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IMPACT OF NATURAL DISASTERS ON ENVIRONMENT & HUMAN HEALTH

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Abstract

Disasters occur when hazards meet vulnerable situations. Natural hazards, such as fires, floods, earthquakes and drought, are part of the natural cycles of the earth. When such hazards impact on vulnerable societies whether it is an earthquake that collapses buildings, or a drought that kills crops that society may face a catastrophic situation requiring emergency relief and assistance to save lives and to protect the environment. Natural disasters such as hurricanes, cyclones, earthquakes, mudslides, floods, wildfires, volcanic eruptions and weather events like extreme droughts and monsoons are likely increasing in frequency due to climate change. These events bring with them a host of issues, including humanitarian, public health, environmental and infrastructural problems. Disasters are not random and do not occur by accident. They are the convergence of hazards and vulnerable conditions. Disasters not only reveal underlying social, economic, political and environmental problems, but unfortunately contribute to worsening them. Such events pose serious challenges to development, as they erode hard-earned gains in terms of political, social and educational progress, as well as infrastructure and technological development. The impacts of disasters on environment and development are manifold. Disasters create substantial environmental degradation and ecological imbalance, hinder socioeconomic development and retard the process of improving the quality of life of the people. The interaction of disasters and environment has both short-term and long-term effects. These interaction and interdependencies work in a complicated way, affecting people, ecosystem and bio-diversity.

Key words: Floods, Cyclones, Earthquakes, Environment and Effects.



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Introduction:

Natural disasters are extreme, sudden events caused by environmental factors that injure people and damage property. Earthquakes, windstorms, floods, and disease all strike anywhere on earth, often without warning. The number of deaths from natural disasters can be highly variable from year-to-year, some years pass with very few deaths before a large disaster event claims many lives. If we look at the average over the past decade, approximately 60,000 people globally died from natural disasters each year. This represents 0.1% of global deaths. Globally, over the past decade, natural disasters accounted for an average of 0.1% of total deaths. This was, however, highly variable to high-impact events and ranged from 0.01% to 0.4% of total deaths. Natural disasters can have a life-altering impact on the individuals and families fortunate enough to survive them. But the effect of natural disasters can be felt at the community, city and state level, or many times can impact an entire country. Natural disasters can have huge environmental impacts as well, even when human communities are relatively unaffected. How well the impact of a disaster event is absorbed has much to do with the intensity of the impact and the level of preparedness and resilience of the subject impacted.

Types of Natural Disasters:

The natural disaster is the consequence when a natural hazard affects humans in an adverse manner. Human vulnerability, caused by the lack of appropriate preparedness often leads to financial, environmental or human impact in a negative manner. A natural disaster always brings along loss of life and property damage, and typically leaves economic damage in its wake, the severity of which depends on the intensity of the disaster. At times there can be some minor losses only whereas human life has also witnessed few disasters that have caused a major loss of life and property as well. The resulting loss due to a natural disaster also depends on the capacity of the population or authorities to support or resist the disaster as well as emergency preparedness. This understanding is concentrated in the formulation: "disasters occur when hazards meet vulnerability". A natural hazard will hence never result in a natural disaster in areas without vulnerability, e.g., strong earthquakes in uninhabited areas. The term natural has consequently been disputed because the events simply are not hazards or disasters without human involvement. Different types of natural disasters can be divided into Tsunamis,



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Earthquakes, Avalanches, Volcanoes, Landslides, Floods, Droughts, Forest fires, Hurricanes, Thunderstorms, Tornadoes, winter storms, Heat Waves.

Significance of Natural Disasters:

Even before the industrialization of the modern world, natural disasters have been a fact of life. There are records of the migratory travels of Native Americans away from coastal Florida specifically to avoid seasonal hurricanes. However, with the modernization of many societies worldwide and the changes our industrial activities have brought to the environment, many weather related natural disasters have gained in both frequency and intensity.

Individual Impacts of Natural Disasters:

At the individual level, the impact can often be felt physically, mentally and emotionally. Natural disasters cause destruction of property, loss of financial resources, and personal injury or illness. The loss of resources, security and access to shelter can lead to massive population migrations in lesser-developed countries. After experiencing a natural disaster, many individuals develop severe post-traumatic stress disorders or withdraw into states of depression. Others develop negative associations with the environment, in more developed nations. Individual impacts can also lead to significant population migrations.

Community Impacts of Natural Disasters:

Communities that experience a natural disaster must also absorb the impacts of these destructive events. Many local communities lose so much in economic resources that recovery becomes difficult, if not almost impossible. Some communities find opportunity in the aftermath of a disaster to rebuild better and stronger communities than before. Communities must often recognize population, demographic, and cultural shifts as a result of the impact of the natural disaster on their individual citizens.

Social Impacts of Natural Disasters:

One of the most immediate and economically devastating concerns with natural disasters is the damage to both public and private infrastructure. These events can cause billions of dollars in damages, and not all governments are equipped to fund the process of post-disaster cleanup and rebuilding. Further, many private homeowners do not have property insurance, and certain natural disasters fall outside of the scope of insurance coverage; this means that in the wake of a disaster, people can end up losing all of their assets with no opportunity for restitution. Natural disasters can have long-term negative consequences beyond



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the immediate loss of life and demolition of infrastructure. Often, an area impacted by a natural disaster will show scars of the event for years to come.

Economic Impacts of Natural Disasters:

Natural disasters such as earthquakes, floods, typhoons, and hurricanes inflict serious damage and so seem to be bad for the economy. For firms, natural disasters destroy tangible assets such as buildings and equipment as well as human capital and thereby deteriorate their production capacity. These adverse impacts may sometimes be fatal to the firms and result in them being forced to close down. Major natural disasters can and do have severe negative short-run economic impacts. Disasters also appear to have adverse longer-term consequences for economic growth, development and poverty reduction. But, negative impacts are not inevitable. Vulnerability is shifting quickly, especially in countries experiencing economic transformation - rapid growth, urbanization and related technical and social changes.

Human Impacts of Natural Disasters:

Public Health Issues: Health issues are one of the most pressing problems after any natural disaster. It is often the case that facilities for water and toilet hygiene are damaged or inoperable meaning that the safe disposal of human waste quickly becomes a public health hazard. Further, without running water, hand washing and food hygiene rapidly deteriorate. During and after events like hurricanes and floods, standing water can be a breeding ground for pathogenic bacteria and disease vectors like mosquitoes. In cases where transportation capabilities and infrastructure are damaged, survivors of natural disasters can be cut off from life-saving medications for both acute and chronic conditions, and be isolated from rescue and emergency healthcare services. After a natural disaster event, survivors can experience mental health consequences, including post-traumatic stress disorder, or PTSD.

Displaced Populations: One of the most immediate effects of natural disasters is population displacement. When countries are ravaged by earthquakes or other powerful forces of nature, many people have to abandon their homes and seek shelter in other regions. A large influx of refugees can disrupt accessibility of health care and education, as well as food supplies and clean water.

Health Risks: Aside from the obvious immediate danger that natural disasters present, the secondary effects can be just as damaging. Severe flooding can result in stagnant water that allows breeding of waterborne bacteria and malaria-carrying mosquitos. Without emergency



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relief from international aid organizations and others, death tolls can rise even after the immediate danger has passed.

Food Scarcity: After natural disasters, food often becomes scarce. Thousands of people around the world go hungry as a result of destroyed crops and loss of agricultural supplies, whether it happens suddenly in a storm or gradually in a drought. As a result, food prices rise, reducing families' purchasing power and increasing the risk of severe malnutrition or worse. The impacts of hunger following an earthquake, typhoon or hurricane can be tremendous, causing lifelong damage to children's development.

Devastation of Homes: Tsunamis can destroy entire buildings and can cause serious property damage. Many individuals who live in an area hit by a tsunami lose everything they own, which leaves them homeless and without resources in the initial aftermath. Some of the tsunami effects include leveling homes down to their foundations and exposing bedrock. The rebuilding process is expensive, time-consuming and psychologically tumultuous for people.

Loss of Life: Natural disasters kill on average 60,000 people per year and are responsible for 0.1% of global deaths. The number of deaths from natural disasters can be highly variable from year-to-year; some years pass with very few deaths before a large disaster event claims many lives. Drought and flooding are the most deadly natural phenomenon. Hurricanes, tornadoes, and earthquakes might seem like the most dangerous natural hazards you could ever face, but floods and droughts actually kill more people over time. In 2018, there were 315 natural disaster events recorded with 11,804 deaths, over 68 million people affected worldwide.

Emotional Aftershocks: Natural disasters can be particularly traumatic for young children. Confronted with scenes of destruction and the deaths of friends and loved ones, many children develop post-traumatic stress disorder (PTSD), a serious psychological condition resulting from extreme trauma. Left untreated, children suffering from PTSD can be prone to lasting psychological damage and emotional distress.

Human Factors and Severity of Natural Disasters:

There are several human factors that influence the severity of a natural disaster. Even within the same region, different people have different levels of vulnerability to natural hazards.

Wealth: People living in poverty cannot afford adequate housing or infrastructure. They are unable to acquire resources needed before and after a disaster strikes.



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Education: Education increases awareness about avoiding or reducing the impact of disasters. A better educated population will have more professionals trained to prepare for catastrophic natural events.

Governance: Governments can set policies and establish infrastructure to reduce vulnerability to hazards. Some governments have more resources available to dedicate to disaster risk reduction.

Technology: Technology allows us to forecast weather, significantly reducing vulnerability.

Age: Children and the elderly are more vulnerable because they have less physical strength and weaker immune systems. Children and the elderly are more dependent on others for survival but may not have anyone to depend upon after disaster strikes.

Gender: Women are more likely to be poorer and less educated than men, making them more vulnerable to hazards.

Preparedness for Natural Disasters:

For all these the government work and try very hard to come up with situation. In some countries already disaster management cell are functional and in some countries we can see the law and order and they immediately respond to such dilemma. In India such examples that there are recovery plans for disasters but the issues are that these plans are outdated. The trained people are less in number. It takes too much time to implement. It's not an easy task. Mostly we see that short term plans are prepared and acted on it. The requirement for the successful disaster management activity is the cooperation by the effected people as well as the rest of the society. So far we see all over the world people generously participate for the disasters and try really hard to help the effecties. They really come up with practical potentials that sort the worst matter. Monitoring is also important after the measures because the effected people settlement may take years. In the disaster area collective stress is being created. Like some places that are easily approachable and some are far enough for the team to reach there for rescue. The government should be clear where to place the emergency cell and how it will work and they must communicate properly to the effectives and rest of the society the methodology. So that the interested people to help the victims and they should know the reality too. All this information can be transmitted by the satellites, good telecommunication system in the area.

Prevention and Control of Natural Disasters:

Natural disasters are inevitable, even if we have the technology to predict disasters we cannot stop it from occurring. The best that we can do is to stop the practices that are harmful



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to our environment and leading to environmental degradation and at the same time. 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 of 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, crash-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 outbreak. 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 cases 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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