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Topic 3: the question of achieving a more efficient international response to natural disasters

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I. DEFINITION OF KEY TERMS

Hurricane: An Atlantic hurricane is a tropical cyclone formed in the Atlantic Ocean in which winds reach the velocity of 250 km/h.

Flood: Overflow of courses of water that leads a non-water zone to become one.

Bushfire: An uncontrolled fire that develops in an area rich in combustible vegetation.

Drought: Lack of rains and generally of moisture for a long period of time, which renders the Earth arid and burnt

Volcanic eruption: The explosive outpouring onto the Earth's surface of magma and other gaseous materials from the mantle of a volcano.

II. INTRODUCTION

A natural disaster is a catastrophic natural event caused by processes of the Earth; some examples are landslides, avalanches, droughts, wildfires, floods, tsunamis, volcanic eruptions, tornadoes, earthquakes, cyclones, bushfires, solar flares and hurricanes.

A natural disaster can cause loss of human life, properties and huge damage, whose gravity is calculated depending on the density of the population and their capacity to recover after the event.

A natural disaster can be considered as such, only if it takes place in densely populated areas; for example an earthquake in a desert area does not cause human damage, and is therefore not ranked on the list of natural disasters.

According to a study made by the Karlsruhe Institute of Technology, natural disasters have killed more than 8 million people and their general cost is equal to 7 thousand million dollars from 1900 to today.

The majority of this amount is attributable to the damage caused by floods (38%) and by storms and hurricanes (20%), whereas earthquakes are responsible for 26% of the total.

III. BACKGROUND INFORMATION

Between 1995 and 2015, according to the UN's disaster monitoring system, the most affected countries are the United States of America, China and India; Overall costs were \$170 billion and registered losses \$70 billion.

Deforestation makes the territory more vulnerable since forests consolidate the ground, they absorb excess rainfall and ensure the availability of food to the stricken population.

For this reason, it is essential to achieve zero deforestation by the year 2020. Once this green 'safety belt' is lost, populations become more vulnerable. Asia is the continent most affected by floods, tsunamis and droughts, but the latter (9,6 million from 1900 to today) causes the majority of the victims. Here deforestation has wiped out at least 35% of mangrove forests.

In 2007, in Bangladesh, these forests were crucial in reducing the deadly effects of cyclones.

From 1970 to today Thailand, dramatically involved in the 2006 tsunami, has lost 1/3 of its forests and therefore their protection.

Also Nepal lost almost a quarter of its forests (24,5%) between 1990 and 2010 and this has contributed to making the country extremely vulnerable to environmental disasters.

Here some 70% of the population depends on the forests.

Haiti is a victim of the degradation of the ecosystem and mismanagement of territory, mainly because of deforestation, as almost the totality of the original forest surface has been destroyed, therefore only 2% remains.

The island has had to face a series of natural catastrophes such as floods and landslides, in addition to the erosion of the ground not protected by forest coverage.

In 2011, the earthquake killed between 200.000 and 300.00 people and cost \$13.34 billion in aid.

By the end of the 1990s China had lost 80% of its native forests and this led to drought, desertification and floods such as the Yangtze flood which in 1998 created 4.100 victims and almost 14 million evacuees. The government imposed a moratorium on deforestation with programs of reforestation.

Japan, on the other hand, represents a virtuous model: 1300 km of Japanese coast is protected thanks to trees.

In the disastrous tsunami and earthquake of 2011, some of these forests absorbed a part of the energy of the tsunami, thus mitigating its damage.

After this experience Japan has improved, strengthened and extended the band of coastal forests as a means of disaster prevention.

In Japan 32% of the territory is covered with forest.

In Bangladesh almost 95% of forests have disappeared and the country has become the victim of floods, cyclones, storms, coastal erosion, landslides and loss of fertility of the soil.

In Indonesia, deforestation is synonymous with 'corruption': almost 80% of the deforestation in this country is due to illegal logging.

With a loss of 6 million natural hectares of forest in the period from 2000 to 2012, Indonesia has overtaken Brazil in deforestation.

From 1900 to today the rate of deforestation in this country has increased to 39% which led to the loss of more than 30% of native forest between 1990 and 2010.

Other countries where disasters are created by deforestation are Malaysia (2014 floods), the Philippines (cyclones, floods and avalanches, the country has lost 94% of its forest protection), Malawi (floods with thousands of victims), Madagascar (in a few decades forest coverage has been reduced to less than 80%) and Sudan.

In Central America hurricane Mitch claimed 18.000 victims. The deforestation of Central America (Nicaragua lost 21,7% of its forests between 1990 and 2010) and consequent inability to drain excessive rainfall has contributed to the high number of avalanches, mudslides and floods.

In 2016 411 million people were victims of disasters provoked by natural catastrophes.

Globally, 301 natural disasters struck 102 countries provoking damage to the cost of 97 million dollars.

These are data from CRED, (Centre for the Epidemiology of Disaster) reporting the devastating impact of disasters which have marked 2016.

India is the country in which the greatest number of people has been affected by natural catastrophes: around 311 million people have seen their crops destroyed by the alternation of drought, heatwaves and floods.

China is the country where natural catastrophes have provoked 1.151 deaths, followed by India (884 corpses) and Ecuador (676 victims of earthquake).

IV. MAJOR COUNTRIES INVOLVED

Disaster zones

Total number of natural disasters* reported per country, 1995-2015



Source: UNISDR

*Hydrological, climatological and meteorological

Economist.com

United States of America:

Due to its position, the USA suffers many of the hurricanes coming from the Atlantic. its west coast lies on the so-called "Ring of Fire," along which most of the world's earthquakes occur.

Despite being exposed to an enormous variety of natural hazards, the United States are well prepared for every kind of natural disaster, since it is a wealthy nation that has invested in measures to control their impact and to bounce back in a short period of time

It is an economically strong country with a strong governance and established infrastructure in order to be effectively prepared for disasters.

China:

In 2016, 1.074 people died and 270 were reported missing due to natural disasters, according to the Xinhua press agency which reports for the Ministry of Civil Affairs.

Economic losses have reached 298 billion yuan (44, 63 billion dollars); 400,000 houses were destroyed and 6, 24 million residents have been transferred.

Vast zones of central, eastern and northern China have been damaged by floods, but the real issue is that this country lies in the path of typhoons; recently, the typhoon Nepartak left 83 dead and 19 dispersed.

Nepartak struck particularly hard in the area of Minqing, where there were 73 victims and 17 people missing. The eastern province of Jiangsu was hit by the worst tornado recorded since 1966, which caused 90 victims and over 800 injured.

Indonesia:

Indonesia lies on the two most seismically active areas, the Circum-Pacific Belt and the Alpide Belt. These islands suffer some of the most destructive volcanic eruptions, earthquakes, and tsunamis. In 2017 Indonesia was hit by 787 floods, 716 tornadoes, 614 landslides, 20 earthquakes and 2 volcanic eruptions.

377 people were killed and 1,005 injured.

47,442 houses were damaged and 2,083 public buildings were destroyed.

Philippines:

The Philippines are also located in the path of typhoons and are exposed to seismic activity.

They are situated near the Equator and lean out towards the western Pacific, so that nothing can attenuate the strength of the storms before impact. About twenty typhoons per year originate from those warm equatorial waters.

Other issues increasing the exposure to serious damage in the Philippines are the construction of houses along the coasts, deforestation and underdevelopment, which hinders recovery from such damage.

India:

India's geographical position makes it an ideal spot for the creation of tropical cyclones, with serious flooding the most common form of natural disaster.

In 2015, India sustained damage worth \$3.30 billion caused by 19 natural disasters including floods, droughts and heatwaves.

A lack of monsoon rains caused crop failures and the loss of \$370 billion in the agricultural sector, in which half of the population is employed.

The difference between these countries and the US is their economic situation and level of development, which compromise their ability to recover from a critical situation.

V. UN INVOLVEMENT

The UN indicated the 1990s as the International Decade for Natural Disaster Reduction (IDNDR), in order to elaborate a global strategy for coping with disasters.

In 2005, the Japan Government and the UN Office for Disaster Risk Reduction held the World Conference on Disaster Reduction in Japan.

The final result was the Hyogo Framework for Action (HFA), with the aim of reducing the risk of natural hazards and increasing cooperation between regions and countries.

The HFA has 5 priorities:

1. Ensuring that disaster risk reduction is a national and local priority and has a strong institutional basis for implementation
2. Identifying, assessing and monitoring disaster risks and enhancing early warning
3. Using knowledge, innovation and education to build a culture of safety and resilience at all levels
4. Reducing underlying risk factors
5. Strengthening disaster preparedness for an effective response.

Established in 2015, and in force until 2030, the Sendai Framework seeks to introduce guidance for regional and international organizations and ensure a quicker and more efficient response to a natural disaster.

The United Nations Development Program (UNDP) is a UN organization that works to reduce inequalities through the sustainable development of nations.

It has worked with more than 50 organizations in order to help countries with high hazard risks boost their security.

UNDP works on Disaster Risk Reduction (DRR) and recovery in more than 100 countries, promoting the importance of investing money in DRR.

VI. USEFUL LINKS

http://www.bbc.co.uk/science/earth/natural_disasters

<http://www.basicplanet.com/natural-disasters/>

<https://list25.com/25-worst-natural-disasters-recorded/>

<https://www.brookings.edu/on-the-record/natural-disasters-conflict-and-human-rights-tracing-the-connections/>

<http://www.emdat.be/>

<https://www.preventionweb.net/risk>

<http://www.worldbank.org/en/topic/disasterriskmanagement>

http://www.unisdr.org/files/2909_Disasterpreparednessforeffectiveresponse.pdf



<https://web.archive.org/web/20150111032112/http://www.undp.org:80/content/undp/en/home.html/>

<http://www.un-spider.org/risks-and-disasters/the-un-and-disaster-management>

<https://www.oecd.org/derec/undp/47871337.pdf>