



Limiting the Impact of Natural Disasters Caused by Climate Change on People in Lesser Economically Developed Countries.

General Assembly 3



From a separated world to global peace: the need
for a new look on institutions.



Forum: General Assembly 3

Issue: Limiting the impact of natural disasters caused by climate change on people in lesser economically developed countries.

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Introduction

The unpredictable patterns of climate-related events have left the world in a dire state requiring immediate action. The detrimental effects and impact that these natural disasters pose to environmental communities around the world are growing beyond the capabilities of an individual, a family and sometimes even a nation. That is why it is more important than ever that this impact is reduced. These climate-related natural disasters are not just limited to one country, but widespread through many. Climate change is an urgent problem of humanity that will persist among the next generations. Accompanied by climate change is the change in natural disasters.

In recent years, a significant increase in the frequency and intensity of natural disasters has resulted in severe loss of life and destruction of physical capital. Since the 1990s, the number of natural disasters caused by climate change has increased by 35%. In the past decade, 1.7 billion people have died from climate-related natural disasters. In 2019 alone, 97.6 million people were affected by a natural disaster.

The loss and damage caused by natural disasters is expected to increase further in the future, largely due to climate change and the increased exposure to disasters and the fragility of our modern societies.

The impact of these natural disasters is different for each person. The people who suffer the most are those in less economically developed countries. LEDC's face more intense consequences of natural disasters than more economically developed countries (MEDC's) because of lacking mitigation strategies and worse disaster risk management due to the lack of money, resources and infrastructure. For example, MEDC's are more likely to have the resources to build a dam which helps to reduce the damage from flooding.

For companies, natural disasters can cause serious damage by damaging and decreasing the value of capital. This causes production capacity and human capital to deteriorate which can lead to bankruptcies and less produced output. Many civilians work in the industrial sector and are dependent on companies searching cheap labour. Moreover, LEDC's often have heavily populated cities with a lack of sustainable housing. A natural disaster firstly will lead to primary effects, such as deaths, injuries, property loss etc, but the secondary effects, such as the loss of capital, infrastructure, and jobs, can lead to long-term consequences. MEDC's deal are less likely to face long-term instability due to natural disaster because they can prevent the impact of natural disasters.



Disasters can boost short-term growth by causing economies to deviate from their standard growth paths. On the other hand, the endogenous growth models predict negative effects caused by natural shocks on gross output and economic growth. The growth model, based on Schumpeter's theory of creative destruction, argues for positive effects of natural disasters on economic growth, as the physical destruction caused by natural disasters can lead to greater investment in rebuilding or improving of existing physical capital.

It is now widely known that climate-related impacts are not just a future threat." In the past decade, the world has witnessed an unprecedented increase in the natural disasters that have resulted due to climate change. The past and current experiences contain valuable lessons that member nations need to learn from, values that will reduce the vulnerability and threat of climate-related hazards and improve the resilience for future disasters and their impacts.



Definition of Key Terms

Climate change

Climate change is an inevitable challenge to current and future societies. There has always been climate change. But in recent years, the climate is changing in a rapid pace causing the global temperature to rise in an increasing pace. This has many consequences ranging from weather conditions to food production facing all human and non-human life.

The climate can change due to different causes. A natural cause can be the eruption of volcanoes through the release of natural gasses during an eruption. These are very light and do not hit the ground but remain in the air and can potentially decrease global temperature. The climate is also changing because of human behaviour, mainly through the greenhouse effect. Companies, households, and other forms of human life emit CO₂, N₂O, O₃ and other gasses. In a natural greenhouse effect, the heat that comes from the earth is stopped by the greenhouse gasses and clouds. This causes gradual changes of climate conditions on earth. If the greenhouse effect would not be there, it would be an average of -18 degrees on Earth.

Natural causes and man-made causes together are causing the earth to warm very quickly now. The average world temperature has already risen by 0.8 °C. And the temperature of the Netherlands has even risen by more than 1.5 °C.

Natural disaster

Natural disasters include all types of severe and terrible events in nature that usually result in serious damage and many deaths. It can be related to nature but also to human behaviour. There are different forms of natural disasters, such as floods, hurricanes, and earthquakes. Floods occur when an abundance of water floods land that is usually dry. Floods are often caused by heavy rainfall, rapid snowmelt or a storm surge from a tropical cyclone or tsunami in coastal areas.

LEDC

A LEDC (Less Economically Developed Country) is a country with a lower level of economic development than other countries. These countries often have lower levels of industry and infrastructure, as well as lower incomes and standards of living. LEDCs often suffer from poverty and inequality, and have weaker institutions, making it more difficult for them to respond to economic and social challenges. Examples of LEDCs include India, Pakistan, Nigeria, Afghanistan, Ethiopia, Haiti, and many other countries in Africa, Asia, and South America.

MEDC

MEDC stands for More Economically Developed Country. This term is used to describe a nation with a high level of economic development and standards of living. Countries that fall into this category have an advanced and diversified economy, high levels of education and



technology, and a high per capita income. Examples of MEDCs include the United States, Japan, the United Kingdom, and Germany.

UN Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty that introduces framework for the reduction of global greenhouse gas emissions and the stabilization of greenhouse gas concentrations in the atmosphere. The UNFCCC was released at the 1992 Earth Summit in Rio de Janeiro and entered into force on 21 March 1994. As of August 2020, 197 parties have ratified the Convention, including the European Union and all 193 UN member states. The Convention's ultimate objective is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (i.e., human-induced) interference with the climate system.



General Overview

Global warming

Global warming has several causes. One of them is an overflow of carbon dioxide (CO₂). Carbon dioxide is released during the combustion of fossil fuels such as coal, petroleum, natural gas and deforestation. Carbon dioxide is the best-known and most abundant greenhouse gas. Greenhouse gasses trap the heat of the earth, causing the earth to warm up. The greenhouse effect has always existed, but due to the extreme increase in greenhouse gasses and deforestation, it has been amplified. Global warming causes the ice caps on the North Pole and South Pole to melt, causing sea levels will also rise. The rise of sea levels and rapid changes in temperature will have an undetermined but undoubtedly great effect on our natural life, by for instance more extreme weather conditions.

Economic impact

The empirical relationship between natural disasters and economic growth has remained largely unclear, with existing studies reporting positive, negative, and even no effects, both in the short and long term.

The impact of a large-scale natural disaster can only be resolved through the intervention of the international community. Natural disasters cause physical damage to infrastructure and business, which directly harms the economy by causing a disruption in the workforce. Companies have become less productive because they can no longer afford it. Their facilities and inability to access important information has suffered a lot of damage, which they must first resolve. Some companies may go bankrupt, and many people become unemployed. The consequences of those in LEDC's are more intense since they rely on the presence of industrial jobs.

The economy is also negatively impacted by necessary reconstruction by the government in the aftermath of the impending disaster, in addition to governments having to fund affected families through relief agencies. However, when countries are forewarned of the natural disaster that is about to strike by taking measures that inform them of potential risks; they reduce the potential economic consequences that will be imposed on the country. Japan was an example of this because of the earthquake followed by a tsunami on March 11, 2011. The magnitude 9 tsunami cost Japan about \$360 billion as the country had to quickly repair the Fukushima nuclear power plant that was damaged and began releasing radiation into the Pacific Ocean that exceeded the legal limit by 4,000 times: occurring in milk, vegetables and drinking water.



The Sustainable Development Goals

The issue of limiting the impact that natural disasters have can be associated with No. 8 of the United Nations Sustainable Development Goals (SDGs). The goal reads, "Promote inclusive and sustainable economic growth, employment and decent work for all." SDG 8 focuses on sustainable economic growth. Being able to limit the impact of natural disasters will help long-term economic growth in LEDCs. Limiting the impact on developing countries will also reduce the chances of businesses going bankrupt. This will allow people to continue working in those countries and allow the country to specialize and develop. There will then not only be economic growth, but also the chance for everyone to find a job they are interested in.



Major Parties Involved

United Nations Office for Disaster Risk Reduction (UNDRR)

UNDRR (formerly UNISDR) is the United Nations focal point for disaster risk reduction. UNDRR oversees the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, supporting countries in its implementation, monitoring, and sharing what works in reducing existing risk and preventing the creation of new risk.

World Meteorological Organisation

The World Meteorological Organisation (WMO) is a specialized agency under the United Nations that aims to look further into the Earth's atmosphere, its behaviour and its changing climate. Out of the many aspects that WMO focuses on, its scientists have been observing climate changes that are both natural and man-made which are negatively affecting the future of our world. Through WMO, its members can monitor the Earth's climate in order to provide reliable information for nations to correctly adapt to the varying climates and the management of risks imposed by such hazards. WMO, being a signatory to the Sendai Framework for Disaster Risk Reduction, has implemented measures that reduce hazards that could cause disasters and increasing the readiness of response and recovery towards the natural hazards. WMO has integrated many methods on an international scale to decrease human and resources loss such as improved forecast services, early warnings, risk assessments, and raising public awareness. Furthermore, WMO supports developing nations through providing meteorological training, equipment, hydrologists and climate forecasters in order to prevent losses due to natural hazards on an international scale.

UNFCC

The United Nations Framework Convention on Climate Change established an international environmental treaty to combat "dangerous human interference with the climate system", in part by stabilizing greenhouse gas concentrations in the atmosphere. It was signed by 154 states at the Earth Summit in Rio de Janeiro in 1992. They organize yearly conferences of the parties (CoP) to discuss progress in dealing with climate change.

The Philippines

The Philippines is a country highly vulnerable to dangerous natural disasters such as typhoons, earthquakes, cyclones, volcanoes, and wildfires. Since 1990 nearly 70,000 Filipino lives have been lost due to 565 natural disasters. 74% of the population is vulnerable to the possible occurring natural disasters on 60% of the Filipino land. Over the past decade the Philippines has decided to rearrange their country's priorities and has made efforts to become resilient through establishing the National Disaster Risk Reduction Management Council, which works on ensuring that the members of the community and their welfare are protected during and after disasters. In 2010, the government of the Philippines changed its focus from emergency relief to the prevention and resilience to climate related disasters.



The government also formulated a national disaster risk assessment plan to ensure it is meeting its goal, the plan included investing in risk reduction and increasing institutional capacity.

Belize

Belize is identified as one of the countries that is most vulnerable to climate change by the UN Framework Convention on Climate Change. The Belizean society and economy are highly impacted by climate related hazards due to the country's activities being concentrated in an area that is just outside a low-lying coastal zone, exposing it to possible hazards. After the hurricane that occurred in 1998, Belize has become determined to strengthen its measures towards future occurring natural hazards through investing its money in better infrastructure and implementing institutional reforms. In 2013, Belize adopted their first strategy in approaching climate related hazards to stop its negative effects on Belize's economy and society through a plan called the National Climate Resilient Investment Plan (NCRIP). The government of Belize's priorities now focus on improving road infrastructure so that it is resilient to flooding and shifting their investment into more efficient strategies to alleviate the effects of climate related disasters.



Timeline of Events

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| March 23, 1950 | The World Meteorological Organisation was founded by the United Nations. |
| November 13, 1970 | Bhola Cyclone in East Pakistan |
| July 28, 1976 | Tangshan Earthquake in China |
| January 12, 2010 | Haiti Earthquake |
| March 11, 2011 | Tohoku earthquake and tsunami struck Japan |
| June 19, 2013 | The Action Plan for Resilience in Crisis Prone Countries 2013-2020 is adopted by the EU to bring Member States together to collaborate on strengthening the resilience to climate-related natural disasters for people in need. |
| November 6, 2016 | The Paris agreement. |
| November 22, 2022 | Agreement on climate summit Egypt. |



Previous attempts to solve the issue

Global Shield Initiative

The Global Shield Initiative is a plan to protect climate vulnerable countries through insurances against damage of for example floods. Germany leads this insurance program and puts 170 million euros in it. The G7-countries and the V20-countries launched in November 2022 this Global Shield Initiative at the climate summit in Egypt. The idea behind the Global Shield Initiative is that vulnerable countries and their people, who now often find it difficult to buy insurance against the effects of climate disasters, will get extra money from rich countries to do so from now on.

Climate adaptation

Climate adaptation is a process and strategy by which humans, natural systems, and infrastructure adjust to a changing climate. It involves anticipating and preparing for the impacts of climate change, such as sea-level rise, extreme weather events, and changes in temperature, precipitation, and other climate variables. Climate adaptation is increasingly important as climate change continues to increase the frequency and intensity of extreme weather events and disrupt traditional patterns of weather and climate.

Disaster Risk Management

Disaster risk management is the process of identifying, analysing, and reducing the risks of natural and man-made disasters. It involves assessing the risks associated with natural hazards such as floods, earthquakes, and hurricanes, as well as those associated with human activities such as fires, industrial accidents, and terrorist attacks. Through a combination of preventive measures, preparedness, response, and recovery efforts, disaster risk management seeks to reduce the impact of disasters on people, property, and the environment. The Sendai Framework for Disaster Risk Reduction was announced in 2015 by the United Nations General Assembly. It is the first major agreement of the post-2015 development agenda and serves as a global platform for countries to reduce disaster risk and losses. The Sendai Framework focuses on four priorities: understanding disaster risk, strengthening disaster risk governance, investing in disaster risk reduction, and enhancing disaster preparedness for response and recovery.



Possible solutions

Investing in early warning systems

Investing in early warning systems can help alert the state in advance. This way, they can ensure that preparatory measures are taken to reduce as much damage as possible. This is especially very important in LEDC's to keep their economies running. Wealthier states will help with the financial part for building these systems and they will also help install them. This can be discussed with the wealthier countries that will help with this.

Development of renewable energy sources

Many countries rely heavily on fossil fuels, which are a primary cause of climate change. Developing more renewable energy sources, such as solar and wind power, can reduce emissions and reduce the environmental impact of climate change. If each country helps each other produce renewable energy sources, the earth will warm less quickly which will ultimately lead to fewer natural disasters.

Renewed infrastructure

More sustainable infrastructure can help limit the impact of natural disasters in several ways. For example, improved roads, bridges and other transportation infrastructure can help make evacuations faster and more efficient. Improved early warning systems and communication networks can alert people to impending disasters and give them information on how to respond. Improved water, sewer and electricity systems can help reduce the vulnerability of communities to natural disasters. In addition, improved housing and building codes can make structures more resilient to disasters. Finally, increased investment in natural disaster preparedness and mitigation measures can help reduce the impact of disasters by ensuring that communities are better prepared when they occur.



Useful documents

Climate Change, Disasters and Their Mitigation: <https://www.un.org/en/un-chronicle/climate-change-disasters-and-their-mitigation>

Decisions made at the COP27 in Sharm el Sheikh, Egypt <https://unfccc.int/cop27/auv> Post disaster reconstruction plans : <http://grif.umontreal.ca/pages/papers2004/Paper%20-%20Alexander%20D.pdf>

Human rights and climate change, September 2011 (A/RES/18/22,

<https://www.ohchr.org/sites/default/files/Documents/Issues/ClimateChange/A.HRC.RES.18.22.pdf>

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