

The Need for International Policy for  
**Environmental Refugees**

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# Approval Page

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# Introduction

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Climate change is becoming increasingly responsible for the displacement of individuals, communities, and entire regions. Millions of people are displaced by environmental disasters and climate related events every year. As the impacts associated with climate change continue to increase, this number will continue to grow and potentially accelerate. There has been considerable international debate surrounding climate change, however, the issue of human displacement as a result has been greatly overlooked. A lack of international protection exists for people who are involuntarily displaced from their homeland due to the impacts associated with climate change. The issue of environmental refugees has emerged in recent years, yet there has been little formal action by international agencies surrounding the issue.

Disasters and climate change related extreme events have the potential to result in environmental refugees. International, regional, and local planning all must occur in order to adequately prepare for the massive displacement that is expected to result from these events. The development of policy for environmental refugees is necessary for countries that have the highest potential to generate environmental refugees as well as countries most likely to receive them. I narrow down this topic by discussing solely the need for international policy that identifies environmental refugees and their rights, via the United Nations (UN), specifically the UN High Commissioner for Refugees (UNHCR) since it is the leading agency within the UN responsible for and possessing the expertise in the field of forced displacement on a large scale.

The anticipated movement of people as a result of climate change and natural disasters is one of international concern. This senior project discusses what it means to be a refugee according to the UN, the rights of refugees, and the responsibilities of host countries. Following, it will discuss what it means to be an environmental refugee along with a few case studies and recommendations for creating an international framework for environmental refugees.

# Refugees

To understand who constitutes as an environmental refugee, the current definition of the overarching term “refugee” must be examined. Refugees became a concern of the international community early in the 20th century for humanitarian purposes. The first action taken on behalf of the issue was the adoption of international agreements, leading to the creation of the guiding instruments for refugee policy.

The United Nations High Commissioner for Refugees (UNHCR) is the agency within the UN responsible for refugee status determination and protection. UNHCR was established in 1950 to provide international protection to persons displaced across national borders. The Statute of the High Commissioner provides international protection, with the support of the UN, to refugees. There are two central instruments used by UNHCR, the 1951 Refugee Convention and its 1967 Protocol. The protection that is guaranteed under these guides is limited to the current parties to either or both of these instruments, which includes 148 States (UNHCR, 2011). However, a person who meets the criteria of the UNHCR Statute qualifies for the protection of UNHCR, regardless of whether or not that person is in a country that is a party to the 1951 Convention or 1967 Protocol as well as whether or not they have been recognized by the host country as a refugee. These people are referred to as “mandate refugees.” This means that all persons, considered to be refugees, qualify for the protection of UNHCR.

According to the 1951 Refugee Convention, the term “refugee” applies to any person who:

*“...owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it” (Article 1(A)2).*

The 1951 Refugee Convention provides the legal framework that is still used today, in determining who is considered to be a refugee, along with their rights, and the obligations of the states that they are fleeing from and to. The core principles of the Convention are non-discrimination, non-refoulement, non-penalization for illegal entry or stay, and the acquisition and enjoyment of rights over time. When it was first written, the purpose of the 1951 Convention was to serve as a short-term solution to a refugee problem. The Convention contains a dateline that limited the determination of a refugee to events occurring before 1951. This limited the obligations of Governments to refugee situations that were already known to exist at the time that the Convention was written (UNHCR, 2011). However, with the emergence of new refugee situations, there became a need to make the Convention applicable to new refugees that resulted from events occurring after 1951. The purpose of the 1967 Protocol relating to the Status of Refugees was to extend the Convention to new refugee situations. The Protocol removed the 1951 time stamp, allowing for new groups of people to obtain refugee status. The 1951 Convention along with its 1967 Protocol, serve as the instruments that UNHCR uses to this day.

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In addition to the UNHCR documents reviewed above, there are a number of regional agreements, conventions, and other instruments relating to refugees. Parallel documentation has also been established in other agencies within the UN including international human rights law, international humanitarian law, and international criminal law, which have contributed to a strong legal backing as well as a broad acceptance for refugee rights and protections.

One of the most important components of international refugee policy is protection against the return to a country where a person has reason to fear persecution (UNHCR, 1977). This concept is known as non-refoulement. The 1951 Refugee Convention states that “no contracting State shall expel or return (“refouler”) a refugee in any manner whatsoever to the frontiers of territories where his life or freedom would be threatened on account of his race, religion, nationality, membership of a particular social group or political opinion” (Article 33). This means that refugees have protection from being returned back to a country where they would be at risk of persecution.

When refugees flee their country of residence in order to seek safety, they cross into another country. While they are residing in a host country, they are entitled to certain rights. The 1951 Convention states that refugees have “the right not to be expelled, except under certain, strictly defined conditions, the right not to be punished for illegal entry into the territory or contracting State, the right to work, housing, education, public relief and assistance, freedom of religion, access to the courts, freedom of movement within the territory, and the right to be issued identity and travel documents” (Article 33). This means that refugees deserve, at minimum, the same standards of treatment enjoyed by other foreign nationals in a given country and, many times, the same treatment as nationals.

There is also policy determining the conditions under which a refugee is no longer considered to be a refugee. This is outlined in a Cessation Clause of the 1951 Convention (Article 1C), which states that the Convention will cease to apply to any person falling under the refugee definition if (1951 Convention):

1. “He has voluntarily re-availed himself of national protection
2. He has voluntarily re-acquired his nationality
3. He has acquired a new nationality
4. He has voluntarily re-established himself in the country where he left
5. He can no longer continue to refuse to avail himself of the protection of the country of his nationality
6. Being a person who has no nationality he is able to return to the country of his former habitual residence”

The 1951 Convention also includes an Exclusion Clause which defines instances in which people who contain the characteristics of a refugee, are excluded from gaining refugee status. These instances include “persons who are already receiving UN protection or assistance, persons who are not considered to be in need of international protection, and persons considered not to be deserving of international protection” (Article 1, Sections D, E, and F).

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There are also a few special cases in which people who are fleeing their country due to reasons other than those listed in the 1951 Convention and the 1967 Protocol can still manage to gain refugee status. These include “war refugees, deserters and persons avoiding military service, and persons having resorted to force or committed acts of violence” (UNHCR, 2011, p. 33).

The 1951 Convention and 1967 Protocol do not define the procedures used for determining refugee status. The procedures are left up to the Contracting State to establish in a way that a specific State considers to be most appropriate. This means that there are a wide variety of procedures that have been adopted by States due to the unlikelihood that all States could establish identical procedures. Some States use formal procedures specifically established for this purpose and others determine refugee status under very informal arrangements (UNHCR, 2011).

In addition to formally recognized refugees, there are a few other important classifications to note. Asylum seekers are persons who have left their native country and have applied for the protection that is granted by a nation, but have not yet been granted refugee status (UNHCR, 2015). It is also necessary to recognize internally displaced persons (IDPs), which are people who may be fleeing for similar reasons as refugees, but have not crossed an international border in order to find sanctuary, remaining within their home countries (UNHCR, 2015).

Refugees are an issue of international concern, which has led to extensive policy development focused on their rights and their protection. However, the issue of environmental refugees has yet to be recognized as a part of international policy. At the end of 2013, an estimated 51.2 million people had been displaced from their homes, which is the highest number recorded since the refugee crisis following World War II. This is a total number of refugees; however, 22 million people out of that total were displaced by disasters (Norwegian Refugee Council, 2014). It should be noted that the Convention does not address people who have been displaced due to environmental reasons and disasters, particularly those associated with the impacts of climate change.

# Environmental Refugees

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Environmental Refugees are not yet recognized by international law, contributing to the need for policy to be written for their protection. In 1999, the chairman of the World Water Council stated that more people flee due to environmental problems than due to war (LiSER, 2015). There are numerous titles and definitions given to this particular type of refugee including, environmental refugee, climate refugees, environmentally forced migrant and environmentally induced migrant. For the purpose of this senior project, I will use the term most recognized by the UN, which is environmental refugee.

Not only are there various terms for environmental refugees, but there are also changing and varying definitions as well. One of the most widely accepted definitions of environmental refugees was “persons who no longer gain a secure livelihood in their traditional homelands because of what are primarily environmental factors of unusual scope” (Myers, 2005, p. 3). This definition was updated to “people who can no longer gain a secure livelihood in their homelands because of drought, soil erosion, desertification, deforestation, and other environmental problems, together with the associated problems of population pressures and profound poverty” (Myers, 2005, p.1).

Another widely accepted definition was brought forward by the Nansen Initiative, which is a “state-led consultative process to build consensus on a protection agenda addressing the needs of people displaced across borders in the context of disasters and the effects of climate change” (Nansen Initiative, 2015). The Nansen Initiative avoids using any type of controversial term to define environmental refugees. They instead choose to identify them as “people displaced across borders in the context of disasters and the effects of climate change” whom the Nansen Initiative defines as whose people who are in “situations where people flee or are displaced across borders in the context of sudden- or slow-onset disasters, or in the context of the adverse effects of climate change” (Nansen Initiative, 2015).

The United Nations Environmental Program (UNEP) has defined environmental refugees as “people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life” (1985).

All of the above definitions are widely accepted and can all be considered accurate for the purpose of this senior project.

## Existing Capabilities of UNHCR

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There are a few scenarios in which UNHCR can currently provide aid to environmental refugees under the traditional definition of a “refugee”. UNHCR can help people who are seeking refuge in another country when their safety is in danger due to armed conflict, where the conflict is rooted in environmental factors. UNHCR can also provide assistance to victims of natural disasters who have been forced to leave their homeland because their government has purposely withheld assistance for various reasons. Another way UNHCR currently provides aid to environmental refugees is in the scenario of “sinking islands,” where inhabitants must seek safety in another country (Norwegian Refugee Council, 2014). Although the people in these situations are gaining refugee status as recognized by UNHCR, they are not being recognized for the reasons behind their forced displacement or being identified as “environmental refugees”. This works in some situations, but when there is a situation that cannot be justified through UNHCR’s guidelines for refugee status determination, a problem arises.

# Causes of Environmental Refugees

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Environmental refugees can result from a number of circumstances including natural disasters and the impacts of climate change. According to the Norwegian Refugee Council (2014), these events include geophysical events such as earthquakes and tsunamis, weather and climate events such as floods, storms, droughts and extreme temperatures, and gradual processes of environmental degradation and habitat loss such as desertification and sea level rise. I will discuss these in further detail.

## Natural Disasters & Displacement

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Natural disasters are typically categorized as either sudden-onset or slow-onset (Center for Climate and Security, 2011). Sudden-onset disasters are disasters for which there is little or no warning such as earthquakes, hurricanes, and floods. Slow-onset disasters are disasters that take a long time to produce emergency conditions such as drought, desertification, and permafrost melt (World Health Organization, 2015). Both sudden-onset and slow-onset disasters can be exacerbated by the increasing impacts of climate change. From 2008 to 2012, 144 million people were displaced due to sudden-onset disasters, and the number of people globally displaced by slow-onset disasters caused by climate change is unknown due to lack of data (Nansen Initiative, 2015). Also, according to UNHCR (2011) nine out of every ten disasters now are influenced by climate change.

According to the UN (2014), the overall trend shows that the number of recorded natural disasters has doubled from approximately 200 to over 400 per year over that past two decades. The growing impacts of climate change include altered frequency, severity, and location of certain hazards. The Norwegian Refugee Council (NRC, 2009) and the UN Office for the Coordination of Humanitarian Affairs (OCHA, 2009) have indicated that in 2008 alone, as many as 20 million people may have been displaced by climate-induced sudden-onset disasters. It is also important to note that the impacts of natural disasters are not just environmental, but they are a result of human development. The disasters that occur are considered disasters because of the destruction that they have on infrastructure and livelihoods. For example, if a cyclone hit on an island without any inhabitants or developments, the general population would not care. However, if that same cycle hit an island where people were residing, it would have the potential to be very traumatic. This means that the relationship between natural disasters and human displacement only exists when there is human development.

# Climate Change & Displacement

Climate change, as defined by the United Nations Framework Convention on Climate Change (UNFCCC, 1992), is:

*“A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.” (Article 1)*

The Earth’s climate is changing in ways that affect the weather, oceans, snow, ice, ecosystems, and society. Natural causes alone cannot explain all of the changes that are occurring as a result of climate change. Human activities are also contributing to climate change, mainly with the release of billions of tons of carbon dioxide and other heat-trapping gases, or greenhouse gases, into the atmosphere each year (EPA, 2014). These changes will continue in the future, however the scale of the impacts is directly related to the amount of greenhouse gases the world continues to emit. The IPCC has determined that it is “extremely likely that human interference with the climate system is occurring and climate change poses risks for human and natural systems” (2014).

The Earth’s average temperature has risen by 1.4 degrees Fahrenheit over that past century, and is expected to rise somewhere between 2 and 11.5 degrees Fahrenheit throughout the next hundred years (EPA, 2014). Although these changes seem small, they can result in dramatic and potentially dangerous shifts in climate and weather. The rising temperatures have already coincided with changes in weather and climate. For example, many places have witnessed changes in rainfall, causing more floods, droughts, or intense rain, along with more frequent and severe heat waves. There have also been some changes with the oceans and glaciers. Oceans have been warming and becoming more acidic, ice caps are melting, and sea levels are rising (EPA, 2014). When these changes, along with others become more constant and extreme, they will likely create challenges for our livelihoods and environments all across the world.

Thus far, the international community has placed focus on scientific aspects of climate change such as understanding the process and finding ways to mitigate the impacts of human activity. The UNFCCC is one of the few forums that internationally have created a space recognizing the issues and possible activities related to human mobility in the context of climate change (UNU, 2013). Climate change is likely to result in humanitarian consequences as well. Since climate change is altering the frequency and severity of disasters, it is more vital than ever to protect those who are affected or who will be affected by climate change impacts. The UN High Commissioner for Refugees (UNHCR, 2009, p.16) has stated, “Although there is a growing awareness of the perils of climate change, its likely impact on human displacement and mobility has received too little attention.” Climate change has the potential to render some people stateless by triggering movements of populations not only within but also across borders. Therefore, climate change contributes to the rising need for policy that specifically addresses environmental refugees.

According to the UN University (UNU, 2015, p. 9), climate change could affect human mobility worldwide directly or indirectly through four main paths:

## **1. Changes in regional weather patterns (climate) that contribute to long-term drying trends, affecting access to essential resources and the sustainability of a variety of environment-related livelihoods.**

Changes in regional weather patterns, or climate, can contribute to impacts such as long-term drying trends that can affect resource availability and harm the sustainability of environment-related livelihoods (UNU, 2013). Some examples of vulnerable livelihoods include agriculture, forestry, fishing, and other environmentally dependent professions. When people or communities are reliant on the environment, changes in weather patterns can have serious impacts for these people and their livelihoods. One of these impacts could be the movement of people who can no longer survive with the new climatic conditions and the impacts that they are having on their surroundings. Climate change is anticipated to have different impacts in different areas. In some areas it is anticipated to increase precipitation, while in others climate change is likely to contribute to drought. Both of these could prohibit agricultural production and degrade land that may be used for things such as grazing. Some areas may be able to adapt to this more so than others. Places where the only form of livelihood relies on the environment with a lack of other jobs have a high vulnerability. This might cause people to move in order to find work in other places, possibly to a place with better land and more resources or nearby cities or other countries, contributing to the presence of environmental refugees.

## **2. Rising sea levels, desertification, permafrost, and other climatic changes that render areas uninhabitable for human populations.**

Sea level has been rising since the mid-19th century, however this has recently been accelerating. In the 20th century, sea level rose an average of about 17 centimeters, which is about 1.7 mm/year (IPCC, 2014). Over the past decade, the rate has increased to about 40 centimeters, or 4 mm/year, and is predicted to continue to increase even more (IPCC, 2014). According to the UN Atlas of the Oceans (2014), about 44% of the world's population is living in coastal areas (within 150 km of the coast). That is a large percentage of the population that has the potential to be displaced due to rising sea levels. With the loss of coastal areas, homes, and potentially entire communities, those who are residing in these places will be forced to move elsewhere. This has the potential to be a massive movement of people with nearly half of the global population living in coastal zones that are at risk of sea level rise.

Desertification is “land degradation in arid, semi-arid, and sub-humid areas resulting from various factors including climatic variations and human activities” (UNCCD, 1994, Art. 1.a., p. 4). Desertification renders land useless and when people depend on that land, they may need to leave their homes in search of more inhabitable land.

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Permafrost is a sub-surface layer that has been frozen year round for at least two years. Permafrost makes up 24% of the land in the Northern Hemisphere and stores massive amounts of carbon (Weather Underground, 2014). In the case of increasing temperatures due to climate change, permafrost is at risk of melting. This will release the stored carbon in the form of carbon dioxide or methane, which are heat-trapping gasses that is already contributing to climate change. In addition to this, permafrost is also structurally important and melting can cause impacts such as erosion and landslides (Weather Underground, 2014). These impacts associated with permafrost melt can destroy infrastructure and make lands uninhabitable, resulting in forced migration of the people who reside here or rely on these lands for survival.

### **3. Altered frequency and severity of weather-related extremes (heat waves, cyclones and storms) that destroy infrastructure and livelihoods, forcing relocation.**

Climate change has the potential to change the frequency and severity of natural disasters such as heat waves, floods, cyclones, and storms. All of these can destroy infrastructure and livelihoods, forcing people to relocate either temporarily or permanently. This will be an issue in a variety of regions, including those that already experience extreme temperatures as well as areas on floodplains and coastal zones. When the alteration of the frequency and severity of weather events starts to negatively impact livelihoods or destroy essential infrastructure, people may be forced to seek refuge elsewhere.

### **4. Competition over diminishing or changing water and land resources that exacerbate pressures and contribute to conflict.**

Violence, in the context of climate change, often results from conflicts over limited resources such as food, water, energy sources, and land. As previously discussed, climate change has the potential to decrease the availability of essential resources. Conflict resulting from competition over inadequate resources is a likely cause of environmentally induced migration. When desertification occurs and agricultural lands are rendered useless, food availability decreases in areas that depend on internal agricultural production. A lack of food could result in increased food prices, as previously discussed, which will create hostility and competition. As history has shown, this leads to violent outbreaks. The same concept applies to drying trends that are limiting water availability and environmental degradation limiting workable lands.

# Vulnerability

Climate change is anticipated to amplify already existing climate-related risks and create new risks for natural and human systems, some of which will be limited to a specific region and others will have cascading effects (IPCC, 2014). Every region of the world will encounter a different experience in regards to the impacts of climate change since each region has different social, economic, and environmental qualities. In order to better understand the four main situations listed above that have the potential to lead to environmental refugees, I will go through four case studies in further detail. But first, it is imperative that the concept of vulnerability and its relationship with climate change and natural disasters is understood.

Climate change and other environmental changes is one factor that affects vulnerability. According to the Intergovernmental Panel on Climate Change (IPCC, 2014), in relation to climate change, vulnerability is:

*“The predisposition to be adversely affected...vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt” (p. 5).*

Vulnerability can refer to the vulnerable system itself, for example, low-lying islands or coastal cities; the impact to that system, such as flooding and forced migration; as well as the mechanism causing these impacts, such as climate extremes. Vulnerability exists when a number of different factors coincide with inadequate preparation and adaptation measures for a community to recover from such a disaster. Many of the countries that are most vulnerable to the impacts of climate change are the developing nations that are contributing very little to overall greenhouse gas emissions that are causing climate change and associated impacts. It seems unfair that these are the people that suffer the most from the consequences of climate change. Varying levels of vulnerability are bound to exist since the degree of climate change impacts also vary from place to place. It is important to recognize these differences in vulnerability to prepare adequately.

Some communities are much more vulnerable than others with a lack of capacity to recover from a hazard. Some of the characteristics that contribute to vulnerability include physical exposure to natural disasters and climate change impacts, a high population density, dependence on the environment for livelihoods, the presence of poverty, low education levels, political instability, and environmental stress. It is also important to realize that often times these factors are related to one another and can be difficult to separate.

## Physical Exposure

The physical exposure of a country or area to natural disasters and climate change impacts, contributes to its vulnerability. Geographic location is a major contributing factor to this. For example, coastal areas and islands can be especially vulnerable to impacts such as cyclones and sea level rise. Prolonged droughts can lead to the destruction of crops, particularly those already at the low end of their preferred precipitation range, resulting in a reliance on food aid. Areas that depend directly on the environment for both food and economic base are especially vulnerable to drought. Heavy rains and

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flooding, on the other hand, can increase the rates of water-borne diseases and also harm agricultural production. In areas that lack the medical advancement, to fight off diseases, this is problematic. The decrease in agricultural productivity will also cause problems for areas that depend on it for their livelihood. These are just a few examples when physical exposure to certain factors can contribute to the vulnerability of an area to the impacts of climate change and natural disasters.

### **Population Density**

The significance of climate-related changes and impacts will vary according to the size of the population that will be affected by them. Areas with a higher population density are of greater importance in terms of vulnerability. In more densely populated areas, local land uses are more vulnerable, therefore, there is more stress being put on the local environment. This is likely to exacerbate some of the effects of climate change.

Another issue that is raised by the vulnerability of densely populated areas, is overcrowding. Refugees may be the cause of some environmental problems in the country to which they have fled as well. If a large number of refugees are entering and remaining in the same area, this can cause overcrowding, leading to more problems. The human population is currently growing, adding about one billion people to the planet every twelve years. That is about 220,000 per day (“Overpopulation: Environmental and Social Problems”, 2014). However, this growth is unevenly distributed across the globe. Overcrowding can result in shortages of resources, war and social conflict, limits on personal freedom, air and water pollution, poor living conditions, transmission of diseases, habitat destruction, and limited land availability. As a result, the process of urbanization will accelerate, generating additional competition for resources and public services (Norwegian Refugee Council, 2015). Climate change can reduce resources to support urbanization along with space to adequately house these populations.

Environmental problems can also be exaggerated with large numbers of people gathering in “temporary” refugee camps. The word temporary is in quotes because some refugee camps have become home to some people due to prolonged issues in their native country appear to have no end in sight. However, refugee camps are built to be temporary living quarters. A prolonged stay in these areas can lead to significant problems such as deforestation, soil erosion, depletion of water resources, and pollution of water resources (UNFCCC, 2001). This expands the problem since the refugees are now impacting the environment of another country or territory. These impacts can result in increased vulnerability to climate impacts.

### **Dependence on the Environment for Livelihood**

Recent work at the UN has shown that the people most exposed to environmental stressors include farmers, herders, pastoralists, fishermen, and others who rely on natural resources and the weather to make a living. This population may be the least able to move very far away from these problems, if at all. Often times, this population is forced to either stay where there are in the wake of a degrading environment, which can negatively impact their livelihood if they are no longer able to make a living how they

used to. This contributes to the high vulnerability to climate change impacts and climate related hazards for people who depend on the environment for their livelihoods.

Climate change impacts such as drought, desertification and increased flooding, can render lands useless when it comes to agricultural production. This is an issue because it will increase food insecurity. Vulnerability in terms of food security is defined as the presence of factors that place people at risk of becoming food insecure or malnourished (FAO, 2015). Current trends of rising food prices are already expected to increase food insecurity, with the increasing presence of drought and desertification in some areas, this will likely be a large issue (Holmes, 2008). If households are forced to spend more money on food, in many cases, it will be at the cost of decreasing their spending on other needs such as housing and school. This could further worsen the poverty in areas that are already struggling, and the efforts that are currently being made to help these areas could be rendered useless. Hunger and malnutrition rates will rise as a result. Food insecurity is also highly likely to cause security issues. With a lack of food or the absence of enough money for food, conflict is also bound to arise out of desperation.

### **Poverty & Education Levels**

When comparing data on natural hazards in developing and developed countries, the number of people affected tends to be considerably larger in developing regions for natural disasters of comparable magnitude (World Bank, 2014). Many developing nations are likely to suffer most from the negative impacts of climate change due to the economic importance of climate-sensitive sectors such as agriculture and fishing, along with their limited human, institutional, and financial capacity to anticipate and respond to the effects of climate change (IPCC, 2014). The majority of communities have developed ways to cope with occasional climate extremes and natural hazards. However, these are typically temporary methods. The ability to cope with climate variability and extreme weather events is extremely dependent on the level of economic development in that area. When the poor need to devote more of their already limited resources in order to cope with the increasing impacts of climate change and natural disasters, this could affect their livelihoods.

The IPCC states with high confidence that “climate-related hazards exacerbate other stressors, often with negative outcomes for livelihoods, especially for people living in poverty” (IPCC, 2014, p. 6). Hazards affect the lives of people in poverty through direct impacts on their livelihoods, reductions in crop production, or destruction of homes as well as indirect impacts such as increased food prices and food insecurity.

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Education levels need to be taken into consideration when looking at vulnerability. A less educated population could be potentially slower to respond to disaster relief measures and critical adaptation measures. There is also a link that exists between education and poverty. Countries with lower education levels typically have a poorer population and vice versa. On the bright side, if one of these factors can be improved, then the other will likely improve as well. With improvements in education and poverty levels, comes the ability for a country to become adequately prepared to cope with the impacts of climate change.

### **Political & Institutional Stability**

In a country that lacks political stability, adaptation to and mitigation of climate-related impacts can get overlooked due to a focus on creating community and political stability. The internal stability of a country is potentially problematic for many reasons, including its vulnerability to climate change and natural disasters. In areas where this instability exists, violent conflicts may be occurring as well. According to the IPCC (2014), violent conflict increases vulnerability to climate change by harming assets that aide in adaptation. Climate change also has the potential to result in violent outbreaks. This is discussed further in a subsequent section..

### **Environmental Stress**

As previously discussed, disasters and the impacts of climate change can trigger displacement and conflicts, however, conflicts and displacement often cause further environmental degradation. Population growth has led to human-induced environmental stress through activities such as deforestation and intensive agriculture. Local land use and environmental changes that have resulted from human activity should be taken into account along with climate change and natural disasters when looking at the impacts that are occurring. For example, deforestation can reduce the presence of moisture in soil and the atmosphere, which increases aridity and desertification. Areas that are experience higher levels of environmental stressors that coincide with the impacts of climate change will likely have a higher vulnerability as a result.

## Case Studies

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A series of case studies illustrating the challenges associated with refugees and climate change impacts were examined. When choosing case studies, I considered all characteristics that contribute to an area's vulnerability to climate change impacts. The areas that I chose are extremely vulnerable and therefore, should be of top concern in terms of international policy for environmental refugees. The countries of Somalia, Maldives, and Bangladesh, along with Lake Victoria, are places that either have already had environmental refugees, or are likely to in the near future.

# Somalia

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Somalia is located in the Horn of Africa in an arid climate zone. A couple of the primary livelihoods for Somalis include raising livestock and rain-fed agriculture. This means that a prominent component of the economy is directly dependent on weather and the environment. Somalia has experienced minor droughts in the past, occurring about once every ten years or so (Kolmannskog, 2010). When pastoralists were affected by these droughts, they would simply migrate to nearby greener pastures in order to save their herds, typically in the northern parts of the country. However, droughts began to intensify in 2009 and are becoming an ongoing occurrence today with the increasing impacts of climate change (IPCC, 2014).

Conversely, areas that receive rain are now experiencing it in the form of heavy and unpredictable rainfall, which has killed livestock, damaged homes, and contributed to environmental degradation. The southern parts of Somalia are also experiencing flash floods. This is causing land to be rendered useless in some areas. As a result, Somalis must either resort to other types of livelihoods by moving to more populated cities or resort to other types of movement. Patterns of movement can include making their way to other countries where land may be less degraded, but this also may include settling where they are. The poorer pastoral households who cannot afford to transport their livestock elsewhere, may be forced to stay put and cope with less rainfall or, on the other hand, flooding. Another option, usually for those who have lost too much of their livestock from the lack of pastures, food, and water, is to give up their traditional livelihood and permanently settle in overcrowded cities. This will have a numerous repercussions as well, particularly on food production and health in the region.

This is no longer a hypothetical situation because the migration of mass populations due to the impacts of climate change is already evident. Somalia experienced a drought between 2011 and 2012 that displaced 290,000 people across international borders to Kenya, Ethiopia, Yemen, and Djibouti (Nansen Initiative, 2015). Those who were displaced by this drought and its associated impacts would be considered environmental refugees. However, due to the political instability that exists within Somalia, the climate change related aspects of displacement went overlooked. Those who were displaced and gained refugee status were considered refugees for reasons that are not entirely accurate, mainly seeking refuge from internal violence.

# Maldives

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An extreme example of a population that is largely at risk of becoming environmental refugees as a result of sea level rise is the people of the Maldives. The Maldives is a chain of over 1,000 small islands off the southwest coast of India and is the lowest lying country in the world. The average height of the islands is 1.5 meters above sea level, and over 80% of the total land area is less than 1 meter above sea level (UNFCCC, n.d.). Sea level is projected to rise another 1 to 4 feet (0.3 to 1.2 meters) by 2100 (US Global Change Research Program, 2014). In the worst-case scenario, the majority of the land in the Maldives would be submerged underwater by this time. The Maldives has a population of almost 350,000, all of which have the potential to become environmental refugees in the coming years (World Bank, 2013). Not only will Maldivians lose their homes and their country, but they will also lose their unique cultural identity as they are forced to leave their homeland. Even if all of the islands are not fully submerged, there will still be negative impacts. For example, tourism supports over 25% of the economy in the Maldives. As the islands sink they will not be able to support as many tourists and tourist facilities, which will take a toll on the economy (National Geographic, 2015).

If these islands do get submerged underwater, it is likely that the Maldivians will flee to nearby countries, since most will not even have the option of internal displacement. Maldives leaders have worked with leaders in Australia, India, and Sri Lanka to set up an evacuation plan should the islands become uninhabitable (National Geographic, 2015). However, Australia, India, and Sri Lanka are not immune to impacts of climate change, so there could be even more refugee situations arising from the mass movement of the Maldivians. The Maldivian government has been extremely proactive in international climate policy, particularly for small island states, due to fear of losing their entire country altogether. The fact that the leaders of this country have determined where the people of the Maldives will seek refuge proves the possibility of environmental refugees in this region.

# Bangladesh

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Bangladesh is a country of top concern for the majority of the international climate community. It is extremely vulnerable to the impacts of climate change due to its location on the Ganges Delta, a flat and low-lying landscape, its high population density, and its economy that is highly dependent on agriculture (World Bank, n.d.). The country is made up of 230 major rivers and streams and has a population of approximately 160 million people, most of whom are settled in low-lying, coastal areas (World Bank, 2013). Increasing local vulnerability is high population density, poverty, and illiteracy along with a lack of institutional capacity. In Bangladesh, the climate has high temperatures, heavy rainfall, and high humidity. Floods, tropical cyclones, storm surges, and droughts already occur in Bangladesh and are becoming more frequent and are predicted to become more severe in coming years (Global Climate Change Alliance, 2012). The changes in these events has the potential to threaten food production, livelihoods, infrastructure, public safety, and even slow the reduction of poverty in the country.

Almost 80% of the total area of the country is prone to flooding (NCDO, 2012). As early as 20 to 30 years from now, shifting rain patterns could leave some areas of Bangladesh under water and others without enough water for energy, irrigation, or drinking (World Bank News, 2013). In the southern region, 40% of productive land is projected to be lost with a 65 centimeter rise in sea level by 2080 (World Bank News, 2013). Rising sea levels along with more frequent and intense cyclones and storm surges could intensify the contamination of groundwater and surface water, contributing to health issues and diseases. Bangladesh already relies on groundwater for drinking because the rivers are so polluted, so the contamination of the drinking water would be devastating to the country. It is also relevant to realize that Bangladesh is one of the countries that is most vulnerable to the impacts of climate change, yet only produces 0.3% of the greenhouse gas emissions driving climate change (New York Times, 2014).

Bangladesh has already experienced devastating cyclones in recent years because it is prone to cyclones due to the V-shaped Bay of Bengal, which funnels cyclones straight into Bangladesh. The most recent and devastating being Cyclone Aila in 2009, which displaced more than 2 million people in India and Bangladesh (Nansen Initiative, 2015). A potential cyclone in 2050 could expose 9.7 million people to more than 3 meters of inundation (World Bank News, 2013). Rising sea levels will contribute to more severe flooding and this will destroy infrastructure and livelihoods in some areas of the country as well as lead to a loss of land. Scientists expect climate change to inundate about 17% of the land in Bangladesh and displace about 18 million people in the next 40 years (New York Times, 2014). Bangladeshis are already crossing the border into India, which has resulted in the need for heavy border control. However, if India is already closing off its border to the people of Bangladesh, it is difficult to say where they will seek refuge into the future. Due to the poverty in the region, migration options are limited to the bordering countries for many of the people.

# Lake Victoria

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As previously stated, violence is resulting from climate change impacts. This is an existing problem in some regions, particularly in areas throughout Africa where resources are already limited. According to a study by researchers at Berkeley, Stanford, New York, and Harvard, climate change could increase the risk of civil war in Africa by more than 50% in the year 2030 compared to 1990 (UNHCR News, 2009).

Lake Victoria, for example, is shrinking rapidly. From 2003 to 2008, the water levels had receded by more than six feet (Pulitzer Center, 2008). It is the second largest freshwater lake in the world and is bordered by Kenya (6%), Uganda (42%), and Tanzania (52%). However, experts have predicted that it may disappear within 20 to 30 years (Pulitzer Center, 2008). The water levels have dropped in recent years due to increased evaporation and hydroelectric dam projects. These impacts, along with overfishing, have put pressure on the lake's threatened resources. This crisis endangers the livelihood of more than 30 million people, all of who rely on the lake for food, water, and/or work (IRIN, 2008). As the lake shrinks, the fish migrate to the deeper parts of the water near the center of the lake to survive. This means that the fisherman will also move towards the center of the lake to catch the fish. However, with three different countries sharing a shrinking lake, it becomes hard to tell where the original borders actually lie. Fishermen are being arrested and tortured by the other countries for intruding across international borders onto their land and taking their resources (Pulitzer Center, 2008). Violence such as this will only increase as the lake continues to shrink and resources become even scarcer. It is very possible that these countries could go to war over their rights to the water in Lake Victoria. In this situation, people may flee due to the conflict that is beginning to ensue, but they may also flee due to the diminishing resources in the area. In both cases, these people may need to seek refugee across international borders and could be considered environmental refugees.

## Need for Policy

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According to the Norwegian Refugee Council (2014), from 2008 to 2012, 144 million people were forced to flee their homes in 125 different countries. About three-fourths of these countries were affected by multiple disaster-induced displacement events over that period (Norwegian Refugee Council, 2014). This is a clear indication that a large number of people are fleeing their homes for reasons outside of the refugee definition. It is also estimated that more than 200 million people might be forced to leave their homes in the near future to seek refuge in other places or countries over the course of the century (GLOGOV, n.d.). These numbers are increasing and it is vital that the world is prepared for mass migrations of this level and context.

Since there is no existing international policy for environmental refugees, many people have been inaccurately classified as refugees of the existing definition, in order to gain international aid. This works in some cases because, as previously discussed, there is an overlap between conflict and the stress caused as a result of climate change impacts. However, the legal framework set forth by the 1951 Convention has proven inadequate in the protection of environmental refugees since it was constructed for different purposes. There are new patterns of movement emerging, and in order to cope with them, new legal framework will need to be negotiated.

Approaches that solely address environmental problems will not be sufficient. There are many other variables that must be taken into account in order to be fully prepared for the challenges to come. It is important for agencies to continue to focus on environmental issues associated with climate change mitigation, but other agencies, including UNHCR, should be focused on the humanitarian and displacement issues associated with climate change that were previously discussed.

# Recommendations

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The lack of international policy for refugees that can result from disasters along with climate change impacts, is contributing the vulnerability of countries due to inadequate preparedness. Every \$1 spent on disaster preparedness, results in \$3 to \$4 saved after a disaster strikes (Nansen Initiative, 2015). Therefore, it makes sense to act now. Environmental refugees are highly anticipated to occur, but also somewhat unpredictable, so now is the time to start preparing. Not only is it cost effective, but it can also save lives. Adequate preparation for environmental refugees can reduce the likelihood of resulting climate change and disaster impacts, but in order for this to happen, a series of actions need to be taken.

## **Action One**

Since there is a lack of data to accurately account for the number of environmental refugees that already exist, along with aspects such as the duration of their displacement, and their needs, it is important to establish a monitoring system for environmentally-induced displacement. This will make for a stronger argument when advocating for international policy for environmental refugees. UNHCR already monitors the number of refugees that are displaced, therefore this agency could start to monitor displacement for environmental reasons as well. Tracking all of the reasons for cross-border displacement is something that should be introduced and established within two to three years. Collecting these numbers is essential in order to relay the need for an international policy to be established.

## **Action Two**

No legal classification or definition currently exists for environmental refugees. This can be problematic because there is no legal backing to support the issue. Therefore, the UN will need to accept and adopt a term and definition to describe exactly what constitutes an environmental refugee. In the meantime, UNHCR should also look at all the ways that the existing policy on refugees can be applied to environmental refugees as well. New legal policy solutions take time to be put into effect and there are environmental refugee situations occurring now. UNHCR could identify environmental refugees as a type of refugee, by including climate change impacts and environmental disaster scenarios in the definition of a “refugee” from the 1951 Convention.

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### **Action Three**

Some type of ranking system should also be established in order to determine which countries should be prioritized for international aid over others. If people who have been displaced are unable to qualify for refugee status under UNHCR, they may be forced to remain in an area that is unsafe or unhealthy to reside. In countries with adequate resources to prevent a refugee crisis, this might be okay. However, countries with fewer resources are unlikely to be able to create sufficient adaptation measures or programs to cope with an environmental refugee crisis. Climate-induced migration might be the only option for many communities and they might need to rely on protection and support from the international community. They may also be forced to stay where they are due to a lack of resources or network to move. Those who are unwillingly left behind may also have very serious protection concerns (GLOGOV, n.d.). For this reason, countries that are more vulnerable should be a priority for international aid and assistance with adaptation and mitigation measures in order to prevent an environmental refugee crisis. Some examples of adaptation measures could include mechanisms to reduce poverty, reforestation programs, and creating other livelihoods through expanded job opportunities. This is something that should be done in collaboration with UNHCR, but mainly by a strongly climate change and disaster focused agency within the UN such as UNFCCC. Since there is existing knowledge of the potential severity of different climate change impacts throughout the world, a reasonable timeframe for this would be within five years in order adequately prepare this component of the policy.

### **Action Four**

Finally, an international framework for the classifications of environmental refugees along with their rights, the responsibilities of the States, and procedures to be followed must be adopted and implemented. This should be done by UNHCR since it is the agency within the UN that is responsible for refugee situations and has the resources to accomplish it. Creating this framework will take time, because it will be such an important legal documentation and requires collaboration between a number of international agencies. Optimistically, this should be accomplished within five years. The issue of environmental refugees is also complex, further adding to the timeframe. There are many different types of situations to cause environmental refugees, along with many different outcomes that have the potential to result. However, there are actions that can be taken in the meantime, as previously discussed.

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## **Challenges**

There are also some challenges that exist in creating an international policy. The sheer numbers of people who have the potential to be displaced. Environmental refugees will cause mass movements of people in unanticipated migration patterns. These mass numbers of environmental refugees will need to go somewhere. Determining the location of displacement will be an issue of great concern. There will need to be a way in order to decide what countries will take in refugees, how many they will take, and how they will be accommodated. This will need to be included in a new international framework on environmental refugees. The existing documentation for refugees will not suffice because it is based on temporary refugee aide. In some cases, environmental refugees may be temporary, but in many cases, it will be permanent.

## **Conclusion**

Creating international policy for environmental refugees will be a timely, but necessary action in the coming years. The growing impacts of climate change and disasters are putting increasing pressures on the world's livelihood and contributing to the vulnerability of certain places and populations. This is an issue that can be addressed on a local and regional level, but must be addressed on an international level in terms of cross-border displacement. Environmental refugees will be an issue of international concern that requires immediate actions to be taken to adequately prepare for what is bound to come.



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