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ENVIRONMENTAL CHANGE AND WATER CRISIS IN INDIA

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ABSTRACT:

Water is a basic resource on earth for all living organisms including mankind and for development and survival of plant community. Environmental processes of biosphere are also regulated by water, evidence of important of water is found in the form of human settlements development, near water. Availability of water motivates development, whereas absence of water leads to destruction. During last century, man has exploited this resource very fast through various activities as a result of which many water scarcity areas of the world have come up as hot sports of water crisis resulting in danger to renewal and non-renewable source of fresh water.

KEYWORDS: *development and survival of plant community , Environmental processes.*

INTRODUCTION

Many environmental disaster have been created during the last century because of human activities. Man has affected ecology everywhere by pursuing fast economic development and by adopting a physical life and a materialistic culture. The deforestation of Congo basin and Amazon basis on the equator as well as the increased use of fossil fuels in Europe and American, has awakened our sensitivity of nature. In the latter half of twentieth century there has also been deterioration of green house effect and ozone layer resulting in increase in temperature. Additionally global warming has enhanced the process snow melting from Kilimanjaro Mountal on the equator to Antarctica.

The maximum impact of climatic change has been on water resources. Out of the total water resources in nature, two present water is frozen in the form of snow and only little less than one percent water is available for use of mankind. Even this water is suffering from qualitative and quantitative deterioration because of environmental crisis and human activities. Fresh water is being polluted by acid rain. Thus water resource available in nature is being affected quantitatively and qualitatively by climatic changes, global warming, acid rain, melting of snow and other such factors, the availability of water is continuously decreasing creating water crisis. Natural disasters responsible for water crisis are as under.

Balanced climate has become imbalanced due to selfish teasing of nature by man. The earth is becoming hotter day by day due to fast industrialization and tremendous increase in transport vehicles. Snow is melting in the Arctic's due to climate changes. To study this situation, the United Nations Ecological Programme and World Meteorological Organization together formed a group of scientists called International Inter-Governmental Panel on Climate Change (IPCC) in 1988. Its research has pointed out that a mere increase of 0.3 to 0.6 degree Celsius in average temperature during the last century has caused nature to become imbalanced resulting in dangerous consequences. Water level of oceans has risen by 10.25 on during this period while a 2.7 rise is considered to be due to spread of water on account of rise in temperature.

Climate is a complex system, a change in climate affects the whole atmosphere including oceans, snow, land, rivers, Lakes Mountains, as well as groundwater. A change in these factors affects vegetation and the biotic world. The colorful vegetation on rocks of coral called rain forest of sea, is being heavily affected. Drought are caused by climate change. Which directly affect food production. It is predicted that availability

of water would also decrease in future because 50 percent of fresh water is being used for human consumption. Serious water crisis would be faced by Kuwait, Jordan, Israel, Rwanda and Somalia and other countries already suffering from scarcity of water. American security agency has estimate that the annual supply of water in California can reduce between 7 to16 percent due to generation of heat by doubling of quantity of carbon dioxide there.

Along with agriculture, the natural formation of forests can also change due to climate change, temperature and moisture right from micro vegetation to big tress remains favorable only up to a certain limit. Any change in them either shift the vegetation from their places or extinguisher then forever. It is considered that some other means will have to be adopted due to increasing population and urbanization. One third forests of the world have to face danger on account of climate change. The number of forest fires can also increase due to higher temperature and the quantity of carbon dioxide can increase by forest fires.

Most of the water resources available for human consumption are found in the form of rivers lakes on the surface of the earth. Bothof them are elements of climate and are important in the process of hydrological cycle. They also play important roles in redistribution of water. Increasing human intervention during the last decades of both the 20th century has changed the nature of hydrological cycle to a great extent. Continuous deforestation in arid region of India and related economics activities have expedited the process of desertification, resulting in reduction in quantity of rainfall. Annual availability of water in the Indian sub-continent depends on balanced activity of monsoon. Its gravity and center of low pressure are located in the Thar Desert.

India is divided in three geographical regions from the point of view of natural composition. They are Himalayan Mountains in the north, plain areas of the north and the plateau part of the south. The Himalayan Mountains having vast glaciers from where rivers originates, is the source of important rivers like Indus, Ganga, Yamuna and Brahmaputra. Hundreds of other small and big rivers also starts from Himalayas which supply water to small areas, Indus river starts from the west of Mansarovar lake and reaches Pakistan after crossing through Karakoram hills. The main river Ganga and Yamuna originates from Gangotri and Yamunotri glaciers, located at a height of 6000 meters respectively in the Himalayas. The water flowing in these rivers is available throughout the year because of melting of frozen snow as per the hydrological process. On the other hand, the Brahmaputra originating from the eastern end of Kailash Mountains and flowing to the eastern India, depends on rainfall rather than snow as its main source of water.

During the last decades of the previous last century, glaciers of the Himalayas in temperature. Vast glaciers are converting into snow lakes. According to the International Magazines 'New Scientist' all the glaciers of Himalayas would be destroyed by the year 2025. During certain period, there would be a dangerous flood situation in rivers subsisting on them bur after that a serious water crises would be faces. Climate changes affects not only glaciers but also lakes and groundwater. Change in pattern of quantity of rainfall is also affecting its distribution pattern. On one side, excess water is found in eastern India because quantity of rainfall is increasing on other side, there is continuous decline of quantity of rainfall in western and south central portions of the century. In the 'Johnsonburg Earth Summit' the main reason for continuous drought was considered too fast climate change in India are occurring due to fast depletion of forests, and the rain and the increase in industrialization and urbanization.

Besides drought, climate changes is also causing deterioration in quality of water through acid rain. Effect of acid rain has been noticed in India also like that in other countries of the world. Mathura oil refinery located on the bank of river Yamuna emits out Sulphur dioxide, which results in acid rain by mixing in rainfall. This is polluting water of river Yamuna. Climate change and water crisis in the Indian sub-continent are becoming jointly visible in the form of changing nature of monsoon. Effective area of monsoon has changed due to climate change during the last century, and the quantity and timing of rainfall has also changed. During this year 2002, the main reason for three failure of the monsoon was considered to be smoky clouds of Asia, these clouds were formed due to fast industrialization and they had important role in climate change.

CONCLUSION

Water resources of India is controlled by the nature of rainfall and climatic balance. Scarcity of water is created by even a partial change in it. Hence, necessary proportionate forest cover should be developed for a balanced climate. Along with planned urbanization, a tight control on increasing population should also be exercised. Since change in climate would also affect change in distribution of water, hence sufficient quantity of water can become available only with healthy nature. The process of climate change is regional and is a long term process, rather than being local and a short term one. Hence, for meeting the water crisis, we shall have to maintain a qualitative level of available surface water sources and also emphasize on conscientious exploitation of groundwater. A proper crop rotation system should be, adopted as per the climatic conditions specified by agriculture climatic regions at the national level. Availability of water and crop planning should be given priority in it.

Our environment is constantly changing. There is no denying that. However, as our environment changes, so does the need to become increasingly aware of the problems that surround it with a massive influence of natural disasters, warming and cooling periods, different types of weather patterns much more, people need to be aware of what types of environmental problems our planet is facing.

Global warming has become an undisputed fact about our current livelihoods, our planet is warming up and we are definitely part of the problem. However, this isn't the only environmental problem that we should be concerned about. All across the world, people are thinking a wealth of new and challenging environmental problems every day. Some of them are small and only affect a few ecosystem, but others are drastically changing the landscape of what we already know.

Scientists believe that climate of the earth would change on account of catastrophic rise in temperature of the world, resulting in decrease of rainfall, direct effect of decrease in rainfall would come on agriculture, incidence creating of drought. Forest area would reduce in the world due to rise in temperature and it would lead to decrease of rainfall. Immediate and far reaching consequences of warming of ionosphere would do severe harm to human health as well as environment. Immediate effects mainly include death, drought, storm, flood and environmental degradation while far reaching effects well be various kinds of infection and related diseases, food problem, famine, and danger to biotic life, besides these, many cities located in coastal regions of seas may submerge in water due to melting of snow at the arctic and high mountains due to rise in temperature.

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