

Committee: Environment Sub-Commission 2

Issue: Addressing the effects of the El Niño phenomenon

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INTRODUCTION

There is a weather cycle that is named El Niño Southern Oscillation (ENSO), and describes the changes in temperature of ocean water in the east-central Equatorial Pacific. The cold phase of the cycle is called La Niña, while on the other hand, the warm phase is called El Niño. Focusing on the warm phase of this whole weather cycle, scientists have concluded that it is linked to the periodic warming of sea water across the east-central Equatorial Pacific. In non-scientific terms, we say that we have an El Niño phenomenon when the water temperatures in the east Pacific Ocean are warmer than normal. The rising of temperature in these waters is responsible, e.g. for floods and heavy rains in the Southern United States and warmer, drier conditions in the Northwest United States and Canada. This phenomenon influences extreme weather conditions, and can have an impact on food production, water supply and human health, and therefore can even effect the economies of some countries. These extreme weather conditions can happen in various countries located in the equator and affect states all over Africa, Asia and the Caribbean. El Niño events happen every two to seven years and can last from 9 months to even years, with the one happening in 2015-2016 being a strong one with severe after effects.

DEFINITION OF KEY TERMS

El Niño–Southern Oscillation (ENSO)

ENSO is an abnormal variation in water temperatures and winds over the eastern Pacific Ocean that affects many weather condition in many areas near the equatorial Pacific Ocean. It has two phases. The warm phase is called El Niño¹ and the cold phase is called La Niña.

¹ El Niño is a warming of the central to eastern tropical Pacific that occurs, on average, every two to seven years. During an El Niño event, sea surface temperatures across the Pacific can warm by 1–3°C or more for anything between a few months to a year or two. El Niño impacts weather systems around the globe so that some places receive more rain while others receive none, with more extremes becoming the norm.

El Niño

El Niño² is the scientific term used to describe the warm current that appears every few years in the areas of Ecuador and Peru.

Less Economically Developed Countries (LEDCs)

Countries that are characterised as LEDCs are usually relatively poor countries, with low birth rates, high death rates and low life expectancy in comparison with More Economically Developed Countries (MEDCs).

BACKGROUND INFORMATION

Effects of the El Niño phenomenon

El Niño is linked with severe weather conditions, such as droughts and flooding, causing water and food shortages and many more. 60 million people around the world are currently being affected by the phenomenon, with 7 million of them being in Latin America and the Caribbean. The phenomenon has triggered a drastic reduction in rainfall and therefore has destroyed small-scale farmers and their harvestings. It has also left 10 million Ethiopians with a lack of income and no animals or crops, putting them in need of humanitarian aid. In Guatemala, El Salvador and Honduras there are similar conditions with droughts that have led to a food shortage for millions of people. On the other hand, though, the event will increase the number and range of Pacific cyclones who will bring necessary rains to the regions that are going through drought conditions. All these effects have created a funding gap that reaches the price of 2.4 billion dollars.

The 1997-1998 El Niño phenomenon

The El Niño that happened during the end of the 20th century was probably the biggest and most intense one to ever happen. It resulted in severe floods, droughts and many other natural disasters across the world. This phenomenon changed the world's temperature by 1.5 °C, which is considered big in comparison with the 0.25°C that is the usual increase of temperature due to El Niño events. Particularly it led to significantly unusual rainfalls in California and in to one of Indonesia's most widespread droughts. The phenomenon made the year 1998 the hottest year in recorded history, up until that time.

The 2015-2016 El Niño phenomenon

² According to Jeff Fennell El Niño is: "A weather pattern that is caused by the warming of the Pacific Ocean near the equator, off the coast of South America."

The El Niño that is happening this time of the decade is said to be one of the biggest ones to ever happen, following the one in 1997-98. It is having major impact on climate, and has raised sea temperatures and levels like it has not done before. It has affected most of the globe's extreme weather conditions and most of LEDCs economies, even in areas that are not located near the shores of the Pacific Ocean. The effects of the phenomenon have affected many regions such as Caribbean, Africa, Asia, and South America. There have been particular countries located in these regions that have been impacted by the effects in a bigger extent than others such as Ethiopia, Philippines, Guatemala and Honduras.

MAJOR COUNTRIES AND ORGANIZATIONS INVOLVED

United Nations Office for the Coordination of Human Affairs (OCHA)

The OCHA is a UN body that was designed in response to complex emergencies and natural disasters. It has created emergency response plans referring to El Nino for Honduras, Guatemala, Ethiopia, Kenya, Somalia, Sudan, Malawi, Tanzania, Mozambique, Zimbabwe, Vietnam, Timor-Leste, Mongolia, and the Philippines.

United Nations Development Program (UNDP)

The UNDP is the United Nations global development network. The UNDP connects countries to knowledge and resources in order to help people improve their lives. It grants support to LEDCS by providing expert advice. UNDP has been active by organizing Task Groups and providing expert advice for the El Nino effects in the Asia Pacific, Latin America Caribbean and Africa.

Ethiopia

The El Niño global weather phenomenon has brought many droughts and has stopped the summer rains of Ethiopia. These droughts have driven to food shortages, malnutrition and water insecurity. In addition, it has led to many floods around the country which has put 150,000 Ethiopian households in need of shelter and non-food items, while creating conflicts over access to the limited resources. The phenomenon is also increasing the risk of potential spread of the Acute Watery Diarrhea, due to the filling of ponds and other surface water sources. The Ethiopian Government is the leader of the El Niño response and, with the cooperation with humanitarian organizations, they have released a Prioritization Statement to define funding gaps and relief needs of the country.

The Philippines

The government of the Philippines is estimating that around 3.5 million people in their region have been affected by the severe effects of the El Niño phenomenon and the number is expected to change in the next months. Since the beginning of 2016 around 200,000 farmers have been burdened. 46 cities and villages have declared a state of calamity. In respond to these situations the Government’s El Nino Task forces allocated 380 million dollars in order for response strategies addressing food, energy and health security to be implemented.

Guatemala

There are 1.5 million drought affected people living in the Dry Corridor of Guatemala, with most of them working as day laborers or farmers. Although it has already impacted so many people, the drought is not only not expected to stop, but is considered to be extending and growing in intensity. This is probably going to lead to water shortages and destroyed crops. All these effects of the El Nino have led to a funding gap that is estimated to be around 55 million dollars, with only 13 million of it already funded.

TIMELINE OF EVENTS

Date	Description of event
12/1991	The OCHA is formed by GA resolution 46/182, in order to strengthen the responses to natural disasters.
1965	The UNDP is established by the General Assembly.
09/2015-02/2016	The dates that weather becomes most noticeably different in America due to the El Nino phenomenon.
07/2016	The Climate Prediction Center predicts a La Nina with dangerous effects is probable to develop during August-October 2016.
06/2016	Severe droughts all over East Africa, lead to food insecurity and malnutrition all over East Africa.

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

The GA of the UN has created numerous resolutions against the issue in the previous years and they were mainly aiming towards the confrontation of the effects of previous El Nino phenomena. There is though one resolution that was created in 2015 that refers to the El Nino the world is currently going through.

Year	Title	Notation
2015	International cooperation to reduce the impact of El Niño phenomenon	A/RES/69/218
2011	International cooperation to reduce the impact of El Niño phenomenon	A/RES/65/158
2008	International cooperation to reduce the impact of El Niño phenomenon	A/RES/63/215
2006	International cooperation to reduce the impact of El Niño phenomenon	A/RES/61/199
2004	International cooperation to reduce the impact of El Niño phenomenon	A/RES/59/232
2003	International cooperation to reduce the impact of El Niño phenomenon	A/RES/57/255
2002	International cooperation to reduce the impact of El Niño phenomenon	A/57/189
2002	International cooperation to reduce the impact of El Niño phenomenon	A/RES/56/194
2001	Resolutions and Decisions of the Economic and Social Council [2000/33: International cooperation to reduce the impact of the El Niño phenomenon, pp. 62]	E/2000/99(SUPP)
2001	International cooperation to reduce the impact of El Niño phenomenon	A/56/76-E/2001/54
2001	International cooperation to reduce the impact of El Niño phenomenon	A/RES/55/197

Year	Title	Notation
	Niño phenomenon	
2000	Resolutions and decisions adopted by the Economic And Social Council at its substantive session of 2000, 5-28 July 2000 [2000/33: International cooperation to reduce the impact of the El Niño phenomenon, pp. 73]	E/2000/INF/2/ADD.2
2000	International cooperation to reduce the impact of El Niño phenomenon	A/55/99-E/2000/86
2000	International cooperation to reduce the impact of El Niño phenomenon	A/RES/54/220
1999	International cooperation to reduce the impact of El Niño phenomenon	A/54/135- E/1999/88
1998	International cooperation to reduce the impact of El Niño phenomenon	A/53/487
1998	International cooperation to reduce the impact of El Niño phenomenon	A/RES/52/200
1998	International cooperation to reduce the impact of El Niño phenomenon	A/RES/53/185

(The list of previous resolutions of the GA was taken by: <https://www.unisdr.org/we/inform/resolutions-reports#gaelnino>)

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

UNDP in action

In order to support the coordination mechanisms for El Nino Recovery and improve information management and the creation of smart solutions to the impact of El Nino in whole Africa, the UNDP is cooperating with the Regional Economic Commissions. Apart from

that, the UNDP organized a Task Group in order to bring together humanitarian organizations, donors and states with the aim of improving the coordinate action against the effects of the phenomenon.

In the region of Asia Pacific, the UNDP has organized an innovative support hub to support regional mechanisms, strengthen the analysis of information referring to the effects of El Nino, and help improve the regional forecasting and warning systems. The hub also helped in the spread of news through social media and keeps monitoring the crisis.

The UNDP is also taking action in the regions of Latin America and the Caribbean by creating a recovery needs profile for the region, related to El Nino, with the cooperation of country office teams. Its action does not stop there. The UNDP also will work in order to increase the coordination and create a cluster action plan; the coordination practices will be analyzed with the help of a regional forum.

Summarizing the action of the program, it has invested 1.7 billion dollars in recovery across 163 countries.

OCHA in action

The United Nations Office for the Coordination of Humanitarian Affairs has been monitoring the phenomenon as a whole, informing people about the situation in countries that are directly affected gathering data on how the issue can be solved. Its main action against the issue is the creation of response plans, for each separate country that need help with the issue. The countries that OCHA has created response plans for are the following:

- Ethiopia
- Kenya
- Somalia
- Sudan
- Malawi
- Swaziland
- Mozambique
- Zimbabwe
- Honduras
- Guatemala

Except those response plans, the OCHA has funded many countries affected by El Nino through the Central Emergency Response Fund like Fiji, Madagascar, Angola, Lesotho, El Salvador, Haiti, Djibouti.

POSSIBLE SOLUTIONS

It is obvious that, due to the fact that El Nino is a non-human triggered weather phenomenon, it can not be stopped or weakened. That is the reason why the UN, its offices and other organizations such as Oxfam America etc. are focusing their actions on informing people and preparing member states to face the effects of El Nino. What could be done to ease the problem would be the creation of food and clean water storages in countries like Ethiopia that have limited rainfalls due to the effects of El Nino and therefore cannot harvest their crops. Organizations that cooperate with the governments, can also build habitation compartments for people that have their houses destroyed by the floods of El Nino. Another effective solution that is already being implemented is the funding by the UN to LEDCS that get impacted by the issue, in order for them to cope with it and respond to it properly. In that way, MEDCS could help smaller poorer countries in reducing the destructions of the effects by co-funding their needs. Last but not least, the UN could create a group of skilled and experienced scientists that would improve the weather forecasts and inform the El Nino affected countries as soon as they find out about new cyclones or even new El Nino's in the upcoming decades.

BIBLIOGRAPHY

- http://earthguide.ucsd.edu/virtualmuseum/climatechange1/11_1.shtml
- <https://wunderground.atavist.com/el-nino-forecast>
- <http://oceanservice.noaa.gov/facts/ninonina.html>
- <http://study.com/academy/lesson/what-is-el-ni-o-definition-effects-quiz.html>
- <https://globalawareness1212.wordpress.com/what-is-ledc/>
- <https://www.oxfamamerica.org/explore/stories/el-ni%C3%B1o-is-putting-millions-at-risk-across-latin-america-and-around-the-globe/>
- <https://www.oxfamamerica.org/explore/stories/with-drought-killing-their-livestock-many-ethiopians-have-no-other-source-of-food-or-income/>
- <http://ggweather.com/enso/oni.htm>
- <http://www.fao.org/el-nino/en/>
- <http://www.unocha.org/el-nino-asia>
- <http://www.unocha.org/el-nino>
- <https://docs.unocha.org/sites/dms/Documents/UNDP%20and%20EI%20NINO%202016.pdf>

- <http://floodlist.com/protection/which-countries-are-worst-affected-by-el-nino>
- http://solutionsforyourlife.ufl.edu/hot_topics/agriculture/el_nino.shtml
- <http://www.unocha.org/el-nino-east-africa>
- <http://www.unocha.org/el-nino-southern-africa>
- <http://www.unocha.org/el-nino-west-central-africa>
- <http://www.unocha.org/el-nino-pacific>
- <http://www.unocha.org/el-nino-latin-america-caribbean>
- <https://www.unisdr.org/we/inform/resolutions-reports#gaelnino>
- <http://www.livescience.com/3650-el-nino.html>
- <http://nationalgeographic.org/encyclopedia/el-nino/>
- <http://www.environmentalscience.org/el-nino-la-nina-impact-environment>
- <https://www.climate.gov/news-features/blogs/enso/united-states-el-ni%C3%B1o-impacts-0>
- <http://www.stormfax.com/elnino.htm>
- <http://www.jpl.nasa.gov/news/releases/97/elninoup.html>
- <http://ds.data.jma.go.jp/tcc/tcc/products/elNino/ensoevents.html>