

Forum:	Environmental Committee
Issue:	The impact of natural disasters on the environment and agricultural production
Student Officer:	Marianna Zambeli
Position:	Co-chair

PERSONAL INTRODUCTION

Dear delegates,

My name is Marianna Zambeli and I will be serving as your co-chair during this 3-day conference. This will be the 9th conference that I will be taking part in and the 1st time that I will be serving as a student officer.

I am 15 years old and I am a student at Costeas-Geitonas school. I am very pleased to be chairing in the environmental committee and I am hoping that I can be as helpful as possible. My job as a student officer is to help you with your research on the topic by writing this study guide and also assist you during debate time. It has to be noted that you should not eliminate your research just on the study guide but also find information that match your countries' policies and profiles. This study guide has the aim to cover all important aspects regarding the impact of natural disasters on the environment and agricultural production. I hope that this study guide will help you during your research.

I am looking forward into meeting you all in the conference

Kind regards,

Marianna Zambeli

INTRODUCING TOPIC

Natural disasters are a natural phenomenon that has been present as long as earth has existed. As years pass they have changed, becoming more frequent and more dangerous. Natural disasters is a phenomenon that due to its unexpected nature can strike any state at any time, thus it is deemed necessary for all member states to be as well prepared as possible.

Such phenomenon affects every aspect of our everyday life; from people dying to our environment getting destroyed in front of our eyes. Furthermore another sector that gets massively affected is the agricultural production. Many countries depend on agriculture and it is vital that there is a defining solution to the problem in the near future. Lastly we have to think about the fact that once an ecosystem gets affected, meaning that the environment is affected, it can affect the earth as a whole and it is

very important that countries' warning systems are up to par because we are unable of stopping a natural phenomenon from happening.

DEFINITION OF KEY TERMS

Natural disasters

The definition of natural disasters as it is defined by the United Nations is the following "a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the capacity of the affected society to cope using only its own resources"

Agricultural production

According to the European Commission the definition of agricultural production is "Agricultural production data refers to vegetable and animal production that is made available for human consumption and animal feed."

(<http://ec.europa.eu/eurostat/web/agriculture/agricultural-production>)

Tsunami

Is a series of huge waves that strike a coast. The waves are caused because of water displacement due to underwater disturbance (<http://www.n-d-a.org/tsunami.php>)

Earthquake

An earthquake is the earth's vibration and can cause near lines or plate boundaries. Earthquakes strike without warning and could cause massive destruction. (Natural Disaster Association)

Floods

It is characterised as the most common natural disaster in the world. 'They are a result of the vast geographical distribution of river floodplains and low-lying coastal areas.' (Natural Disaster Association)

(<http://www.n-d-a.org/flooding.php>)

Drought

'An unexpected period of rainfall which results in a shortage of water. Areas affected by drought lack of adequate drinking water, loss of vegetation loss of farmland etc.'

(<http://www.n-d-a.org/heat-drought.php>)

Tornadoes

A tornado is defined as a 'violently rotating column of air which is contact with the ground.' (<http://www.n-d-a.org/tornado.php>)

Ecosystem

‘An ecosystem consists of all the natural elements in a specific environment and the relationships between them.’

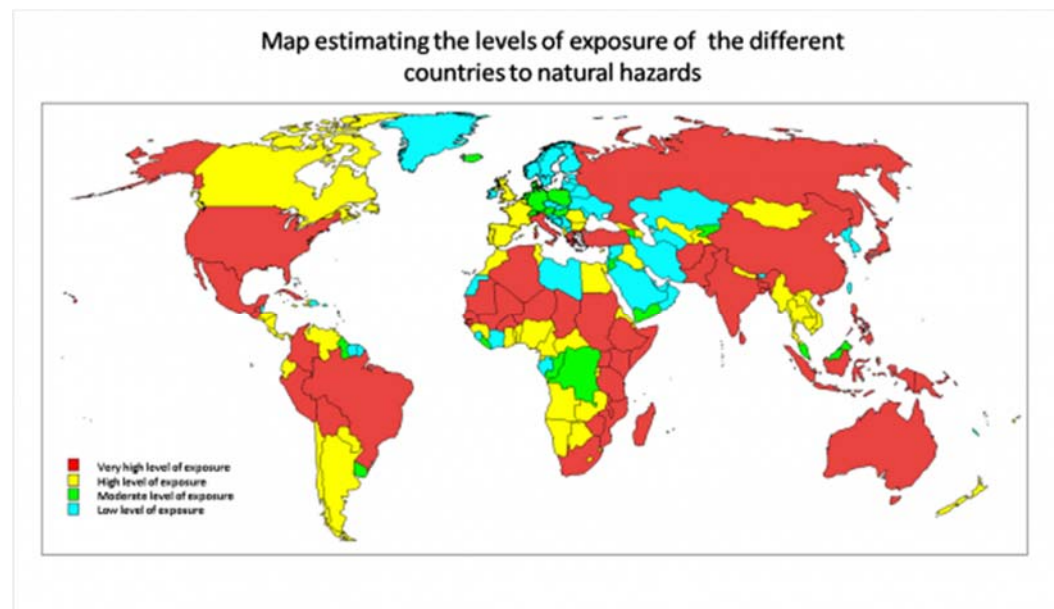
BACKGROUND INFORMATION

Natural Disasters

Natural disasters have been torturing humanity for thousands of years. The number of natural disasters has increased worldwide tremendously as the years pass; the reason behind such an increase is climate change. It has been estimated by the World Meteorological Organization that the world is more dangerous than it was 30 years ago. What has changed throughout the years is the way that humans interfere with the environment causing irreversible problems to it, such as the Greenhouse effect. However, the measures that societies take in order to be prepared and to eliminate the damage in case of a natural disaster have dramatically increased. Natural disasters can affect many aspects of our everyday lives. They can cause life loss, damage of buildings, environmental impact and effects on the agricultural production etc. This study guide will be focusing on the environmental impact and the effect they have on the agricultural production.

There are many types of natural disasters that are divided in different categories depending on their origin. There the geophysical (e.g. earthquake), meteorological (e.g. storms), hydrological (e.g. floods), climatological (e.g. extreme temperature) and last but not least extra-terrestrial (e.g. meteorites). All these different types of natural disasters can really affect the environment and agricultural production.

Environmental impact



There are many ways that natural disasters can really affect the environment.

Firstly ecosystems get affected by such disasters. Natural disasters can affect the biodiversity and the fauna and flora of an ecosystem. Ecosystems consist of relations between the natural elements located on it. All those elements depend on one

another and if a natural disaster greatly impacts a species in the ecosystem then the food chain ‘breaks’ and puts all other species in danger. That could lead to an ecosystem getting destroyed and completely changing or for animal mortality to increase rapidly and for species to become endangered.

The main reason that natural disasters are increasing is climate change. Climate change is a man-made disaster and it is due to the environment’s pollution and the changes that occur along with it. That means that as long as the environment is getting destroyed by natural disasters and changes then natural disasters will increase. As humans, we have to think of our responsibility and at least find a solution that will eliminate our actions that might cause the increase of natural disasters.

Agricultural production

As it was previously mentioned, agricultural production is vegetable and animal production available to humans. Agricultural production also consists of the larger financial source for developing countries so it is an understatement that if fields used for agriculture are destroyed, the economy suffers as well.

It is known to everyone that parts of land are used for agriculture (fields) are obviously parts of ecosystems. If a natural disaster occurs then agriculture gets majorly affected. The countries that are mostly affected by such phenomenon are LEDC’s as agriculture is their largest financial source and if this production suffers then their economy will suffer too. For example most African countries have trade relationships with European ones and if their agricultural production suffers then their trading relationships will break and they’ll not have the same income they used to have.

Furthermore natural disasters could not only destroy but pollute the land that is being used for agriculture which has as an effect the further pollution of the productions that are being harvested there and the spread of diseases to people and animals that could cause a disaster of bigger scale.

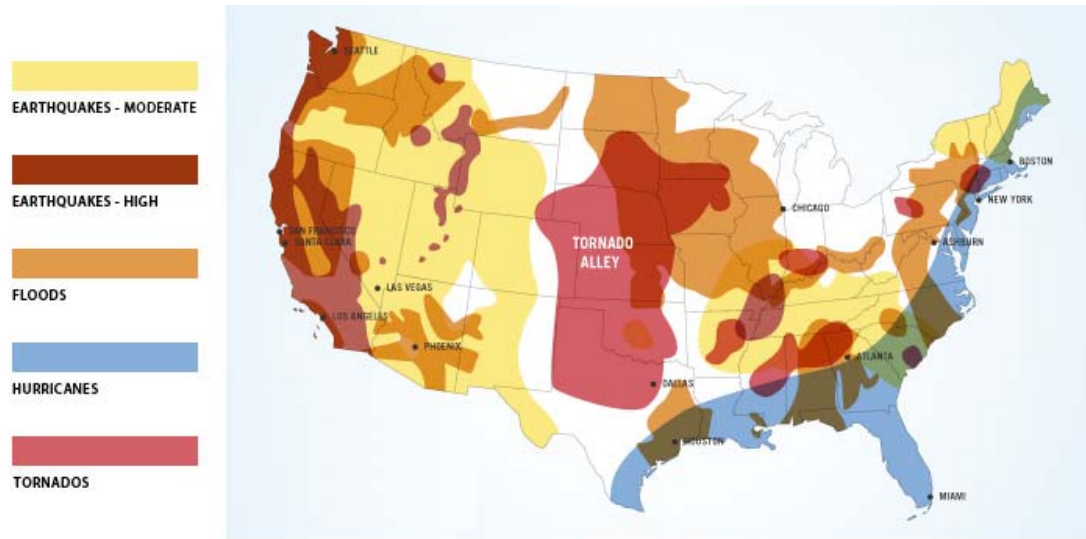


Last but not least in order for someone to harvest, they need the basic agricultural infrastructure which with natural disasters could get destroyed which is another wound for people that are occupied with agriculture.

MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

United States of America

United States of America has been a country that has suffered from natural disasters and still does. The frequency of natural disasters in the US has increased and the US government is trying to find solutions in order to eliminate carbon dioxide emissions. The most common natural disasters that usually strike in the US are tornadoes. USA being an MEDC is handling the problem well and can take care of any type of damage.



Philippines

The Philippines have also suffered from natural disasters through the years. Last year the Philippines suffered a huge earthquake that cost the country a lot. Almost a year later the government is in control of the situation and all damage has been repaired. Plenty of organizations helped the Philippines, such as The American Red Cross, CARE, and Shelter Box and others.



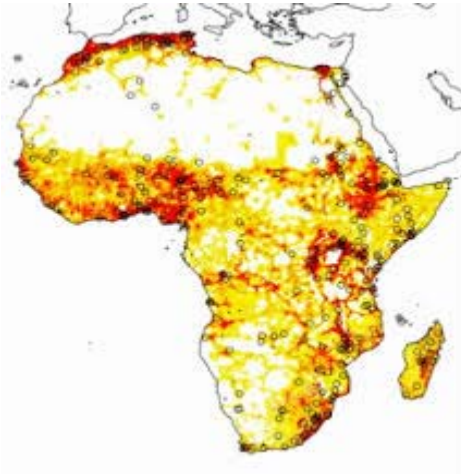
Japan

Japan is another country in the list of those who are massively affected by natural disasters both environmentally and humanitarily wise. The most known natural hazard that hit Japan was the earthquake followed by a tsunami and the nuclear factory that was destroyed and caused a huge environmental hazard. Japan is a

classic example of a natural disaster causing a bigger one which in this case is the nuclear accident. When nuclear power is not under control radioactivity is being released which causes a terrible environmental effect and pollute everything near it.

African Countries

The reason why all African countries fall under the same category is because they have a high possibility of a natural disaster, mostly the countries that are at the northern and eastern part of the continent. Most of the countries are LEDC (Less Economically Developed Countries) and are not in the position to repair the damage that has been made. Furthermore, their biggest financial source is agriculture and with natural disasters their production could get destroyed so their economies get even more weaker and unstable something that causes an ongoing circle of those countries not getting enough help to repair the damage and ending up being dependent on other countries.



Greenpeace

Greenpeace consists of an organization that has been present in every single one of the massive natural disasters. Their help has been massive and if it weren't for them then the environment would have to face bigger problems than it already has. They have helped through their actions and their campaigns in order to inform everyone and they are trying to make a cooperative job between them and the public.

Food and Agriculture Organization of the United Nations (FAO)

The Food and Agriculture Organization is responsible for providing people all around the globe with food and water but also protect the agricultural production of various countries as well as helping them with harvesting etc. They have helped countries in times of need and they should be considered a very important organization.



**Food and Agriculture
Organization of the
United Nations**

United Nations Environment Programme (UNEP)

UNEP's aim is to prevent and reduce the impact of natural disasters on the environment mostly on unstable communities that are not economically developed through ecosystem management.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

Concerning natural disasters there has never been a terminal solution regarding the problem. That is because natural disasters are a matter of how the earth works in a way so it is something that we can't control but only take measures in order to eliminate the damage done as much as possible. There have been various attempts in solving the issue both from the United Nations but also from other organizations as well that have worked along the UN, for example UNISDR. Disaster Risk Reduction is an issue that concerns all countries both MEDC's (More Economically Developed Countries) and LEDC's (Less Economically Developed Countries) because as it was previously mentioned in this study guide, natural disasters are a natural phenomenon that can cause damage to different aspects of a society, environmental, humanitarian etc. The UN encourages all member states to ensure that they are ready in case of a natural disaster in order to eliminate the damage as much as possible.

Hyogo Framework for Action (2005-2015)

According to the United Nations Office for Disaster Reduction Risk HFA 'is the first plan to explain, describe and detail the work that is required from all different sectors and actors to reduce disaster losses. It was developed and agreed on with the many partners needed to reduce disaster risk - governments, international agencies, disaster experts and many others - bringing them into a common system of coordination.'¹

The Hyogo Framework for Action focuses on some principal elements and one of them is to ensure that the risk reduction measures are up to par and the governments are prepared at all levels.



Sendai Framework for Disaster Risk Reduction (2015-2030)

In addition to the HFA the United Nations adopted another plan that was discussed during the Third UN World Conference on Disaster Risk Reduction (WCDRR). It is

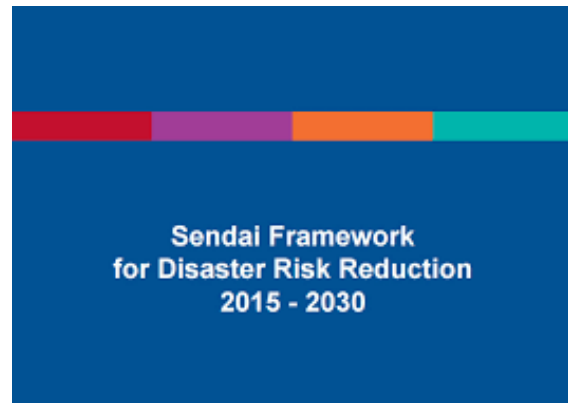
¹ <https://www.unisdr.org/we/coordinate/hfa>

defined by the United Nation Office for Disaster Reduction risk as the ‘The Sendai Framework is a 15-year, voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.’

Its aim is the following:

‘The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.’
(UNISDR,
<http://www.unisdr.org/we/coordinate/sendai-framework>)

Individually countries have taken a lot of measures through the years in order to combat the problem. I will be mentioning some of the countries that have really taken care of their Disaster Risk Reduction policies and could be used as an example.



United States of America

USA has really invested in programmes as it is a country that is really affected by natural disasters and they have developed measures that aim to reduce disasters in collaboration with USAID. The US government has really devoted in the following measures:

1. Strengthening early warning systems and preparedness
2. Developing their disaster response systems and ensuring early recovery
3. Supporting financially unstable households

European Union (EU)

The European Union has set pretty much the same measures as USA but is really focusing into helping developing countries that are greatly affected by natural disasters. Also they are underlining certain funds amongst the countries part of the Union in order to cooperate in a time of need like a natural disaster.

Japan

Japan being a very dangerous country when it comes to natural disasters has really prioritized into adopted a very developed disaster risk reduction programme. The Japanese government has focused into decreasing the casualties concerning all types of natural disasters but mainly focusing in the most common ones in the area, earthquakes, tsunamis and floods. They have developed a system that bases on early

warning systems and shelters as well as distributing maps that are going to be analysing what are the most dangerous parts of the country.

POSSIBLE SOLUTIONS

Both of the previously mentioned plans and all of the others that have been established and signed their main focus was cooperation and preparation amongst countries this is the only way to find a defining solution concerning a topic like natural disasters. Natural disasters consist of a natural phenomenon as a result they can't be stopped what so ever but they can be prevented by experts so the public is informed on the matter and also preparation measures in order to eliminate any type of loss either it is environmental and agricultural or humanitarian etc.

Firstly it should be outlined that there is controversy on the topic because there are countries that have the financial ability to afford early warning measures in contrast with LEDC that do not have the same ability alongside this statement one of our main priorities should be to promote cooperation between nations in order for all nations to be prepared in case a natural disasters occurs.

Secondly in this case architecture plays a major role and could really save the environment but mostly agricultural as this measure concerns mostly agricultural production. There it should be underlined in building stronger buildings and also types of enclosure that could eliminate the damage and that are going to be built especially to survive national disasters.

Thirdly alongside UN plans and conventions there should be campaigns which will be aiming into raising public awareness on the measures because the public is the people that should be informed on them in order to put them into action in cooperation with their countries' government.

Last but not least all member states should decide on a legal framework concerning every natural disaster individually in order to find terminal measure that are going to be serving all countries different situations. Also they should realise an agreement on some concerning the management of the environmental impact of natural disasters in LEDC's and bearing in mind that those countries do not have the ability to repair the damage that was done.



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