Environment Commission

Preparing for future climate change refugees resulting from extreme weather events

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Forum:	Environment Commission
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Introduction

Climate change a continuous problem that is having drastic consequences on the lives of people worldwide. The majority of the damaging consequences relating to climate change are associated with extremes of, for example, heat waves, floods, or severe storms. Such extreme weather events create circumstances where people are forced to leave their habitual homes and flee to safer environments.

In the year of 2015, people are twice as likely to be displaced by a disaster than they were in the 1970s. The International Organization for Migration (IOM) estimates that there could be 200 million of these so-called climate change refugees by 2050. However, these types of refugees have no official international status. As the impacts of climate change are expected to increase in the near future, the number of climate change refugees will subsequently also increase.

Definition of Key Terms

Climate

A climate is the long-term pattern of weather in a particular area.

Climate change

Climate change is defined as a long-term change in the earth's climate, especially due to an increase in the average atmospheric temperature. Climate change can involve both changes in average weather conditions and changes in weather variability, including, for example, extreme weather-instigated disasters.

Greenhouse effect

The greenhouse effect is the natural process in which the atmosphere of a planet absorbs the energy of the sun. The atmosphere can absorb this energy because of the greenhouse gases in it, including carbon dioxide, water vapour and methane that allow incoming sunlight to pass through but retain heat radiated back from the planet's surface. Greenhouse gases also radiate some heat back to the earth's surface, causing surface temperatures to be higher than they would otherwise be.

Enhanced greenhouse effect

The enhanced greenhouse effect is the increase of concentration of greenhouse gases in the atmosphere due to human activity, which is contributing to the warming of the earth.

Global warming

Global warming is defined as an increase in the earth's average atmospheric temperature that causes corresponding changes in climate and that may result from the greenhouse effect.

Extreme weather events

Extreme weather events include unusual, severe or unseasonal weather. Often, extreme events are based on a location's recorded weather history and are defined as lying in the most unusual 10%. Extreme weather events are increasing in frequency and intensity, and will thus be an increasing threat in the future.

Environmental refugees/migrants

Environmental migrants are people or groups of people who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who consequently move either within their country or abroad.

Cross-border migration

Cross-border migration refers to human migration and is usually from one nation to another. This tends to occur for political or economic reasons.

Internal migration

Internal migration refers to human migration and is usually within a nation. Reasons for internal migration prominently include non-political reasons, for instance because of environmental reasons.

General Overview

The changes that occur in the climate

The earth's climate is naturally variable in all time scales. However, the long-term state and average temperature of the earth are depending on the balance of incoming and outgoing radiation coming from the sun. If the earth is absorbing more of the radiation from the sun, the earth will warm up, but if the earth is reflecting and emitting the sun's radiation, the earth will avoid this process. The balance between radiation that is absorbed versus what is reflected and emitted back to space has created a unique environment on earth that has allowed life to thrive.

About 31% of the incoming radiation from the sun is reflected directly back to space by the earth's atmosphere and the earth's surface, particularly by snow and ice, whilst another 20% is absorbed into the atmosphere. The rest of the incoming radiation is absorbed into the earth's oceans and land where it is converted into heat, warming the surface of the earth and the air above it. As a result of the greenhouse effect, the heat is prevented from escaping.

Without this natural greenhouse effect, the earth would be around 30 °C colder than it is now, which would cause a vast range of problems, as the warmth of our climate is crucial. This can be explained by the fact that on earth and in the atmosphere, water can exist in all three of its phases; in the frozen phase as snow or ice, in the liquid phase as water, and in the gaseous phase as water vapour. The cycling of water from one phase to another is critical for sustaining life since it is the land-to-ocean-to-atmosphere system that replenishes the water available to life on earth. The water cycle is also an important part of what drives our weather and the climate system generally.

When the balance between, and the amount of the different greenhouse gases present changes, which can cause a sustained change in the earth's amount of incoming radiation from the sun and that of outgoing radiation from the earth. Therefore, the earth's temperature changes, and when the temperature of the earth changes, the climate changes also.

Causes of climate change

The balance between, and the amount of the different greenhouse gases in the earth's atmosphere plays a large role in climate change. There is a strong correlation between the quantity of carbon dioxide in the atmosphere and the warming of the earth. The increasing concentrations of greenhouse gases, especially carbon dioxide (CO_2), is known as the enhanced greenhouse effect. After the Industrial Revolution, there has been a strong increase in the amount of CO_2 in the earth's atmosphere. Since the start of the industrial age, the levels of CO_2 alone increased by 40%. This is mainly caused by humans, inter alia because of the use of fossil fuels.

However, the climate of the earth has also changed due to natural causes not related to human activity. For instance, the variations in sunlight and volcanic activity increased the concentration of greenhouse gases, contributing to episodes of global warming. These natural causes are still in play today, but their influence are either negligible or they occur far too slowly to explain the rapid climate change seen in recent decades.

Consequences of climate change

Climate change affects all regions around the world. Polar ice shields are melting and consequently the sea levels are rising. Some regions are becoming drier and warmer, whilst other regions are getting significantly wetter, due to changes in precipitation.

Extreme weather events

Many extreme weather events are caused by climate change. People are experiencing extreme weather events with increasing regularity worldwide. Extreme weather events include severe storms, extreme heatwaves, floods and droughts.

Severe storms

Two of the driving forces behind the formation of hurricanes are sea surface temperatures and humidity levels. Both have been influenced by climate change. There has been a measurable increase in sea surface temperatures in regions where tropical cyclones typically originate and the temperature continues to rise. Air humidity has also increased in recent times. Increases in both of these factors lead to conditions more conducive to tropical storm development. In the future, it is likely that tropical storms intensify due to climate change.

Extreme heatwaves

Another likely consequence of climate change and global warming includes greater numbers of heat waves and fewer periods of extreme cold. This can be explained by the fact that excess emissions of greenhouse gas by humans result in both warmer temperatures and a greater variability in the weather, which can lead to extremes. One of the negative effects of heat waves is that illnesses are caused, spread or worsened at such high temperatures. Recent trends indicate that longer and more intense heat waves will occur in the future.

Floods

One of the physical consequences of a warmer atmosphere is an increased capacity to hold moisture. This will lead to an increase in frequency and intensity of floods. This would be catastrophic in many low-lying places around the world.

Droughts

While average global rainfall is predicted to increase with climate change, not member states will experience greater concentrations of rainfall. Whilst wet regions could receive even more rainfall as the planet warms, drier regions may experience even more acute shortages of water as evaporation is accelerated in such areas.

Future climate change and global warming will increase the frequency and intensity of extreme weather events, therefore it is important to consider the human and economic toll of extreme weather events.

Climate change refugees

Some of the extreme weather events mentioned above will make areas unsafe or extremely difficult for people to live in. For many people this will mean that they are forced to move to another place to survive. Climate change refugees belong to a larger group of immigrants known as environmental refugees or environmental migrants. Environmental refugees include immigrants forced to flee because of natural disasters, such as volcanoes and tsunamis. Climate change refugees are forced to flee because of the extreme weather events caused specifically by climate change. Both cross-border migration and internal migration are happening regarding climate change refugees, however, since there are no political reasons to flee, internal migration is likelier to happen. Such moves, or the adverse effects that climate change may have on natural resources, may spark conflict with other communities, as an increasing number of people compete for a decreasing amount of resources.

Environmental refugees are most of the time internal migrants. Climate change refugees are often rural or coastal residents, and they are forced to migrate to urban areas.

These climate change refugees face numerous problems. Skills such as farming are irrelevant in urban areas. Rural farmers find it often very difficult to depend on industries such as businesses for employment.

Climate change refugees who migrate outside their home countries face other difficulties. They must adjust to different laws, languages and cultures.
Climate refugees may encounter conflict with indigenous residents. Educational and health care systems must adjust to a sudden, new population. This population may speak a different language or have different customs than the native population.

The International Organization for Migration (IOM) estimates that there could be 200 million environmentally induced migrants by 2050.

Status of environmental refugees

Victims of climate change are not recognized as refugees by the International Refugee Convention (IRC). Although the homes and jobs of people are destroyed by prolonged drought, rising sea levels or other climate change-related phenomena in the same way as if they were displaced by war or human rights abuses, the United Nations cannot help to protect people seeking safety abroad. Environmental refugees are not protected by international laws. Since they are not protected by international laws, they are likelier to be sent back to their homeland, or are forced to live in refugee camps.

Major Parties Involved and Their Views

Countries threatened by sea level rise and floods

It is predicted that due to climate change sea levels will rise a total of 0.18 to 0.6 meters between 1990 and 2100. Rising sea levels already cause problems in many low-lying coastal areas of the world.

Bangladesh

About half the population of Bangladesh lives less than 5 meters above sea level. Scientists predict that Bangladesh will lose 17% of its land by 2050 due to flooding caused by climate change. The loss of land could lead to as many as 20 million climate refugees from Bangladesh.

Maldives

Maldives is perhaps the country most threatened by sea level rise. Maldives rises only 2.4 meters above sea level at its highest point.

Firstly, climate change will have impact on the economy and habitat of the Maldives, as tourism supports more than 25% of the Maldivian economy and fishing is the nation's second-largest industry. Due to climate change the Maldives can accommodate fewer tourists and tourist facilities, such as hotels. Also, due to climate change the delicate ecosystem of coral reefs that surround the islands will also change. The Maldives may not be able to sustain the many fish living in its environment, threatening the fisheries located around the Maldives.
Without income generated from tourism or fishing, many Maldivians may be forced to migrate to seek new jobs. Sea level rise will likely create climate refugees because of changes in both the economy and habitat.

Secondly, sea level rise may sink all 1,200 islands of the Maldives. This would force all Maldivians to migrate to find new places to live.

Other island nations

While rising sea levels ultimately influence the entire planet, they pose the greatest threat to the island nations currently residing at sea level. Islands are low-lying states, which make them extremely vulnerable for weather conditions resulting from sea level rise. These island nations under threat include Bermuda and the Bahamas in the Atlantic, the Pacific Islands of Palmerston, Tuvalu, Kiribati, Vanuatu, Marshall Islands, Cook Islands, Fiji and Solomon Islands in the Indian Ocean.

Coastal Cities

However, in terms of numbers of people impacted by climate change, the oceanic islands do not compare with the long-term disasters that will occur in densely populated, low-lying coastal cities. Coastal cities face a high risk from increasingly costly flooding as sea levels rise amid climate change. Cities at the greatest risk include Guangzhou, Miami, New York, New Orleans, Mumbai, Nagoya, Tampa, Boston, Shenzhen, Osaka and many cities on inter alia the Asian, Black Sea and Mediterranean coast. Huge populations of several countries will be forced to retreat from coasts as climate change refugees.

Most coastal cities' current defences against storm surges and flooding are designed to withstand only current conditions. They are not prepared for the rising sea levels accompanying climate change that will make future floods more devastating. In the

western world for instance, Miami and the southeast Florida coastline have the distinction of being among the most defenceless regions of high population density.

Countries threatened by drought

While rising seas threaten coastal regions, drought can also create climate refugees inland. When people cannot grow crops on the land where they live, they have to move somewhere else in order to sustain themselves.

China

The Gobi Desert in China expands more than 3,600 square kilometres every year. Farmers and merchants in the area surrounding the Gobi migrate to China's crowded urban areas as grasslands are overtaken by desert.

Morocco, Tunisia and Libya

Morocco, Tunisia, and Libya each lose more than 1,000 square kilometres of productive land every year due to desertification. These residents on the edge of the Sahara Desert may move to cities in northwest Africa, but they can also move to the more developed countries of Europe.

Somalia, Ethiopia, and Eritrea

Residents near the Horn of Africa are especially vulnerable to drought and desertification. Most rural residents in Somalia, Ethiopia, and Eritrea depend on crops and on the national and international market that supply their demand. Years of severe drought prevent crops from growing, which also prevents livestock from being raised. Thousands of people threatened by starvation and poverty have already fled to refugee camps in Kenya. Camps that were designed to provide temporary shelter for 90,000 people are now home to twice that number.

Other countries and continents that could face significant droughts are inter alia much of Latin America, including large sections of Mexico and Brazil, regions bordering the Mediterranean Sea, which could become especially dry, large parts of Southwest Asia and much of Africa, especially in western and southern regions.

The Advisory Group on Climate Change and Human Mobility

The Advisory Group on Climate Change and Human Mobility is committed to mobilizing the knowledge and expertise to support the design of effective human mobility resilience measures to climate change. They have been an active party in resolving the issue at hand.

Timeline of Events

1958 First continuous monitoring reveals rapidly rising CO_2 levels in the atmosphere.

1970s Beginning of period of atmospheric warming known as “global warming”.

2003 European heat wave, which kills more than 30,000 people. Scientists later conclude it is the first extreme weather event definitely attributable to human-induced climate change. Scientists report a third of the world afflicted by droughts, double the figure for the 1970s.

2014 United Nations Secretary-General Ban Ki-moon invited world leaders, from government, finance, business, and civil society to the Climate Summit 2014. This took place on the 23rd of September 2014, with the intention of galvanizing and catalysing climate action. The Secretary General asked the world leaders to bring bold announcements and actions to the Summit that will reduce emissions, strengthen climate resilience and mobilize political will for a meaningful legal agreement in 2015. The Climate Summit 2014 provided a unique opportunity for leaders to advocate their visions that will enable a meaningful global agreement in 2015.

UN involvement, Relevant Resolutions, Treaties and Events

There have also several resolutions about the possible social impact of climate change. However, those are not specifically focused on climate change refugees.

- Human rights and climate change, 28 March 2008 **(A/HRC/RES/7/23)**
- Climate change and its possible security implications, 11 June 2009 **(A/RES/63/281)**
- Human Rights and Climate Change, 17 October 2011**(A/HRC/RES/18/22)**

The United Nations has also set up the Advisory Group on Climate Change and Human Mobility, which is committed to mobilizing the knowledge and expertise to support the design of effective human mobility resilience measures to climate change.

Evaluation of Previous Attempts to Resolve the Issue

The previous attempts to resolve the issue conducted by the United Nations were not specifically focussed on the refugees caused by climate change and the extreme weather events that followed.

Possible Solutions

Firstly, it is important to recognize victims of climate change as refugees by the International Refugee Convention (IRC).

Secondly, an official index either created or recognized by the United Nations Advisory Group on Climate Change and Human Mobility could list all countries most vulnerable to climate change in order of importance.
This index could also record the number of climate change refugees per nation. So that there will be a clear oversight of the current situation of climate change refugees, and for instance where they are situated and under which conditions they are living. This index should be updated regularly.

Thirdly, vulnerable countries to climate change need to be prepared for future consequences. The inhabitants of such nations need to be informed of the threats caused by extreme weather events through methods such as education and media.
Coastal areas should have improved defences against storm surges and flooding which are also designed to withstand future, devastating, extreme weather events, instead of only current conditions.

Fourthly, bordering countries of vulnerable countries should be well informed about the situation of the neighbouring nation, as well as be appropriately equipped with the supplies for possible refugees, in order that they are as well prepared for possible scenarios.

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