Forum: Economic and Social Council (ECOSOC)

Issue: Reducing vulnerability and building resilience resulting from extreme weather

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Introduction

Over the last decade, threats posed by extreme weather have become more prevalent. Despite advances in technology, the severity of extreme weather events has impacted more people than ever. The recent tropical systems in the Atlantic, Hurricanes Harvey, Irma, and Maria, are just the most recent examples of both severe weather conditions and large losses to both people and property. Even lesser known examples, such as the current wildfires in Northern California's wine country, illustrate the wide reach of these weather events.

Furthermore, it is clear to most scientists that these natural calamities and their effects are exacerbated by climate change. According to the Intergovernmental Panel on Climate Change, the increase of greenhouse gasses in the atmosphere will increase temperatures on nearly every land surface, although it is impossible to tell what specific changes will occur. Heat waves are a good example of an extreme weather event that is not purely caused by climate change, but encouraged by it. Scientists believe that heat waves are not primarily caused by climate change but do believe it makes heat waves more likely to occur. Studies conducted across Western Europe proved that heat waves were around 10 times more likely to occur in our current climate that in a climate in which there were no greenhouse gases.

Climate change has also increased the threat presented by hurricanes. Warmer air is generally able to hold more water vapor, which then leads to more water precipitated on land, possibly leading to floods. These threats posed by climate change demonstrate the repercussions of neglecting problems caused by extreme weather, and why it is important to start building resilience against it.

Poor planning by governments is also a major catalyst for the severity of extreme weather. The recent hurricanes in North America and the Caribbean have shown that government planning might have as much to do with the increasing threat posed by extreme weather events.

Therefore, the impact of extreme weather events on mankind can be attributed to both climate change as well as government's' negligence in ensuring the proper systems are in place to minimize the human impact of such climate events., both issues that need to be tackled in order to implement systems to increase resilience and decrease vulnerability from extreme weather.

Definition of Key Terms

Hazard

Refers to a natural, physical, technological or biological phenomena which have a potential to cause harm and damage.

Natural Disaster

It is a serious disruption to the functioning of a community involving widespread human, economic or environmental losses and exceeds the ability of the community to cope with the losses using its own resources.

Resilience

The ability to recover from disruptions and adapt well to change, and keep going in the face of adversity

Climate change

It is a long-term change in the earth's climate, especially a change caused due to the increase in average atmospheric temperatures.

Exposure

Describes people's systems, property or other elements present in hazardous zones that are subject to potential losses.

Sustainability

It is the study of how natural systems work, remain diverse and produce everything needed for the ecology to remain in balance.

Background Information

In 2013, an estimated of one million Filipinos were plunged into poverty after Typhoon Haiyan swept away $12.7 billion from the national economy and destroyed over a million homes. No sooner, the

2010 Cyclone Aila devastated coastal areas of Bangladesh, which lead to the unemployment and poverty levels to surge up to 49 percent and 22 percent, respectively. Guatemala after Hurricane Stan in 2005 forced 7.8 percent of affected families to send children to work instead of school leading to Economic strains on the state.

In July 2005, Mumbai, India, experienced an unprecedented natural disaster, causing 500 fatalities and direct economic damage of $2 billion, especially among low-income and marginalized people. While In 2015 floods in Malawi affected more than 600,000 people, largely those living in districts with high poverty. Elderly people were among the most vulnerable to such disasters, along with low-income workers and especially those employed in outdoor jobs such as farming and construction. Whenever disaster strikes, it leaves more than just a trail of devastation, it also leaves behind broken communities. And yet, when we hear of natural disasters today, their financial cost, the damage inflicted on buildings, infrastructure, and agricultural is what catches the headlines.

That's because a simple price tag represents the losses suffered by people wealthy enough to have something to lose in the first place. It fails to account for the crushing impact of disasters on the world's poor, who suffer much more in relative terms than wealthier people. Extreme weather and climate disasters caused 297 deaths and $53.5 billion in economic damage in the United States in 2016. The Center for American Progress found that the economic toll of the 14 most destructive extreme weather events in 2016 was more than double the cost of the similar catastrophic events in 2015, which totaled $21.5 billion.

Damage costs due to such severe floods, wildfire, and drought events include insured and uninsured losses tied to damaged homes, cars buildings, businesses, energy, and transportation infrastructure. Additional, Low-income communities are particularly vulnerable to climate change effects because of its underinvestment in the infrastructure of housing in such areas. In addition, low-income households are often located in floodplains, near landfills or other hazardous areas, or in isolated rural regions, putting them at vital risk of flooding, exposure to toxins, or out of quick reach from emergency responders.

Poor planning by governments on how to react to weather abnormalities is the second catalyst for the increase in severity of extreme weather events. A recent example of this is the tropical storm, Hurricane Harvey. Due to a steep increase in the number of inhabitants living in Houston (1.8 million people since 2000), concrete has been laid over vast areas of coastal prairie that were used to soak up rain, which increased Houston's vulnerability to potential floods or hurricanes. Furthermore, since the US government subsidizes the insurance premiums of houses vulnerable to floods, insurance costs are lower for those who live in potential floodplains. This often results in people purposefully constructing their houses in hopes that their insurance will cost less, a foolish move that makes people more prone to hurricanes and floods and precisely what occurred in Hurricane Harvey.

Sustainable Development Goals (SDGs)

The issue of the vulnerability regarding extreme weather coincides with SDG 13, which addresses climate change. A large development made towards SDG 13 would be the Paris Agreement, which was adopted on 12 December 2015, at the COP21 in Paris: the Paris Agreement is fundamental for the accomplishment of the Sustainable Development Goals, and gives a guide to atmosphere activities that will lessen emissions and construct resilience.

The SDG's also outlines various targets that are willing to be met by all member states; some targets are increasingly beneficial to building resilience, especially in extreme weather. The goal outlines to reinforce strength and versatile ability to climate related risks and catastrophic events in all nations and incorporate environmental change measures into national arrangements, methodologies, and planning, especially in LEDCs.

Major Countries and Organizations Involved

UN Intergovernmental Panel on Climate Change (IPCC)

The UN Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to study the science behind climate change and advise policy makers of its impacts and future risks.

The IPCC develops regular assessments that can help guide policy but are not policy-prescriptive. In other words, they help policymakers understand the risks of climate change and the possible effects of a given response, but they do not tell policymakers what actions to take.

World Meteorological Association (WMO)

The World Meteorological Organization (WMO) was established on March 23, 1950. It is a specialized agency of the United Nations and the UN's authoritative voice on the state of the Earth's atmosphere, weather and climate, and the resulting distribution of water resources. The WMO facilitates the exchange of data and information between member nations to develop and maintain various weather and climate related services worldwide.

UN Office for Disaster Risk Reduction (UNISDR)

The UNISDR was established in 1999 to develop and implement an International Strategy for Disaster Recovery (ISDR). It is an organizational unit of the UN Secretariat and serves to coordinate international action around reducing disasters worldwide. The UNISDR specifically focuses on reducing the impacts of natural disasters such as earthquakes, floods, droughts and cyclones. Every other year,

the UNISDR issues a Global Assessment Report, the UN's review and analysis on the natural disasters affecting mankind.

National Climate Extremes Committee (NCEC)

The National Climate Extremes Committee (NCEC) is an American body established in 1997 to assess extreme weather and climate events. The NCEC maintains the official data on the extreme values associated with a variety of climate related events such as temperature, snow, rain, wind, and pressure. The NCEC also maintains indexes on a variety of indicators that have societal impact such as US wildfires, crop moisture stress index, air stagnation index, and so on.

National Aeronautics and Space Administration (NASA)

NASA has launched two main programs that have demonstrated its commitment to reducing vulnerability to extreme weather. The first is the Sustainability 101 policy. This program is essentially a set of regulations that NASA aims to comply to. The second is the KSC Environmental Programme. It is essentially a program that prevents pollution, promotes recycling, and manages natural resources as well as hazardous materials.

Germany

Under Chancellor Angela Merkel, Germany has made rapid changes to reduce their carbon footprint and greenhouses gasses, which contribute to climate change. In 2011, Germany established the German energiewende program (energy transition). Setting specific targets for their renewable energy, Germany plans 35% of their energy from renewable energy sources by 2020.

Canada

Canada as well has proven on multiple occasions to demonstrate their commitment to build resilience to extreme weather. Similarly to Germany, Canada has decided to do this by reducing carbon emissions. Under Prime Minister Justin Trudeau, the government requires all 10 provinces and 3 territories to set increased prices on carbon in the next 2 years. Their goal is to cut their carbon emissions by 30% of what they had in 2005 by 2030.

Morocco

Morocco aims to use 52% renewable energy by 2030. Morocco has removed subsidies on diesel, gasoline and heavy fuel oil to encourage more efficient and sustainable methods of using energy.

Timeline of Events

Date	Description of event
1988	The Intergovernmental Panel on Climate Change (IPCC) is formed, an organization established by the United Nations Environment Programme and the World Meteorological Organization. Its objective is to provide transparent information regarding anything to do with climate change and the impacts humans have on it.
1997	The National Climate Extremes Committee (NCEC) is established. Its purpose was to assess the severity of meteorological and climatic events.
11th December, 1997	The Kyoto protocol is signed. The Kyoto protocol extended the 1992 United Nations Framework Convention on Climate Change, and took effect on February 16th, 2005. Its goal was to reduce CO_2 emissions.
2007	The Caribbean Catastrophe Risk Insurance Facility (CCRIF) was officially created. Essentially, the organization provides works to provide relief to people dramatically affected by socioeconomic factors as well as environmental factors in the Caribbean.
2010	Index Based Livestock Insurance is developed, and is designed to protect livestock owners from drought-related losses in areas that are primarily prone to arid lands in Kenya and Ethiopia.
March, 2012	Sendai Framework for Disaster Risk Reduction is developed, with 7 global targets and 4 priorities of action. It recognises that the main responsibility to build resilience against extreme weather should come from the nation's government itself.
2015	The mean global temperature reaches 14.8ºC, the hottest temperature in the last 1000 years.
12th December, 2015	The Paris Climate Accords, or the Paris Agreement, is signed. It was adopted by consensus by 195 nations, with 168 nations having ratified it. Essentially, the agreement requires each nation to reduce their carbon and greenhouse gas emissions by 2020.

Relevant UN Treaties and Events

- Natural disasters and vulnerability, 22 February 2005 , **(A/RES/59/233)**
- Draft common statement of the Special Session on the Indian Ocean Disaster: Risk Reduction for a Safer Future , 20 January 2005 **(A/CONF.206/L.6/Rev.1)**
- Prevention of natural disasters in Europe and Latin America, 25 January 2013, **(RF\922154EN)**

Previous Attempts to solve the Issue

The Hyogo Framework for Action (HFA), themed 'Building the Resilience of Nations and Communities to Disasters′ and received by 168 nations at the Kobe World Conference for Disaster Reduction (United Nations, 2005), along these lines approached nations worldwide to start overseeing Disaster chance, "envisioning, getting ready for and observing calamity dangers ex-stake … influencing disaster risk lessening (DRR) a need, knowing the dangers and making a move, building comprehension and mindfulness, diminishing danger, and being readied and prepared to act, with shared duties regarding executing DRR at all levels: state, territorial and global associations" (Declaration of the Hyogo Framework for Action, 2005). Its proposed open approach measures to render DRM a reality at the national-level include: advancement of disaster emergency courses of action, foundation of national risk diminishment stages, selection of national enactments unmistakably characterizing parts and duties regarding calamity reaction and aversion at all levels of intercession, utilization of constant information and learning for peril checking and impacts counteractive action, foundation of useful early cautioning frameworks, elaboration of hazard appraisals for national and cross-outskirt dangers, and development of catastrophe recuperation supports and hazard exchange instruments (for example, climate list based protection plans). The Kobe World Conference on Disaster Reduction brought forth another United Nations office, the International Strategy for Disaster Reduction (UN-ISDR), with the order of administering the utilization of Disaster Reduction at the national-level and in addition advances towards meeting the Hyogo Framework for Action targets.

The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. It is the result of partner meetings started in March 2012 and between legislative arrangements held from July 2014 to March 2015, which were upheld by the UNISDR upon the demand of the UN General Assembly.

The Sendai Framework is a 15-year, intentional, non-official understanding which perceives that the State has the essential part to lessen catastrophe chance yet that obligation ought to be imparted to different partners including local government, the private segment and different partners. It goes for the accompanying result:

The generous diminishment of catastrophe hazard and misfortunes in lives, employments and well-being and in the financial, physical, social, social and natural resources of people, organizations, groups and nations.

Possible Solutions

Building versatility requires shared activity also, obligation at different levels, from the individual or family to the international group. Diverse establishments can cooperate to supplement, and if important, substitute for each other's activities. Local government and private sectors are progressively perceived as fundamental components given their individual parts in scaling up the versatility of groups, families , and common society, and in overseeing hazard data and financing new 'communities of interest' are being framed by organizations and nearby governments, which can possibly assume a critical part in building resilience.

National governments additionally have an obligation to create and asset flexibility techniques. These ought to incorporate, yet in addition go past, crisis designs which can be put into effect when outrageous weather events are estimated. They ought to consider every factor – the entire framework – that is prone to be affected by extraordinary weather, including regions not straightforwardly affected, and effects in the long term. They ought to likewise incorporate various areas (water, vitality, environmental change, biodiversity, transport, lodging, monetary advancement and so on) and should endeavor to parley among over nations.

Technology is an essential empowering influence when reacting to natural hazards and gives the way to an organized reaction. It can bolster local consideration, arrangement and administration to limit present and future effects by safeguarding individuals, properties and biological communities over the numerous scales that are essential. Technology is an effective magnifier of human expectation, enabling us to resolve these issues in routes and at scales already not envisioned. On the other hand, access to technology and its advantages are not shared reasonably. Very regularly, poor people and the most helpless are neglected as a partner in the advancement, generation and dissemination of technology or have scarcely any impact.

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