

***Interlinkages Between Climate Change, Forced Migration, Displacement,  
And Sustainable Urbanization***

Bahira Sherif Trask, Ph.D.  
Professor, Human Development &  
Family Sciences  
Univ. of Delaware  
[bstrask@udel.edu](mailto:bstrask@udel.edu)

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## *Interlinkages Between Climate Change, Forced Migration, Displacement, And Sustainable Urbanization*

Climate change is projected to have immense global impacts on individuals and families in the coming decades. As temperatures around the world continue to rise and drought conditions and wildfires spread, individuals and families will be impacted specifically with respect to how they earn their livelihoods and if they are able to remain in their locales (Bellizzi et al. 2023.) Households that make their living directly off the land are particularly vulnerable and are predicted to become ever more adversely impacted by climate change. Some regions of the world are already experiencing these environmental effects. Hotter and longer dry seasons have become more frequent as these localities have shifted from experiencing three to four months of high temperatures, to four to six months of heat. For instance, a study about coffee growers and the environmental repercussions of rising temperatures, illustrated that most Central American countries will be faced with financial repercussions in the next several years as land loses climatic suitability for coffee production. The inability of local inhabitants, especially indigenous populations, to continue to farm their lands combined with growing food insecurity, has begun to result in an out-migration of workers from many Central American regions (Baca et al, 2014). Scientists predict that we are only at the beginning of this phenomenon and that globally, forced migration due to the consequences of climate change will increase exponentially over the next decades (Bellizzi et al, 2023).

Climate change models indicate that an increase in average global temperatures will concurrently lead to changes in precipitation and atmospheric moisture levels (Xu et al., 2020). The climate change models also indicate that around the world, we will see an increase in extreme precipitation, drought, and wind, especially during storm cycles (Xu et al., 2020). Moreover, many regions of the world are already experiencing more extreme weather such as hail, hurricanes, and extreme cold periods. These changes in climactic conditions are significantly impacting human populations as they attempt to either adapt to these conditions or are forced to migrate to more hospitable climates.

Forced migration due to climactic changes is concurrently impacting the growth of urban areas and especially, mega-cities (DePaul, 2012). Most of these urban areas and mega-cities are located in lower-income countries predominantly along coastlines, and in regions that are more prone to serious weather events (Bellizzi et al. 2023). The intersection of mass migration, in part due to climate change (but also due to other factors), combined with rapid, mostly unplanned urbanization is creating extremely stressful conditions in these urban areas. Weak infra-structures, poorly built housing, and the lack of social services in combination with the rapid influx of migrants negates the ability of these cities to respond to climate change in a timely and planned manner. This phenomenon is leading to a deterioration in the quality of life for both long-term residents and recently arrived migrants. Recently the World Health Organization reported that climate change is also leading to rapidly deteriorating health conditions for individuals and families in many over-extended urban areas, including deaths linked to air pollution, diarrhea, and malnutrition (2021).

Both forced migration and urbanization have profound effects on family life, family relationships, and family values and practices. Under stressful environmental conditions, migrants leave behind their communities and usually resettle in new urban areas. Depending on a variety of factors, just one or two members of a family may migrate and send back remittances from paid work in urban areas, or under other conditions whole families are forced to relocate. New migrants are usually relegated to the margins of these cities where they look for housing and economic opportunities. In addition, migrating individuals and families must create new supportive networks, and in some cases learn new values and ways of life. Often, due to a lack of supports, recent migrants find it difficult to integrate into their new settings and are faced with significant challenges (Global Migration Report, 2020).

The intersection of forced displacement due to climate change and rapid urbanization are creating complex problems that require comprehensive solutions. Policies and programs that support the migration of individuals and families and their resettlement into new urban areas, in conjunction with well-planned and managed sustainable urbanization are critical as they are also closely linked to the successful realization of the United Nations Agenda 2030 and the embedded Sustainable Development Goals (SDGs).

#### *Climate Change and Effects on Human Populations*

In a recent study by Xu et al. (2020), the scientists predicted that the temperature niche for humans is going to become rapidly hotter in the next fifty years, more than it has over the last 6000 years. Should the populations living in the areas projected to become the hottest not move, one third of all people on earth will experience the extreme heat that is currently only found on 0.8% of the earth's land, much of which is in the Sahara.<sup>1</sup> Climate change is expected to affect every aspect of peoples' lives: health, subsistence, food security, and access to water (Xu et al. 2020). However, because climate change has become a highly politicized topic and its effects are intertwined with many other variables, it is difficult to establish causal links or to make predictions about how different populations will react.

It is important to point out that climate change is not just associated with effects on our physical terrain. For instance, Xu et al. (2020) argued that humans need to live in temperate conditions not just because we have depended on agrarian modes of subsistence for much of our settled existence, but also because humans' mental health and mood are affected through climactic conditions such as heat exhaustion. Their work, backed by other large-scale studies, (e.g. Burke et al. 2015), indicate that optimized economic productivity is found in the most temperate areas of the world. Interestingly, this finding encompasses agricultural and nonagricultural activity. This indicator suggests a strong causal link between where human populations live and temperature, and that regional climates either support or constrain human activity.

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<sup>1</sup> Xu et al. (2020) predict that about 19% of the global land mass will reach the temperatures currently found in 0.8% of the world.

### *Climate Change and Migration*

Human mobility in the context of climate change is complex and multi-faceted and refers specifically to the wide spectrum of individuals who move due to environmental challenges (World Migration Report, 2020). Sometimes referred to as “environmental migrants”, the term encompasses individuals who migrate, who are displaced, and who are re-settled. It also encompasses a spectrum of movement ranging from those individuals and families who are forced to move to those who move pre-emptively.

As this politically charged topic has increasingly shifted to the forefront, in academic and policy circles three different areas of focus have emerged: 1. Irregular migration due to climate change and issues of border security for receiving countries in the cases of international migration; 2. The safety and security of environmental migrants; and 3. Climate migration as an adaptive mechanism due to environmental degradation and food insecurity (World Migration Report, 2020). Complicating initiatives that address these facets of migration is the fact that there are currently no reliable statistics on exactly who migrates due to climate related factors instead of for other reasons.<sup>2</sup> Estimates on climate migration vary: for instance, some scholars place the number of environmental migrants at around 50 million individuals per year (DePaul 2012). However, the World Bank projects environmental migrants could reach to over 200 million by the year 2050 (Alverio, Sowers, & Weinthal, 2023). Concurrently, the Institute for Economics & Peace (IEP) estimates that around 1.2 billion people could be displaced due to environmental disasters and climate change by 2050 (2020). The majority (nine out of ten) of the people who will be potentially affected by environmental changes live in low-income and small island countries. For example, by 2050 17 percent of Bangladesh is expected to be submerged due to rising sea levels with about 20 million individuals and families losing their homes (World Economic Forum, 2021).

Gathering statistics on migration related to climate change is complicated by the fact that it is extremely difficult to predict migration due to sudden onset disasters in contrast to migration as a response to changing environments – or from both simultaneously (Barnett & Webber, 2010). Also, climate driven migration may result in moves that are just a short distance from home locales or migration may necessitate relocating to completely different parts of the world. Migration as a response to major weather events also often entails migrants wanting to return home to rebuild their lives, complicating predictions about the numerical consequences of disasters (Barnett & Webber, 2010).

Migration due to climate change is also related to other factors such as for instance the degree of poverty and marginality of affected groups (Singh & Basu, 2019). Dallman and Millock (2017) have pointed out that in order to understand the relationship between migration and climate change, one needs to take into account local social and economic conditions. They suggested that under certain circumstances (for instance extreme food insecurity), migration will become

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<sup>2</sup> There is increasingly reliable data about displacement in response to environmental disasters such as floods but what is missing and difficult to gather is migration as a response to slow-onset conditions such as increasing heat or coastal degradation (World Migration Report, 2020).

more likely, while in other contexts, individuals and families will choose not to move since they are not necessarily guaranteed better lives in a new location. Also, it is important to highlight that most migrants move internally within their own countries, thus negating the climate migrants “as international threats” argument that is popular in contemporary policy discussions (World Migration Report, 2020).

Missing from virtually all of these analyses is a family lens on exactly which members re-locate when climactic and environmental conditions worsen. Employing a family lens of analysis would give us information about who makes this decision, and which members of a family are most likely to migrate. Under certain conditions for instance, it may be the head of household or the able-bodied young adults who leave reducing the food burden on the family. Often, migrants will then also send back remittances to their households and create bridges for other family members to potentially relocate (Barnett & Webber, 2010). Under other conditions, for example in the case of extreme weather events, everyone associated with a family may be forced to relocate (World Migration Report, 2020).

There is a critical need for disaggregated data about migration in order to help facilitate orderly migration and to avert the risks associated with displacement due to extreme weather events. This data would enable the creation of pathways and programs that assist migrants who are faced with moving either within their own countries or across international borders. We also need data about the contextual factors that are precipitating a re-location. For example, when migrants move voluntarily, they use their assets to decide who, when and where they go. “In this manner, migration is part of a suite of adaptation measures, which people use to deal with climatic and environmental change and reduce poverty and boost resilience” (World Migration Report, 2020, p. 286). Families that are faced with more precarious contexts often do not have the time or the resources to pre-plan their migration and thus, may end up in other highly vulnerable situations.

Empirical research indicates that when individuals and families migrate as a response to climate change in their local environments, they primarily seek more stable livelihoods and to better their conditions (World Migration Report, 2020). Migration, however, does not necessarily guarantee the improvement of people’s lives, as it is also associated with the loss of supportive networks and volatile, precarious livelihoods in urban areas (Bettini & Gioli, 2016). For instance, a study of 14 slums in Bangalore, India indicated that the recently arrived migrant slum dwellers had not improved their lives from an economic perspective (Krishna et al., 2014). Moving had also not allowed them to create “new identities.” Instead, they were relegated to the same social caste they had come from in their villages and were ostracized in their new surroundings (Singh & Basu, 2019). Without orderly, well-managed migration *and* re-settlement, migration can result in substituting one bad situation for another without improving a family’s economic or social conditions in any manner.

### *Climate Change and Gender*

Climate change and forced migration also have specific social implications for girls and women. We now recognize that gender norms and behaviors are interrelated with the other social

conditions under which families make decisions about their livelihoods. But what is less understood is that girls and women are at times more vulnerable than men when extreme weather events occur (Ahmed, Haq & Bartiaux, 2019) and this is particularly true in the case of migration (Bellizzi & Molek, 2022). For instance, impoverished families that live in disaster prone areas face great economic challenges. One coping strategy for these families who have dependent daughters is to marry them off at a very young age. They employ this strategy to mitigate further poverty and food shortages that can occur during crisis times (Ferdousi, 2013). Some families also view child marriage as a mechanism to prevent the sexual violence that can occur during the migration to new areas. They may see child marriage as a way of addressing the problem before it begins - and also as a survival strategy that makes available more food for the other family members (Ahmed, Haq & Bartiaux, 2019).

Girls and women tend to be more vulnerable before, during, and after migration with respect to their safety and their access to services. Also, they become more vulnerable to trafficking (Carling, 2005). The increased risk factors create challenges to girls and women making them more reluctant to move from their locales (World Migration Report, 2020).

Migration is also not necessarily associated with a rapid shift to new behaviors or values: thus, patriarchal norms may not become modified through re-location. For instance, in cases of forced migration through climate change, girls and women's lives may actually deteriorate despite being in a new environment (Bellizzi & Molek, 2022). Moreover, empirical research indicates that gender norms often remain relatively steady or shift only incrementally with different opportunities for girls and women. In those cases where women take on new roles in different environments - such as for example, supplementing the household income through their paid labor – their agency can increase, albeit very slowly (Singh & Basu, 2019). Migration is therefore accompanied with gender specific challenges – but can also provide new opportunities for girls and women.

### *Climate Change, Migration, and the Family Dimension*

Migration in the context of climate change, is a major driver in transforming family relationships. All family members be they husbands, children, grandparents, and even other extended family members are touched in some manner by migration experiences (Fresnoza-Flot, 2018). Thus, the many studies that focus specifically just on the sole migrant or migrants as a homogenous entity, suffer from the fundamental flaw of ignoring the *extensive impact of migration on family relationships*, a phenomenon that also affects the communities in which these households are embedded.

In particular, families that are separated through international borders bear the brunt of restrictive migration policies that often do not allow for family reunification or only under highly restrictive conditions (Fuller-Iglesias, 2015). Termed transnational families, these families “live some or most of the time separated from each other yet hold together and create something that can be seen as a feeling of collective welfare and unity, namely ‘familyhood’, even across national borders” (Bryceson & Vuorela, 2002, p. 3). The fact that they actively maintain a family identity points to families as being flexible, resilient, and dynamic. They respond to socio-

historical conditions and are governed by internal rules of obligation, duty, and emotion even across distance and under very difficult conditions. Transnational families also point to human interdependency and the need for material and emotional connection and support in a range of contexts including dislocation, climate disasters, and volatile environmental conditions.

Remittances are the most tangible and easily “counted” aspect of transnational relationships. However, family relationships are maintained through a variety of other practices as well. For instance, visits by migrants to their home locales serve to maintain family ties and assist in sustaining migrants’ emotional well-being (King & Lulle, 2015). Contemporary communication technologies are also a critical tool in maintaining kin relations. However, it is important to note that there is often unequal access to these technologies between migrants and those family members who have remained behind. “Differential access to means of communication exacerbates existing asymmetries, creating unequal power and corresponding dependency (Mahler, 2001, 610). And even in those situations where individuals are able to communicate regularly, the feeling of distance may remain for both sides exacerbating a sense of loneliness and fragmentation.

Depending on circumstances, every family will have its own set of experiences and will maintain some relationships more than others. We cannot speak of a uniform migration experience nor can we assume that blanket policies and programming will be appropriate for all migrants. Incorporating the nuances of the migration experience (for instance rapid migration brought on through a disaster vs. slow migration due to environmental degradation) into policy and programming decision making will result in more positive experiences both for migrants and receiving communities and societies.

Programs and policies need to account for the fact that migration is *not* purely an individual experience. Migrants are part of larger family groups and often have very specific needs: they may experience a decline in their economic status (as in the case of climate refugees for example) or they may have had to leave members of their families behind - at great psychological cost. Certain groups of migrants also have especially challenging experiences: they may have had to relocate literally overnight and are often unwelcome in their new environments. Most migrants have faced losses and hardships that are difficult for those who have not undergone this experience to imagine. And yet, the literature also supports the notion of resiliency: migrants bring strengths and skills to their own lives and to those in their new communities (Merry, Pelaez & Edwards, 2017). They are not “victims” nor do most want to become dependent on the largess of their hosts. Migrants are active agents of their own lives who despite previous circumstances, want to start fresh and become productive, respected citizens. They bring resources, skills, and knowledge to their new settings which benefit host communities as well. However, we need appropriate legal, political, and social frameworks that allow migrating individuals to realize their capabilities and to embed themselves in their new environments.

### *Climate Change, Forced Migration, and Urbanization*

Forced displacement due to the effects of climate change are closely intertwined with the rapid spread of urbanization. According to recent World Bank statistics, more than half of the global population, 4.4 billion people (out of approximately 8.045 billion), live in urban areas and by 2050, nearly 7 out of 10 individuals will live in cities (2023). About 95 percent of this urban expansion is taking place in low and middle-income countries. Concurrently, the global rural population is projected to decline by 2050. Forced migration through climate change is projected to greatly strain the physical and social infra-structures of urban areas as most of these places do not have the ability to support and integrate large numbers of migrants. As Campbell-Lendrum and Corvalan pointed out, “coastal location, exposure to the urban heat-island effect, high levels of outdoor and indoor pollution, high population density and poor sanitation” (2007, p.1) make especially mega-cities very vulnerable to climate change and inhospitable locales for rapid influxes of migrants. As climate change accelerates and as increasing numbers of migrants move to urban areas, these two phenomena create new complex synergies which most cities, given their weak infra-structures, currently cannot handle. As DePaul described,

“..... different pressures across scales come together in various sequences to create unique “stress bundles” that affect local systems. Significant consequences can result when stresses emanating from the environment coalesce with those arising from society. The concurrence of stresses synergistically enlarges the vulnerability of a system and risks then emerge from multiple sources and at different scales” (2012, p. 151).

A case example is Nepal. Bhattarai and Budd (2019) described how over 65% of the country’s population now lives in urban areas. However, most of the urban areas are unplanned and exposed to seismic vulnerabilities and various health factors. Rural-urban sprawl has led to these areas missing the necessary infrastructures to support their exponentially growing populations and most people are living in exceedingly destitute conditions. In addition, unplanned sprawl has led to the loss of biodiversity, natural vegetation, and open spaces while air and noise pollution has increased dramatically. There is not enough water for the individuals and families who live in these areas and there is no infrastructure for the disposal of solid and industrial waste (Bhattarai and Budd, 2019).

As was pointed out above, climate studies suggest that environmental migrants predominantly move within their own societies (DePaul, 2012). Thus, a regional approach that targets preparing local urban areas is currently viewed as most productive for risk reduction and the adaptation to large influxes of migrants (World Migration Report, 2020). In some countries such as Kenya and Bangladesh, governments have begun planning for increased migration to vulnerable urban areas and are specifically targeting the needs of specific groups such persons with disabilities and older persons. They are creating plans for sustainable urbanization that include grassroots initiatives (bottom-up approaches) in combination with government programs and policies (top-down approaches) (World Migration Report, 2020).



### *Migration and Urban Margins*

Rapid unplanned urbanization, especially in lower-income countries, often leads to informal settlements that are characterized by poverty and the lack of adequate, safe housing. This situation serves to segregate populations from each other in the same urban area through spatial inequalities. Migrants from rural areas often settle at the margin of urban centers where they are socially excluded from the social, economic, and political life of cities. The lack of safe housing in these areas is highly detrimental for stable family life (CIEH, 2015). Without appropriate housing, children and other vulnerable groups suffer from physical and mental health issues and migrant families have an extremely difficult time maintaining strong, supportive families (CIEH, 2015).

Marginal settlements created through environmental migration need to be accounted for in the planning and management of expanding urban environments. Too often, they are subsumed under the term “urbanization” without recognition that within cities, different segments of the population are having very varied experiences. Urban policies and strategies need to recognize that the lives and access to opportunities of newly arrived migrants differ vastly from those of established urban dwellers, and that those living in the outskirts of cities have radically different lives from those living in the center. Especially, new migrants, individuals living in poverty, young children, and the disabled and the elderly, are frequently disadvantaged if they live far away from centers of power and resources. These varied experiences are not often addressed by policy makers as it is difficult to determine the extent to which individuals and families do not have access to services and facilities (DESA, 2009; IOM, 2020).

Urbanization is traditionally understood as driving economic growth and alleviating poverty at every level of society. The lure of economic opportunities attracts individuals and families to urban areas and advantages those people who already live in these areas. However, what is much less understood is how urban life is experienced at the household / familial level and how this varies by social-class and actual location. Also, as the discussion above indicates, moving to urban areas may not necessarily provide a solution for individuals and families who have been forced to migrate due to the effects of climate change (Galea et al. 2019). An influx of large numbers of migrants strains urban resources such as housing, transportation, and educational and social services. Especially new migrants may not be able to access any of the supposed advantages of city living. In fact, some individuals and families may actually be worse off in urban locations (Bhattarai & Budd, 2019). New migrants often suffer from worse health outcomes, access fewer educational and occupational opportunities, and are exposed to new lifestyles that they are unable to emulate or that are at odds with their cultural belief systems. The heterogeneity of urban areas is thus simultaneously advantageous for some, and disadvantageous for others (Bhattarai & Budd, 2019). These types of findings highlight the importance of involving a wide variety of stake holders in planning and implementing sustainable forms of urbanization. In addition, a focus on the familial / household level is critical in order to address the micro-level factors that ultimately make cities places where all people can thrive. As the UN World Cities Report (2020) stated,

When cities are well-planned and managed, they can lift families out of poverty, liberate women from gender-based discrimination, point to bright futures for children and youth, offer comforts and supports to older persons in their golden years and welcome migrants looking for a better life. This wide-ranging value of urbanization is one of its most potent features. Cities are the crucible in which social outcomes will be improved for all types of marginalized and vulnerable groups (p. xxvi).

### *Urbanization and Gender / Urbanization and Disability*

Life in urban areas affects different groups of individuals in a myriad of ways. Often ignored but of critical importance is addressing gender issues and disability challenges in urban contexts. Women bear the brunt of inequality in urban contexts as they may face harassment or violence, or they may not be able to access basic services such as health care or get to their places of employment safely. Unfortunately, sexual violence and sexual harassment in public spaces is an extremely common experience for girls and women specifically in urban areas (UN Women, 2019). While intimate partner and domestic violence are now recognized as human rights violations, violence and harassment of women and individuals with disabilities in public spaces remains an issue that has received little if any attention.

In response to the problems that women face in urban areas, UN Women has launched a global program in 20 cities that partners with community-based women's organizations to specifically highlight their needs (UN Women, 2019). This initiative involves women in every aspect of urban governance, planning and financing, and ensures that gender equality measures are embedded throughout these processes (UN Women, 2019).

In a similar vein, the specific challenges and opportunities faced by individuals with disabilities need to be part of urban planning and housing initiatives as well. Research in this area indicates that there are a wide variety of measures that can improve the lives of individuals with disabilities specifically in urban centers. For instance, in order to promote the general goal of well-being, a focus on safe public spaces and green areas acknowledges that it is necessary for all individuals to be able to move about, access services and employment, and also to have physical and psychological space for relaxation and recovery (Global Disability Summit, 2022).

Urban planning efforts that include measures to assist individuals with disabilities, benefit everyone. For instance, access to appropriate physical accommodations that include areas to relax has been proven to increase well-being for all urban dwellers. In addition, minor modifications such as ramps on street corners, assist individuals in wheelchairs *and* individuals who are pushing baby strollers (Global Disability Summit, 2022). However, it is not enough to modify physical environments. New initiatives that focus on public educational agendas about disabilities are creating a greater sense of equity and equality as well.

### *Sustainable Urbanization and Green Spaces*

Unplanned, rapid urbanization leads to settlement patterns that include little public space and result in less land for basic infrastructures such as sewers, water access, and fewer green areas. As urban areas are expanding, the allocations for public space, particularly streets have been

reduced. For instance, in the U.S. these days it is common to allocate about 15 percent of land to streets in newly planned areas, which is considerably less than it was in the past. In unplanned regions, the average is about 2 percent of land. The generally accepted minimum standard for public space in high density areas (150 people per hectare) is approximately 45 percent (30 percent for streets and sidewalks and 15 percent for open public spaces) (Global Goals, 2017). Allocating adequate public space is crucial to increase accessibility of services and employment, as well as greater connectivity especially for women, older persons, and individuals with disabilities.

Increasing access to green spaces is an important aspect of sustainable urbanization in the face of climate change. In a 2014 study, Zelenski and Nisbet found that there is a link between well-being and nature, and that this relationship facilitated connectedness to family, friends, and home. They referred to this idea as nature relatedness and they pointed out that when this notion is fostered, it also creates more positive feelings and an interest in sustainability. As people connect with each other, they are more likely to achieve common goals such as forming grassroot initiatives that address issues such as environmental degradation.

Access to green spaces also fosters family relationships. Van den Bosch & Sang (2017) suggested that spending more time in natural surrounding contributes to positive mental health - which leads to healthier close relationships. And creating more green spaces and access to nature is also a growing focus of early childhood specialists who advocate that nature-based play facilitates early development and leads to positive youth outcomes (Mainella, Agate, & Clark, 2011).

Increasingly we are seeing best practice examples of transformed urban areas. For instance, an example of upgrading substandard housing and spaces comes from Indonesia. In poor neighborhoods called kampongs, that were previously congested with traffic, small alleyways have been closed down to vehicles and have been “greened” with urban pocket gardens. This renovation has occurred as part of a larger overhaul to reduce air pollution and cut down on accidents caused by vehicles. This urban redevelopment has resulted in improved health for children and increased physical activity for city dwellers (WHO, 2012).

Curitiba, Brazil is another case example of urban planning that has carefully incorporated green spaces into the design of the city. Despite the city having grown exponentially over the last 50 years, air pollution is close to WHO guideline levels and is much lower than in many other rapidly growing urban areas. The success of urban planning in Curitiba is associated with a conscious planning process that expanded the amount of green space per resident. As part of the process, 1.5 million trees were planted and a complex network of pedestrian walkways were incorporated into the city design. Life expectancy in Curitiba is now two years longer for residents than in the rest of Brazil (it stands at 76.3 years) and infant mortality also remains relatively low (Suzuki, et al., 2010).

## *Conclusion*

In order to mitigate the effects of climate change the basic solution is for states to enforce strict policies that control environmental damage caused by human activity. This requires global cooperation and political will. However, the extreme politization of this issue creates barriers for many states in high-income as well as lower-income countries. Thus, one suggestion is to focus on more local efforts. Hoffman (2011) recommended that since the effects of climate change are felt locally, grassroots initiatives that are owned and enforced by communities are an option that needs to be expanded globally. These initiatives need to focus on creating stronger infrastructures around housing, transportation, health services, and renewable energies. They also need to include a wide variety of stakeholders including non-profits, corporations, and state actors. In addition, Hoffman pointed out that local plans tend to be more flexible and responsive than national and transnational initiatives that are often mired in bureaucracy (2011).

Climate change is impacting the human experience in a myriad of ways. Most urgently it is putting the ability of individuals and families in areas that are facing extreme heat and / or drastic weather events at risk to remain in their home locations. As the climate warms up, forced migration will become increasingly common and lead to the further expansion of urban areas. Due to these changes, it is imperative that we plan for these events and invest in sustainable urbanization to ensure that individuals have at minimum a satisfactory quality of life.

What we can learn from the research on climate change and human populations is that instead of focusing on an imagined “entrepreneurial migrant” seeking to improve their livelihood due to deteriorating regional conditions, we need to recognize the agency of individuals and families. Thus, efforts need to be extended to retrain local populations to provide them with skills that, for example, allow them to stay in their homes. While migration is under certain conditions the only available option, it is not always beneficial for the affected population. In order to mitigate the effects of forced displacement, urbanization efforts need to focus on recent migrants and provide them with pathways to integrate into new environments.

Especially urban areas that are located in low- and middle-income countries are at risk due to climate change. In most of these regions there is insufficient infrastructure and social services (including educational and health facilities) to serve their rapidly growing populations. Severe housing shortages combined with high levels of overcrowding and congestion are exacerbating the problems that come with rapid urbanization (OECD, 2020). Thus, a global one size fits all solution to planning and policies is untenable and would create more harm than good. Instead, a better alternative is an approach like the new Urban Agenda that was adopted by most countries in 2016 that emphasizes collaboration and supportive partnerships between smaller and larger urban areas in regional areas (UNDESA, 2019.) These types of partnerships support equitable development and incorporate cultural and regional differences to ensure that rural areas are not left behind. It is exceedingly important to note that the rapid global urbanization that we are witnessing is a new phenomenon in human history – and how the world copes with

it going forward is going to determine how much of humanity lives for the twenty-first century and beyond.

Forced migration through the effects of climate change and rapid urbanization are multi-dimensional phenomena that affect the well-being of individuals and families. In order to achieve the United Nations Sustainable Development Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable, urban planning and policies need to address not just housing units, transportation, and other infra-structure issues. Instead, the complex social aspects of migration and urbanization also require attention, with a specific focus on individual and family well-being. In each country and in each region, this requires a multi-pronged approach that includes well-planned and managed pathways for internal as well as international migration, as well as a focus on issues such as early childhood, gender and disability. In addition, the concept of the environmental migrant needs to be reframed from “victim” to individuals and families with agency who are contributors to their new environments.

The omission of family centered analyses and programing in forced migration due to climate change leaves us with an incomplete understanding about the migratory processes and the underpinnings needed for sustainable urbanization. In most places, family policies and programs were developed at a time when families looked less complex than they do today. Thus, there is a critical need for appropriate programs and policies that are responsive to key social and family conditions under various dynamic conditions. What we can currently say, however, is that as families have changed, they have not declined in importance. As has been argued above, migration and urbanization both have a little discussed but critical family dimension. Without employing a family lens to create migratory pathways and subsequent resettlement options, it will be very difficult to realize the UN 2030 agenda in the face of growing climate crises. Responsive programs and policies that strengthen and support families reduce the risks that are brought about by environmental degradation. This requires a systemic perspective that highlights how various factors and trends intersect and interact with one another. We know that strengthening family supports leads to improvements in the social and economic capital of individuals and concurrently, the well-being of individuals and communities. Through coordinated multi-level responses, all families including those with the most vulnerable individuals can be supported in realizing their rights, capabilities, and full potential.

### *Recommendations*

- Migration policies need to be reconceptualized to recognize changes in migration patterns due to environmental changes or crisis.
- New visa options and the category of “environmental refugee” need to be created if adaptation and return to countries of origin is not possible.

- The development of structured pathways for regular migration, as well as mitigation and adaptation strategies need to be instituted.
- The policy barriers for return migration need to be reduced.
- Increased investments in irrigation, infrastructures, training for new skill sets to help local populations stay in place despite changes to agricultural lands are needed.
- States need to invest in early warning systems and preparedness to ensure the safety of local populations in the event of environmental crises.
- Social security programs and community-level supports and interventions need to be strengthened in order to minimize the reproduction of vulnerabilities within households related to migration.
- Gender issues and programs need to be highlighted as they are often forgotten in policy decisions on migration; for instance designating separate shelters with protected toilets and bath areas for women and girls so that they are safe
- Training and skill building programs for migrants towards job needs in higher-income countries need to be instituted.
- Child care needs to be prioritized so that adults who have migrated can learn new skills.
- Disaggregate data needs to be prioritized to help inform cooperation and scaled-up climate action
- A family lens needs to be integrated into evaluations and policies and programs about migration.
- Support programs and policies that take the varying population in urban areas in to account need to be prioritized
- The creation of green spaces in urban areas need to be incorporated into urban planning; also in part by providing best case examples from different parts of the world.
- Corporate responsibility laws to help stem factors associated with climate change need to be prioritized by states.

## References

- Ahmed, K., Haq, S., & Bartiaux, F. (2019). The nexus between extreme weather events, sexual violence, and early marriage: A study of vulnerable populations in Bangladesh. *Population and Environment*, 40, 303 – 324. <https://doi.org/10.1007/s11111-019-0312-3>.
- Alverio, G., Sowers, J., & Weinthal, E. (2023). Displaced to cities: Conflict, climate change, and urban migration. United States Institute of Peace. <https://www.usip.org/publications/2023/06/displaced-cities-conflict-climate-change-and-rural-urban-migration>
- Baca, M., Laederach, P., Haggard, J., Schroth, G., Ovalle, O., (2014). An integrated framework for assessing vulnerability to climate change and developing adaptation strategies for coffee growing families. *Mesoamerica. PLOS One*, 9, doi: [10.1371/journal.pone.0088463](https://doi.org/10.1371/journal.pone.0088463)
- Barnett, J., and Webber, M. (2010). Accommodating migration to promote adaptation to climate change. *Background paper to the 2010 World Development Report. Policy Research Working Paper*, 5270.
- Bellizzi S, Molek K., (2022). The High Risk of Gender-Based Violence for Migrant Women and Girls. *J Pediatr Adolesc Gynecol*. 2022;35:265-6. [10.1016/j.jpag.2021](https://doi.org/10.1016/j.jpag.2021)
- Bettini, G. & Gioli, G. (2016). Waltz with development: Insights on the developmentalization or climate-changed migration. *Migration and Development*, 5, 171 – 189. <https://doi.org/10.1016/j.mig.2016.05.001>
- Bhattarai K. & Budd, D. 2019. Effects of rapid urbanization. *Multidimensional Approach to Quality of Life Issues*, pp. 327 – 341, ed. B. Sinha. New York, Springer.
- Bryceson, D. (2019). Transnational families negotiating migration and care life cycles across nation-state borders. *Journal of Ethnic and Migration Studies*, 45:16,3042-3064, DOI: [10.1080/1369183X.2018.1547017](https://doi.org/10.1080/1369183X.2018.1547017)
- Bryceson, D. and U. Vuorela (2002) Transnational families in the twenty-first century, in D. Bryceson and U. Vuorela (eds), *The Transnational Family: New European Frontiers and Global Networks*, pp. 3–30. New York: Berg.
- Campbell - Lendrum, D. & Covalan, C. (2007). Climate change and developing country cities: Implications for environmental health and equity. *Journal of Urban Health*, 8: 109 – 17.
- Carling, J. (2005). Gender dimensions of international migration. *Global Migration Perspectives*. Global Commission on International Migration. [www.gcim.org](http://www.gcim.org)

- CIEH (Chartered Institute of Environmental Health) (2015). <http://www.cieh-housing-and-health-resource.co.uk/housing-conditions-and-health/key-issues/>
- Dallmann, I., & Millock, K. (2017). Climate variability and inter-state migration in India. *CESifo Economic Studies*, 63, 560–594. <https://doi.org/10.1093/cesifo/ifx014>
- DePaul, M. (2012). Climate change, migration and megacities: Addressing the dual challenges of mass urbanization and climate vulnerability. *Patterson Review of International Affairs*, 12, 145 – 162.
- DESA. (2009). *Creating an inclusive society: Practical strategies to promote social integration*. <https://www.un.org/esa/socdev/egms/docs/2009/Ghana/inclusive-society.pdf>
- Ferdousi, N. (2013). Children silent victims in child marriage in Bangladesh: Significance of legal protection for their wellbeing. *Developing Country Studies*, 3, 18 – 26.
- Fresnoza-Flot, A. (2018). Beyond migration patterns – understanding family reunion decisions of Filipino labour and Thai marriage migrants in global reproductive systems. *Migration Studies*, 6, pp. 205 – 224. doi:10.1093/migration/mnx038
- Fuller-Iglesias, H. (2015) The view from back home: interpersonal dynamics of transnational Mexican families, *Journal of Ethnic and Migration Studies*, 41, pp. 1703-1724, DOI: 10.1080/1369183X.2015.1022518
- Galea, S., Ettman, C. & Vlahov, D. (2019). *Urban health*. Oxford Publishing: Oxford.
- Global Disability Summit. (2019). <https://www.globaldisabilitysummit.org/resources/global-disability-summit-one-year-on-accountability-report-september-2019>
- Global Disability Summit (2022). <https://www.globaldisabilitysummit.org/pages/global-disability-summit-2022-norway>
- Global Goals. (2017). The sustainable development goals report. <https://unstats.un.org/sdgs/files/report/2017/thesustainabledevelopmentgoalsreport2017.pdf>
- Hoffman, M. J. 2011. *Climate Governance at the Crossroads: Experimenting with a Global Response after Kyoto*. New York: Oxford University Press.
- Institute for Economics & Peace. (2023). Over one billion people at threat of being displaced by 2050 due to environmental change, conflict and civil unrest. 2020. Available: <https://www.economicsandpeace.org/wp-content/uploads/2020/09/Ecological-Threat-Register-Press-Release-27.08-FINAL.pdf>



- King, R. & Lulle, A. (2015) 'Rhythmic island: Latvian migrants in Guernsey and their enfolded patterns of space-time mobility', *Population, Space and Place*, 21 (7), 599–611, doi:10.1002/psp.1915.
- Krishna, A., Sriram, M. S., & Prakash, P. (2014). Slum types and adaptation strategies: Identifying policy-relevant differences in Bangalore. *Environment and Urbanization*, 26, 568–585. <https://doi.org/10.1177/0956247814537958>
- Mahler, S.J. (2001) Transnational relationships: The struggle to communicate across borders. *Identities: Global Studies in Culture and Power* 7. pp. 583–619.
- Mainella, F., Agate, J. & Clark, B. (2011). Outdoor-based play and reconnection to nature: A neglected pathway to positive youth development. *Recreation as a developmental experience*, 130, 89 – 104.
- Merry, L. Pelaez, S. & Edwards, N. (2017). Refugees, asylum-seekers and undocumented migrants and the experience of parenthood: A synthesis of the qualitative literature. *Globalization and Health*, 13, 75. DOI 10.1186/s12992-017-0299-4
- OECD. (2020). Cities in the world: A new perspective on urbanization. *OECD Urban Studies*. OECD Publishing, Paris, <https://doi.org/10.1787/d0efcbda-en>
- Singh C., & Basu R. (2020). Moving in and out of vulnerability: Interrogating migration as an adaptation strategy along a rural–urban continuum in India. *Geographic Journal*, 186: 87–102. <https://doi.org/10.1111/geoj.12328>
- Suzuki, H., Dastur, A., Moffatt, S., Yabuki, N. & Mauyama, H. (2010). Eco cities: Ecological cities as economic cities. The World Bank: Washington, D.C.
- UN Women. (2019). *Progress of the World's Women 2019 - 2020: Families in a Changing World*. United Nations. New York. [progress.unwomen.org](http://progress.unwomen.org)
- Van den Bosch, M., & Ode Sang, Å. (2017). Urban natural environments as nature-based solutions for improved public health – A systematic review of reviews. *Environmental Research*, 158 (Supplement C), 373-384.
- World Cities Report. (2020). *The value of sustainable urbanization*. Nairobi, Kenya. UN Habitat. <https://unhabitat.org/world-cities-report-2020-the-value-of-sustainable-urbanization>
- World Economic Forum. Climate refugees - the world's forgotten victims. 2021. Available: <https://www.weforum.org/agenda/2021/06/climate-refugees-the-world-s-forgotten-victims/>
- WHO. World Health Organization. (2012). *Health indicators of sustainable cities in the context of the Rio +20 conference on sustainable development*. Available at [http://www.who.int/hia/green\\_economy/indicators\\_cities.pdf?ua=1](http://www.who.int/hia/green_economy/indicators_cities.pdf?ua=1)

WHO. World Health Organization. (2021). COP26 – Direct linkages between climate change, health and migration must be tackled urgently – IOM, WHO, Lancet Migration. Available: <https://www.who.int/news/item/09-11-2021-cop26—direct-linkages-between-climate-change-health-and-migration-must-be-tackled-urgently-iom-who-lancet-migration>

World Migration Report 2020. (2020). IOM UN Migration. <https://publications.iom.int/books/world-migration-report-2020>

Xu, C., Kohler, T., Lenton, T. Svenning, J.C. & Scheffer, M. (2020). Future of the human climate niche. *Proceedings of the National Academy of Science*. <https://doi.org/10.1073/pnas.1910114117>

Zelenski, J. & Nisbet, E. (2014). Happiness and feeling connected: The distinct role of nature relatedness. *Environment and Behavior*, 46, 3 – 23.