

Too little, too late? Assessing the current international policy response to climate change-induced migration

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Executive Summary: The United Nations 2015 Paris Climate Conference (COP 21) issued a landmark decree detailing states' responsibilities to protect the rights of environmental migrants (Warren, 2016). Since then, there has been little progress towards addressing the issues of environmental migration and displacement, some of the most tangible social outcomes of a rapidly changing climate. Considering this stagnation, and as climate migration once again took center stage at the 2017 COP 23 events in Bonn, Germany, it is essential that the international community take definitive steps to implement effective policies on climate migration. The United Nations (UN) estimates that 20 million people in 100 countries were temporarily or permanently displaced since 2008 alone by climate change-related effects (United Nations, 2016)). While critics contend that this number is difficult to definitively substantiate, millions of people are at risk for climate related displacement and movement, particularly as the effects of climate change are become increasingly more severe. Yet, as more and more countries threaten to close their borders to migrants and refugees due to concerns about national security, a logical question emerges: where will environmental migrants and refugees go? Without a concrete policy strategy in place, the mobilization of millions of climate migrants will soon become a dire international problem and potential human rights crisis. As such, it is critical that effective international policy solutions be enacted to address the pressing issue of increasing climate migration. While certain NGOs and international bodies have taken tentative steps to address climate-induced migration, these actions are not adequate as environmental migrants continue to be of grave international concern. As migration is an important climate change adaptation strategy, the international community must: (1) *Develop universally accepted definitions of climate migration and climate migrants;* (2) *Increase scientific knowledge of the connection between climate change and migration, particularly on predicting the origin countries and likely destinations;* (3) *Reframe the issue of climate migration to highlight its potential benefits;* (4) *Prioritize the urging of key decision-makers and actors like the IOM, the UNFCCC, and local and regional governments to develop action plans on climate migration;* (5) *Encourage national governments to develop policies and intervention plans for those internally displaced or migrating from climate change;* (6) *Encourage states that are vulnerable to climate change's effects to increase public and political pressure for the development of an international agreement or convention.* These steps will lay the foundation for the future implementation of an international convention on climate migration.

I. Introduction

With the appointment of Fiji to the Presidency of Parties 23 (COP 23), the international community, particularly members of the Small

Island Developing States (SIDS), were eager to hear Fijian Prime Minister Frank Bainimarama's thoughts on climate change. Like many other SIDS members, a group of developing countries that face a unique set of social, economic, and environmental challenges— particularly those related to climate change— Fiji has felt first-hand the devastating effects of climate change (Ayers and Huq, 2007). Fiji has experienced several debilitating tropical storms, including Cyclone Winston in 2016, one of the strongest storms to make landfall, which threaten to reduce the country's GDP by about 4% ("Tropical Cyclone Winston", 2018). The World Bank also estimates that its 870,000 citizens are now vulnerable to higher rates of disease due to warming temperatures that alter disease vectors (Rushton, 2017). Moreover, as the nearby Solomon Islands has lost five islands in 2016 alone to rising sea levels and erosion, the London School for Economics estimates that over 1.7 million people in the Pacific region are at risk for climate related displacement (UNFCCC, 2017). As such, when Prime Minister Bainimarama took to the stage at COP 23's High-level Event on Integrating Human Rights in Climate Action, the room waited to see how he would address the issue of climate migration and displacement.

Prime Minister Bainimarama began by commending the COP 23 members for integrating human rights into climate change discussions, reminding attendees that responses to climate change must place people first. He then turned to address climate induced displacement and migration. Bainimarama offered to give refuge to nearby neighbors from Kiribati and Tuvalu, low-lying Pacific nations made up of atolls that are severely at risk for rising sea levels, and endorsed the Council's resolution on Human Rights and Climate Change, which specifically addressed issues of cross-border migration. In closing, Bainimarama remarked that "Fiji is doing what it can as a small nation but we need the United Nations (UN) system to be at its best in confronting the scale of the human suffering associated with climate-displaced peoples...an issue that we must resolve to address more seriously, wherever we have the power to act"

("Climate Change Poses...", 2018, 1). With those closing words, Prime Minister Bainimarama threw down the metaphorical gauntlet: the international community at large must take definitive policy steps to assist climate migrants and climate-displaced people before it is too late.

Despite the litany of UNFCCC related events in recent years dedicated to addressing the issue of climate change-induced displacement and migration, some policy makers and scholars still doubt the connection between climate change and migration (Black et al., 2008). Thus, establishing that a connection exists is the logical first step for determining feasible climate migration policy actions.

The International Organization for Migration (IOM) broadly defines migration as "the movement of a person or group of persons, either across an international border or within a State away from his/her habitual place of residence, regardless of (1) the person's legal status; (2) whether the movement is voluntary or involuntary; (3) what the causes for the movement are; (4) what the length of the stay is" ("Key Migration Terms", 2016). From this definition, the UN estimates that, in 2015 alone, there were 244 million international migrants, a 41% increase compared to 2000 ("Number of International Migrants", 2015). As this estimate accounts for international migration alone and the number of internal migrants is notoriously difficult to estimate, it is likely that this is a severe underestimation (Gemenne, 2011).

Constituent and political opposition to immigration stems from a variety of concerns. From an economic perspective, opposition is due to fear of job loss, as an influx of additional labor might reduce wages and induce employers to substitute away from the established work force (Friedberg and Hunt, 1995). Critics also argue that expanding populations place pressure on public services and can lead to increased friction with local people as well as result in an increase in both petty and organized crime and terrorism ("The Pros and Cons of Migration", 2017). In contrast, proponents of migration and refugee

resettlement argue that an arrival of foreigners reinvigorates the economy and social structure of the host country (“Why should America...”, 2018). Supporters also highlight the United States (US) legal obligation to assist refugees and advocate that resettlement can advance the United States strategic interests abroad (Bier, 2017).

As the preceding paragraph demonstrates, with advocates on both sides of the debate, immigration and refugee policy is a controversial political issue. Moreover, the rise of populist and radical nationalist movements in many countries, including the US and the United Kingdom (UK), has ushered in an era of anti-migrant sentiments in many prospective host countries that further complicates the potential for policy interventions (Boomgaarden & Vliegenthart, 2007, Heiss et al., 2019).

Yet, immigration is not the only foreign and domestic policy issue that politicians and citizens alike are concerned about. A recent study conducted by the Pew Research Center revealed that majorities in all 40 nations polled ranked climate change as a serious problem, with 54% believing it is ‘a very serious problem’ (Wike, 2016).

Climate change is broadly defined as “significant changes in global temperature, precipitation, wind patterns and other measures of climate that occur over several decades or longer.” (IPCC, 2014). An important distinction is that weather refers to the short-term changes in temperature, clouds, precipitation, humidity, and wind, while climate is the long-term average of these weather patterns over hundreds or thousands of years (Dunbar, 2015). Debates around climate change center on whether or not changes in global climate are due to natural fluctuations in the Earth’s temperature or to anthropogenic causes, such as increased greenhouse gas emissions (GHG) from industrial activities. While research has demonstrated cyclical variations in global temperatures, the scientific community is in near consensus that the current rates of rising temperatures are too rapid to be attributed to

natural fluctuations alone (Oresekes, 2004). Additionally, research conducted by NASA and the International Institute for Environment and Development have demonstrated the link between the rampant burning of fossil fuels by the global population, rising greenhouse gases, and global temperature increases, indicating that humans are playing a substantial role in rising global temperatures (Dunbar, 2015).

The effects of climate change have been well-documented, from changes in rainfall patterns and an increase in the likelihood and severity of extreme weather to rising sea levels (“Global Warming Impacts”, 2018). Scholars characterize these effects as either sudden onset climatic disruptions, such as hurricanes or flooding events, or gradual onset climatic disruptions, such as rising sea levels and desertification. Sudden-onset disruptions are more closely associated with displacement, resulting in the creation of climate refugees. In contrast, gradual climatic disruptions, which occur over large periods of time, typically result in migration, which is used as a final adaptation strategy by households when other options fail. For this paper, it is necessary to distinguish between displacement and migration. Migration refers to “the movement of people either across international borders or within their country of origin, who remain outside their original place of residence for a period of at least three months”, while displacement is a particular form of migration in which “individuals are forced to move against their will” (Shamsuddoha et al., 2012). Displacement thus tends to be associated with sudden-onset climate disruptions that force individuals out of their homes within a small timeframe, while slower-onset effects, which gradually erode an individual’s coping strategies, are associated with long-term migration.

Additionally, there are challenges associated with applying the existing legal definition of ‘refugees’ to climate change-displaced people. The current legal definition only refers to groups that are displaced due to “persecution for reasons of race, religion, nationality, membership of a particular social group, or political opinion” (Service, 2015,

13. Under this definition, climate-displaced people are not considered refugees, meaning they are not afforded the same rights and protection by the state or the international community. This has seriously limited the effectiveness of international policies on the displacement of people due to the impacts of climate change. While both climate migrants and refugees are important to consider from a policy and human rights perspective, for the purposes of this paper, gradual-onset climatic disruptions and migration and the potential policy interventions for this issue specifically will be explored

In addition to displacement, climate change has also been implicated as a contributing factor in numerous upheavals. For example, the 2018 migrant caravan from Central America, while causally attributed primarily to proximate causes like violence, organized crime, and systemic corruption, was also linked to climate change, with experts asserting that increased instances of crop failure due to climate change exacerbated existing frustrations (Milman, Holden, and Agren, 2018). Additionally, climate change has recently been linked to the development and worsening of violent conflicts, including the Syrian Civil War where worsening droughts caused by climate change resulted in large scale rural-urban migration that increased pressure on social services and escalated existing tensions (Selby, Dahi, Flohlich, Hulme, 2017). While these linkages are prevalent and do underscore the urgency with which policy action on climate change and its humanitarian effects are needed, it is important to note that these causal attributions of climate change with conflict or social upheaval are contested (Abrahams and Carr, 2017; Dalby 2018; Ide, 2018). Despite this lack of agreement, evaluating the scale and scope of climate change-induced migration to develop a definition and work plan is necessary to ensure sound policy approaches.

It is also of critical importance for this piece to recognize which groups are most at risk for climate change-induced migration and displacement. First, research concludes that the

poorest members of society will experience climate change-related impacts first and hardest, and these populations disproportionately live in countries with few resources to adequately prepare for the worsening effects of climate change (Levy and Patz, 2015; Winsemius, Jonman, Veldkamp, et al, 2015; Barbier and Hochard, 2018). Thus, future policy interventions must prioritize these vulnerable individuals.

Second, while considerable attention has focused recently on the international movements of migrants, a vast majority of individuals are either internally displaced by climate change or choose to move within their national borders (Ferris, 2011). Traditionally known as Internally Displaced Peoples (IDPs), the Global Report on Internal Displacement estimated that there were 17.2 million new displacements associated with natural disasters across 148 counties in 2018 alone, bringing the total number of people classified as being internally displaced to 41.3 million (IDMC, 2019). Despite these staggering numbers, these individuals are often not included in international and domestic migration and displacement policies. Thus, a focus on IDPs must be a core tenant of future climate migration and displacement policy.

II. State of knowledge

In order to evaluate contemporary policies addressing climate change-induced migration and displacement and to offer constructive future policy recommendations, it is necessary to first ground the issue within its relevant research. This section examines the existing body of knowledge on climate change-induced migration and displacement by surveying literature on the nature of a relationship between climate change and migration, whether the effects of climate change on human mobility differ across demographics, and other factors typically associated with migration.

The connection between the gradual effects of climate change such as rising sea levels and desertification and migration has been extensively explored in the scientific, legal, and policy literature. Scientists have utilized the fossil

record, carbon dating, and soil cores to reveal that a historic link exists between changing climates and human migration (Carto et al., 2009). Thus, there is a well-documented precedent for the conclusions that changing climates are related to new or increasing migration patterns.

However, contemporary exploration of the relationship between climate change and migration, existing literature differs significantly on the exact nature of climate change's impacts on human mobility. The scientific literature focusing on contemporary migration and anthropogenic climate change has demonstrated that the slow-onset effects of climate change, particularly long-range changes in rainfall patterns and droughts, are associated with greater internal migration within a country (Barrio et al., 2006). Additional research by Gray et al. (2016) and Plaza et al. (2011) has highlighted the important role that rising temperatures in particular play in increasing internal migration. Moreover, a 2003 study by Henry et al. revealed that people living in drier areas were more likely to migrate after drought conditions than those living in wetter climates. This is arguably surprising as it would be expected that communities in dry regions would have more adaptation strategies in place to respond to drought conditions. But, Renaud et al. (2007) reveal that migration is an important adaptation strategy for communities, particularly when traditional strategies, such as livelihood diversification, have decreased in effectiveness or are no longer feasible.

Furthermore, migration is generally considered a household investment strategy that is only deployed when existing strategies have been unsuccessful or have been exhausted as is often the case in long-term drought conditions (Bowles et al., 2014). This body of research reveals that long-term changes in rainfall patterns erode traditional coping strategies, leading communities to consider migration as the only remaining adaptation strategy. Thus, as climate change continues to affect local weather patterns and families' ability to cope with these changes,

more and more people will likely choose to migrate away from their traditional homelands.

Despite the perception that migration is typically cross-border, the migration literature has demonstrated the opposite where, at present, most climate-related movement occurs within a country (Martin, 2010; Black et al., 2011; de Sherbinin et al., 2011). The resulting increase in Internally Displaced Persons (IDPs) from climate change will have significant implications for both national and international security, humanitarian concerns, and human rights, highlighting the importance of the development and implementation of effective policy solutions is of the utmost importance (Daley, 2013; Emmanuel, 2015; Zetter and Deikun 2010).

With respect to international migration, the literature is not in consensus as to the extent that climate change-related impacts induce cross-border migration. Two separate studies by Henry et al. (2003, 2004) reveal that, while internal migration was positively correlated with drought conditions, droughts appeared to have no effect on international migration rates. To explain their findings, Henry et al. argue that, as droughts compromise crop production and therefore impact household income, these communities may not have the capital necessary to move internationally, choosing instead to move internally in search of alternative livelihoods.

Although results on the subject of drought and international migration are mixed (Leighton, 2016; Beine and Parsons, 2015), the literature does indicate a link between rising sea levels and international migration (Warner et al., 2010; Marino and Lazrus, 2015; Connell, 2016). Thus, compelling evidence exists to link certain types of slow-onset climatic disruptions to increases in international migration. This research demonstrates that instituting only domestic policies for addressing internal climate-related movement is not sufficient. Instead, global policies to manage the international movements of climate migrants and their potential impact on host communities will need to be an additional component of future policy interventions.

A particularly urgent arena in which to estimate the impact of climate change on migration patterns are coastal zones and island nations where significant urgency exists for addressing the growing impacts of climate change. Low Elevation Coastal Zones (LECZ), defined as the contiguous area along the coast that is less than 10 meters above sea level, contain about 2% of the world's land area but 10 % of the global population (McGranahan, Balk, and Anderson, 2007). These zones appear to be prime locations for climate-induced out-migration as they are densely populated and particularly vulnerable to slow onset climate change effects like rising sea levels and erosion (Nicholls, 2002), they appear to be prime locations for climate-induced out-migration. However, these regions also contain many major urban epicenters. As existing rural-urban migration patterns may be exacerbated by droughts, crop reduction, and urbanization policies, urban areas in the LECZ will likely remain major migration destinations (Small and Nicholls, 2003).

This is problematic as these regions are also the most vulnerable to climate change, meaning growing numbers of people are likely to become at-risk for climate change induced displacement in the coming years. While there has been some internal migration away from coastal regions, the high cost associated with migrating – particularly with moving industry – precludes most potential migrants from leaving these coastal regions for the time being (McGranahan, Balk, and Anderson, 2007). Moreover, the poorest residents of cities who are often forced to settle in flood plains or other low-lying areas currently experience the greatest effects of climate change. Yet, these individuals are also the ones who cannot afford to migrate, and thus remain trapped in their current situations (Hardoy, Mitlin, and Satterthwaite, 2007). The paradox of coastal cities is likely to become of critical concern in the coming decades as more migrants move into cities while slow-onset climate change related impacts begin to manifest more severely.

Numerous studies have demonstrated that islands – particularly those in the Pacific region, which is more immediately threatened by climate change than other island regions – have already experienced climate migration to neighboring islands and the nearby mainland (McLeman and Smit, 2006). A 2009 study revealed that in the Republic of Kiribati and Tuvalu, two low-lying atoll nations in the Pacific region, had a surge of population migration from rural outer islands to urban central islands in response to rising sea levels. This study also demonstrated that, as a result of this rural-urban migration, there was considerable additional pressure placed on local infrastructure and services in urban centers (Locke, 2009), straining relationships with prior residents. In light of this research, islands, particularly those in the Pacific, are experiencing direct climate change-related migration and should thus be the main targets of future climate-migration policies.

Finally, researchers have also attempted to predict the directionality of climate-induced migration. Typically, a “less developed” to “more developed” directionality is assumed for international migration and a rural-urban trajectory for internal migration (Abel and Sander, 2014). But, the literature demonstrates that these are not definitive trends (Arango, 2017; Funari, 2018). Increasingly, migrants are moving to neighboring rural villages rather than cities and to neighboring countries rather than entirely new continents.

Thus, while variability does exist in the literature regarding the exact nature of the relationship between climate change and migration across different regions and types of climatic impacts, there is considerable evidence that climate change plays a significant role in affecting both international and domestic migration patterns. However, some scholars argue that climate change may actually *inhibit* certain groups' ability to migrate (Nawrotzki and Bahtsiyarava, 2017; Thomas and Benjamin, 2018). As discussed above, migration may be a key adaptation strategy for households responding to the impacts of climate change. In particular,

households may benefit from migration by either sending members elsewhere to access alternative income sources for remittance to the origin household or, in the absence or failure of other adaptation strategies like crop diversification or shifting to alternative livelihoods, households may choose to migrate to another location (Berhanu and Beyene, 2015). Yet the cost of moving is high, meaning migration is only an option for individuals or groups with sufficient resources and the necessary existing network to do so. This is particularly problematic as scholars have widely demonstrated that the effects of climate change will be felt first, and hardest, by the poorest members of society. As these groups generally do not have the financial capital to leave an area, they become trapped in a situation of vulnerability and rapidly declining environmental conditions (Milan and Ruano, 2014). Meanwhile, deteriorating environmental conditions resulting from climate change can also directly undermine a group's ability to migrate. For example, Suckalla et al. (2016) demonstrated that in Malawi climate change's effects on rainfall patterns compromised crop production and subsequently, the financial capital of rural farmers. Without those profits, farmers could not migrate to alternative locations and were thus trapped in a cycle of poverty and environmental degradation. Despite this evidence, one could question if, with continued deterioration of environmental conditions, these communities could eventually find a way to migrate? This claim is nearly impossible to empirically substantiate today due to a lack of existing data. As such, this will be a critical avenue for future study within the climate change and migration nexus and will necessary to inform future policy interventions.

In addition to the potential for climate change to prevent migration, structural inequalities, including gender inequality (Posel, 2001), can further impede the mobility of some groups. Gender inequalities are particularly necessary to consider within the climate change-migration nexus as women are typically more vulnerable to the adverse impacts of climate change than men due to differing gender roles that dictate access to

resources and livelihood responsibilities (Masika, 2020). For example, in many communities, women are often responsible for gathering and producing food, collecting water, and sourcing fuel for cooking and heating – all of which are becoming more difficult due to climate change (Denton, 2002; Dankelman, 2010). Further, as 70% of the world's poor are women, meaning that they are the most vulnerable population in the face of extreme weather events like droughts and floods, which have been widely demonstrated to disproportionately impact the poor (Bastos et al., 2009).

Adaptation to climate change is also gendered, as women “tend to be poorer, less educated, have a lower health status, and have limited direct access to or ownership of natural resources” (Espen, 2003 119). As such, the ability of women to adapt to climate change is significantly more challenging, meaning policy interventions must consider gender dynamics in order to effectively assist those most vulnerable.

Further, migration as an adaptation strategy is not uniformly utilized by men and women. Particularly in situations where the effects of climate change are more gradual, researchers have demonstrated that men, but rarely women, utilize migration as an adaptation strategy to procure alternative livelihoods (David, 2009). This disproportionate migration of men results in women left behind in areas vulnerable to the effects of climate change (UNFPA, 2009), thereby creating a larger burden of work for women who must care for families and find additional income (Buechler, 2009). As climate migration is inherently a gendered adaptation strategy, the development of future policies must consider the disproportionate impacts of migration on women.

Significantly, for both internal and international climate-induced migration, scholars caution overstating the linkage with climatic changes and ignoring the role other factors play (Hammer, 2004; Taylor, 2004; Barnett and Adger 2007). The connection between environmental change and migration is not linear (Geddes and

Somerville, 2013), but rather, a complex, multi-causal relationship that is mediated by other factors including economic stressors (unemployment rates and income levels), housing, social welfare, and political drivers which also influence migration rates (Greenwood, 1985).

Environmental stressors like climate change interact with these other causes of migration to increase the likelihood of migration. Thus, while climate change-related effects likely do play a role in both internal and international migration to some degree, other more immediate drivers are considered to be more influential (Arango, 2017; Carling 2017). As such, while environmental stressors do play a defining role in affecting migration flows, one must be cautious not to overstate the connection and ignore the myriad other factors at play in driving the complex pattern of migration.

The existence of other drivers is the primary reason that establishing an empirical link between climate change and migration is difficult. Additionally, critics of the climate change–migration hypothesis point to the greater influence of other factors as evidence for why climate change and migration are not as causally linked as the literature claims (Reuveny, 2007; Bettini, 2013; Piguet, 2013). The difficulties in establishing a concrete link has important policy implications as decision makers are often hesitant to advocate for policies when the underlying science is not definitive or universal.

Additionally, many policy makers and the public assume that climate-displaced peoples would choose to leave their home country if given the chance. However, analysis of migration trends reveals that is not the case (Funari, 2018). If given the choice, migrants would prefer to stay in their own country, or go to ones nearby with similar languages and cultures, then travel long distances to a country where they do not speak the language, know the culture, or have a significant support system.

Yet, based on the research, it is logical to conclude that should migrants be forced to leave their home countries, they would choose a destination with open immigration policies or more lenient border controls, perceived economic and social opportunities, and established communities from their home countries. Furthermore, a study assessing the likelihood of climate displacement in the UK revealed that, although the UK is unlikely to be affected by climate change's direct effects in the next several decades due to the existence of mitigating factors, like its geomorphology that limits flooding and reduces the risk of drought and the quality and responsiveness of the government to climate-change related agricultural distress, the UK is likely to become a destination country because of those very factors (Fielding, 2011).

When considering the comprehensive analysis on climate migration trends, it becomes difficult to definitively determine exact patterns or destinations. Yet at-risk countries for climate displacement and potential destination countries can be determined by assessing the vulnerability of each country to climate change and the openness of its immigration policies. These likely origin and destination countries should be prioritized by the international community when determining prospective climate-migration policies.

While the existing body of literature on climate change-induced migration and displacement is extensive, there is an absence of any systematic evaluation of contemporary approaches and analysis of necessary developments for effectively addressing the issue. This article fills this critical gap by first analyzing the existing policies that have been implemented around climate change-induced migration before suggesting a series of recommendations for future action.

III. Assessing current policies

Although a number of initiatives to address climate migration have been proposed and enacted in the last decade, none have been truly effective at addressing the issue of climate change

induced human mobility. This section reviews the current catalogue of policies or initiatives that have been implemented to address climate migration and discusses the limitations of each approach.

i. IOM puts forth a working definition of climate migration in 2007

The first tangible acknowledgement of the idea that migration can result from environmental issues – principally climate change – was the International Organization for Migration (IOM)'s 2007 proposal of a working definition of an 'environmental migrant' ("Wanted: A Plan of Action", 2017). The proposed definition is:

Persons or groups of persons who, for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to have to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their territory or abroad. (IOM, 2015)

Previously, there had been no acknowledgement or definition to encompass the idea that individuals may be prompted to move due to deteriorating environmental conditions.

Before the IOM's definition, scholars had primarily utilized the term 'environmental refugee', which was criticized for being too broad and fraught with legal connotations (IOM, 2009). The use of the term climate refugee is complicated by the existing 1951 Convention Relating to the Status of Refugees which requires an element of persecution to qualify an individual or group as having 'refugee' status (Hathaway, 2017). While climate change has been implicated in exacerbating existing political and economic persecution, most international refugee organizations do not consider climate change as constituting a "persecutory situation" (Kolmannskog, 2012). This means that individuals compelled to migrate as a result of climate change effects do not qualify for protection under the existing international

refugee frameworks, due to the implications of terminology (Farbotko and Lazrus, 2015).

Moreover, critics of the term 'refugee' as pertaining to climate change insist that it implies a loss of agency by those that are migrating, creating a narrative of helplessness and ultimately perpetuating unequal power dynamics in the locations where these residents may move (Jakobeit and Methmann, 2012; Farbotko and Lazrus, 2012; Morrissey, 2012). Importantly, none of the existing international frameworks designed to address migration included people moving due to environmental reasons. As such, the vast numbers of people migrating due to environmental degradation, natural disasters, and the effects of climate change are left outside of international consideration. This is especially true for individuals who migrate domestically.

In light of the controversial use of the term refugee by some groups and the exclusion of those migrating due to environmental concerns by others, a standard definition of 'environmental migrant' is sorely needed to ensure that all vulnerable groups are included in protection policies. Such a definition should also give explicit consideration to those internally displaced by climate change impacts, who are often overlooked in current estimations of climate displacement and migration.

In the development of a policy, defining the problem is a crucial first step. Without a concrete delineation of what constitutes the target issue, successful future policies cannot be created. Thus, the IOM's proposal of a working definition of environmental and climate migrants marks the first true description of the problem and opens the door for future opportunities for the development of policies on climate change-related migration and displacement.

Despite the IOM's efforts, a standard definition for people who move, either voluntarily or not, as a result of climate change and its effects, is still needed. Different organizations use varying terminologies to describe the same phenomenon:

climate migrants, climate refugees, environmentally displaced people, environmentally-induced ecological migrants, and so on. Each of these different terms carry unique connotations for different groups. A clear understanding of who policies should be designed to assist is missing.

Moreover, the lack of a consistent definition confuses estimates of the number of people at risk and most climate change and migration/displacement organizations acknowledging that the exact number of displaced persons is difficult to estimate (United Nations, 2015; Environmental Migration, 2018). This is further complicated by difficulties defining and distinguishing between 'forced displacement' and 'voluntary migration', particularly when people are moving due to extensive risk. Under international definitions, forced migration refers to "the coerced movement of a person or persons away from their home" (IOM, 2012). The limitation of this definition is that it does not include individuals who choose to move away from an area due to increasing livelihood stress and challenges. Most migrants fall somewhere in the middle of these two categorizations, at the intersection between choice and coercion (Hugo, 2010). This means that policies targeting only those forcefully displaced or only those choosing to migrate ignore many in need of assistance.

While the IOM's proposal of a definition for environmental migrants lays a necessary foundation, a more concrete and universally accepted definition is still needed. Without a clear definition and understanding of what climate migration is and who the at-risk individuals are, it is unrealistic to expect effective policies to be developed. Thus, the international community must first come to a consensus about a definition for climate migration before additional policies can be proposed.

ii. The creation of the Climate Change, Environment and Migration Alliance (CCEMA) in 2009

The CCEMA was launched by the IOM in 2009 as the first "multi-stakeholder global partnership designed to bring together actors representing a range of perspectives on environment, migration, development, and humanitarian assistance" (Climate Change, Environment and Migration Alliance, 2019). It was founded in response to the international community's growing realization that complex linkages existed between climate change, environmental degradation, and migration and the understanding that there was a need for substantial research and policy developments on the subject. In particular, its objective was to bring the topic of migration considerations to questions and discussions about environmental degradation, development, and climate change. Actors included the IOM, Munich Re Foundation (MRF), The Stockholm Environment Institute (SEI), United Nations Environmental Programme (UNEP), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), United Nations University Institute for Environment and Human Security (UNU-EHS), and the University of Sussex (Climate Change, Environment and Migration Alliance, 2019).

The specified objectives of the CCEMA were to: (1) raise policy and public awareness on the nexus between climate change and migration; (2) improve the knowledge base surrounding the complex relationships between climate change-induced environmental degradation and migration; (3) provide a neutral and open forum for policy dialogues on climate-induced migration; and (4) provide practical support for the most vulnerable countries and populations by building the capacity of governments and other stakeholders in at-risk countries to respond to climate change (About CCEMA, 2012).

Considering that the CCEMA's primary goal was to raise public awareness about climate change-induced migration and to bring migration into global discourses on climate change, the degree of its success appears to be mixed.

On one hand, the linkages between climate change and migration have begun to be part of

political dialogue and an emergent focus of international organizations working on both dimensions of the issue. There was also an apparent rise in scholarly attention to environmental and climate-induced migration around the time that the CCEMA was initiated (Faist, and Schade 2013). While it is difficult to causally attribute this rise in publications to the CCEMA's creation, it does provide some evidence that the program's development increased the academic communities' attention to climate change related migration.

On the other hand, this increase in awareness about the issue has not extended past tentative political discussions and research by academics. Climate migration remains largely outside of societal discussions and thus is an under-considered outcome of climate change by the public at large.

Climate migration is not considered an issue for most political parties globally, with the exception of the European Union's Green Party (Geddes and Somerville, 2013). Furthermore, while the Green Party may endorse action on climate migration, it is a marginalized political group. The European Green Party, which in 2013 attempted to make the issue of climate change-induced migration a cornerstone of their environmental platform, was one of the first political parties to do so (European Greens, 2019). The party, led by candidates Rebecca Harms and Daniel Cohn-Bendit, published and adopted a position paper in May of 2013 highlighting the links between climate change and migration and its likely human rights and political impacts (Flauter, Lambert, & Lochbihler, 2013). The Party then issued a set of recommendations for EU intervention including the more stringent execution of the EU's Guiding Principles on Internal Displacement and the integration of locally, regionally, and internationally developed and implemented policies on climate migration (Flauter, Lambert, & Lochbihler, 2013). Despite a strong stance on climate migration, the Green Party received only 6% of votes and representatives in the EU's Parliament the following election year, arguably demonstrating

that climate migration – and environmental issues more broadly – are not of serious political concern to the public. This lack of political and public support results in a limited potential for amending existing laws or developing new legislation on the issue.

In addition to the lack of widespread public awareness of climate migration, the first official acknowledgement of the issue by the entire international community did not occur until the COP 21 in 2015, despite the CCEMA's founding in 2009. As several other programs and policies were developed between the time of the CCEMA's implementation and the COP 21's official recognition of climate migration, it is impossible to conclude that the CCEMA, and not another policy, was responsible for this later recognition. Thus, the singular effectiveness of the CCEMA in bringing the issue of climate migration into mainstream international policy discussions is uncertain.

More importantly, the CCEMA's creation has not resulted in the development of specific international policies addressing climate change-induced migration. As such, concern about climate migrants and climate change-related displacement has remained an urgent topic for the international community throughout the last decade.

This is perhaps the most important reason that the CCEMA has been ineffective. Its mission was simply to increase awareness, discussion, and consideration of climate change-related migration and displacement. But, there was no component in its mandate that advocated for or necessitated the development of policies addressing the issue itself. While increasing public awareness and creating a forum for discussion are crucial first steps in policy development, we have moved beyond the time for dialogue to the need for urgent solutions to climate migration.

iii. The 2010 COP 16's Cancun adaptation framework

The 2010 COP 16, held in Cancun, Mexico, emphasized adaptation as a critical component of climate change action. In particular, the conference established the Cancun Adaptation Framework which advised signatories to strengthen, and where necessary, develop adaptation plans and establish regional adaptation centers (Kato, 2003). The overall goal of the framework was for climate change adaptation to be held to the same level of priority as climate change mitigation by enhancing “action on adaptation through international cooperation, reduce vulnerability and build resilience in developing countries signatories, and address the urgent and immediate needs to those that are particularly vulnerable” (Kato, 2003).

The Cancun Adaptation Framework is of particular note for climate migration as COP 16 marks the first time that migration appeared on the UNFCCC’s agenda. Moreover, the Cancun Adaptation Framework was the first recognition in official COP text of climate-induced mobility as a technical cooperation issue. The exact directive encouraged signatories of the Framework to undertake:

Measures to enhance understanding, coordination, and cooperation with regard to climate change induced displacement, migration, and planned relocation, where appropriate, at national, regional, and international levels. (UNFCCC, 2003)

The international community had high hopes for the COP 16’s official recognition of climate-migration and the creation of the Cancun Adaptation Framework to catalyze national and regional action on topics of migration, displacement, and planned relocation in the context of climate change (Warner, 2012). Many proponents viewed the inclusion of migration in discussions of adaptation as a potential breakthrough in reversing the negative stigma around migration and resulting in more open internal and international migration policies by countries.

However, the Cancun Adaptation Framework fell short in several ways. First, discussions of climate-migration were limited to one sentence in a 30-page document. As such, climate-migration was given little true consideration or analysis within the large directive that resulted from COP 16. Simply mentioning climate-migration without giving context or potential solutions did not equip Parties with the knowledge needed to develop effective National Adaptation Plans to deal with migration and displacement. Moreover, the cursory mention of climate-migration does not convey a sense of urgency, making it understandable that countries may not realize the extent of the issue.

Second, it lacked any binding directive to hold Parties accountable for including migration in adaptation plans, meaning countries were under no legal obligation to include displacement and migration in their national plans. In fact, countries were not legally bound to develop adaptation plans at all. Therefore, many did not act and, those that did develop adaptation plans, did not include migration, resulting in the issue’s continued inattention.

This issue was compounded by the fact that there was no advisory body to provide technical assistance or resources to countries for the development of their action plans. Without advisory and technical assistance, it was unrealistic for the UNFCCC to expect countries – particularly developing ones at risk and who may be lacking capacity – from being able to develop effective climate adaptation plans. Thus, while the Cancun Adaptation Framework was a step in the right direction, it ultimately lacked the urgency, capacity, and enforcement ‘teeth’ needed to prompt action on climate-migration.

iv. The 2012-2015 Nansen Initiative in Geneva, Switzerland

The Nansen Initiative on Disaster-Induced Cross-Border Displacement was launched via a partnership between the Norwegian and Swiss governments in October of 2012 (McAdam, 2016). The initiative is “a state-led, bottom up consultative process that is intended to build

consensus on the development of a protection agenda addressing the needs of people displaced across international borders in the context of natural disasters and the effects of climate change” (Environmental Migration Portal, 2019). The direct genesis of the initiative was a joint pledge made by Norway and Switzerland at the United Nations High Commission on Refugees (UNHCR)’s Ministerial meeting in December 2011. For much of 2011, the UNHCR had attempted to spearhead efforts to get states to agree to the development of a global guiding framework on climate change- and natural disaster related displacement. However, only five states (Norway, Switzerland, Costa Rica, Germany, and Mexico) agreed to an international initiative, demonstrating states’ overwhelming desire to retain control over displacement-related protection rather than agree to internationally binding agreements (McAdam, 2016). Thus, the Nansen Initiative was enacted as a bottom-up solution to circumvent this issue.

Operational from 2012 to 2015, the Nansen Initiative began by conducting a series of sub-regional consultations in the Pacific, Central America, the Horn of Africa, Southeast Asia, and South Asia to gather information about the challenges facing different regions, focusing on the various phases of displacement and paying particular attention to issues rarely covered in existing discussions such as customary land laws and cultural heritage and identity. After regional consultations, a global consultation was held in Geneva, Switzerland in October 2015, with over 361 participants representing governments, international organizations, academic institutions, and civil society groups to discuss the results and to develop a non-binding ‘Protection Agenda’ (McAdam, 2016).

Rather than implementing a binding international convention, the Nansen Initiative’s ‘Protection Agenda’ focused on promoting the integration of effective practices on climate displacement into States’ and regional organization’s own normative frameworks. The Agenda addresses the needs of cross-border disaster-displaced people through advocating for

States to voluntarily adopt measures that integrate human rights and international solidarity into domestic policies (“Global Consultation”, 2016).

The Nansen Initiative was seen by many as a progressive step forward for the creation of a meaningful effort to address climate migration and displacement. The UNHCR endorsed the initiative and the organization pledged to work with relevant partners in order to maximize support for States developing climate displacement strategies (United Nations, 2013). Yet, the Nansen Initiative was flawed in several ways.

First, the Initiative was seen by many as being too tentative due to its reliance on voluntary mechanisms. While the voluntary nature of the program was likely necessary to achieve States’ support, it ultimately weakened the agreement’s ability to ensure definitive and consistent global cooperation. States were not required to develop policies, and the types of policies they developed were up to their discretion, making efforts incomplete and disjointed.

Second, the Nansen Initiative is focused on cross-border displacement resulting from natural disasters. This narrow focus risks ignoring issues including the movements of individuals within a country, displacement due to slow-onset climate change effects like rising sea levels, or voluntary movements resulting from a changing climate. Without factoring these critical aspects of climate change-induced human mobility into its directives, the Nansen Initiative fails to consider the full scope of the issue. It must be noted, however, that the Initiative has recently taken steps to broaden definitions of natural disasters to include slow-onset effects of climate change and has begun to consider the blurred line between those forced to move and those compelled to move due to deteriorating conditions. These additions are critical for the success of policies on climate change-induced migration and displacement.

v. The 2012 COP 18 and the establishment of a working program on loss and damage

At the next COP 18 in Doha, Qatar in 2012, discussions of climate migration and displacement were virtually nonexistent. The resulting agreement lacked assertiveness on climate-induced migration and displacement, with the only acknowledgment being that in order to effectively understand loss and damage from climate change more attention was needed to understand how it affected patterns of migration, displacement, and human mobility (UNFCCC, 2013).

COP 18 did result in a Working Group that was directed to consider approaches to addressing loss and damage as a result of climate change, including impacts of extreme weather and slow onset events, and to strengthen international cooperation and expertise to reduce loss and damage (Warsaw International Mechanism for Loss and Damage, 2012). The working program had a primary focus on assessing loss and damage in developing countries that are particularly vulnerable to climate change.

While the working program did not directly mention migration and displacement, these concepts are related to the directive of initiative as climate-induced migration and displacement frequently arise when losses and damages exceed an individual's ability to cope. Thus, by investigating the direct causes of climate-induced migration through an analysis of the types of losses sustained as a result of slow- and rapid-onset climate change effects, the working group began to unpack the complexities of climate-migration. Yet, while migration and displacement are logically tied to the mandate of this group, by not explicitly acknowledging the relationships, the UNFCCC once again pushes the issue of climate-migration out of mainstream attention.

Moreover, the cursory acknowledgement of climate-migration in COP 18's official reports indicates the changing political opinions around the issue during this time. For the next three years, climate-migration is rarely discussed in high-level international climate change meetings,

save the creation of the Warsaw Mechanism for Loss and Damage (Warsaw International Mechanism for Loss and Damage, 2012), hampering any true developments in climate-migration policies.

vi. The 2015 COP 21 Paris Agreement

The lead up to COP 21 saw a renewed interest in climate-induced migration and displacement. William Lacy Swing, Director General of the IOM, urged at the Nansen Initiative Global Consultation for "States and all other relevant actors... to include human mobility in the Climate Agreement to be negotiated in Paris...after 10 long years of climate negotiations, let's not reverse the process and ignore human mobility" (Environmental Migration Portal, 2019). This testimony reflects a movement within the international community that called for greater consideration to be given to the nexus between human migration and mobility and climate change.

COP 21 included several events on the relationship between climate change and human mobility: in particular, there was a UN High-level Side Event on Human Mobility and Climate Change that stressed the need to apply a human mobility perspective to different policy areas like human rights, climate adaptation, migration, sustainable development, and job creation (Environmental Migration Portal, 2019). Other events included a UN Exhibition on Human Mobility in a Changing Climate, a photo exhibition highlighting climate displacement and migration, and the screening of a film on the people of Takuu, a Pacific Island threatened by rising sea levels (Environmental Migration Portal, 2019).

In addition to these side events, a reference to climate displacement was included in the Preamble of the Agreement: "integrated approaches to avert, minimize, and address **displacement** related to the adverse impacts of climate change" (UNFCCC, 2016). Additionally, the Preamble included a direct reference that acknowledged the vulnerability of migrants to climate change:

Acknowledging that climate change is a common concern of humankind, parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity. (UNFCCC, 2016)

Critically, while the COP 21's official report includes climate displacement, the text does not specify what is meant by the term displacement. Furthermore, it does not specify whether displacement includes those who have moved due to intensive or extensive risk, whether movement is forced or voluntary, or whether it is within or across national borders. This ambiguity makes it difficult to specifically identify who subsequent policies would target. Moreover, while the Preamble does mention the vulnerability of migrants, there is no specific discussion of climate-migration as a topic of importance.

Furthermore, both the official documents and the side events on human mobility failed to discuss the potential *advantages* of migration as a byproduct of climate change. Advantages of migration include a reduction of pressure on jobs and resources in the origin country, while advantages of in-migration to the host country include an influx of cheap labor that can help overcome labor shortages, reinvigorate the economy and contribute to cultural diversity (Cebula and Vedder, 1973; Greenwood, 1985; Grecequet, Hellmann, Dewaard, & Li, 2019). Without dedicating attention to the myriad ways that migration as an adaptation strategy to climate change could benefit the individuals migrating, the origin location, and the destination location, policy makers are likely to continue perceiving migration as only a negative issue rather than as a potential positive phenomenon.

Prompted by the resolutions of the Cancun Adaptation Framework, COP 21 included an Advisory Group on Climate Change and Mobility, which issued a set of recommendations to Member States on the subject of human mobility and climate change. The group advised that human mobility in all its forms – displacement, migration, and planned relocation, and as a matter of adaptation to climate change – be included in the agreement and its potential decisions. The overall general objectives were: (1) to recognize that climate change is likely to increase forced internal and cross-border displacement; (2) to recognize the need to take human mobility into account in discussions of climate change mitigation and adaptation policies; (3) to minimize the risk of forced internal and cross-border displacement. The group also issued a set of recommendations for how Parties could best deal with the “negative impacts of climate change-induced human movement” (Elements for the UNFCCC Paris Agreement, 2015).

Again, the recommendations by the Advisory Group on Climate Change and Mobility focused primarily on issues of forced displacement, perpetuating an unrealistic fixed binary between migrants and displaced people and ignoring the needs of individuals who voluntarily relocate due to climate change. While the creation of a working group on climate change-induced human mobility appears to be a promising step in the right direction, the group's recommendations were limited in scope. More importantly, except for the statement in the Loss and Damages Section and a passing mention of migrants, the Recommendations were not included, demonstrating that the issue is not yet of grave concern for Parties.

Interestingly, the original draft of COP 21's Paris Climate Change Agreement included a section describing the creation of a ‘climate change displacement coordination facility’ designed to help with emergency relief for displaced people and assisting with planned relocation of vulnerable communities (UNFCCC, 2015). However, this text was removed due to backlash

from the Australian government who were “keen to avoid the creation of a multilaterally accepted status for climate-induced migrants as they have historically refused to accept people from Tuvalu” (Wilkinson, Kirbyshire, Mayhew, Batra & Milan, 2016, 57).

The removal of this text brings up several issues. First, its omission removes any clear commitment from signatories to take firm steps in addressing the needs of climate-induced migrants. Thus, the COP 21 ultimately does not oblige any action on climate migration. Second, the pushback from the Australian government against this creation of a displacement coordination facility, a relatively minor development, logically raises concern that Australia would contest other policies, particularly more binding ones. The potential for rejection by countries, particularly those with considerable political power, should be a key consideration in future climate-migration policy development. It is critical to have wide international buy-in if concrete policies addressing climate-migration are to be developed.

The influence of COP 21’s most concrete addition to international climate displacement policies, the creation of a Task Force on Displacement, is yet to be realized. The Task Force was created from the Paris Agreement with a mandate “to develop recommendations for integrated approaches to avert, minimize, and address displacement related to the adverse impacts of climate change” (United Nations, 2016). Collaborating with existing bodies and expert groups under the United Nations Climate Change Convention, the Task Force issued a set of recommendations to the Executive Committee of the Warsaw International Mechanism for Loss and Damage (WIM Excom) in the fall of 2018, with the finalized recommendations presented and made public in December at COP 24 (United Nations, 2018). While the international community is optimistic regarding the impact of this task force, it once again stresses displacement rather than migration as a key focus. Thus, it is unlikely that the

recommendations will address climate change adaptation through voluntary migration.

vii. Sustainable development goals

The 17 Sustainable Development Goals (SDGs) set forth by the 2030 Agenda for Sustainable Development came into effect on January 1, 2016 (“The Sustainable Development Agenda, 2016). For the next 15 years, these Goals will guide countries’ policies on poverty alleviation, inequality, and climate change. The SDGs are important, long-term guiding frameworks for the creation of policies on key development challenges and so inform priority policy sectors for countries (“Why are the Sustainable Development Goals Important?”, 2019).

While the SDGs do reference both climate change and migration, they do not bring the two concepts together. SDG 13, which focused on climate action, does not mention migration or displacement nor does it recommend their inclusion in climate policies (Goal 13, 2016). Furthermore, the SDGs highlight migration as an “adverse consequence of increasing global threats” but makes no direction connection to climate change or its role in migration and displacement (Goal 13, 2016). As countries look to the SDGs as guiding principles from which to base national policies, their omission of the links between climate change and migration substantially undermines the potential for effective national policies on climate migration. Including climate change-induced human mobility into the next iteration of the Sustainable Development Goals should be a priority.

IV. Conclusions

Overall, the existing policies and initiatives at the international level have been ineffective at addressing climate migration for a number of reasons. First, due to fears about loss of sovereignty, countries have prioritized national policies rather than endorsing the development of binding international agreements. As a result, action on climate migration has been disjointed and subject to the changing government priorities.

Second, the lack of an independent overseeing agency makes it difficult to ensure a comprehensive international framework that guides the development of solutions to climate migration.

Third, there is still no consistent definition as to what constitutes climate migration and whom this category includes. Not only does this challenge the development of consistent national policies, but the lack of a clear understanding of the problem makes it nearly impossible to develop effective solutions to it. Difficulties clearly defining the issue are compounded as the links between climate change and migration are nonlinear and complex, making the issue of climate migration difficult to fully delineate.

This is further complicated by the lack of scientific consensus on the exact impact that climate change has on migration. Finally, each component of the issue of climate migration is highly political. Anthropogenic climate change is still not an agreed-upon policy issue for many countries, including the US, thus developing tangible policies to address climate change is exceedingly difficult. The issue of migration, which has always been contentious, has grown even more polarized in the wake of recent terror attacks and growing concerns regarding national security risks. Thus, as both climate change and migration are challenging issues to address independently, together they make for a particularly contentious and divisive policy issue.

V. Policy approaches

As discussed in the previous section, developing effective international policies on climate migration will be a considerable challenge. The difficulties associated with climate migration policy are compounded by the inherent nature of the problem. Climate change and its effects are long-term issues that are gradually beginning to be felt but likely will not fully be felt for several more decades. As such, solutions require substantial forethought and will involve tradeoffs between what is easy and convenient today and what may be necessary to ensure future

sustainability and resilience in the face of changing climate.

This potential for tradeoffs is particularly difficult for a number of reasons. First, when citizens are faced with immediate concerns like job loss or access to healthcare, it is unlikely they will mobilize around a problem that will manifest decades later. Additionally, without widespread public support, gaining political backing is unlikely. Policymakers seek to address issues of immediate constituent concern that would ensure their re-election in the next several years. As such, policies addressing long-term issues such as climate change migration, are seen as less urgent and so not prioritized above more immediate concerns.

Moreover, unlike violent conflict or persecutory regimes, many of climate change's effects on communities are not immediately visible. Sea level rise and desertification occur gradually, and so do not receive the same level of media and public attention as other concerns. Furthermore, natural disasters are largely depicted in isolation to their relationship to climate change. While natural disasters like hurricanes and floods are extensively covered by the media and often elicit substantial internationally backed aid, news reports of these disasters rarely, if ever, directly discuss the links between climate change and these events. This omission is likely due to the highly polarizing nature of climate change in many countries, both politically and socially (Zhou, 2016).

In light of the gradual but delayed nature of the problem, it will be difficult to gain widespread international support for a convention containing binding obligations that dictate action. To remedy this, we must be strategic in the ways we approach policy development for climate migration.

First, we must achieve consensus on a definition for climate migration and climate migrants. The lack of a universal definition for the issue and the groups that will be affected by it has considerably hindered effective policy action on the subject.

The IOM's proposed definition of an environmental migrant is a useful starting point to utilize when forming a concrete definition of climate migration. Furthermore, as the IOM has already publicized its concern about the issue and called for the greater implementation of climate change-induced migration into international climate and migration policies, it is the logical lead agency for the task of developing a specific definition.

However, the adoption of a standard definition of climate migration requires both widespread buy-in and commitment to its usage by state and non-state actors alike. This means that NGOs, national governments, and international agencies working on climate migration or any of its satellite issues should use this definition in their programming. In order to ensure broad consensus, a working group under the lead of the IOM could be instituted with a mandate to develop a definition for climate migration and climate migrants. As this unfortunately did not occur at COP 24, a potential forum in which a working group of this nature could be instituted could be at the upcoming COP 25.

A second but related requirement for galvanizing political action on climate migration is the mobilization of the public on the issue, as policies are typically developed in response to public demands for action on a particular subject. Without public support for the initiative, it is highly unlikely that an international convention on climate migration will be instituted. Many NGOs have either developed in response to the issue or are beginning to incorporate it into their existing agendas, demonstrating that there are institutions working towards increasing the visibility of this issue. Additionally, if the IOM makes climate migration a central component of its mandate, then the issue will have a principal advocate to bring climate migration into the mainstream political climate.

The media can be an instrumental tool for the IOM and relevant NGOs to utilize in this arena. Extensive research has demonstrated the immense power of the media in mobilizing the

public around an issue (Breuer, Landman, & Farquhar, 2015; Kalyango and Adu-Kumi, 2015; Ceron and Negri, 2016). By both increasing the amount of media coverage and diversifying the types of news outlets that report on the subject, climate migration could become a mainstream political issue. An example of how increased media attention can lead to political action is the issue of ivory poaching. Conservation NGOs mobilized a media campaign for the general public that described the process and implications of ivory poaching (Braczkowski, Holden, O'Bryan, Choi, Gan, Beesley et al., 2018). Using evocative imagery and playing upon the emotions of the viewer, these media campaigns were tremendously effective at gaining public support for international conservation agreements. If the public demands action on climate migration, policy makers and organizations will have compelling reasons to respond and begin to prioritize this issue in their political agendas.

While climate migration is laden with emotional images and narratives, it may be a difficult topic to develop media campaigns around. First, there still remains doubt regarding the extent of anthropogenic climate change's occurrence and whether or not it is responsible for migration, meaning some viewers may refuse to even acknowledge the issue. Second, migration itself is a politically polarizing topic in many countries. As such, others may not sympathize with those affected or may believe that the issue is outside of their government's jurisdiction. Third, the slow-onset effects of climate change, while devastating to those affected, may occur too slowly and gradually to make for a captivating and rousing news story. Instead, rapid onset climatic disasters, like hurricanes and floods, that are undeniably linked to climate change may need to be the "face" of this issue. But it is exceedingly difficult to concretely link these events to climate change.

To combat some of these challenges, it will be important for organizations like the IOM and the UNFCCC to reframe the issue of climate migration. While migration is portrayed in much

of the literature and existing policies as a negative consequence of climate change that requires strict regulation or even prevention, there are a number of positive aspects of migration as an adaptation strategy to climate change. If we reframe the issue to highlight these benefits, particularly for the receiving country, it may become easier to gain public and political support for climate migration policies.

As widespread public support may be difficult to achieve due to the nature of the issue, it may be more effective to concentrate on gaining the support of key political decision-makers as a priority. While gaining the support for climate migration action by a diplomat or politician may not necessarily guarantee action by their nation, it would help provide critical support and a framework under which other actors could work to mobilize and influence behaviors. Larger state support could, in due course, emerge out of the visible support of key actors.

A recent Brookings Institute report by David Victor and Bruce Jones discussed the idea that achieving global cohesion on climate change policy may be both unrealistic and unnecessary (Victor and Jones, 2018). They argue that, rather than delaying action by trying to gain consensus, there should be a shift in focus towards action by smaller groups that can drive action forward. This argument may be a useful framework to guide thinking on climate migration policy. It will be exceedingly difficult to gain broad public support for the issue without an undeniable and large-scale climate event. Additionally, due to concerns about state sovereignty, countries may be loath to agree to binding international climate migration agreements. Thus, it is likely more practical to focus on promoting the adoption of local and regional level policies on climate migration than national or international policies. These policies can be enacted sooner and will not threaten state autonomy.

Convincing states who are not currently experiencing the direct effects of climate change to enact policies to deal with climate impacts will require significant political pressure from

nations that are most at risk. If countries from the Small Island Developing States and Bangladesh, arguably the most vulnerable nations to rising sea levels, publicly and directly request action and aid for climate change's impacts and climate migration from other nations, it may be the political push needed for less directly affected countries to take action.

Finally, significant additional scientific research is needed. A lack of scientific consensus on the links between climate change and migration is often cited as the reason for a lack of substantial policy action on the subject. A better understanding of the nature of the relationship, as well as the likely destination and origin countries of climate migrants can inform policies with these locations specifically in mind. These targeted policies will likely prove more effective than generally designed global policies.

The primary goal of advocates should be the development and negotiation of an international convention on climate migration. This will likely present a substantial challenge, as opposition to and doubts about climate change-induced migration will likely prove difficult to overcome in efforts to develop a unified international convention on climate migration.

Therefore, rather than relying on international consensus, the immediate focus for promoting climate migration policy should be the following:

1. Develop a universally accepted definition of climate migration and climate migrants.
2. Increase scientific knowledge on the linkage between climate change and international migration, particularly for assessing likely destination and origin countries.
3. Reframe the issue of climate migration to highlight potential benefits.
4. Prioritize the promotion of action on climate migration by key decision-makers and groups like the IOM, the UNFCCC, and local and regional governments.

5. Encourage national governments to develop policies and intervention plans for those internally displaced or migrating from climate change.
6. Encourage states that are vulnerable to climate change's effects to increase public and political pressure for the development of an international agreement or convention on climate migration.

References

- Abel, G. J., & Sander, N. (2014). Quantifying global international migration flows. *Science*, 343(6178), 1520-1522.
- "About Ccema." Planetary Boundaries: A Safe Operating Space for Humanity. September 20, 2012. Accessed January 12, 2019. <http://www.ccema-portal.org/article/read/about/>.
- Abrahams, Daniel, and Edward R. Carr. "Understanding the connections between climate change and conflict: contributions from geography and political ecology." *Current Climate Change Reports* 3, no. 4 (2017): 233-242.
- Arango, J. (2017). Theories of international migration. In *International migration in the new millennium* (pp. 25-45). Routledge.
- Barnett, J., & Adger, W. N. (2007). Climate change, human security and violent conflict. *Political geography*, 26(6), 639-655.
- Barrios, S, L Bertinelli and E Strobl. "Climatic change and rural-urban migration: The case of sub-Saharan Africa. *Journal of Urban Economics*, 60(3), 357-371." (2006).
- Bettini, Giovanni. "Climate barbarians at the gate? A critique of apocalyptic narratives on 'climate refugees'." *Geoforum* 45 (2013): 63-72.
- Beine, Michel, and Christopher Parsons. "Climatic factors as determinants of international migration." *The Scandinavian Journal of Economics* 117, no. 2 (2015): 723-767.
- Black, Richard, Stephen RG Bennett, Sandy M. Thomas, and John R. Beddington. "Climate change: Migration as adaptation." *Nature* 478, no. 7370 (2011): 447.
- Black, Richard, Dominic Kniveton, Ronald Skeldon, Daniel Coppard, Akira Murata, and Kerstin Schmidt-Verkerk. "Demographics and climate change: future trends and their policy implications for migration." *Development Research Centre on Migration, Globalisation and Poverty. Brighton: University of Sussex* (2008).
- Boomgaarden, Hajo G., and Rens Vliegenthart. "Explaining the rise of anti-immigrant parties: The role of news media content." *Electoral studies* 26, no. 2 (2007): 404-417.
- Braczkowski, Alexander, Matthew H. Holden, Christopher O'Bryan, Chi-Yeung Choi, Xiaojing Gan, Nicholas Beesley, Yufang Gao et al. "Reach and messages of the world's largest ivory burn." *Conservation biology* 32, no. 4 (2018): 765-773.
- Breuer, Anita, Todd Landman, and Dorothea Farquhar. "Social media and protest mobilization: Evidence from the Tunisian revolution." *Democratization* 22, no. 4 (2015): 764-792.
- Buechler, S. "Gender, water, and climate change in Sonora, Mexico: implications for policies and programmes on agricultural income-generation. *Gender Dev.* 17 51-66." (2009)
- Carling, J. (2017). How Does Migration Arise?. *Ideas to Inform International Cooperation on Safe, Orderly and Regular Migration*, 19-26.
- Carto, S. L., Weaver, A. J., Hetherington, R., Lam, Y., & Wiebe, E. C. (2009). Out of Africa and into an ice age: on the role of global climate change in the late Pleistocene migration of early modern humans out of Africa. *Journal of Human Evolution*, 56(2), 139-151.
- Cebula, R. J., & Vedder, R. K. (1973). A note on migration, economic opportunity, and the quality of life. *Journal of Regional Science*, 13(2), 205-211.
- Ceron, Andrea, and Fedra Negri. "The "social side" of public policy: Monitoring online public opinion and its mobilization during the policy cycle." *Policy & Internet* 8, no. 2 (2016): 131-147.
- "Climate Change, Environment and Migration Alliance (CCEMA)." UNU Migration

- Network. Accessed January 12, 2019. <https://migration.unu.edu/research/forced-migration/climate-change-environment-and-migration-alliance-cema.html#outline>.
- Connell, John. "Last days in the Carteret Islands? Climate change, livelihoods and migration on coral atolls." *Asia Pacific Viewpoint* 57, no. 1 (2016): 3-15.
- Dalby, Simon J. "Climate change and environmental conflicts." In *Routledge Handbook of Environmental Conflict and Peacebuilding*, vol. 42, no. 53, pp. 42-53. ROUTLEDGE in association with GSE Research, 2018.
- Daley, Patricia. "Refugees, idps and Citizenship Rights: the perils of humanitarianism in the African Great Lakes region." *Third World Quarterly* 34, no. 5 (2013): 893-912.
- Dankelman, Irene, ed. *Gender and climate change: An introduction*. Routledge, 2010.
- David, E. "Climate Change and Migration: Considering the Gender Dimensions (Boulder, CO: Institute of Behavioral Science, University of Colorado) Working Paper, Population Program." (2009).
- de Sherbinin, Alex, Marcia Castro, Francois Gemenne, M. M. Cernea, Susana Adamo, P. M. Fearnside, Gary Krieger et al. "Preparing for resettlement associated with climate change." *Science* 334, no. 6055 (2011): 456-457.
- "Definitional Issues." International Organization for Migration. April 08, 2015. Accessed January 12, 2019. <https://www.iom.int/definitional-issues>.
- Denton, Fatma. "Climate change vulnerability, impacts, and adaptation: Why does gender matter?" *Gender & Development* 10, no. 2 (2002): 10-20.
- Dunbar, B. "What Are Climate and Climate Change?" NASA. June 09, 2015. Accessed January 12, 2019. <https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html>.
- Elements for the UNFCCC Paris Agreement*. (Rep. No. 30_15). March, 2015.
- Emmanuelar, Imasuen. "Insurgency and humanitarian crises in Northern Nigeria: The case of Boko Haram." *Academic Journals: African Journal of Political Science and International Relations* 9, no. 7 (2015): 284-296.
- "Environmental Migration Portal." Water and Migration: How Far Would You Go For Water? | Environmental Migration Portal. Accessed January 12, 2019.
- Environmental Migration. 2018. Retrieved from https://migrationdataportal.org/themes/environmental_migration
- Esplen, E. "The gender dimensions of poverty and climate change adaptation Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World." (2003).
- European Greens. (2019). Greens propose progressive approach to Climate Migration. Retrieved from <https://europeangreens.eu/news/greens-propose-progressive-approach-climate-migration>
- Faist, T., & Schade, J. (2013). *Disentangling migration and climate change*. Springer.
- Farbotko, C. and H. Lazrus. "The first climate refugees? Contesting global narratives of climate change in Tuvalu. *Global Environmental Change*, 22(2), 382-390." 5.
- Ferris, Elizabeth. "Climate change and internal displacement: a contribution to the discussion." *Brookings-Bern Project on Internal Displacement February 2011* (2011).
- Fielding, A. J. "The impacts of environmental change on UK internal migration. *Global environmental change*, 21, S121-S130." (2011).
- Flautre, H, J. Lambert and B. Lochbihler. Position Paper Climate Change, (2013).
- Funari, P. P. (2018). Migration flows from a long-term perspective. *Anos 90: Revista do Programa de Pós-Graduação em História da Universidade Federal do Rio Grande do Sul*, 25(47), 19-38
- Geddes, A. and W. Somerville. "Migration and environmental change: Assessing the developing European approach (Issue brief)." (2013):
- Gemenne, F. "Why the numbers don't add up: A review of estimates and predictions of people displaced by environmental changes." *Global Environmental Change* 21 (2011): S41-S49.
- "Global Warming Impacts." Union of Concerned Scientists. Accessed January 12, 2019. <https://www.ucsusa.org/our->

- [work/global-warming/science-and-impacts/global-warming-impacts](#).
- Goal 13. Sustainable Development Knowledge Platform." United Nations. Accessed January 12, 2019. <https://sustainabledevelopment.un.org/dg11>.
- Greenwood, M. J. (1985). Human migration: Theory, models, and empirical studies. *Journal of regional Science*, 25(4), 521-544.
- Grecequet, M., J. J. Hellmann, J. DeWaard, and Y. Li. "Comparison of Human and Non-human Migration Governance Under Climate Change." In *Transformative Climates and Accountable Governance*, pp. 195-221. Palgrave Macmillan, Cham, 2019.
- Hammer, T. (2004). Desertification and migration: A political ecology of environmental migration in West Africa. In *Environmental change and its implications for population migration* (pp. 231-246). Springer, Dordrecht.
- Hardoy, J, D. Mitlin and D. Satterthwaite. *Environmental Problems in an Urbanizing World* (2001).
- Hathaway, J. C. (2017). A reconsideration of the underlying premise of refugee law. In *International Refugee Law* (pp. 65-119). Routledge.
- Heiss, R., C. von Sikorski, and J. Matthes. "Populist Twitter Posts in News Stories: Statement Recognition and the Polarizing Effects on Candidate Evaluation and Anti-Immigrant Attitudes." *Journalism Practice*(2019): 1-17.
- Hugo, G. "Climate Change-Induced Mobility and the Existing Migration Regime in Asia and the Pacific." Jane McAdam (ed.). *Climate Change and Displacement*, (2010).
- Ide, T. "Climate war in the Middle East? Drought, the Syrian civil war and the state of climate-conflict research." *Current Climate Change Reports* 4, no. 4 (2018): 347-354.
- IOM. "What is forced migration?". International Organization for Migration. January 27, 2012. Accessed March 26, 2018. <http://www.forcedmigration.org/about/whatisfm>
- IOM. *Migration, Environment, and Climate Change: Assessing the Evidence*(Rep.). (2009).
- IPCC Climate. "Mitigation of climate change." *Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*1454 (2014).
- Jakobeit, C., & Methmann, C. (2012). 'Climate refugees' as dawning catastrophe? A critique of the dominant quest for numbers. In *Climate Change, Human Security and Violent Conflict* (pp. 301-314). Springer, Berlin, Heidelberg.
- Kato, M. "The Cancun Adaptation Framework". (2003).
- Kalyango Jr, Y., and B. Adu-Kumi. "Impact of social media on political mobilization in East and West Africa." *Global Media Journal* 2013 (2015).
- Kolmannskog, V. "Climate change, environmental displacement and international law. *Journal of International Development*, 24(8), 1071-1081." 5.
- Leighton, Michelle. "Desertification and migration." In *Governing global desertification*, pp. 63-78. Routledge, 2016.
- Locke, J. T. "Climate change-induced migration in the Pacific Region: sudden crisis and long-term developments. *The Geographical Journal*, 175(3), 171-180." (2009).
- Marino, E., and H. Lazrus. "Migration or forced displacement?: the complex choices of climate change and disaster migrants in Shishmaref, Alaska and Nanumea, Tuvalu." *Human Organization* 2015 (2015): 341-350.
- Martin, S. "Climate change, migration, and governance." *Global Governance* (2010): 397-414.
- McAdam, J. "Creating New Norms? The Nansen Initiative on Disaster-Induced Cross-Border Displacement." Brookings.edu. July 28, 2016. Accessed January 12, 2019. <https://www.brookings.edu/opinions/creating-new-norms-the-nansen-initiative-on-disaster-induced-cross-border-displacement/>.
- McGranahan, G, D. Balk and B. Anderson. "The rising tide: assessing the risks of climate change and human settlements in low elevation coastal zones. *Environment and urbanization*, 19(1), 17-37." (2007).
- McLeman, R. and B. Smit. "Migration as an adaptation to climate change. *Climatic change*, 76(1-2), 31-53." (2006).
- Milman, O., Holden, E., & Agren, D. (2018, October 30). The unseen driver behind the migrant caravan: climate change. Retrieved from

- <https://www.theguardian.com/world/2018/oct/30/migrant-caravan-causes-climate-change-central-america>
- Morrissey, J. (2012). Rethinking the 'debate on environmental refugees': from 'maximalists and minimalists' to 'proponents and critics'. *Journal of Political Ecology*, 19(1), 36-49.
- Nawrotzki, R. J., and M. Bakhtsiyarava. "International climate migration: Evidence for the climate inhibitor mechanism and the agricultural pathway." *Population, space and place* 23, no. 4 (2017): e2033.
- Nicholls, R. "Rising sea levels: potential impacts and responses". *Issues in Environmental Science and Technology* Vol 17 (2002).
- O'Reilly, G. "Geopolitics and International Organization." In *Aligning Geopolitics, Humanitarian Action and Geography in Times of Conflict*, pp. 191-226. Springer, Cham, 2019.
- Oreskes, N. "The scientific consensus on climate change." *Science* 306, no. 5702 (2004): 1686-1686.
- Piguet, E. "From "primitive migration" to "climate refugees": The curious fate of the natural environment in migration studies." *Annals of the Association of American Geographers* 103, no. 1 (2013): 148-162.
- Posel, D. "Women wait, men migrate: gender inequality and migration decisions in South Africa. Women Farmers." *Enhancing Rights* (2001): 91-117.
- Reuveny, R. "Climate change-induced migration and violent conflict." *Political geography* 26, no. 6 (2007): 656-673.
- Rushton, Steve. "Can Fiji's Presidency of COP23 Help Keep Small Island States on the Map?" *Equal Times*. Accessed January 14, 2019. <https://www.equaltimes.org/can-fiji-s-presidency-of-cop23#.XD0gji2ZNp8>.
- Selby, J., O. S. Dahi, C. Fröhlich, and M. Hulme. "Climate change and the Syrian civil war revisited." *Political Geography* 60 (2017): 232-244.
- Service, P. B. (2015, October 27). Refugee status under international law. Retrieved March 05, 2018, from <https://epthinktank.eu/2015/10/27/refugee-status-under-international-law>
- Shamsuddoha, M. (2012). *Displacement and Migration from Climate Hot-spots in Bangladesh: Causes and Consequences*. ActionAid Bangladesh.
- Shearer, C. (2012). The political ecology of climate adaptation assistance: Alaska Natives, displacement, and relocation. *Journal of Political Ecology*, 19(1), 174-183.
- Small, C. and R.J. Nicholls. A global analysis of human settlement in coastal zones. *Journal of coastal research* 599 (2003).
- "The Sustainable Development Agenda - United Nations Sustainable Development." United Nations. Accessed January 12, 2019. <http://www.un.org/sustainabledevelopment/development-agenda/>.
- "Tropical Cyclone Winston: Impact on Fiji's Labour Market and Enterprises." *Fragile States ITCILO*. April 19, 2018. Accessed January 14, 2019. <https://fragilestates.itcilo.org/2018/04/09/tropical-cyclone-winston-impact-fijis-labour-market-enterprises/>.
- UNFCCC. "Draft text 1 of 9 on COP 21 agenda item 4(b): Draft Paris Outcome". Proposal by the President. <http://unfccc.int/resource/docs/2015/cop21/eng/da01.pdf>: Article 5 Option II Paragraph 3. 2015.
- UNFCCC. "How Fiji Is Impacted by Climate Change." Accessed January 14, 2019. <https://unfccc.int/news/how-fiji-is-impacted-by-climate-change>.
- UNFCCC. *Report of the Conference of the Parties on its twenty-first session* (Rep. No. GE.16-01192(E). January 29, 2016.
- UNFCCC. "Report of the Conference of the Parties on its sixteenth session". (2003)
- UNFCCC COP 18. "Decisions adopted by the Conference of the Parties". (Rep. No. GE.13-60424). February 28, 2013. Masika, R. Editorial *Gender Dev.* 10 2-9. (2002).
- UNFPA. "State of World Population 2009—Facing a Changing World: Women, Population, and Climate". (2009).
- United Nations. "Task Force on Displacement". (2016).
- United Nations. "UNHCR Commits to Follow up on the Nansen Initiative on Climate and Disaster Displacement and Launches New Overview of Its Work in This Area." UNHCR. Accessed January 12, 2019. <http://www.unhcr.org/afr/news/press/2015/10/561e5ea06/unhcr-commits-follow-nansen-initiative-climate-disaster-displacement-launches.html>.
- United Nations. (2015). Frequently asked questions on climate change and disaster

- displacement. Retrieved from <https://www.unhcr.org/en-us/news/latest/2016/11/581f52dc4/frequently-asked-questions-climate-change-disaster-displacement.html>
- Victor, D. G., and B. Jones. "Undiplomatic Action: A Practical Guide to the New Politics and Geopolitics of Climate Change." Brookings.edu. September 25, 2018. Accessed January 12, 2019. <https://www.brookings.edu/research/undiplomatic-action-a-practical-guide-to-the-new-politics-and-geopolitics-of-climate-change/>.
- Wanted: A Plan of Action on Climate Migration." Safety & Security Manager | Devex. November 22, 2017. Accessed January 12, 2019. <https://www.devex.com/news/wanted-a-plan-of-action-on-climate-migration-91590>.
- Warner, K. (2012) "Human migration and displacement in the context of adaptation to climate change: the Cancun Adaptation Framework and potential for future action. *Environment and Planning C: Government and Policy*, 30(6), 1061-1077." 5.
- Warren, P. D. "Forced Migration after Paris COP21: Evaluating the Climate Change Displacement Coordination Facility." *Colum. L. Rev.* 116 (2016): 2103.
- Warsaw International Mechanism for Loss and Damage. Retrieved from <https://unfccc.int/topics/adaptation-and-resilience/workstreams/loss-and-damage-ld/warsaw-international-mechanism-for-loss-and-damage>
- "Why Are Sustainable Development Goals Important?". Accessed January 12, 2019. https://idfi.ge/en/why_does_sdgs_matter
- Wike, Richard. "What the World Thinks about Climate Change in 7 Charts." Pew Research Center. April 18, 2016. Accessed January 12, 2019. <http://www.pewresearch.org/fact-tank/2016/04/18/what-the-world-thinks-about-climate-change-in-7-charts/>.
- Wilkinson, E., A. Kirbyshire, L. Mayhew, P. Batra and A Milan. "Climate-induced migration and displacement: closing the policy gap". (2016).
- Zetter, R., and G. Deikun. "Meeting humanitarian challenges in urban areas." *Forced Migration Review* 34 (2010): 5.
- Zhou, J. "Boomerangs versus javelins: how polarization constrains communication on climate change." *Environmental Politics* 25, no. 5 (2016): 788-811.

Annex: Glossary of Abbreviations and Key Terms

i. Abbreviations

CCEMA- Climate Change, Environment, and Migration Alliance
 COP- Conference of the Parties
 GHG- Greenhouse gases
 IDMC- Internal Displacement Monitoring Centre
 IOM- International Organization for Migration
 LECZ- Low Elevation Coastal Zone
 MRF- Munich Re Foundation
 NASA- National Aeronautics and Space Administration
 OCHA- United Nations Office for the Coordination of Humanitarian Affairs
 SDG- Sustainable Development Goals
 SEI- Stockholm Environment Institute
 SIDS- Small Island Developing States
 UN- United Nations

UNEP- United Nations Environmental Programme
 UNFCCC- United Nations Framework Convention on Climate Change
 UNHCR – United Nations High Commission on Refugees
 UNU-EHS- United Nations University Institute for Environment and Human Security

ii. Terms

Anthropogenic climate change- climate change caused by human activities

Cancun Adaptation Framework- advised signatories to strengthen, and where necessary, develop adaptation plans and establish regional adaptation centers

Climate- Long-term average of weather patterns over hundreds or thousands of years

Climate change- a change in the typical or average weather of a region or city	Migration- the movement of people from one place to another with the intentions of settling, permanently or temporarily, in a new location
EB-3Visa- United States' immigration visa preference category for employment in STEM professional fields	National Adaptation Plan- established under the Cancun Framework; national plans for identifying medium and long-term adaption needs to climate change and developing and implementing programs to address these needs.
Environmental Migrant- persons or groups of persons who, for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to have to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their territory or abroad	Paris Agreement- a 2016 agreement within the UNFCCC that sets targets by 2020 for signatories' greenhouse gas emissions mitigation, adaptation, and financing plans
Greenhouse Gases- a gas that contributes to the greenhouse effect by absorbing infrared radiation. Examples include carbon dioxide, methane, and other chlorofluorocarbons	Refugee- someone who leaves their home countries due to persecution for reasons of race, religion, nationality, membership of a particular social group, or political opinion
Greenhouse gas effect- gases accumulate in the atmosphere and absorb infrared radiation and prevent it from escaping into space. The net effect is the gradual heating of Earth's atmosphere and surface	Rapid-onset climate change effects- effects of climate change that occur more immediately like natural disasters
H-1B Visa- United States' immigration visa preference category for employment in highly specialized professional fields	Slow-onset climate change effects- gradually occurring effects of climate change, including rising sea levels, erosion, desertification
Kyoto Protocol- international agreement linked to the UNFCCC that was adopted in 1997 and which commits its Parties to set internationally binding emission reduction targets	Sustainable Development Goals- a collection of 17 global goals set by the United Nations that cover a range of social and economic development needs
Littoral- a region lying along a shoreline	Warsaw Mechanism for Loss and Damage- emerged out of the Paris Agreement that establishes mechanisms for addressing losses and damages from climate change.
	Weather- short-term changes in temperature, clouds, precipitation, humidity, and wind

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