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Original Article

Climate Change and Human Responsibility

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Abstract

Climate is the average pattern of air over a period of many years. The changes in atmosphere are either natural or man-made. The climate is being significantly affected by human changes. The need of the hour in India is to have comprehensive and robust measures across all three tier – Central, State and Local- to effectively address the crisis of climate change. The first step is for the government and research institutions to come together to design a map that includes a detailed analysis of which areas are most vulnerable to climate change and what the vulnerabilities are. High-quality data from models built to predict future risks will be useful in measuring environmental and health risks.

Key words: *Climate Change, Environment, Responsibility, Human Resources, Risk, Quality, Development etc.*

Introduction:

Climate refers to the typical weather that occurs over a long term of several years. Changes in the atmosphere are either natural or man-made. Human modifications are causing significant impacts to the climate. The burning of fossil fuels and land clearing by humans leads to more of some gases in the atmosphere. Human activities have introduced a very dense layer of greenhouse gases around the Earth's mantle through the combustion of fossil fuels. As a result, more and more energy is being retained in the earth's atmosphere instead of being bounced back to space. That is why the earth's surface and mantle around it is increasing in temperature. This mechanism was developed with an extremely general concept. It is hoped that this will give the developing countries the chance to learn the latest technologies that will help them to cut down on emissions, and then financial aid to overcome the barriers. The most polluted country has been permitted to pursue its polluting industry and for that reason they have been paying sufficient compensation to a less developed country than our own. The compensation would not be a reason for poor countries to maintain low carbon, but as a means of ensuring that they implement newer processes of emission reduction. Low-cost options for abatement may be exhausted in countries. In the future they will need to pay for more costly emission reduction alternatives.

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The following is a summary of the problems discussed in the Study:

The CDM does not require Annex I countries to cut their carbon dioxide emissions from fossil fuel sources, but rather they dis-incentive investments in fossil fuel sources. Economies included in the Annex do not have any emission limits. They are also being given higher incentives to invest in emission reduction projects and are also earning carbon credits. To gain understanding of how pollution, more vehicles, deforestation and over-use of fuel are impacting the environment. Understanding issues related to climate change (warming, changing precipitation, biodiversity, etc.).

The Study aims to:

The environmental effects of man's responsibility, and climate change, have been studied. Human responsibility and climate change are very interconnected and the primary aim of this research is to understand the correlation between these two but some specific aims have been set by the researchers as follows:

1. To understand how Climate Change affects global precipitation.
2. To Study the impact of climate change and Human Responsibility.
3. To Research the effects of climate change on agriculture on the global scale.

This study will show the importance of the study.

Higher temperatures hasten the drying of soil surface, thereby limiting the amount of soil water moving in the surface layers. The rate of water percolation in the lower layers of the soil decreases and therefore the groundwater reserves are not replenished sufficiently. Where precipitation and soil moisture are low, the topsoil dries rapidly. Overuse of water because of population growth, an inefficient water distribution system, and greater demand for agricultural and manufacturing uses are all factors that are contributing to water scarcity.

Scope of the Study:

In the mountainous area, some parts rely heavily on glaciers for water supply in their rivers and as a groundwater reservoir. The region will likely be water scarce in the future. In the summer, more glaciers will melt, increasing the water in the rivers in the early stages, as temperatures continue to rise. However, in the future, as glaciers continue to melt and get smaller, less water will flow into the river. Water quality deteriorates can also be a significant factor contributing to water scarcity. Rain transports a significant amount of nutrients, pollutants, pathogens etc. in areas of high rainfall.

The study is limited to the students at the school.

Climate change can have a major impact on ecosystems, and the resources they provide to all members of that ecosystem. The population of an insect or plant species can grow. The effect on the human population and ecosystem, however, depends on the species being an invasive species such as mosquitoes or weeds. In the next few decades, almost a quarter of mammals, one in every 12 birds and endangered species are in danger of dying out. Warming is causing dramatic changes in the forests, grasslands and wetlands that these living things rely upon, and urbanization is making it difficult for them to relocate to other habitable areas.

The time frame of the study is:

The researcher has done this research by analyzing the data collected from 2025-26, which will be used to analyze the changes in the environment and the effect of the environment on human life. From the point of view of human life, it is very important to be in balance with the environment.

Research Methodology:

The issue of climate change is closely linked with human responsibility. A positive approach to climate change and sustainable development of human life is essential. Climate change is seriously affecting human life and resulting in loss of human lives. Human responsibility is to preserve the natural resources

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and humans are ruining the nature to a great extent. Various forms of secondary research have been used in this study. They are research papers, articles, newspapers, audio videos, reference books, serial books, annual report etc.

Research Method:

Researchers, studying the climate change and the human responsibility, have finished the study based on descriptive analysis method and few types of secondary research.

Results and Discussion:

As essential as water and air to living things is soil. It nourishes plants which are the food source for all living things. Soil formation is very slow and soil is a non-renewable resource. Soil quality is lowered by a range of factors that have a negative impact on its physical, chemical and biological properties. Soils are adversely affected by hazardous materials like pesticides, herbicides, and chemicals. Soil microorganisms are reduced by chemicals and pesticides, thus impacting soil structure and fertility. The accumulation of pollution in soil is in direct proportion to human beings' unhealthy ways. Pathogens in garbage and waste contaminate the soil and the vegetables and crops planted in the contaminated soil lead to diseases in human beings and domestic animals.

Global Warming:

Changes in weather patterns have far-reaching effects on agriculture. Drought will occur in some locations. There will be more rain at some locations, and heat and cold at others. This will impact on crop production. The concentration of GHGs in the atmosphere is a key parameter of the global climate. Humans today are emitting large quantities of GHGs. Some man-made gases, such as chlorofluorocarbons, are responsible for increasing the Earth's temperature. Significant deforestation and more droughts. Global warming is the slow rise in temperature of the earth's atmosphere. Sea level has risen in the last century by 10 to 30 cm all over the world as a result of melting glaciers. If this continues, the small islands will sink. Maldives is one of the Sea Level Rise Sensitive Countries. These are capable of generating large forest fires. Forest fires in the Amazon basin, Australia and Indonesia. Great tracts of forest will be cut down and animals will have to move.

Climate Change Impacts:

Minimize the use of chemical fertilizer and apply use of organic fertilizer and green manure. Biological control of insects is available and will reduce the need for pesticides. Promote the use of farm waste and cow dung in making biogas. Ambient noise levels in urban areas are increasing, mainly due to man-made sources. One of the disadvantages of technological advancement is noise pollution. High intensity noise, provided by industries, supersonic aircraft and other noise sources provides permanent hearing loss after long exposure in densely-populated areas like metropolitan cities, industrial areas, airport, railway station, bus station etc.

Flood and Climate change:

Since the times of the Ancient India, floods have been a recurring disaster in India. Every year, sections of the nation suffer flooding to varying degrees and intensities. Weather and rainfall varies from one part of the country to another and with this variation, there are some parts that suffer devastating floods and the others suffer drought conditions. Monsoon is a regular occurrence. The monsoon onset and strength is found to be variable from year to year. The Indian subcontinent experiences maximum rainfall during the southwest monsoon season from first week of June till September, which is approximately 100 days period. A flood is a mass of rain water that builds up or overflows. If the water inflow and outflow in the river is balanced it is a flood.

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Human Responsibility:

Heavy rainfall, imbalance in the dams, rapid snow melt, river or water pipe bursts can cause flooding. Floods cause damage to people. Harm or fatalities occur to individuals. Floods often affect Maharashtra. Also, floods are not confined to any particular area, but extend throughout the State. Homes and farm land are lost, food grains damaged, during floods. Additionally, things like agricultural land loss, washing away irrigation equipment, and large amounts of soil erosion result in permanent damage. Floods pose a greater threat to an agriculture dependent economy like Maharashtra, particularly when they are widespread and impact the economy. On analysing the flood situation in Maharashtra, it is observed that the overflowing drains and poor sewage management are the main cause of floods in Maharashtra.

The significance of industry failures and human responsibility for their consequences.

The risks of accidents in highly industrialized cities can prove to be severe. It is impossible to exclude industrial and technological accidents in cities. Industries have been focused in certain areas as a result of industrial development. There is a need to try to regulate them. This needs a sufficient plan to implement this institutional and a good legal system. An industrial disaster occurs when a technological process has an error, failure or when there is an unavoidable side effect. Typically they are the form of explosions, fires, spills, leaks, or waste. All technological innovations have some benefits but also certain risks. An industrial disaster is man-made since there is a possibility of it being triggered by a mistake. Rehabilitation of degraded and demoralized communities needs a lot of physical, financial and resource resources, but also motivational resources, to return them back to their roots.

Natural Resources:

The direct impact of most natural disasters is sudden or unexpected, affecting primarily human life, infrastructure, crops, equipment and homes. Indirect consequences are malnutrition, disease and migration. Disasters have the potential to interfere with social life and economic processes. Developmental activity is suspended due to damage/rehabilitation after a natural disaster. In the aftermath of the disaster, the resources of personnel and finance are used for rehabilitation instead of development. Less infrastructure in developing countries. The population is larger, so more likely to suffer such disasters, and if they do occur they are likely to have a very serious effect on that country. Industrial disasters may be triggered by mistakes, failures or unintended consequences in technology-driven systems. These are typically in the form of explosions, fires, waste, spills, or leaks.

Climate Change:

Changes in the atmospheric pressure cause the most damaging impacts of climate change. Climate change is affecting the environment, wildlife, agriculture, and the economy, as well as human life. This has contributed to water shortage, food insecurity, and an upsurge of various diseases. The problem has not only become local but has reached a global level, creating the need for all countries of the world to come together and take measures.

Conclusion:

Countries such as India, where agriculture is a major requirement of the economy, are more affected by the impact of climate change. The land is unable to be used for agricultural purposes. Secondly, the oceans (including the Great Lakes) sequester more CO2 and become acidic. The pH of this ocean water is acidic and harmful to the marine life. Frequent and intense heat waves will have a greater effect. Extreme heat waves can result in farm damage, loss of livestock and natural resources. However, this effect is more pronounced on weeds in agriculture, causing weeds to grow much faster. Hence, farmers are forced to apply high amounts of herbicides. In addition, if some plants, fruits, vegetables and grains overgrow during the production period, the fruits, vegetables, and grains produced will have a lower nutritional content.

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