

Saarth

E-Journal of Research

ISSN NO: 2395-339X

“A STUDY ABOUT ENVIRONMENTAL ISSUE AND ITS REMEDIES”

Dr. Dilipsinh R Thakor*

Important problem related to global environment

- Ozone Layer Depletion
- Global Warming
- Loss of Biodiversity
- Climate change
- Exploitation of natural resources
- Hazardous waste
- Water pollution
- Acid rain
- Over population
- Deforestation
- Land degradation
- Desertification
- Nuclear issue

Ozone Layer Depletion Earth's atmosphere is divided into three regions, namely troposphere, stratosphere and mesosphere. The stratosphere extends from 10 to 50 KM from the Earth's surface. This region is concentrated with slightly pungent smelling, light bluish ozone gas. The ozone gas is made up of molecules each containing three atoms of oxygen; its chemical formula is O_3 . The ozone layer, in the stratosphere acts as an efficient filter for harmful solar Ultraviolet B (UV-B) rays. Ozone is produced and destroyed naturally in the atmosphere and until recently, this resulted in a well-balanced equilibrium. Ozone is formed when oxygen molecules absorb ultraviolet radiation with wavelengths less than 240 nanometers and is destroyed when it absorbs ultraviolet radiation with wavelengths greater than 290 nanometers. Ozone is highly reactive and easily broken down by man-made chlorine and bromine compounds. These compounds are found to be most responsible for most of ozone layer depletion. The ozone depletion process begins when CFCs (used in refrigerator and air conditioners) and other ozone-depleting substances (ODS) are emitted into the atmosphere. Winds efficiently mix and evenly distribute the ODS in the troposphere. These ODS compounds do not dissolve in rain, are extremely stable, and have a long life span. After several years, they reach the stratosphere by diffusion. Strong UV light breaks apart the ODS molecules. CFCs, HCFCs, carbon tetrachloride, methyl chloroform release chlorine atoms, and methyl bromide release bromine atoms. It is the chlorine and bromine atom that actually destroys ozone, not the intact ODS molecule. It is estimated that one chlorine atom can destroy from 10,000 to 100,000 ozone molecules before it is finally removed from the stratosphere.

*Dr. Dilipsinh R Thakor Smt S.C.P.F Com College Dabhoi Dist: Vadodara

Saarth

E-Journal of Research

ISSN NO: 2395-339X

The major effects of ozone layer depletion are: Effects on Human and Animal Health: - Increased penetration of solar UV-B radiation is likely to have high impact on human health with potential risks of eye diseases, skin cancer and infectious diseases. Effects on Terrestrial Plants: In forests and grasslands, increased radiation is likely to change species composition thus altering the biodiversity in different ecosystems. It could also affect the plant community indirectly resulting in changes in plant form, secondary Metabolism, etc. Effects on Aquatic Ecosystems: High levels of radiation exposure in tropics and subtropics may affect the distribution of phytoplankton, which form the foundation of aquatic food webs. It can also cause damage to early development stages of fish, shrimp, crab, amphibians and other animals, the most severe effects being decreased reproductive capacity and impaired larval development.

EFFECT ON AIR QUALITY:

Reduction of stratospheric ozone and increased penetration of UV-B radiation result in higher photo dissociation rates of key trace gases that control the chemical reactivity of the troposphere. This can increase both production and destruction of ozone and related oxidants such as hydrogen peroxide, which are known to have adverse effects on human health, terrestrial plants and outdoor material. Global Warming Before the Industrial Revolution, human activities released very few gases into the atmosphere and all climate changes happened naturally. After the Industrial Revolution, through fossil fuel combustion, changing agricultural practices and deforestation, the natural composition of gases in the atmosphere is getting affected and climate & environment began to alter significantly. Over the last 100 years, it was found out that the earth is getting warmer and warmer. The key greenhouse gases (GHG) causing global warming is carbon dioxide. CFC's, even though they exist in very small quantities, are significant contributors to global warming. Carbon dioxide, one of the most prevalent greenhouse gases in the atmosphere, has two major anthropogenic (human-caused) sources: the combustion of fossil fuels and changes in land use. Net releases of carbon dioxide from these two sources are believed to be contributing to the rapid rise in atmospheric concentrations since Industrial Revolution.

OVERPOPULATION

Overpopulation Yet another major global environmental issue is overpopulation. As the population of world continues to soar at an alarming rate, the pressure on the resources of the planet is increasing. The problems associated with overpopulation range from food and water crisis to lack of space for natural burial. Incessant population growth will not just result in depletion of natural resources, but will also put more pressure on the economy. The world's population has been booming for years. The population is now threatening to reach the stage where there are simply too many people for the planet to support. The United Nations

Saarth

E-Journal of Research

ISSN NO: 2395-339X

Population Fund predicts that by the middle of the next century, the world's population will stabilize at about 14 billion people. If fertility rates were decreased to 2.1 births per woman, population stabilization could be achieved sooner. Overpopulation has been disastrous for the planet. Greater populations have polluted and consumed more, ruining the environment and creating or intensifying a variety of problems. Also, with the food supply limited, increases in population make shortages in many parts of the world even worse. Deforestation The deforestation of forest particularly tropical rainforests is a major global problem-each year millions of hectares are lost. Deforestation rates in some countries continue to increase despite worldwide pressures. Rainforests are destroyed for wood products, and to make way for agricultural activities, mining and dams.

The impacts of deforestation include:

- ❖ Loss of livelihood for local inhabitants
- ❖ Variable environmental conditions
- ❖ Loss of biodiversity and disturbance to ecosystems
- ❖ Loss of carbon sink

Desertification removing ground cover and degrading fertile land initiates desertification. Water washes away nutrients, the land becomes inhospitable. The process is accelerated by expanding populations and the need to overuse fragile areas of land. The remedies for global environmental issues there are some uncertainties as to what effects a change in climate might have on the earth. However, its solution lies on the coordination of national actions within regional and international frameworks. The solution will need to involve countries world-wide because the impact in one location may be felt in a completely different location. Hence, countries should develop a plan of action to cope with these problems. Some of the significant remedies/solutions are: Recycling can decrease the number of pollutants entering the atmosphere and has been linked to lessening global climate change. Decreasing the amount of raw materials an industry has to use to create new products slows the cutting down of trees and reduces gas emissions. Do your part to reduce waste by choosing reusable products instead of disposables. Buying products with minimal packaging (including the economy size when that makes sense for you) will help to reduce waste. And whenever you can, recycle paper, plastic, newspaper, glass and aluminum cans. If there isn't a recycling program at your workplace, school, or in your community, ask about starting one

SUMMARY

There are several challenges and threats to solving the climate problem by countries world-wide. They can be classified as economic, institutional, psychological, and informational. Significantly large number of countries in the world lack adequate institutions to cope with climate change analysis and this will present serious problems in developing national plans and actions. The need for institutions and appropriate organizational arrangements is crucial to mitigation analysis in any

Saarth

E-Journal of Research

ISSN NO: 2395-339X

country. The environment encompasses the whole of life on earth and the complex interactions that link the living world with the physical world. In a general sense, this covers everything contained within the air, land and water. Time also is a key factor as historic issues have an influence on the status of the environment - locally and globally. Sudden and dramatic natural changes to the environment have occurred in the distant past, but only relatively recently has one species had the potential to upset the whole balance of the Earth's ecosystem, that's the man kind. The global population has risen dramatically during the last century. The rise of industry and its rapid expansion has been a major source of pollution. This has caused changes in the balance .of our environment. The threat of global climate problem is growing and due to the nature of the problem, national actions through regional and international mechanisms are required. However, these actions must be carried within a sustainable and equitable development framework. The paper discussed several options and policies but implementing them require detailed analysis to ensure that national benefits are maximized. The importance of local control and management within a politically committed environment cannot be over-emphasized in ensuring sustainable development.

References

Verlicchi P, Al Aukidy M, and Zambello E. (2012) Occurrence of pharmaceutical compounds in urban wastewater: removal, mass load and environmental risk after a secondary treatment—a review. *Science of the Total Environment*. 429 (2012): 123155.

Wellings P and Sutcliffe M. (1984) Developing the urban informal sector in South Africa: the reformist paradigm and its fallacies. *Development and Change* 15(4):517– 550.

Wisner B. (1993). Disaster vulnerability: Scale, power and daily life. *Geojournal* 30(2): 127-140.

WHO (2015) Implementing the European Regional Framework for Action to protect health from climate change A status report. Copenhagen. World Health Organisation.