



AT THE WHIM OF NATURE “NATURAL DISASTERS”: CAUSES AND PREVENTION

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ABSTRACT

This paper seeks to determine the natural disasters, causes and effects on environment. Natural disasters are any catastrophic event that is caused by nature or the natural processes of the earth. It could be related to weather, geology, biology or even factors outside the Earth. Examples are earthquakes, hurricanes, droughts and flooding. Nature is bountiful full of resources used by the living organisms use for their survival and well-being. But nature has its own control systems. Resources used up are replenished excesses are checked, all naturally through the biogeochemical cycles, the food chains and webs and other natural phenomena. Thus equilibrium is maintained in nature. This is called ecological balance and has in recent times been disturbed by human activities. G8 Conclusions on Natural Disasters, 1975-2009 to address the increased threats of natural disasters and extreme weather phenomena caused by climate change, such as increased flooding, storm surges, droughts and forest fires, we will act to improve risk preparedness, prevention, monitoring and response times, particularly in developing countries.

Keywords:

Natural disaster, Earthquake, Flood, Tsunami, Drought, Hurricane, Avalanches.

INTRODUCTION

A *natural hazard* is an atmospheric or hydrological and geophysical, event (e.g., Flood or Drought, Earthquake, Tsunami, Landslide, Windstorm,) that has the potential to cause harm or loss, however a *natural disaster* is the occurrence of an extreme hazardous event that impacts on communities causing damage, disruption and casualties, and leaving the affected communities unable to function normally without outside assistance (Twig, 2007).

Since 1960, in the all over the world natural disasters have resulted in the loss of more than three million lives and affected many more. 90% of the natural disasters and 95% of the total disaster related deaths occur only in developing countries. It is because most of the world's worst disasters tend to occur between the area of Tropic of Cancer and the Tropic of Capricorn.

The natural disasters directly impact economies, agriculture, food security, water, sanitation, the environment and health each year. Therefore it is one of the single largest concerns for most of the developing nations. Different natural hazards cause varying levels of physical damage to *infrastructure* and *agriculture* with implications for their indirect and secondary impacts. Drought causes heavy Crop and Livestock losses over wide areas of land but typically leave infrastructure and productive capacity largely unaffected. Floods and Cyclones cause extensive whereas damage

to both infrastructure and agriculture, depending on their timing relative to the agricultural cycle. While Earthquakes have little impact on standing crops excluding localized losses but can cause wide spread devastation of infrastructure and other productive capacity over relatively large areas. India is hit by one major natural disaster or the other almost every year where in the loss of life is accompanied by losses of the magnitude that is difficult to comprehend. The decade (1990-99), which was the **International Decade for Natural Disaster Reduction (1990-99)**, it witnessed a spate of large-scale disasters that defied all attempts to stem them. The recent disaster in Uttarakhand state (2013) is a wakeup call for development planners. There is a need to look at ecological sensitivity of the place before starting any development project. There is a very significant role of foresters and ecologist in planning development in eco-sensitive regions.

Classes of Disasters:

1. Sub-Group I – Water and Climate Related Disasters	This sub-group includes Floods and Drainage Management, Droughts, Tornadoes and Hurricanes, Cyclones, Hailstorm, Cloud Burst, Heat Wave and Cold Wave, Snow Avalanches, Sea Erosion and Thunder and Lightning
2. Sub-Group II – Geologically related disasters	It includes Earthquakes, Landslides and Mudflows, Dam Failures/ Dam Bursts and Mine Fires
3. Sub-Group III- Chemical, Industrial & Nuclear related disasters	In this category, the chemical and industrial and nuclear disasters have been included.
4. Sub-Group IV- Accident related disasters	Urban Fires, Forest Fires, Mines Flooding Oil Spill, Major Building Collapse, Serial Bomb Blasts, Festival related disasters, Electrical disasters and Fires, Road, Air, and Rail Accidents, Boat Capsizing and Village Fire have been included in this sub-group by HPC.
5. Sub-Group V – Biologically related disasters	This sub-group includes Biological disasters and Epidemics, Pest Attacks, Cattle epidemics and Food poisoning.

Causes responsible for natural disasters-

There are different types on natural disasters and depending on different types of disasters the causes are also different. For example, the causes of earthquake cannot be same as that of forest-fire. Natural disasters are caused due to different reasons like soil erosion, seismic activity, tectonic movements, air pressure, and ocean currents *etc.* natural disaster is not a new phenomenon these natural events have occurred since the earth began forming and continue to cause serious damage and loss of life all over the globe from many years. The root causes of most of the natural disasters that occur on earth can be attributed to the imbalance created in our environment. This imbalance may either be in the form of air pollution, noise pollution or water pollution and the collective effect of these imbalances are also one of the few reasons for natural disaster. Though it also a fact that we cannot blame anyone because this is just one of the few reasons. Natural disasters like earthquake, floods *etc* have also occurred in past era when human was far away from modernization. So it would not be fair enough to blame modernization for the same..

Natural Disasters are a set of naturally occurring events which can directly or indirectly cause severe threats to human health and well-being and adversely affects the human life for quite some time. It has been witnessed that the natural disasters have their root causes in the normal activities of the earth. However during past few years we have witnessed some rapid modernization and growth, man's increased knowledge and technology has served to trigger for some natural disasters. Flooding and erosion can occur is really prone to the areas where mining, deforestation, and manufacturing have taken place. Global warming, which could eventually effect the ocean currents, has its roots in modern man's overuse of fossil fuels. Earthquakes resulting as a result of tectonic movements and movements of plates inside the earth's crust can also be triggered by drilling, bombing, mining, and construction.

The Impact of Human Activities on Natural Disasters-

It has been estimated that rapidly growing modernization is leading to ignorance towards the environment. Today we are growing at rapid rate neglecting the harm that we are causing to our environment. Environmental bylaws are being neglected for personal gains by few businessmen. The dual forces of global warming as well as poor human management in the field of land and water resources combine to the cause of natural disasters. Humans have created a situation where ordinary events like earthquakes and hurricanes become increasingly elevated to the level of natural disasters which results in heavy losses in the terms of human life as well as property.

Scientists researching on this topic from past many years have found that the increase in hydro-meteorological disasters can be attributed to a combination of natural and human-caused factors. The main problem is global warming which is increasing the temperatures of Earth's oceans and atmosphere, leading to more intense storms of all types, including hurricanes and floods due to melting of these oceans. Unplanned urbanization is at its peak, no one is really caring about the environmental risks and everyone is busy making money. There are a lot of constructions coming up in flood-prone regions which has increasing the likelihood that their towns and villages will be affected by flash floods and coastal floods. A recent flood in Uttarakhand is one such example. Human greed is increasing day by day and people are not at all hesitant in ignoring the environmental laws and result is the destruction.

In one way or the other we are hampering our environment, the rapidly growing industrialization has led to a lot of air as well as water pollution. Though there are environmental laws that these industries need to follow to treat the waste before disposing off into environment but most of the times the industry owners neglect these laws for their personal gain and even authorities are also quite relaxed and do not take a prompt action against the culprits. Rapid construction has led to large land areas being covered with cement, which means that the flow of water becomes very strong, and the runoff from the water can't get absorbed by the soil anymore, so it keeps collecting and rushing down, getting heavier and faster, which may ultimately lead to much bigger floods.

It is not that everyone is being ignorant in the race to be the best. There are also a lot of people who really cares about the environment and are really serious about taking up the matter at larger scale. There are many societies and group of people who are working in the field of environmental awareness and are working day and night out to make people aware of the harmful effects of the pollution and other practices that are harmful for our environment. Several NGO's are taking up the issue of pollution and global warming publically by taking out rallies and organizing various campaigns to save environment and such initiatives need to be appreciated.

Preventing and controlling-

Natural disasters are inevitable, even if we have technology to predict disasters we cannot stop it from occurring. The best that we can do is to stop the practices that are harmful for our environment and leading to environmental degradation and at the same time we should also be prepared for a disaster with our disaster management plan. Beyond damaging and destroying physical infrastructure, natural disasters can lead to outbreaks of infectious disease. Once a disaster strikes it leaves behind a lot of destruction and loss of life. In the case of disasters like floods, earthquake etc. where a large number people are displaced there is also a great loss of life and after the disaster there are a lot of casualties also. This is the time when emergency preparedness comes into effect giving first aid to injured and providing rescue and relief operation.

The overwhelming majority of deaths immediately after a natural disaster is directly associated with blunt trauma, crush-related injuries and burn injuries. The risk of infectious disease outbreaks in the aftermath of natural disasters has usually been overemphasized by health officials and the media, leading to panic, confusion and sometimes to unnecessary public health activities. After a disaster strikes there is a great risk of epidemic hence it is very important to control the casualties as well as it is also required to dispose of the dead animals as well human bodies properly before an epidemic outbreaks.

The risk factors for increased infectious diseases transmission and outbreaks are mainly associated with the after-effects of the disasters rather than to the primary disaster itself or to the corpses of those killed. It is very important to deal with these problems which in turn can pose a greater threat. These after-effects include displacement of populations, environmental changes and increased vector breeding sites. Unplanned and overcrowded shelters, poor water and sanitation conditions, poor nutritional status or insufficient personal hygiene are often the case which may cause diarrhea and other water borne diseases. Consequently, there are low levels of immunity to vaccine-preventable diseases, or insufficient vaccination coverage and limited access to health care services. Hence it is very important to be prepared with a proper disaster management team who can take charge as soon a disaster strikes.

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