

CGS MUN

Committee: Environment Commission

Issue: The impact of climate change, desertification and land degradation on global health

Student Officer: Dimaraki Emmeleia

Position: Deputy President

INTRODUCTION

Climate change does not respect border, it does not respect who you are- rich or poor, small and big. Therefore, this is what we call global challenges which require global solidarity.”-Ban Ki-Moon

It is worldwide known that our planet has changed a lot in the past 20 years, for example, global temperature has risen six-tenths of a degree, sea levels have risen 3 inches and extreme weather conditions, especially in the US, have increased by 30%. Furthermore, in Greenland and in Antarctica have been lost 4.9 trillion tons of ice. Therefore, climate change has become a topic of major concern of governments, non-profit organisations and individual civilians all around the world, in order to reach relevant agreements. These actions were obligatory, since the climate change may have many negative effects on global health. Furthermore, concern about degradation, particularly the processes of soil erosion, has fuelled



CGS MUN

many campaigns to combat it. These problems call for immediate concerned attention and action since they can cause big problems on the growing of the land.

Our increasing understanding of climate change is changing how we view the barriers and determinants of human health. While our personal health may seem to relate mostly to judicious behaviour, genetics, occupation, local environmental exposures, and health-care access, sustained population health requires the life-supporting "services" of the biosphere. Populations of all animal species depend on supplies of food and water, freedom from excess infectious disease, and the physical safety and comfort conferred by climatic stability. The world's climate system is fundamental to this life-support.

Today, humankind's activities are remodelling the world's climate. We are doubling the atmospheric concentration of energy-trapping gases, thereby increasing the natural "greenhouse effect" that makes the Earth habitable. These greenhouse gases (GHGs) include, particularly, carbon dioxide, plus other heat-trapping gases such as methane, nitrous oxide and various human-made halocarbons.

As the international community has become aware of them, it attempted to find out ways in order to combat and overcome them. At this point, it is crucial for humanity and especially adolescents to realise the importance of respecting the environment, as what comes around goes around.

DEFINITION OF KEY TERMS

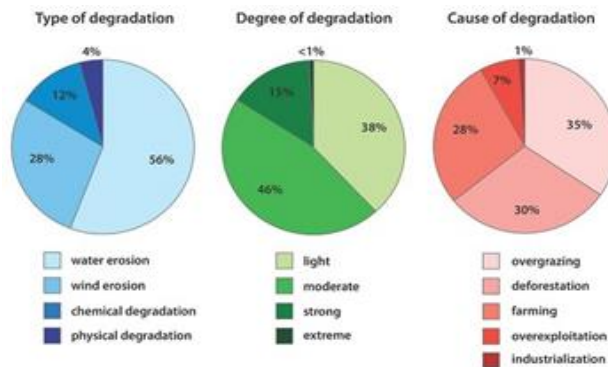
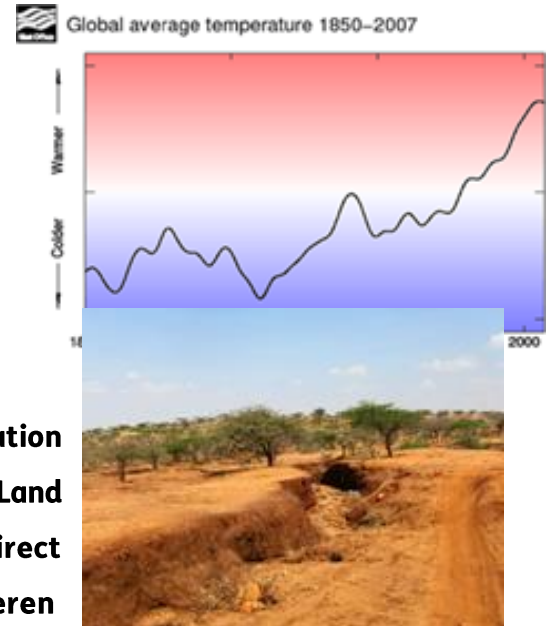
Climate Change

Climate change refers to a change in the state of the climate that is characterized by alterations in the mean or the variability of its properties, such as temperature, precipitation or wind patterns, and persists for an extended period of time, typically decades or longer. Climate change may be caused by natural internal processes or by persistent anthropogenic changes in

the composition of the atmosphere or in land use. Occasionally, particularly in the context of environmental policy, the term “climate change” is used to describe merely the phenomenon of anthropogenic global warming.

Land Degradation

Degradation is called the change in the characteristic and quality of soil which affects its fertility. Land degradation is affected by a combination of human-induced processes acting on the land. Land degradation is the main consequence of direct interference



of human activities in the natural phenomenon. Main factors of this phenomenon are deforestation, industrialization and farming.

Desertification

Desertification is a type of land degradation when a dry area of land becomes increasingly arid and it loses all of its water and the wildlife. Desertification can be caused by many factors. Although the most common are climate change and especially global warming and the overexploitation of soil as a human activity.

Deflation

Deflation is the loss of stabilizing vegetation and of top soil.

BACKGROUND INFORMATION

Climate Change

The beginning of the industrial revolution has increased the level of discharge enormously. Looking at emissions around the world, the pattern has changed considerably in the past two decades. Up to then, most emissions originated from the United States (USA) and Europe. More recently, however, it is the less developed countries that have become the primary source of increased emissions. This has occurred due to the industrialization and modernization of these countries, particularly China and India.

Most scientists also believe that climate change will have a dramatic and, in some cases, catastrophic impact on rainfall, wind currents and other climatic patterns. And as a result, all these will have negative effects on global health as well. Among other impacts, the polar ice caps are already melting more quickly. As a result, sea levels will rise to displace hundreds of millions of people on the continents' coasts during the coming century. Some weather experts also project an increase in the number and intensity of hurricanes and other catastrophic weather events, even droughts that will dry once fertile lands. It is evident that problems of social, political and economic nature might also emerge from climate change.

United Nations Framework on Climate Change

The United Nations Framework on Climate Change was adopted in 1992 and came into force on 21 March 1994. The UNFCCC has a nearly universal membership with 196 countries and the European Union to have ratified it.

This Convention was a notable step for its time because it recognised that there was a problem and therefore it forced countries to take action in order to combat this problem and act in the interest of human safety. It indicated that developed countries have the responsibility to lead the way while developing countries are to be provided with funds for their climate change activities. The Parties to the Convention and especially the developed

countries are obligated to report regularly on their climate change actions, policies and measures. Developing countries report in more general terms on their actions both to address climate change and to adapt to its impacts. Moreover, the Convention sought to help countries limit emissions in ways that will not hinder their economic progress.

The UNFCCC's principal decision-making body is the Conference of the Parties (COP), which takes place annually. All Parties to the Convention have the right to participate while representatives of business, international organizations, interest groups and associations are granted observer status.

Desertification

There is no doubt, that desertification is a vital global ecological problem that may cause a threat to many regions of the world in coming decades. Some of them are deflation, erosion and soil-salinity-rise. Furthermore, it should be noted that especially in the recent years much of the deforestation around the world has been driven by human activity. Agriculture, animal husbandry and groundwater depletion are all contributions to the problem. The 5 most important and interesting facts relating to desertification are the following: 1. Harappan Civilization 2. Mass migration 3. Overgrazing and animal husbandry 4. Carthage 5. Famine and poverty.

The process of desertification presents a serious impact on the well-being and health of the people living in the areas affected by droughts and land degradation on an unprecedented global scale. Asia is the most severely affected continent in terms of the number of people affected by desertification and drought. In drylands, people depend on ecosystem services for their basic needs, which in turn are dependent on water availability and climate conditions. The extent of the health impact depends on a complex mix of factors involving a population's vulnerability and on pre-existing conditions, including age, gender, disability, genetics, immune status and access to health services.

Land Degradation

CGS MUN

The land is the foundation of all life-sustaining processes on the planet. It supports natural processes such as soil formation and nutrient cycling. And it offers opportunities for social and cultural activities. In economic terms, land benefits billions of people, including a large proportion that depends entirely on farming and forest products for their livelihood.

Yet, globally, one-third of the Earth's land surface is degraded, affecting more than 2.6 billion people in more than 100 countries. When land is degraded, it cannot support all the processes that depend on it. Some irrigated lands, for example, have become heavily damaged from salt.

Since ecosystems are so connected, land degradation can have cascading effects across the entire biosphere. Erosion, salinization and compaction of soil can reduce the soil's capacity to regulate water. Loss of biomass, through vegetation clearance and soil erosion, produces greenhouse gases that contribute to global warming and climate change. The worst situations can be found in Africa, which is threatened because the land degradation processes affect about 46 per cent of the whole continent and create a health risk to people living in the regions far beyond the affected areas.

MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

United States of America

The United States of America should reduce its total greenhouse gas which is relatively high per capita and are the second largest in the world after China. According to a 2009 statement by the National Oceanic and Atmospheric Administration (NOAA), global warming has caused many changes in the US. In 2012, the United States experienced its warmest year on record. The USA is the only signatory of the Kyoto Protocol which never ratified it. It initially signed and ratified the Paris Agreement. Although in June 2017 Donald Trump announced the withdrawal of the country of the Agreement. Concerning desertification and land degradation, they have been historically a problem and remain a concern across a large portion of the Western United States.

China

CGS MUN

China is the world's largest emitter of GHGs. At the same time, it is facing the repercussions of climate change in multiple fields, while its economy is at stake. China is not among the Annex I countries and thus, is under no legal obligation to abide by the Kyoto Protocol. Nonetheless, it has shown commitment to the Paris Agreement and it has submitted satisfactory NDCs. The government doesn't appear negatively inclined to the possibility of further international cooperation on the matter, while they have taken some relevant measures at a domestic level. Regarding desertification and land degradation in China, they increased throughout the second half of the last century and, although this trend has since stabilised, the situation remains very serious. China's own State Forestry Administration has identified land desertification as the country's most important ecological problem, and climate change will only make things worse.

Russian Federation

Russia is the fifth-largest emitter of greenhouse gases in the world. Although Russia has done no pledges to reduce GHG emissions, it is seeking to avoid a further increase. Being an Annex I country in the Kyoto Protocol, it took on binding targets only during the first commitment period and declined to take on any during the second one. Russia is the only major emitter of the Paris Agreement that has not ratified it. Instead, it has laid out a timetable that would delay ratification for almost three years. Russian Federation has announced its condemnation of the United States' decision to withdraw from it.

India

India is one of the primary emitters of GHGs globally. India is a non-Annex I country and thus the Kyoto Protocol is not considered binding. However, India has signed the Paris Agreement. Progress has been made at a national level notably concerning GHG emissions. Desertification and land degradation are major problems in India. The livelihood and the food security of millions across the country are really affected since 25% of India's land is facing desertification and 32% is facing land degradation.

European Union

The European Union has long been committed to international efforts to tackle climate change. At European level, a comprehensive package of policy measures to reduce greenhouse gas emissions has been initiated through the European Climate Change Programme (ECCP). Each of the EU Member States has also put in place its own domestic actions that build on the ECCP measures or complement them. Furthermore, all EU members have signed the Kyoto Protocol and EU is a strong supporter of the Paris Agreement.

Intergovernmental Panel on Climate Change

The IPCC is an international body fostered by the UN. It was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP). It is responsible for regularly drawing up and making available to the public and policymakers assessments of the scientific basis of climate change, its effects, potential risks in the future and options for adaptation and mitigation.

TIMELINE OF EVENTS

Date	Description of Event
1977	United Nations Conference on Desertification was held in Nairobi
1988	The IPCC is established
1992	UNFCCC is adopted
1994	UNFCCC is ratified
1994	UNCCD was adopted
1996	UNCCD enters into practise
1997	The Kyoto Protocol is adopted
2005	The Kyoto Protocol is ratified
2015	The Paris Agreement is adopted

CGS MUN

2016	The Paris Agreement enters into effect 2016 is named the warmest year on record globally
2017	The USA announce their withdrawal from the Paris Agreement

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

Paris Agreement

At the Paris Agreement a universal, legally global climate deal was adopted. The Paris Agreement sets out a global action plan to put the world on track to avoid big, dangerous changes in the climate by limiting global warming.

At present, 195 UNFCCC members have signed the agreement, 152 of which have ratified it. The only UN Member States that have not signed the agreement are Nicaragua and the Syrian Arab Republic. On June 2017, it was announced that the United States would withdraw from the Paris Agreement. The earliest possible effective withdrawal date for the United States is 4 November 2020.



Parties endorsed the long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels. Ideally, the international community aims to limit the increase to only 1.5°C above pre-industrial levels, since this would considerably minimize risks and ease the impacts of climate change on global health.

Moreover, the Agreement encourages societies to strengthen their ability to handle the adverse effects of climate change. It recognizes the



significance of preventing, diminishing and addressing loss and damage in various human activities, which is associated with climate change while it acknowledges the need to collaborate and improve the understanding, action and support in various domains internationally.

Kyoto Protocol

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which commits its Parties by setting internationally binding emission reduction targets. Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

General Assembly Resolution A/RES/63/281

This resolution of 11 June 2009 bears the title "Climate change and its possible security implications". It invites UN organs to regard the matter of climate change within their mandates.

General Assembly Resolution A/RES/71/228

This resolution was adopted by the General Assembly on 21 December 2016. It is the most recent document in a series of several resolutions under the title "Protection of global climate for present and future generations of humankind". It covers a wide range of dimensions of the issue of climate



change itself, while it provides thorough information on the attempts of the UN and the international community to address the matter.

General Assembly Resolution A/RES/44/172

This resolution was adopted by the General Assembly on 19 December 1989. The main aim of this resolution is to find ways to combat the phenomenon of desertification.

PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

For the reason that these issues are of high importance and have caused many disasters in our world, human beings have tried to find ways to overcome them, but unfortunately without any efficient and permanent result. Representatives of the parties of UNFCCC have the chance to meet, exchange their opinions on the matter, negotiate and eventually take action concerning climate change. Many treaties like the Kyoto Protocol, the Paris agreement and others have adopted and ratified in order to combat the issue. However, climate change, desertification and land degradation are still in existence and difficult to become extinct.

UNFCCC negotiations led to the creation of the Kyoto protocol in 1997 and after that the Paris Agreement in 2015. Both of them had efficient results. Regarding the first one 35 countries achieved to reduce global emissions by over than 10%. However, this was not enough to offset the increased emissions from other industrializing countries and therefore global emissions grew over the time. Concerning the Paris Agreement, 160 UNFCCC parties have made voluntary pledges to reduce emissions up to 2030.

However, multiple other entities including, but not limited to the IPCC, the EU, the African Union (AU), the Group of Eight (G8), the Group of Twenty (G20), the Major Economies Forum on Energy and Climate Change (MEF), the



Organization for Economic Cooperation and Development (OECD) and the International Energy Agency (IEA) have taken initiatives to combat climate change, mainly by minimizing GHG emissions.

POSSIBLE SOLUTIONS

The global community is affected by multiple pressing social, political and economic issues that could potentially overshadow efforts to combat climate change. It is clear that climate change, desertification and land degradation are issues which should be addressed at a global level in order for governments and other non-profit organisations to find solutions and overcome the problems our nowadays world is facing.

First of all, it is really vital for governments to respect any existing international frameworks on climate change in general. Initiatives that promote global collaboration on the matter should not be rejected by national governments. Moreover, scientific research on the topic is a matter of primary significance since citizens and policymakers need to have adequate and accurate data at their disposal.

Needless to say, that it is really important for citizens and especially farmers to integrate land and water management in order to protect soil from erosion, salinization, and other forms of degradation. Furthermore, governments should integrate the use of land for grazing and farming where conditions are favourable, allowing in this way a more efficient cycling of nutritious within the agricultural systems.

Another matter that needs to be examined is the role of international and regional intergovernmental or non-governmental organizations, regional authorities, as well as civilians and corporations in large-scale climate agreements.

Last but not least, another effective way to combat these problems are negotiations either on the re-evaluation of existing agreements such as but not limited to the Paris Agreement and the Kyoto Protocol or the creation of new

ones. These are vital to take place considering the factors and the weakness from past ones that kept past actions fruitless. In order to keep track of such weaknesses and fix them, it is essential to establish a scheme of systematic assessment of international agreements.

To sum up, as it was mentioned several times these issues are of high importance and environmental problems that our world has to face nowadays. Therefore, governments should take immediate action in order to overcome them and give to their citizens a healthier and a better standard of life.

BIBLIOGRAPHY

Climate Central, www.climatecentral.org/gallery/graphics/10-warmest-years-globally.

“10 Warmest Years on Record Globally.” *Climate Central*, 6 Jan. 2015, www.climatecentral.org/gallery/graphics/10-warmest-years-globally.

Banerjee, Neela, et al. “Russia and the U.S. May Be Partners in Slowing Global Climate Progress.” *InsideClimate News*, InsideClimate News, 1 June 2017, insideclimatenews.org/news/06022017/russia-vladimir-putin-donald-trump-climate-change-paris-climate-agreement.

Carrington, Damian. “Desertification Is Greatest Threat to Planet, Expert Warns.” *The Guardian*, Guardian News and Media, 16 Dec. 2010, www.theguardian.com/environment/2010/dec/16/desertification-climate-change.

Cotthem, Willem Van. “A Global Treaty on Land Degradation (IRIN).” *DESERTIFICATION*, 30 May 2013,



desertification.wordpress.com/2013/05/30/a-global-treaty-on-land-degradation-irin/.

“Desertification.” *Scientific Facts on the Chernobyl Nuclear Accident*, www.greenfacts.org/en/desertification/l-2/6-prevention-desertification.htm.

“Desertification.” *USGS Publications Warehouse*, U.S. Geological Survey Pacific Northwest Urban Corridor Mapping Project, pubs.usgs.gov/gip/deserts/desertification/.

Anonymous. “European Climate Change Programme - Climate Action - European Commission.” *Social Protection Statistics - Unemployment Benefits - Statistics Explained*, 16 Feb. 2017, ec.europa.eu/clima/policies/eccp_en.

Extract from *The Rough Guide to Climate Change*. “What Is the Kyoto Protocol and Has It Made Any Difference?” *The Guardian*, Guardian News and Media, 11 Mar. 2011, www.theguardian.com/environment/2011/mar/11/kyoto-protocol.

“Five Ways to Help Stop Desertification of the World - BORGEN.” *The Borgen Project*, 21 June 2017, borgenproject.org/stop-desertification/.

“Global Action on Climate Change.” *Committee on Climate Change*, www.theccc.org.uk/tackling-climate-change/the-legal-landscape/global-action-on-climate-change/.

“KP Introduction.” *UNFCCC*, unfccc.int/process/the-kyoto-protocol.

“Land Degradation.” *Egyptian Journal of Medical Human Genetics*, Elsevier, www.sciencedirect.com/topics/agricultural-and-biological-sciences/land-degradation.

“Land Degradation and Desertification.” *World Health Organization*, World Health Organization, 25 Oct. 2012, www.who.int/globalchange/ecosystems/desert/en/.

“Land Degradation: Meaning, Causes and Prevention of Land Degradation.” *Your Article Library*, 10 Dec. 2013, www.yourarticlelibrary.com/land/land-degradation-meaning-causes-and-prevention-of-land-degradation/12338.

Nieuwenhuis, Marijn. “China's Desertification Is Causing Trouble across Asia.” *The Conversation*, The Conversation, 28 June 2018, theconversation.com/chinas-desertification-is-causing-trouble-across-asia-59417.

Northon, Karen. “NASA, NOAA Data Show 2016 Warmest Year on Record Globally.” *NASA*, NASA, 18 Jan. 2017, www.nasa.gov/press-release/nasa-noaa-data-show-2016-warmest-year-on-record-globally.

“Photo of the Week #15 - Desertification in the USA.” *Climate Home News*, Climate Home, 14 Aug. 2012, www.climatechangenews.com/2012/04/26/photo-of-the-week-15-desertification-in-the-usa/.

CGS MUN

“This Is How Climate Change Has Altered Life on Earth the Past Two Decades.” *The Weather Channel*, The Weather Channel, weather.com/science/environment/news/earth-climate-change-effects.

“UNFCCC.” *UNFCCC*, unfccc.int/.

“United Nations Convention to Combat Desertification.” *UNCCD*, www.unccd.int/.

Vashishtha, Akash. “A Quarter of India's Land Is Turning to Desert, Government Report Finds.” *Daily Mail Online*, Associated Newspapers, 17 June 2014, www.dailymail.co.uk/indiahome/indianews/article-2660560/Desertification-land-degradation-affects-quarter-Indias-land.html.

Vaughan, Adam. “Ban Ki-Moon: US Has Caused Serious Damage to Paris Climate Efforts.” *The Guardian*, Guardian News and Media, 5 Mar. 2018, www.theguardian.com/world/2018/mar/05/ban-ki-moon-us-paris-climate-agreement-withdrawal.

Ceidotorg. “Why the UN Desertification Treaty Is All Wet.” *Competitive Enterprise Institute*, 12 Feb. 2008, cei.org/studies-point/why-un-desertification-treaty-all-wet.

www.acceleration.net, Acceleration -. “Adaptation.” *KyotoProtocol - Toward Climate Stability*, kyotoprotocol.com/.

CGS MUN