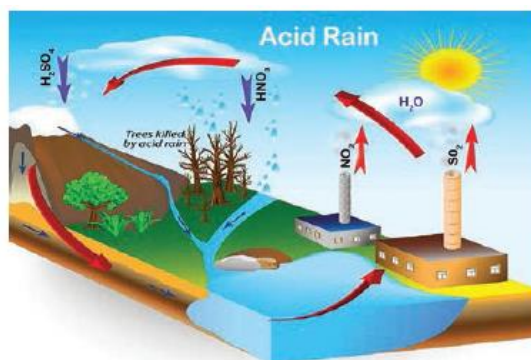
Have contributed to an increase in the concentration of carbon dioxide in the atmosphere by as much as 40%, from about 280 parts per million in the pre-industrial period, to 402 parts per million in 2016, which in turn has led to global warming.



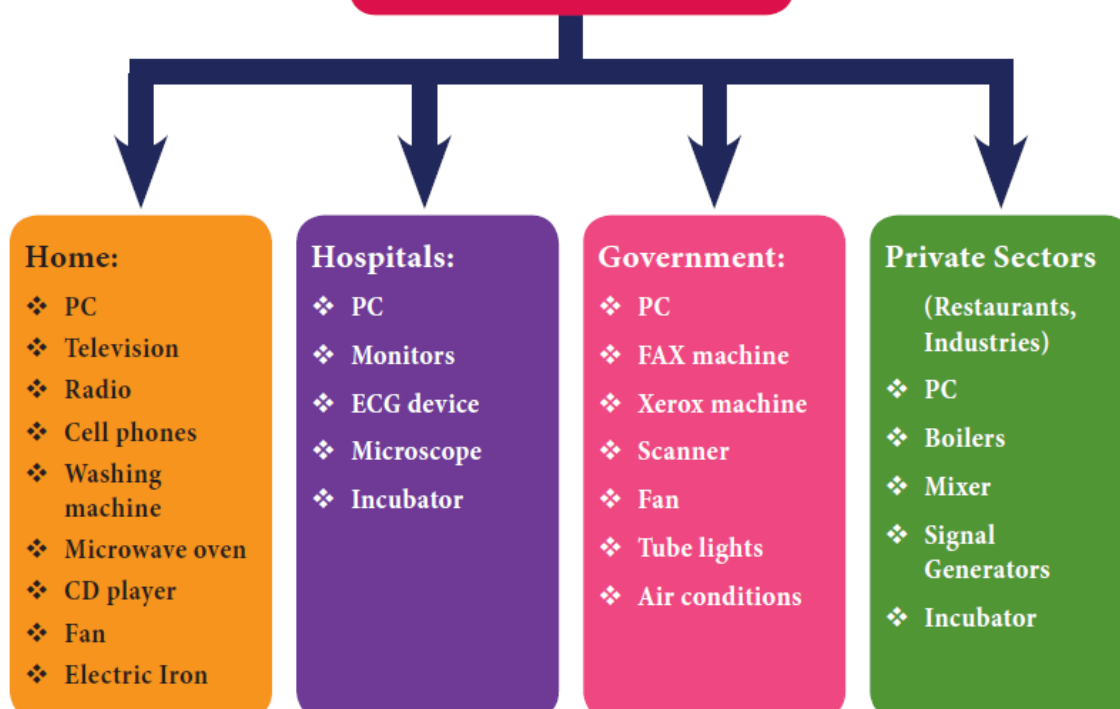
Several parts of the world have already experienced the warming of coastal waters, high temperatures, a marked change in rainfall patterns, and an increased intensity and frequency of storms. Sea levels and temperatures are expected to be rising.

### Acid Rain

Acid rain is one of the consequences of air pollution. It occurs when emissions from factories, cars or heating boilers contact with the water in the atmosphere. These emissions contain nitrogen oxides, sulphur dioxide and sulphur trioxide which when mixed with water becomes sulfurous acid, nitric acid and sulfuric acid. This process also occurs by nature through volcanic eruptions. It can have harmful effects on plants, aquatic animals and infrastructure.



### Sources of E-Waste:





## **e-Wastes**



Electronic waste which is commonly referred as “e-waste” is the new byproduct of the Info Tech society. It is a physical waste in the form of old discarded, end of life electronics. It includes a broad and growing range of electronic devices from large household appliances such as refrigerators, air conditioners, cellular phones, computers and other electronic goods". Similarly, e-waste can be defined as the result when consumer, business and household devices are disposed or sent for re-cycling (example, television, computers, audio-equipments, VCR, DVD, telephone, Fax, Xerox machines, wireless devices, video games, other household electronic equipments).

## **Solid Waste**

Solid Waste is basically discharge of useless and unwarranted materials as a result of human activity. Most commonly, they are composed of solids, semisolids or liquids. Solid wastes consist of the discards of households, hospital refuse, dead animals, debris from construction site, ashes, agricultural wastes and industrial wastes etc. When waste is not removed from the streets and public places in time it poses severe public-health and hygiene hazards.

## **Sustainable Development**

### **Meaning**

Sustainable development is concerned with the welfare of not only present generation but also future generation. It aims at not only satisfying the luxury wants of the upper class i.e. rich but also the basic necessities of the poor like food, sanitation, health care, education etc. The present generation should not exhaust the resources left by the past generation, but it should leave the same for the sake of future generation. This is called inter – generational equity.



## Definitions

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

-World Commission on Environment and Development, 1987-

“The alternative approach (to sustainable development) is to focus on natural capital assets and suggest that they should not decline through time.”

-Pearce, Markandya and Barbier, 1989-

## Sustainable Development Goals (SDGs)

It is crucial to harmonize three core elements such as **economic** growth, **social** inclusion and **environmental** protection. A set of 17 goals for the World's future can be achieved before 2030 with three unanimous principles fixed by United Nations such as Universality, Integration and Transformation.

1. End Poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and quality education for all and promote lifelong learning
5. Achieve gender equality and empower women and girls
6. Ensure access to water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote inclusive and sustainable economic growth, employment and decent work for all
9. Build resilient infrastructure, promote sustainable industrialization and foster innovation.
10. Reduce inequality within and among countries
11. Make cities inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production pattern
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources

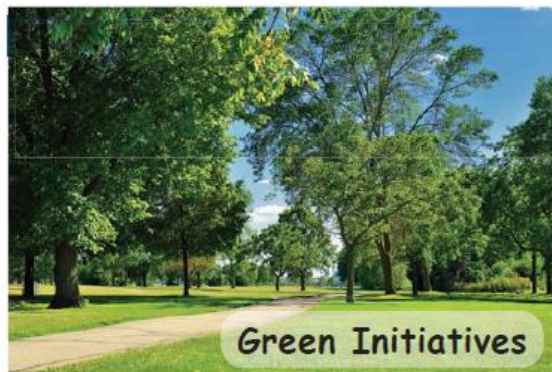


15. Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

16. Promote just, peaceful and inclusive societies

17. Revitalize the global partnership for sustainable development

### Green Initiatives



Today, number of organizations, businesses and people across the globe that are striving for sustainability and more eco-friendly lifestyles is increasing. They are passionate towards protecting the Earth – the only life support system we have. Hence, we should bring about change through political lobbying, citizen action and consumer pressure. And we should take peaceful direct action to protect this fragile planet and promote the solutions for a green and peaceful future. Since the globe warming is a globe problem, the polluters, namely developed countries, should be made to pay for the pollution control efforts.

### Organic Farming

Organic farming is a system of agricultural production which relies on animal manure, organic waste, crop rotation, legumes and biological pest control. It avoids use of synthetic fertilizer, pesticides and livestock additives. Organic inputs have certain benefits, such as enriching soil for microbes. Organic production is a holistic system designed to optimize the productivity and fitness of diverse communities within the agro-ecosystem, including soil organisms, plants, livestock and people. The principal goal of organic production is to develop enterprises that are sustainable and harmonious with environment. The general principles of organic farming are:

1. Protect the environment, minimize soil degradation and erosion, decrease pollution, optimize biological productivity and promote a sound state of health.





2. Maintain long-term soil fertility by optimizing conditions for biological activity within the soil

3. Maintain biological diversity within the system

4. Recycle materials and resources to the greatest extent possible within the enterprise



5. Provide attentive care that promotes the health and meets the behavioural needs of livestock

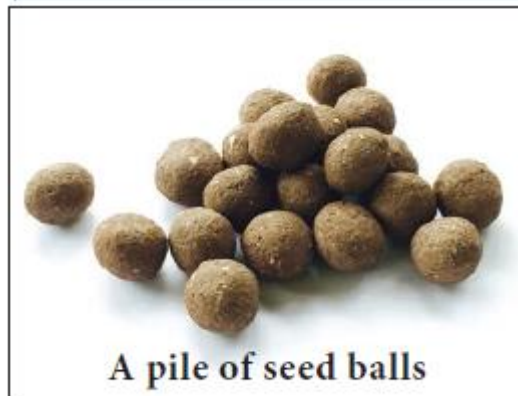
6. Prepare organic products, emphasizing careful processing, and handling methods in order to maintain the organic integrity and vital qualities of the products at all stages of production.

7. Rely on renewable resources in locally organized agricultural systems.

### Tree Plantation

Trees contribute to their environment by providing oxygen, improving air quality, climate amelioration, conserving water, preserving soil and supporting wildlife. During the process of photosynthesis, trees take in carbon dioxide and produce the oxygen we breathe. So trees are considered to be the lungs of the earth. Natural forests and tree plantations improve the water cycle in diminishing runoff and improving the replenishment of the water table.

### Seed Ball



A seed ball (or seed bomb) is a seed that has been wrapped in soil materials, usually a mixture of clay and compost, and then dried. Essentially, the seed is ‘pre-planted’ and can be sown by depositing the seed ball anywhere suitable for the species, keeping the seed safely until the proper germination window arises. Seed balls are an easy and sustainable way to cultivate plants that provide a larger window of time when the sowing can occur.