

**Forum:** The Second General Assembly

**Issue:** Measures to protect those vulnerable to climate related extreme events and other Economic, Social And Environmental Shocks And Disasters

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## Introduction

According to the UNDP, in the last decade greater than 1.5 billion people have been affected by disasters, which has cost 1.3 trillion US dollars.

One of the SDGs (Sustainable Development Goals) that the UN has set is to End Poverty (Goal One). Under this goal, there are many targets set, one of which, is the the target to build up nations' vulnerability to shocks. The World Bank defines a shock as: "An event that can trigger a decline in well being, which can affect individuals or even a nation". Many of the consequences of said shocks, will have effects not only the population, but may have long-term economic effects as well.

While we are discussing four different types: Environment, Extreme Climate, Economic, and Social, they all mostly result in economic and social losses. Each one, while a shock of its own, will usually have consequences within the economy. As a result, the United Nations has put disaster resilience as one of the major aspects to be addressed if they are to achieve the goal of eliminating extreme poverty. The United Nations hopes that each nation must take measures to prepare for shocks by building up resilience, which could be in the form of better response teams, diversified economies, and much more.

The ability of a nation to build up disaster resilience is intertwined with reduction of poverty. Many times nations who have built economies on agriculture are left unable to develop due the occurrence of shocks in their region, which can cripple their economy. The inability of nations in regions such as South East Asia and East Africa, to build up resilience has meant that when extreme weather events occur, their economy loses billions of US dollars. An inability to build up such resilience has been correlated with continuous poverty according to studies done by the World Bank; consequently, the international community's ability to build up disaster resilience will be a major step in eradicating extreme poverty.

## Definition of Key Terms

### Shocks

An event that can trigger a decline in well being, which can affect individuals or even a nation (as defined by the World Bank)

### Extreme Climate-Related Shocks

Extreme climate-related events are relative to their location and are defined as events that are in the extremes of what the norm is for that location. In statistical jargon, it is those climate-related events that are the unusual 10% of normal occurrences. The occurrence of heat waves in the United States is a good example of this, as it is an extreme climate/weather event that deviates significantly from the norm of the state.

### Economic Shocks

This is an unexpected factor or event that takes place outside the economy but has a large impact on it. This can be as a result of weather, but also forces that cause a change in an aspect of the market, such as supply. This can mostly be seen by natural disasters such as tsunamis that occur in Japan.

### Environmental Disasters

Disasters that occur within the environment due to human activity but the effects are not intentional

### Natural Disasters

Natural events that can cause great damage to a certain region. Some examples include floods, earthquakes, hurricanes, tornadoes, etc.

## Background Information

Shocks can affect at a local community level all the way to the international community, and can have a minimal effect or cripple the economy of a nation. When examining such shocks, one must understand that at this current time, mitigating or reducing the number of events would take decades to do; consequently, nations must be prepared with plans in place for each type of shock and their ability to respond. As stated in the introduction, while there are four types of shocks, many consequences will connect under the economy. Environmental and natural disasters and extreme weather events have major effects on life in the area, but also will have consequences on the nation's economic status.

Damage to infrastructure, essential economic assets, and industrial centers can all push a nation's economy years in the past, and resilience in these areas will be essential towards solving this issue. As climate change continues, scientists predict that prevalence of extreme climate-related events and natural disasters are set to increase. Trends over the decades have shown that human output is having an effect on our world's climate, and, as a result, we have been seeing an occurrence of more shocks throughout our world.

### **Extreme Climate-Related Shocks and Environmental Shocks**

As stated in the definitions, extreme climate-related shocks/events are considered to be outside of the norm, and this normal is characterized as an equilibrium state in which a specific region can expect a certain type of climate (temperature, weather depending on month, etc.) on a recurring basis. However, due to climate change, this equilibrium state is in a flux, which is bringing the occurrence of extreme climate related shocks. These shocks are not considered the new norm, rather it can be seen as a consequence of a region attempting to reach their new norm.(NOTE: extreme climate-related shocks and environmental shocks ARE DIFFERENT however, they are used interchangeably in common language and the effects are rather similar, hence this report shall refer to both effects as one)

Looking at 2017 specifically, the occurrence of such shocks became clear and had devastating effects. The occurrence of thunderstorms created flash flooding in the region of Sierra Leone, which was the worst natural disaster that region had ever experienced. 1050 people were killed and the nation saw as communities and cities were destroyed in the process. Similarly, the occurrence of droughts in East Africa, resulted in the loss of important crop as well as the displacement of 1.8 million people. This occurred among the nations of Somalia, Ethiopia, and Kenya, who together saw a loss of 1.9 billion US dollars. For nations such as these, this was a terrible hit to their economy. When looking at just these examples, one can see how disaster resilience is one imperative step towards the reduction of poverty around the world, but especially in poorer nations. These are just two examples of extreme weather events that are occurring throughout the world. We have seen wildfires within the United States becoming a yearly occurrence, hurricanes in the Dominican Republic, and so much more. All of these have had effects on the population of a nation as well as their economy.

Since greenhouse gas emissions have continued to go up, the prevalence of extreme climate related and environmental shocks, are predicted to increase both in their occurrences as well as their intensity. According to the Emergency Events Database, (EM-DAT), there has been a 14% increase in extreme climate related events and natural disasters from 1995-2004 to 2004-2015. That observed increase, also means that the world has seen double the amount of extreme weather events, in that nine year period, than it had seen in 1985-1994. . This data acts to show how the events are increasing over

time, which most experts name climate change as the driving force, which means that nations alike must prepare for the shocks that are set to occur.

When examining this from the perspective of our topic, the SDG goal of ending poverty can only occur if nations build up disaster resilience. This is especially true in poorer nations, who may rely on agriculture more often as their main economic asset. Many times the occurrence of such shocks, cripple the economy, which prevents such nations from developing. Research has suggested that the occurrence of disasters undermines the development of a country, and it is predicted that, if nothing is done to address this issue, there will be 325 million people in poverty and vulnerable to such extreme events by 2030. According to the World Bank, much of these problems will become centered in the regions of Sub-Saharan Africa and South Asia. Similarly, the World Bank has also named “climate change is an obstacle to ending extreme poverty”, which is was a statement echoed by the UNDP, who has also claimed that it is especially true in “poor and fragile countries”. Thus in order to achieve the ultimate goal of ending poverty in SDG Goal One, there is a necessity to build up resilience to such disasters.

Global Hunger is a good example of how environmental shocks are a obstacle towards the eradication of extreme poverty. In 2017, the amount of undernourished people worldwide increased to about 821 million people, and while the global community has taken steps towards solving this problem, an inability to build up resilience to climate shocks remains one reason this is a continuing problem. According to a report done by the UN's Food and Agriculture Organization (FAO), food insecurity is a bigger problem in nations where people depend on agriculture for their livelihood and don't have effective structures of resilience. Higher temperatures, severe droughts, changes in seasonality, which all occur due to climate change, have negative effects on crop yields. As a result, nations who rely on agriculture but don't have systems in place to mitigate the effects of said shocks, such as Ethiopia, continue to see their economy hurt. The FAO also showed that of 51 countries that faced a food crisis in 2017, 34 had seen an extreme climate related shock take place in their nation. Ultimately, the report concluded that global hunger couldn't be solved without addressing the issues that climate change has brought and specifically, the effect of climate-related shocks.

## **Economic Shocks**

Economic shocks are quite intertwined with other shocks. Occurring as a result of factors outside the economy, they hurt the market of a nation, and can produce heavy changes in the economy due to their unpredictability. The other shocks in this report could ultimately lead to economic shocks as well; consequently, the augmented occurrence of natural disasters and extreme weather events may also mean an increase in the prevalence of economic shocks. Similarly, the effect of opening up the market

and globalization means that nation's economies are more reliant on the market's of others. This has become evident over time with the oil shock of the 1970s serving as a perfect example.

During this time period, many nations such as the United States, Canada, Western Europe, Japan, etc. were reliant on oil from many Middle Eastern nations. Consequently, the occurrence of the Iranian Revolution or the Yom Kippur War (forms of social shocks) ultimately caused an economic shock in these countries. In this case, the actions of factors outside of the market affected the market itself. This left many of these nations in a petroleum shortage, an essential part of most nations' economy, which created a lack of supply. In general, most shocks will hurt the demand and supply of goods in the market, and depending on the good it could hurt the economy of the nation as a whole.

Initial signs of economic shocks, are usually events that are occurring outside the market but may hurt it. For example, returning to the example of oil, if there were to be a war in nation, such as Saudi Arabia (an oil rich nation), the international community would most likely see economic shock. In this case, the supply of oil in the international community would drop drastically as one of the largest nations supplying it, is left incapable. So on the international stage, many times political problems and general divisiveness in nation can act as a sign of impending shocks. Consequently, the ability of nations to diversify its reliance on certain goods is imperative.

The effects of economic shocks can vary on what type and the reliance of nation on another. If one nations is reliant specifically on another for a good that is imperative to their own economy, a stoppage in supply will cause an economic shock in their own country. As a result, the effects of an economic shock really depend and can't be stated in a couple of sentences. However, a large shock, may result in a complete stoppage of the economy or even famines, but small shocks simply mean that the nations or community may move to a substitute good or service to compensate for the last product.

## **Social Shocks**

A social shock, from the perspective of nations, usually manifests itself in the form of civil unrest and war. With high tension in many countries, the occurrence is a continued problem and one that there is no direct solution except continued cooperation. Similar to other shocks, there are consequences to the life of a nation and the economy.

## **MEDC vs. LEDC**

As mentioned in the introduction, the monetary backing of the nation and the strength of their economy will play a major role in the ability to build up disaster resilience. As noted above, many of such shocks, have large effects on the economies of less developed nations. Countries whose economies are

more reliant on agriculture, for example, will see themselves more affected as a result of extreme weather events and environmental shocks. Similarly, the lack of management and efficiency in many less developed nations should be emphasized as one of the leading causes of a lack of effective disaster resilience. Nations such as Japan for example, have set up efficient response teams as well as effective management among governmental organizations. This has allowed them to mitigate the consequences of shocks throughout the nation, even though, it is one of the most prone areas for environmental disasters.

## Major Countries and Organizations Involved

### United Nations Development Program (UNDP)

The United Nations Development Program (UNDP) plays an essential role in the solution to this problem. One of their main goals is to, “make sure countries and people are able to withstand crises and shocks”. Much of their work is towards the promotion of prevention and resilience to shocks throughout the world but specifically nations who are more prone to disaster. They have worked with regions across the world, such as Central Asia, and continue to help towards accomplishing the goals of the SDG Framework. Up to now, they have invested almost 2.1 billion US dollars in order to achieve, “better early warning systems, faster response times, enhance police, and long-term” programs.

### The United Nations Office for Disaster Risk Reduction (UNISDR)

The United Nations Office for Disaster Risk Reduction (UNISDR) plays another essential role in regards to this issue. Having been created in order to coordinate disaster reduction, it has worked with numerous regional organizations in order to implement disaster reduction strategies. Some examples include, working with The Association of Southeast Asian States (ASEAN) towards the ratification of the Agreement on Disaster Management and Emergency Response (AADMER) in 2009. They have ensured the acceptance of similar documents and solutions in many regions across the world such as the Middle East, southern Europe, Africa, and much more. Similarly, they have a big role in the advocacy of this issue, as it is one of the lesser-known problems for many nations around the world.

### The United Nations Environment Program (UNEP)

The United Nations Environment Program (UNEP), while not as prominent as other organizations on the list, remains to play a crucial part in combating this issue. They play a role in aiding nations strengthen disaster resilience, but focus more on resilience which directly correlates with climate.

## Japan

Japan is a nation that should be recognized in its work towards the achievement of disaster resilience. The location of the nation geographically makes it prone to a extreme climate and environmental shocks, which has been seen through them any tsunamis that have occurred just in the 21<sup>s</sup> centaury. As a result, they have acted and set a precedent on how the international community may be able to build up their disaster resilience. Acting as the host nation for the Yokohama Strategy and Plan of Action for a Safer World, the first document proposed internationally that directed its attention to disaster resilience, acts to show Japan's attention towards this issue. Similarly, the nation's ability through privatization as well as legislation(discussed more in depth in the possible solutions), has made them one of the few nations in the world that can be said to have effective systems in place in order to reduce and combat the shocks as they arise.

## Timeline of Events

Date	Description of event
May 1994	The Yokohama Strategy and Plan of Action for a Safer World
January 2005	Hyogo Framework for Action
March 2015	Sendai Framework
September 2015	SDG goals are adopted

## Relevant UN Treaties and Events

- Hyogo Framework for Action (HFA)
  - The HFA was one of the first globally supported documents (supported by 168 nations) that addressed the problem of disaster resilience. Adopted in January 2005, it acted as a global plan of 10 years length, which attempted to help nations build up resilience. The Sendai Framework acted as its successor.
- The Sendai Framework Disaster Risk Reduction
  - The Sendai Framework Disaster Risk Reduction 2015-2030 is non-binding framework that is the first major post-2015 agreement that is focused on the Disaster Risk Reduction. The UN General Assembly endorsed it, and the framework sets up a development agenda

with seven targets, and four priorities for action. It was adopted on 18th March 2015 at the Third UN Conference on Disaster Reduction.

- SDG Goals:
  - The First SDG goal made disaster resilience one of the top priorities for the United Nations as it was under this goal as target 1.5.
- The Global Platform for Disaster Risk Reduction
  - The Global Platform for Disaster Risk Reduction is the biggest international gathering (that occurs regularly) that is focused towards the goal of reducing disaster risk and building resilience.. Having begun in 2007, they hold a conference every two years and have collaborated with the UN in the past as well as for the third UN World Conference on Disaster Risk Reduction.
- UN World Conference on Disaster Risk Reduction
  - While not an annual conference, these events occur at the discretion of the United Nations General Assembly and have occurred up to three times so far. They act as an area for nations to convene in order to address such issues.

## Previous Attempts to solve the Issue

Most international coordination in regards to solving these four types are focused on extreme climate and environmental related shocks. Consequently, most recent and past international agreements and treaties deal with disaster resilience rather than economic and social shocks.

The Yokohama Strategy and Plan of Action for a Safer World: guidelines for natural disaster prevention, preparedness and mitigation are one of the earliest attempts to solve this issue. It was the result of the World Conference on National Disaster Reduction from May 23rd to May 27th in 1994. In doing so, it became one of the earliest mentions of disaster resilience on the global stage, and it attempted to address guidelines for natural disaster prevention, preparedness, and mitigation.

Similarly, in January 2005, 168 governments adopted the Hyogo Framework for Action. This document gave out a ten-year plan in order to address the problem of disaster resilience. This document was won at the World Conference on Disaster Reduction, which had been held in Kobe, Hyogo, Japan. It was an attempt to get global cooperation and attention to this issue from 2005-2015, and its main goal



was to substantially reduce the effects of such disasters by 2015 in all aspects: economic, social, humanitarian, and environmental.

However, the Sendai Framework for Disaster Risk Reduction has become a more relevant document and solution in recent times. It was adopted in 2015 as a successor to the Hyogo Framework for Action, and it has created a 15-year plan, which concludes on the same year that the UN's SDG Goals will expire. Thus the success of this Framework and whether global cooperation on this issue will be possible is yet to be seen, but it is and will be linked to resolving the issue in question.

At the same time, many regions hold specific conferences in order to address the specific extreme climate events and weather events within their own region. Specific conferences in ASEAN and the Middle East have addressed these issues and have been referenced in other aspects of this report.

Lastly, in nations where disaster resilience is becoming a huge problem, the UNDP has set up facilities and is in close cooperation with the government of these nations. Having invested up to 2.1 billion US dollars in collaboration with governments in order to set up long-term programs. They are the UN group that collaborates with governments in regard to this issue.

## Possible Solutions

In building up resilience, effective management is one of the biggest problems that need to be addressed especially in nations with less developed economies. The UNDP has worked with nations to achieve this however, there to be a movement within the nation's government to achieve this themselves. Better education for response teams, as well as an improved government organization, is an essential aspect towards the solution of this problem. Establishment of crisis management centers can be an effective solution. This could be an organization that is under the jurisdiction of a nation's government but could be in collaboration with UN organizations such as the UNDP. These centers would act to manage facilities in specific regions in order to make response teams, which are present, more effective in aiding citizens. The UN has sponsored this in a couple of countries such as Armenia, Kyrgyz Republic, and Tajikistan.

Similarly, there is a need to build the resilience of critical infrastructure. This could be essential industrial areas, government buildings, important roadways, etc. However, this resilience would be more focused on recurring shocks and events. This could be done with the UN's help, but it would need the

cooperation of more developed nations in that region as well as the aid of nations that have already implemented solutions to build up resilience. Japan is a good example of this. After having suffered many events/shocks that have hurt the nation in numerous ways, they have now put in place-improved architecture that can withstand the natural hazards that are common in the region. The aid of nations such as Japan, and methods to convince such nations for aid will be essential in showing less developed nations effective ways of establishing disaster resilience. However, there would also need to be more time and monetary backing towards the innovation of technology and architecture that could create infrastructure that would withstand the intensity of such events.

At the same time, the establishment of conferences dedicated to disaster resilience is another possible solution. While the UN has international conferences, it is difficult to address the issues of a specific region throughout the entire international community. Therefore, the establishment of conferences in regions, which face shocks and events that are similar, will be essential in solving this problem. In most regions there are already organizations that attempt to address issues specific to that region, ASEAN is a good example, however, this problem demands the attention and commitment of all nations. So the establishment of specific conferences among these conferences could be an important solution to emphasize the importance of this issue.

Many times, the toll economically for a specific nation, in order to build better infrastructure and have framework in place for better disaster resilience, is too large for developing nations especially to address. While foreign aid is always a possible solution, it isn't always viable or reliable; as a result, nations need to come up with solutions on their own and inspiration from countries like Japan. Japan has shown, that through privatization the ability to improve infrastructure with minimal cost to the government, which is clear in its own airports. After the earthquake and tsunami of March 2011, Japan signed a 30-year concession to a private consortium giving them the rights to operate the Sendai airport. Through this public private partnership (PPP) the government was able to put a private company in charge of a public airport. This made the private consortium responsible to improve the infrastructure of the airport and make it more resilient to disasters due to their economic interests. These sort of PPPs may be able to work in nations without them needing to take on a big economic toll or hurting their own communities, and acts as one important way developing nations can build up resilience without large economic hardships.

Finally, with regard to social shocks, there is no quick way to solve this issue. The international community needs to continue its mission of world peace in order to solve the issue. Building up resilience is difficult especially as most of the shocks that cause large consequences are large-scale civil wars or civil unrest that will halt the entire economy. Therefore, the only realistic solution is the continued presence of cooperation between upset parties and governments. Cooperation between the power of the

government and its citizens is the only way one can address this aspect of the issue. Other forms of resilience are both difficult and to some extent unrealistic.

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## Appendix or Appendices

1. <https://www.unisdr.org/we/inform/publications/8241> (Yokohama Strategy and Plan of Action for a Safer World)  
*This can help show the original goals and vision towards solving this problem thus understanding the history.*
1. [https://www.unisdr.org/files/46796\\_cop21weatherdisastersreport2015.pdf](https://www.unisdr.org/files/46796_cop21weatherdisastersreport2015.pdf)  
*Demonstrates how the occurrence of specific types of shocks, are increasing*
2. <https://www.unisdr.org/we/coordinate/sendai-framework>  
*Reading this document, while long, will allow one to see the solutions that are in play and see the current trend of the international community.*