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Displaced to Cities

CONFLICT, CLIMATE CHANGE, AND
RURAL-TO-URBAN MIGRATION

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ABOUT THE REPORT

This report analyzes the linkages between climate change, conflict, and migration to urban environments in middle- and low-income countries. The report draws upon expert interviews, fieldwork, and a review of secondary sources to develop case studies of conflict-driven rural-to-urban migration in Honduras, Pakistan, and Jordan. The report was commissioned by USIP's Climate, Environment, and Conflict program.

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Cover photo: Victims of flooding from torrential monsoon rains use a makeshift barge to carry hay for cattle in Jafarabad, Pakistan, on September 5, 2022. (Photo by Fareed Khan/AP)

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Summary



Cities increasingly bear the brunt of climate-induced migration, particularly in conflict-affected countries. Armed conflict and the climate crisis interact in complex and reinforcing ways to undermine human security, leading to increasing trends in rural-to-urban migration and the rapid growth of informal or peri-urban settlements in many low- and middle-income countries. In the 25 years leading up to 2015, the population living in informal areas increased by 28 percent according to UN-Habitat. The World Bank estimates that by 2050, climate change could force the internal migration of over 200 million people, most of whom would move to these already densely populated urban areas. In addition, more than 100 million people were internally displaced in 2022 alone due to conflict, with most conflict-driven migrants also moving to urban areas.

This report focuses on elucidating linkages between climate, conflict, and rural to-urban migration in three countries: Honduras, Jordan, and Pakistan. The case studies draw upon expert interviews, fieldwork by the authors, and a review of secondary sources.

In Honduras, agricultural workers, making up 39 percent of the population, are made vulnerable by the increasing frequency and intensity of droughts and hurricanes, while rural migrants to cities must contend with organized gangs and high rates of urban violence. In Jordan, increasing water scarcity and lack of adequate rural jobs drive migration to cities, most of which already host large refugee populations from protracted conflicts in Iraq, Palestine, and Syria. In Pakistan, climate disasters such as the devastating 2022 floods are more frequent; they affect both rural areas and urban cores and help drive the growth of extensive informal peri-urban settlements, already home to large numbers of conflict-driven refugees.

This report analyzes the impacts on cities and migrants of the climate-conflict-migration nexus. As the cases highlight, with rapid influxes of people displaced by climate and conflict, urban areas face increased pressures on infrastructure, public services, and environmental quality. Ultimately, these pressures directly impact urban residents and can contribute to increased tensions between long-term residents and migrants. Combined with the chronic violence and crime common in urban areas, migrants are made vulnerable to physical and mental health challenges. However, governance mediates these negative impacts,

and policy measures could promote positive feedback loops for economic and human development.

The report concludes with recommendations for policymakers designed to promote inclusive urban development and proactive, comprehensive policies that benefit both rural and urban communities. Given that much urban planning has failed to cope with rapid urbanization generally and with climate- and conflict-induced migration more specifically, recommendations for local urban institutions focus on strengthening government engagement and capacity for building urban residents' trust in government, building social cohesion between newcomers and long-term residents, providing essential services (such as low-cost water, energy, and sanitation services), and increasing investments in climate adaptation measures.

At the national level, recommendations prioritize empowering local institutions and facilitating international cooperation by decentralizing authority to local officials, investing in the development of smaller cities, implementing flexible labor laws, addressing root causes of migration (including relevant priorities in national planning documents), and advocating for international protections for climate- and conflict-displaced persons.



Julio Villanueva Melgar stands among the remains of his home, which was destroyed by a landslide triggered by Hurricanes Eta and Iota, in the village of La Reina, Honduras, on June 23, 2021. (Photo by Rodrigo Abd/AP)

Introduction

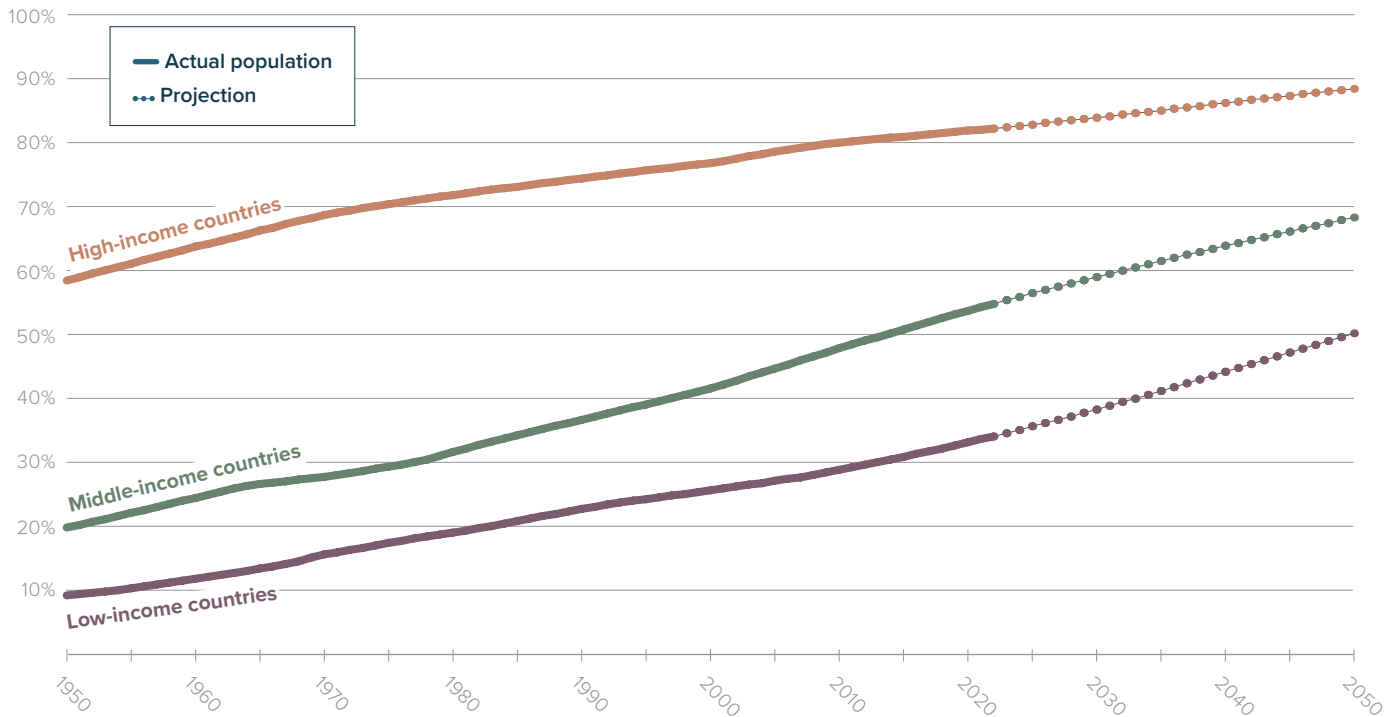
Urban populations are rapidly growing, and climate change and conflict are exacerbating this trend. Migration decisions are complex, multifaceted, and based on factors that range from economic variables to safety to the impact of climate on livelihoods, basic services, and food security.¹ The impacts of migrants on urban environments in turn depend strongly on the interaction between political and socioeconomic factors, including legacies of urban planning, existing infrastructure for service provision, and available livelihood opportunities. Under these circumstances, human security is often threatened both in the rural areas of origin and in the urban areas of settlement. To ensure that proactive policies protecting migrants and long-term urban residents alike can be implemented, both the drivers of migration and the effects of migration need to be better understood.

This report explores the drivers of urban migration with a focus on conflict and climate change, and analyzes the subsequent impacts on migrants and urban environments. To capture commonalities and variations in the climate-conflict–urban migration nexus, it comparatively analyzes Honduras, Jordan, and Pakistan, where rural populations are rapidly declining. These cases exemplify the severe challenges facing cities and migrants alike.

CLIMATE CHANGE AND MIGRATION

With rising temperatures across the world and increasingly variable precipitation patterns accompanied by more extreme droughts and flooding, understanding how climate change displaces peoples and drives migration to urban areas is of critical importance. The National Intelligence Council’s Global Trends 2040 report underscores that climate change will likely drive a shift from temporary and

Figure 1: Urban population as a percentage of total population, 1950–2050



Source: United Nations Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2018 Revision* (New York: United Nations, 2019).

seasonal forms of migration to permanent displacement due to the increasing uninhabitability of many places.² For example, smallholder farmers and agricultural laborers facing recurrent, more intense droughts over the past two decades in the Dry Corridor of Central America and across the Sahel have been forced to leave their lands in search of food security and livelihood opportunities.³

Rural communities have long faced variable weather, but as extreme weather events increase in severity and frequency due to global warming, even some measures designed to increase resilience are insufficient to safeguard livelihoods.⁴ For instance, in Ethiopia in 2016, the establishment of famine early warning systems, crop and social insurance, and food aid programs was not enough to avoid decreases in agricultural output and prevent rising malnutrition.⁵ Those who move, whether voluntarily or not, as a result of the impacts of climate change are generally referred to as climate migrants.⁶

The World Bank estimates that by 2050, climate change could force the internal migration of more than 200 million people, most of whom would move to densely populated urban areas.⁷ Urban centers are attractive as they offer employment opportunities in sectors less sensitive to climate impacts than agriculture and typically provide better health, education, and other basic services than rural areas.⁸ Most people who move because of climate-related events stay close to home and move internally or across the border into a neighboring country, primarily to cities. Urbanization is driven by many other factors in addition to climate change; it is difficult to estimate precisely how much rural-to-urban migration is driven by climate impacts. Evidence is accumulating, however, that as climate impacts worsen, urban migration is also increasing. As one scholar noted, “The climate emergency is an urban emergency.”⁹ By 2050, urban residents are estimated to make up 68 percent of the global population, up from 55 percent in

2018 and 50 percent in 2009, as evidenced in figure 1.¹⁰ In some countries, such as India and Egypt, urbanization estimates typically undercount urban migrants, suggesting that global urban populations may be higher than estimated.¹¹

Many young men—and increasingly young women—engage in long-term temporary and cyclical migration to urban areas, sending remittances back home.¹² This dynamic reduces poverty not only for households receiving remittances but also for rural areas more generally.¹³ Community members in rural areas often rely on one another in the face of food insecurity and loss of livelihoods.¹⁴ For instance, based on a study of 2,200 rural households, migration of family members to Vietnam’s urban areas results in a 50-percent decrease in the poverty rate from 2007 to 2010 and also significantly decreased household vulnerability in the same period.¹⁵ Still, it is important to note that remittance flows potentially entrench maladaptation in local communities, as becomes apparent when flows are halted. In Ghana, remittances helped to keep households participating in maladaptive agricultural practices that increase vulnerability, such as selling livestock as a form of livelihood diversification or overusing agrochemicals that contaminate water sources. Such maladaptation often results in vicious cycles of short-term coping strategies, instead of long-term adaptation measures.¹⁶ In areas with high male out-migration, women often face increased work burdens and risks to safety.¹⁷ Furthermore, in a future increasingly centered around life in urban areas, governments face a growing political and economic disconnection between rural and urban areas.

In response to these pressures, in 2021 the White House issued a report that explicitly linked climate change and migration; the report detailed federal efforts to provide foreign aid to climate migrants and both sending and receiving communities around the world, and recommended the establishment of a standing interagency policy process on climate change and migration.¹⁸ This report

follows President Joe Biden’s February 4, 2021, Executive Order 14013, “Rebuilding and Enhancing Programs to Resettle Refugees and Planning for the Impact of Climate Change on Migration.”¹⁹

CONFLICT-INDUCED DISPLACEMENT AND CLIMATE CHANGE

Conflict is a leading driver of displacement, defined as forced migration, across the world. In 2021, 89.3 million people worldwide were forcibly displaced due to conflict—more than at any time before then; 27.1 million of these were refugees and another 53.2 million internally displaced persons (IDPs).²⁰ The Russian invasion of Ukraine pushed the number of IDPs to over 100 million in 2022. Armed conflict includes direct and indirect drivers of migration. People may be forced to migrate by direct violence, threats of violence, or war-related social and economic disruption.²¹ Like climate-induced migration, conflict-induced migration is most often to local and regional urban areas.²² Those displaced persons who make it across international borders typically seek refuge in nearby host countries.²³

The effects of climate change may exacerbate the potential for local conflicts and amplify the risks of ongoing conflict.²⁴ Though the exact links between climate change and conflict are not uniform across contexts and warrant further investigation, the Department of Defense and other influential US government actors consider climate change a threat multiplier, worsening underlying inequities and scarcities that may contribute to different forms of social conflict.²⁵ For instance, competition over scarce water resources can lead to elevated tensions as influxes of migrants pose additional demands on limited water supplies in host communities. According to UNICEF, in the 10 years prior to 2019, water-related conflict more than doubled.²⁶ This growth has occurred as water infrastructure has come under fire in conflicts such as in Ukraine;²⁷ and it is likely to continue as water resources become scarcer in many areas due to climate change.²⁸ Notably, there is evidence of militaries and armed groups strategically targeting infrastructure that

Although the relationships between conflict, migration, and climate change vary with political, economic, and social contexts, weak political institutions and a lack of state support for affected individuals exacerbate preexisting vulnerabilities by leaving the root causes of vulnerability unaddressed.

populations depend on for climate resilience, including infrastructure related to water and energy.²⁹

Both long- and short-term climate events associated with climate change disrupt livelihoods and coping strategies of those experiencing conflict, increasing the numbers of people forced to migrate.³⁰ For instance, a qualitative study in Mindanao, Philippines, in 2017 showed that intrastate conflict increased forced displacement in the face of climate shocks, especially for women.³¹ The United States Agency for International Development (USAID) Climate Strategy for 2022–2030 points out that three-quarters of USAID partner countries are affected by conflict and all are currently experiencing adverse impacts from climate change, suggesting that armed conflict and the climate crisis interact in complex and reinforcing ways to undermine human security.³² Although the relationships between conflict, migration, and climate change vary with political, economic, and social contexts, weak political institutions and a lack of state support for affected individuals exacerbate preexisting vulnerabilities by leaving the root causes of vulnerability unaddressed and, in some cases, promoting maladaptation.³³ The disconnection between officials and organizations that focus on climate change and those that focus on conflict further aggravate these risks.

MIGRATION AND URBAN SUSTAINABILITY

Both conflict and rapid-onset climate shocks, or climate tipping points, can force large numbers of people to migrate quickly, often overwhelming receiving urban infrastructure and institutions. With rapid influxes of displaced people, urban areas—encompassing both formally recognized city boundaries and peri-urban areas—face

increased demands on social services such as health care and education, public utilities such as water and energy, and affordable goods such as food and housing.³⁴

The population living in informal or peri-urban areas—defined by UN-Habitat as settlements lacking permanent structures, space, water, sanitation, and secure tenure—increased by 28 percent between 1990 and 2015.³⁵ This trend is exacerbated by the lack of dedicated affordable housing in most cities. In many urban areas, waste and water infrastructures cannot keep pace with urban growth, meaning surface and groundwater pollution is significant and residents are exposed to health hazards.³⁶ Notably, many informal settlements are also located in climate-sensitive areas such as in floodplains, thereby heightening these risks. Without access to clean water and proper sanitation and solid waste management, IDPs may be exposed to a range of infectious diseases; in Afghanistan, for example, IDPs were more likely than long-term residents to experience diarrhea and waterborne diseases.³⁷

In Dhaka, Bangladesh, moreover, less than 10 percent of peri-urban populations in 2010 had access to solid waste management services.³⁸ Urban investment and targeted social policies can help alleviate additional stress on water and sanitation services, but public services are often underfunded, and city and provincial governments may be challenged to address preexisting urban problems and may lack capacity to respond to new ones. Furthermore, in urban areas with inadequate or repressive police forces, and in situations where the state fails to protect individuals, patterns of urban crime and violence may be aggravated.³⁹



Amman, Jordan, is shown in December 2022. Jordan constructed a pipeline that brings pumped groundwater from the Disi aquifer in the south to Amman; but the aquifer, shared with Saudi Arabia, consists of nonrenewable fossil groundwater. (Photo by Natsumi/Shutterstock)

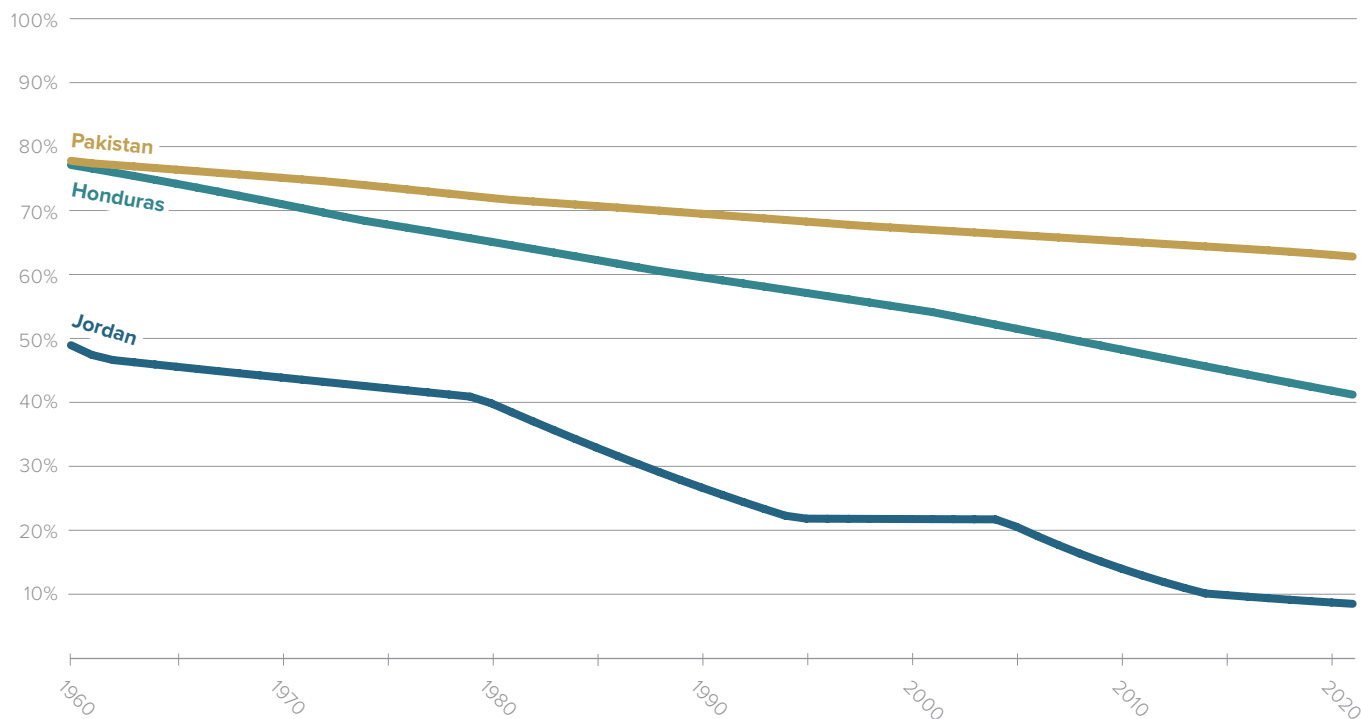
The Climate-Conflict–Urban Migration Nexus: Honduras, Jordan, and Pakistan

In Honduras, chronic droughts and severe natural disasters, including hurricanes and landslides, increasingly drive rural migrants to cities, where chronic gang violence and a lack of support from local or federal governments push them to seek refuge across international borders.⁴⁰ In Jordan, one of the most water-stressed countries in the world, pressures from conflict-driven waves of regional migration have strained urban infrastructures, making the inadequacy of water resources increasingly evident.⁴¹ Pakistan has hosted large numbers of refugees from Afghanistan since the Soviet-Afghan War in the 1980s,

and as of 2021 it hosted the third-highest number of IDPs globally due to extreme weather events and disasters, such as flooding, heat waves, and increasingly unpredictable monsoon rainfall.⁴² New urban migrants confront exorbitant housing prices, leading to the rapid expansion of peri-urban areas that frequently lack adequate infrastructure, social services, and employment opportunities and are often already in climate-vulnerable places.⁴³

Each case, moreover, elucidates a different set of migration drivers and urban impacts. For Honduras,

Figure 2: Rural population as percentage of total population in Jordan, Pakistan, and Honduras, 1960–2021



Source: World Bank, “Rural Population (% of Population),” <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>; estimates are based on United Nations Department of Economic and Social Affairs, Population Division, *World Urbanization Prospects: The 2018 Revision* (New York: United Nations, 2019). Rural population refers to people living in rural areas as defined by national statistical offices. It is calculated as the difference between total population and urban population.

the analysis focuses on how droughts, hurricanes, and dependence on export-oriented agriculture fuel internal and cross-border migration amid entrenched urban gang violence. For Jordan, the focus is on urban migration in the context of increasing water scarcity and inefficient infrastructure despite long-term, significant infusions of donor aid. Finally, for Pakistan, the analysis focuses on inadequate food security caused by climate disasters and the predicaments faced in peri-urban areas. The cases draw upon interviews with experts in climate, migration, and conflict in each country, fieldwork by the authors, and a review of secondary sources.

HONDURAS

Honduras is significantly impacted by climate change, as it is located in the semi-arid Dry Corridor and experiences recurring extreme events leading to natural disasters.⁴⁴ About 39 percent of the Honduran population is

employed in the agricultural sector, which is primarily rainfed; the livelihoods of more than one-third of the population are vulnerable to climate change impacts.⁴⁵ In 2018, prolonged drought followed by erratic rain meant that farmers in the Dry Corridor lost 70 percent of crops in the first harvest and 50 percent of crops in the second harvest.⁴⁶ In 2020, Hurricanes Eta and Iota made landfall 16 days apart, displacing almost 1 million people, destroying 700,000 hectares of crops, and leaving 2.9 million people facing acute food insecurity.⁴⁷ These disasters compounded vulnerabilities from previous decades; in 1998, for instance, Hurricane Mitch left thousands dead, injured, or homeless, while also causing severe damage to the health care infrastructure, education system, road networks, and agricultural crops.⁴⁸

The Honduran economy depends primarily on coffee and a few other high-value export crops. Honduras is

the fifth-largest exporter of coffee globally, and coffee is cultivated in 15 of the 18 departments (states), accounting for one-third of the country's agricultural gross domestic product (GDP).⁴⁹ Climate change plays a role in increasing the spread and severity of pathogens that are harmful to coffee plants, such as *Hemileia vastatrix* (coffee leaf rust), as pests are highly sensitive to levels of carbon dioxide, temperature, and rain levels and timing.⁵⁰ In 2011, coffee leaf rust caused 30,000 Honduran farmers to lose half of their harvest and 10,000 to lose their harvest entirely.⁵¹ As outbreaks occur, coffee producers have taken on more debt in an effort to respond, jeopardizing resources needed to adapt to climate change.⁵² The COVID-19 pandemic intensified these impacts, resulting in significant decreases in coffee exports and undermining the economic viability of smallholder farming.⁵³

Waning government investments in social protection have compounded precariousness in the agricultural sector. Like governments in many other developing countries, the Honduran government pursued neoliberal economic restructuring beginning in the late 1980s, which shifted governmental focus away from protecting social welfare in rural areas to promoting urban industrial growth.⁵⁴ Where the government used to support agrarian reform programs, it largely abandoned farmers, leaving rural development and social protection mainly up to nongovernmental organizations (NGOs) until very recently.⁵⁵ Ebru Gencer, an expert in disaster risk reduction and sustainable urban development at Columbia University, suggests that local governments in the region with the greatest incentive to provide support lack the jurisdiction and/or financial ability to do so. She points out that local governments are often unable to partner with international organizations and are prohibited by law from providing critical services like water and waste management.⁵⁶ Several interviewees highlighted that the burden to provide aid is thus left to NGOs and international aid organizations, which provide short-term assistance but are limited in their ability to implement structural changes to address the growing needs of rural populations.⁵⁷

Without adequate social protection and faced with no other options for sustaining their livelihoods and feeding their families, many people are forced to migrate from their hometowns. As of 2019, 30 percent of migrants leaving Central America cited extreme weather as their reason for doing so.⁵⁸ Monica Villamizar, a journalist who has traveled the migrant route from Honduras to the US several times, points out that climate migrants from Central America are likely significantly undercounted by researchers; many migrants are categorized as economic migrants even though an important reason behind their financial struggles is the impact of climate change on agriculture.⁵⁹ Mark Scialla, a journalist who produced a documentary about climate migration in Honduras, notes that while global climate migrants have captured the attention of global news outlets, most Hondurans who migrate go to major Honduran cities and peri-urban areas, with cross-border migration the option of last resort.⁶⁰ Since basic infrastructure and public housing are limited, many people end up in peri-urban environments or informal housing, leaving them further exposed to gang activity.⁶¹ Local governments, plagued with a long history of corruption, are unable to rein in gangs or manage the pressures of growing populations in their cities. Unfortunately, violence and civil unrest from gangs, which regularly extort, assault, and murder newcomers, is rampant.⁶² As Scialla explained, the compounding impacts of the recent hurricanes mean that “people have to move from one neighborhood to another and that is grounds to be murdered” due to the territorial nature of gangs in the country.⁶³ Women face particularly acute risks of violence. Many are recruited against their will to be girlfriends of gang members, and femicide is the second leading cause of death for women in the country.⁶⁴

As a result of climate-related disasters and urban violence, internal migrants sometimes attempt to reach the United States.⁶⁵ US border-crossing data show that when Honduras experiences reduced precipitation, migration in the following year increases, and this effect is amplified when there

are higher levels of violence in the departments from which people migrate. While climate impacts force many farmers off their land, farmers often leave their country because of a confluence of socioeconomic and political factors; simply put, they are not safe from violence or protected by their government.⁶⁶ According to Scialla, “People would prefer to stay before they leave, but sometimes staying is just not an option.”⁶⁷ As Villamizar observed, not everyone has the fiscal or physical ability to migrate out of the country, and many remain trapped in unsafe situations in cities.⁶⁸

As migrants attempt the journey out of Honduras, they continue to face violence along the way. The increasingly militarized government has criminalized out-migration through the creation of a police force that attempts to prevent migrants from crossing borders.⁶⁹ Migrants are at high risk of death from exposure to the natural elements, starvation and dehydration, gang violence, or attacks by human traffickers.⁷⁰ Among Central American migrants, almost 6,000 are reported to have died during migratory transit between 2014 and 2021.⁷¹ Denise Obinna, an expert in the gendered dimension of Honduran migration, asserts that women experience a particular risk of sexual assault, physical violence, and femicide along the way.⁷² When families calculate that the risk of their children staying in Honduras is too high and the financial burden of sending more than one person across the border is too much, they may be forced to send their children alone on the journey. From January to September of 2021, 93,512 unaccompanied minors were apprehended at the US-Mexico border.⁷³ Upon arrival at the US border, migrants may face detention periods of indeterminate length and risk being sent back to Honduras.⁷⁴ As of 2017, 10 percent of the working-age population of Honduras was living outside the country, leading to a deficit of people able to rebuild communities after disasters, work to improve infrastructure in cities, or engage in local politics.⁷⁵

JORDAN

Like many other countries in the Middle East and North Africa, Jordan has experienced intensive urbanization since the 1960s: the rural population was 49 percent of the total population in 1960, had decreased to 22 percent by 2000, and was 8 percent in 2021.⁷⁶ Yet much of this urban growth has been due not just to domestic factors, but also to regional conflicts in which refugees have fled to Jordan’s urban centers. UN-Habitat notes that depending on the particular conflict, Jordan’s cities have doubled or tripled in size every 25 to 30 years.⁷⁷ As in Honduras, much of the internal urban growth is also a result of rural-to-urban migration. Jordanians are increasingly moving from rural areas to some cities, including Aqaba and Al Mafraq.⁷⁸ Small farmers are sometimes forced to leave their homes in search of food security and jobs in urban areas.⁷⁹ Some interviewees suggest that the Jordanian government views migration to urban areas as a security threat, due to increased competition over resources and jobs. The government and major humanitarian organizations have attempted to monitor migration flows via remote sensing; while purportedly undertaken for humanitarian purposes, this approach sets a potentially dangerous precedent.⁸⁰

As in Honduras, rural areas face significant climate impacts. Intensifying drought and rising temperatures, as well as overabstraction of groundwater and surface water, exacerbate water scarcity, posing a threat to economic development and human security.⁸¹ Jordan is ranked as the second-most water-scarce country in the world, up from 10th place in 2009, with renewable water resources at less than 100 cubic meters per person per year.⁸² To provide additional water to its urban environments, Jordan constructed a pipeline that brings pumped groundwater from the Disi aquifer in the south to Amman; but the aquifer, shared with Saudi Arabia, consists of nonrenewable fossil groundwater.⁸³ Ongoing droughts and rising temperatures since the 1960s have increased the number of heat waves and dry days in Jordan, while rainfall has declined by 5 to 20 percent across the country.⁸⁴ In its

2014 national communication on climate change to the Intergovernmental Panel on Climate Change, Jordan reported that intensified periods of heavy winter flooding in the northern and central highlands have destroyed agricultural land and infrastructure, including houses and road networks.⁸⁵

Water scarcity in Jordan is made more acute not only by climate change but also by increased demand for water from neighboring countries. Drought coupled with withdrawals in Syria and Israel means that Jordan receives less than 10 percent of the flow of the upper Jordan and Yarmouk Rivers, threatening economic and political stability.⁸⁶ The 1994 Israel-Jordan peace treaty included a section devoted to water sharing, but demand for water far exceeds the entire Jordan River's flow.⁸⁷ To address growing domestic pressures to expand water supply, Jordan has continued to invest in large infrastructure projects, such as seeking to build a water conveyance system from the Dead Sea to the Red Sea.⁸⁸ Notably, in November 2021, Israel, Jordan, and the United Arab Emirates signed a declaration of intent that would address Jordan's mounting water scarcity, allowing Jordan to sell energy to Israel from large-scale solar fields in exchange for desalinated water from Israel.⁸⁹

The perceived political challenges of rural-to-urban migration are compounded by the waves of refugees hosted in Jordan from conflicts in neighboring countries. Jordan hosts the second-highest number of refugees in the world.⁹⁰ More than 80 percent of registered refugees live in urban areas, particularly Amman, Irbid, and Al Mafraq. Many refugees displaced by conflicts in Syria, Iraq, Yemen, and Palestine have settled in urban areas.⁹¹ While past migration to Jordan has largely resulted from conflict-induced displacement, analysts have increasingly indicated that droughts and heat waves will likely increase regional migration to Jordan.⁹² Previous influxes of refugees have been blamed for increasing water scarcity, at times causing tensions over water resources between refugees and Jordanians.⁹³

Once in Jordanian cities, migrants and refugees often struggle to find jobs that match their skill levels. They may be forced to take positions that entail long work hours and inconsistent pay.⁹⁴ Services in Jordanian cities are overburdened, so that residents and migrants alike have difficulty accessing basic necessities such as education, sanitation, and health care.⁹⁵ The rapid growth in cities to accommodate growing populations, including refugees, has followed major roads and fertile lands, resulting in the loss of agricultural land.⁹⁶ The rapidly growing population in urban centers is increasing pressures on water infrastructure, already hampered by outdated pipes and networks with high rates of leakage.⁹⁷

In order to service rapidly growing urban populations, local city governments ration water resources. Majd Al Naber and Reem Alhaddadin, researchers in sustainable development at the Jordanian WANA Institute, point to the case of Amman: in the capital city, where the population increased by about 87 percent in just 10 years and where almost half of all Jordanian citizens live, water is available only two days per week. Mafraq, north of Amman, receives water one day per week.⁹⁸ During the COVID-19 pandemic, water shortages in Jordan became more acute, with distribution of water taking a week to reach urban areas and two weeks to reach rural ones on average.⁹⁹ The situation is dire: 38 percent of respondents to a 2020 Jordanian household survey identified access to clean drinking water as of concern to them.¹⁰⁰ Furthermore, as Alhaddadin states, water scarcity "affects our social cohesion . . . it increases competition between Jordanians and IDPs over our basic needs."¹⁰¹ Both she and Al Naber noted that the government has increasingly enacted laws aimed at conserving water, such as requiring all new buildings to have a rainwater harvesting system.¹⁰²

As protests against the Jordanian monarchy have intensified in recent years, the United States and Europe have continued to bolster the monarchy with substantial amounts of foreign aid; aid per capita is among the highest in the world at \$277, including climate change adaptation initiatives.¹⁰³ Donors' preference for political

stability in Jordan is also tied to wanting to prevent out-migration. This aid is especially crucial considering the lack of available financial resources from the Jordanian government for domestic investments in improving and expanding infrastructure. The largest part of the government budget—65 percent in 2021—is spent on salaries and pensions.¹⁰⁴ Financial stability remains perilous. As of 2021 the government’s fiscal risk exposure was estimated at over 120 percent of 2020 GDP.¹⁰⁵

PAKISTAN

The 2020 Global Climate Risk Index identified Pakistan as the world’s fifth-most climate-vulnerable country due to its exposure and vulnerability to natural disasters, glacial melt, sea-level rise, and precipitation variability—all associated with climate change.¹⁰⁶ Each year natural disasters affect approximately 3 million people in Pakistan.¹⁰⁷ Owing to climate change, during the first half of 2022 Pakistan experienced 16 glacial lake outbursts in the mountains, whereas in previous years there had been only five or six such events.¹⁰⁸ In the 2022 rainy season, unprecedented floods triggered by record monsoon rains and glacier melt killed at least 1,700 people and significantly impacted the lives of about 33 million people in the country.¹⁰⁹

The Internal Displacement Monitoring Center estimates that in 2020 Pakistan had the third-highest number of IDPs globally due to natural disasters.¹¹⁰ In the past two decades, the Indus delta has diminished by 92 percent, contributing to the designation of Pakistan as the third-most water-scarce country in the world.¹¹¹ The 2014 drought caused smallholders to lose fodder crops for livestock, which, along with a lack of intervention by political actors, was linked to the deaths of more than 300 children from malnutrition.¹¹² More recently, in May 2022, a lethal heat wave struck Pakistan, affecting one in eight people, leading to power outages and significantly impacting crops.¹¹³

As a result of rural out-migration, urban areas in Pakistan, like those in Honduras and Jordan, are growing rapidly. In 2021 an estimated 84 million of 225 million

people in Pakistan resided in urban areas.¹¹⁴ The urban population in Pakistan is increasing by 3 percent per year, and much of this growth is in informal, peri-urban areas, where between 35 percent and 50 percent of the urban population resides.¹¹⁵ These informal settlements are concentrated in a handful of major cities; in 2012, Pakistan’s four largest cities housed 50 percent of the peri-urban population.¹¹⁶ As in Honduras, few intermediate towns or cities provide adequate livelihood opportunities, and prices for housing in major cities are exorbitant.¹¹⁷ Thus, families settle in peri-urban areas around and within major urban centers, where they have even less access to government assistance.¹¹⁸

Rural-to-urban migration is clearly related to intensifying climate risks. Forty-four percent of Pakistan’s population is formally engaged in the agricultural sector, and in rural areas the proportion rises to 68 percent.¹¹⁹ Faced with rapid-onset shocks such as floods, many people in Pakistan have sought to return home as soon as it was safe to do so to replant their fields for the next harvest; this was the case, for example, for the 2.5 million people affected by unprecedented floods in Sindh Province in 2020.¹²⁰ But slow-onset disasters, such as the shrinking of the Indus delta, ongoing droughts, and rising temperatures, are increasingly leading to permanent migration of nuclear families from rural to urban areas that provide alternative livelihood opportunities.¹²¹ As a Pakistani researcher recounted, “When I speak to people in Punjab, what they say is that they ended up selling their land because the days that we receive canal water are becoming more and more infrequent such that we can no longer irrigate our land.”¹²²

Such patterns of permanent migration are likely to increase; projections of sea-level rise by the National Institute of Oceanography (informed by the Intergovernmental Panel on Climate Change emissions scenarios) suggest that without significant climate adaptation measures, many parts of the south of Pakistan, including Karachi, the largest city, are likely to be completely submerged in less than three decades.¹²³

As in Jordan, migration to urban areas is also driven by refugee flows. The displacement of Afghans to Pakistan owing to decades of war has contributed to rapid urbanization. According to government estimates, 1.4 million Afghans are registered as refugees, and as many as 3.5 million live in the country. Though some of these migrants are housed in refugee camps, almost two-thirds are not registered as refugees.¹²⁴ Instead, they are concentrated in cities in the northwest, where their lack of documentation leaves them vulnerable to exploitation in the workplace and at the hands of officials.¹²⁵ Since the Taliban takeover in Afghanistan in 2021, Pakistan has mounted a campaign to keep Afghans from entering and to remove those already there, an effort that amounts to the world's largest unlawful, forced return of refugees in recent history.¹²⁶

Though the government provides some support to rural areas, several interviewees report that governmental policy responses often lag or are confounded by competing priorities, including military expenditures.¹²⁷ For instance, interviewees and other analysts observe that, in the name of food security, the government provides extensive subsidies for large-scale domestic wheat farmers, leaving smallholders and agricultural laborers to fend for themselves.¹²⁸ Policies aimed at social support, including the wheat procurement program, make up less than 1 percent of government expenditure, while military spending accounts for over 17 percent.¹²⁹

Individuals cannot rely on adequate government support within cities in Pakistan. The government is implementing projects to improve urban infrastructures and social services, but Stephen Davies, a Senior Research Fellow at the International Food Policy Research Institute, notes that the demand is too high for ministries and municipalities to keep up with. "The infrastructure is way behind the migration," he explains, and the government is "really playing catch-up because the services even before big migration waves were not adequate anyway."¹³⁰

Within peri-urban environments, individuals face challenging conditions, including increased levels of vulnerability to climate change compounded by subpar social services and insecure property rights. As one of the interviewees noted, residents face removal at any time when living in informal areas.¹³¹ Rapid unregulated urban expansion further diminishes available agricultural land, creating a feedback loop that increases migration into peri-urban areas.¹³² Lack of adequate public transportation also impacts climate vulnerability. An anonymous expert working on peri-urban dynamics in Pakistan pointed out that as "a lot of these [peri-urban] workers walk to work, in the absence of a good public transportation network, a heat wave is going to have an inordinate impact on their health." For the many who are employed in the construction sector, this person added, the extreme heat "also impacts their livelihoods" as physical labor becomes untenable.¹³³

Impacts on Urban Environments and Migrants



The climate-conflict-migration nexus is multifaceted and interconnected. The case studies above illustrated how climate change and conflict drive migration to urban areas. This section analyzes the impacts on cities and migrants based on the case studies and comparative analysis of additional urban contexts. It focuses on the inability of urban governance and planning to provide adequate infrastructure and public services for migrants and residents; urban migration's impacts on environmental quality and pollution; and physical insecurity and risks of crime and violence faced by migrants to cities. Notably, all these impacts are moderated by governance measures and are not simply inherent factors that must be accepted. Rather, with improved governance and increased investment, the relationship between urban environments and migrants can become a positive feedback loop of economic and human development.

INFRASTRUCTURE AND PUBLIC SERVICES

The rapid influx of migrants, combined with a lack of urban planning and governance, has led to rapid horizontal spread of urban areas in most developing countries, and has contributed to a situation in which one of every three urban residents in developing countries lives in a peri-urban area.¹³⁴ The expansion outside of the city into peri-urban areas often creates settlements that are not integrated with broader systems of services, regulation, and transportation.¹³⁵ This pattern is found in Dhaka, Bangladesh, where many rural migrants live in shelters made up of semipermanent materials, such as thatch and bamboo, in areas not connected to basic services.¹³⁶ Ethnic cleansing of the Rohingya by the

military junta in Myanmar has exacerbated these issues by causing many Rohingya to flee to Bangladesh.¹³⁷ While many are in refugee camps, many more are considered undocumented immigrants, living throughout the country and clustering in major cities.¹³⁸

As in Jordan, the rapid influx into cities of refugees fleeing conflict taxes existing urban infrastructure, particularly sewage systems, solid waste collection and treatment, clean drinking water supply, provision of electricity, and access to adequate housing.¹³⁹ In these circumstances, surface water may be contaminated by municipal solid waste and cause outbreaks of diarrhea and other preventable diseases, as occurred in Nakuru, Kenya.¹⁴⁰ Rural-to-urban migrants face challenges not only in accessing basic services but also in enrolling their children in schools, given their lack of documentation, inability to pay fees, and difficulties finding transportation.¹⁴¹ Public school class sizes in urban areas are often extremely large and are taught in shifts.¹⁴² Some classrooms in Nairobi, for example, include over 100 students, which leads to lower-quality education and issues with retention.¹⁴³

When migrants reside outside of the formal urban sector, municipal authorities, state agencies, and donors are likely to undercount how many people lack access to water, sanitation, energy, and housing. In political contexts where power is highly centralized and personalized and where municipal authorities have limited resources and political power, public authorities may deliberately remain in the dark about the scale of the issues faced by urban migrants as well as informal residents. In contrast, in urban areas where cooperative relationships



Smog envelops the historic Badshahi mosque in Lahore, Pakistan, on November 27, 2021. Lahore is growing rapidly as a result of rural-to-urban migration and is the most polluted city in the country. (Photo by K.M. Chaudary/AP)

between civil society and municipal and public authorities have been allowed to take root, cities are more likely to innovate and develop locally appropriate approaches to addressing dire problems of infrastructure and service provision. For example, an alliance-building approach between civil society and nonstate actors empowered citizens in Nairobi to engage in local politics, which ultimately changed the make-up of the city council to be more representative of the needs of urban farmers. As a result, financial support for farmers increased along with food security across the city.¹⁴⁴

POLLUTION AND ENVIRONMENTAL QUALITY

When critical infrastructure is overburdened, the environmental spillover effects are significant. Lahore, for example—the second-largest city in Pakistan—is growing rapidly as a result of rural-to-urban migration

and is the most polluted city in the country, suffering especially from constant smog.¹⁴⁵ Beyond air pollution, cities are also plagued with various impacts on water. The major cause of water pollution in cities is contamination by human and industrial waste.¹⁴⁶ When untreated sewage and urban waste runoff enter rivers, levels of nitrogen increase, creating an environment where algae and other plants can flourish and harm water quality.¹⁴⁷ These impacts are exacerbated when urban infrastructures are targeted in conflicts and where large numbers of internally displaced persons are forced into informal urban areas.¹⁴⁸

Limited waste management, including collection, is one of the most significant environmental problems in rapidly urbanizing areas. Waste is often simply burned, decreasing air quality and releasing harmful

carcinogens.¹⁴⁹ In China, researchers found that urban air quality is negatively correlated with in-migration, as new urban residents increase the need for polluting transportation methods and production of consumer goods in cities.¹⁵⁰ In China's Jiangsu Province, for instance, cities with a higher percentage of rural migrants suffer from high levels of air and water pollution.¹⁵¹ Polluting facilities often are sited in areas with marginalized and vulnerable populations, as the literature on environmental justice in the US has shown. When urban planning that promotes vegetation and tree cover in cities is not undertaken, increased urban growth can also have harmful effects on existing green spaces, which can lead to an increase of heat islands. In Ghana and China, studies have shown that in-migration and urban growth are associated with decreases in vegetation cover.¹⁵²

Climate change impacts often worsen urban air, food, and water quality issues.¹⁵³ For instance, as climate change causes more frequent wildfires, cities are more likely to experience prolonged periods of dangerous smoke particulate levels.¹⁵⁴ Furthermore, if cities are plagued with conflict, explosive weapons leave behind toxic remnants that expose residents to higher levels of dangerous pollution and waste.¹⁵⁵

ECONOMIC DEVELOPMENT AND EMPLOYMENT ACCESS

Though impacts on infrastructure are important, cities are made up first and foremost of the people who inhabit them. Migrants can boost the economic development of urban areas and strengthen urban governance when urban planning institutions are open to building cooperative relationships. Migrants stimulate urban economic activity by participating in both formal and informal work, increasing the flow of financial resources in urban areas, and spurring innovation.¹⁵⁶ In a study of 10 developing countries, migrants were found to increase the national GDP by an average of 7 percent, with a high of 19 percent in Côte d'Ivoire.¹⁵⁷ Furthermore, by consuming goods and services, migrants also

stimulate the demand in the local economy.¹⁵⁸ In economies with labor market imbalances, migrants serve to fill the gaps and realign the market.¹⁵⁹ Where migrants are allowed to formally work, their employment expands the tax base, which can allow for increased investment in social services if municipal authorities are responsive to citizen concerns.

Ensuring access to labor markets is of the utmost importance to see economic gains from rural-to-urban migration.¹⁶⁰ Whether or not migrants depress wages of urban residents thus depends on the context.¹⁶¹ Specifically, countries with rigid labor markets are likely to experience negative effects as migration increases. Across 27 studies of migration, though, migration is found to have only a very small effect on average wages in the short term, and there is little evidence showing that less educated workers experience an effect on their wages.¹⁶² Even if the economic reality suggests that migrants are likely a net positive, however, it is important to note that individuals may perceive negative effects, and political parties and leaders may call for xenophobic policies, as was seen recently in the US, the UK, Germany, and France.¹⁶³

VULNERABILITY TO CRIME AND VIOLENCE

As populations are displaced into peri-urban environments, often with existing high levels of crime and without protection and support from local governments, increases in crime rates, street tensions, ethnic or religious conflict, and labor exploitation become more likely.¹⁶⁴ Such environments also further the risk of migrants being victims of human trafficking.¹⁶⁵ Women and girls are especially vulnerable; the Global Estimates of Modern Slavery report indicates that they represent 71 percent of all trafficked persons.¹⁶⁶ Ongoing chronic violence, such as in urban areas in Honduras, has also pushed migrants to leave and in many cases to cross international borders; this decision imposes significant additional economic and social costs on migrants who leave their home cities with diminished human capital.¹⁶⁷ Migrants arriving in urban areas are especially

vulnerable to increased poverty if they have been forced to use up their savings, sell their land or other assets, or resort to borrowing money beforehand.

While in many cases, moving to urban areas increases vulnerability to violence, it can also decrease this vulnerability. The proximity that people have to others in urban environments allows them to communicate more easily than in rural environments and improves opportunities for collective action, such as demands for better living conditions and social services.¹⁶⁸ For instance, a study of migrant workers in China found that those with urban ties were more likely to participate in protests as well as informal bargaining.¹⁶⁹ Such protests are one response to government and corporate failures to protect human rights, provide social services, and ensure food security.¹⁷⁰ One study found that spikes in food prices in 55 major cities in Asia and Africa were associated with increased incidences of urban protests and riots.¹⁷¹

PHYSICAL AND MENTAL HEALTH

In crowded cities that lack basic services such as clean water supply and sanitation, infectious diseases can spread rapidly.¹⁷² Climate change also exacerbates the spread of infectious diseases in various ways.¹⁷³ For example, the transmission of malaria, one of the deadliest infectious diseases, increases as temperatures rise.¹⁷⁴ Pandemics are likely to become more common as climate change impacts increase, with cities functioning as areas of rapid spread. Furthermore, migration exposes migrants as well as people in receiving or transiting countries to novel diseases. For instance, as Venezuelans fled the country in the mid-2010s, outbreaks of measles, malaria, HIV, and syphilis occurred in Brazil, Colombia, Guyana, and Ecuador.¹⁷⁵

As noted above, air pollution also gravely affects rural-to-urban migrants, who are likely to be exposed to

higher levels and to different forms of air pollution than in their hometowns, given their new proximity to major roads, industry, factories, and railyards.¹⁷⁶ Exposure to air pollutants is one of the leading environmental causes of mortality via respiratory, cardiovascular, and allergic diseases as well as diabetes.¹⁷⁷ For instance, in Lima, Peru, 68 percent of people exposed to high levels of outdoor air pollution were migrants, and migration over a five-year period was associated with an additional 185 migrant deaths based on a correlation with air pollution levels and mortality rates.¹⁷⁸

The negative psychological impacts on urban migrants can be significant, particularly for people who are separated from their families and community and have limited social networks to rely on.¹⁷⁹ In cases where they do not speak the language in their new home, they face an increased risk of depression.¹⁸⁰ Furthermore, for migrants fleeing conflict, traumatic events and violence can lead to the onset or the increase of mental health issues.¹⁸¹ Venezuelan migrants, for instance, were found to have significantly higher levels of depression than the global population average (23 percent compared to 4.4 percent) and higher levels of anxiety than the global population average (19 percent compared to 4 percent).¹⁸² Depending on the circumstances that caused them to migrate, such as loss of homes due to natural disasters or loss of family due to ongoing conflict, migrants may already be struggling with severe mental health impacts.¹⁸³ Ongoing secondary stressors like poverty can prevent recovery.¹⁸⁴ These stresses can have devastating impacts; for example, some migrants have been found to be at increased risk of psychotic disorders and death by suicide.¹⁸⁵ Those who are forcibly displaced face a higher risk of post-traumatic stress disorder, major depression, and psychological distress.¹⁸⁶ For many migrants, barriers to receiving care include lack of knowledge, linguistic barriers, discrimination, and financial constraints.¹⁸⁷

Policy Recommendations

The negative impacts of climate change, conflict, and lack of economic opportunity are driving increased flows of migration globally, but particularly in developing and low-income countries. Most of this migration is within countries from rural areas to large urban centers. Many migrants are forced to settle in peri-urban and informal areas that are vulnerable to climate risks and lack adequate basic services. Droughts, floods, higher temperatures, variable precipitation, and water scarcity increase the pressure on rural populations to move, and on receiving urban areas to provide support. Smallholder farmers and pastoralists are especially vulnerable to climate impacts, particularly if they rely on a single export crop (like Honduran coffee farmers) or if they lose livestock due to reduced fodder crops (like Syrian farmers impacted by drought over the last two decades).¹⁸⁸

This report utilized country case studies and expert interviews to highlight some of the major challenges and pathways through which climate change impacts drive migration to urban areas, and it outlined impacts on both urban areas and migrants. In Honduras, droughts and hurricanes figure prominently in pushing migrants to leave rural areas, and urban violence drives cross-border migration. In Jordan, the presence of conflict-driven refugees, combined with water scarcity and underfunded municipalities, stresses overburdened infrastructure and public services. Finally, in Pakistan, climate-driven livelihood insecurity helps drive expansion of peri-urban areas that often lack critical public and social services.

This study also identified several general impacts of migration on urban environments and migrants, which can manifest differently based on the local contexts and urban governance institutions. Rapid influxes of climate- and conflict-driven migrants can stress infrastructure

and public services and can harm environmental quality, though they can also create opportunities for economic growth and collective action. Migrants face increased risks of crime and violence, as well as physical and mental health challenges; urban climate adaptation should address these needs as well.

Whether increased rural-to-urban migration provides benefits to migrants and to cities depends in large part on the policies and programs put in place at municipal, national, and international levels. The policy recommendations below are based on interviews conducted by the authors and the extant development literature. Implementing proactive, comprehensive policies not only reduces the risk for social conflict and limits negative humanitarian impacts, but also provides opportunities to develop adaptive and resilient approaches that benefit both rural and urban communities.¹⁸⁹ For example, incorporating bottom-up strategies, like tapping into local leadership networks, may be the first step in rebuilding trust in governmental institutions and improving performance of urban services.¹⁹⁰ These recommendations do not replace context-specific considerations, but can serve to inform adaptation planning.

LOCAL-LEVEL RECOMMENDATIONS

Given that much urban planning has failed to cope with rapid urbanization generally and with climate- and conflict-induced migration more specifically, local urban institutions will need to take migrants into account by focusing on four major areas:

Strengthen government engagement and capacity:

In many conflict- and disaster-affected places, communities express growing distrust of governmental institutions, largely due to failures to provide for basic needs,

fundamental rights, or public security. Poor governance is linked to the exacerbation of vulnerabilities and an increased risk of violent conflict.¹⁹¹ Public authorities are often starved of needed investment, and available resources are frequently siphoned off into patronage networks. Thus, strong governance, in the form of robust fiscal and social service institutions that help dampen inequality, should be a priority. Because governance measures are challenging to establish and implement, governments should adopt a targeted approach that prioritizes the most context-relevant needs and incorporates the efforts of nongovernmental actors.

Build social cohesion: As cities grow and social tensions emerge between newcomers and long-term residents, social cohesion may decrease. Fostering social cohesion requires a context-specific approach that engages community members and organizations and helps them understand the root causes of social tensions so they can co-create solutions to address them. Special attention should be given to engaging with vulnerable members of society. Often social cohesion is disrupted when one group perceives that another group is receiving a larger share of local resources. Creating mechanisms to increase transparency about service provision across social groups can help address this challenge, as can partnering with local community leaders and media to spread the message.

Provide essential services: Supported by the federal government, local governments must increase investment in low-cost water, energy, and sanitation infrastructure systems. These investments may be at the village, city, or provincial level, given great diversity in local conditions. Most capital investment for infrastructure remains disproportionately focused on capital cities, deepening incentives for migration to a handful of cities.

To support the growing peri-urban population, local governments should prioritize and seek funding for the development of urban planning, water, waste, and transportation systems in informal settlements. This

effort should include exploring alternative, emerging, and local technologies rather than emulating existing systems that require unrealistic levels of investment and maintenance. Instead of contracting out infrastructure improvements to large multinational firms, local governments should rely on local consultation, seek greater representation on planning institutions, and undertake creative partnerships with research and development organizations and utilities. Additionally, natural resource management that supports these systems should be incorporated into long-term planning. To address housing pressures, officials can both transform vacant or underutilized buildings into affordable housing and create financial incentives for banking, mortgage, and construction activity in high-density, livable spaces, including green spaces. Too often, urban real estate markets remain skewed toward luxury, low-density residential housing and enclave commercial developments.

Prioritize climate adaptation measures: Climate risks are not limited to rural areas. In cities, residents are exposed to various climate hazards, including extreme heat, urban flooding, and diminished access to water and energy resources. Addressing these impacts is especially critical for vulnerable areas and populations in cities, as they can exacerbate ongoing urban challenges. Investments in climate adaptation measures such as green spaces, rainwater capture, and improved drainage thus address other major urban policy priorities. In some contexts, such investments should aim to create decentralized infrastructure systems to increase urban areas' independence and improve their resilience to climatic or conflict-related shocks.

NATIONAL-LEVEL MEASURES

National governments have important roles to play in supporting both local action and national-level initiatives. Governments should respond proactively to grievances and expectations that may arise when social services are selectively extended to migrants but not residents. As the development and urban politics literature has long argued, policies should be designed to empower

communities and build trust in the governance structures responsible for delivering social services, be these formal or informal structures.

Decentralize fiscal and planning authority to local

officials: Local governments should have additional fiscal support for urban development and should have regulatory and planning authority, with appropriate oversight. Local authorities may be more nimble and responsive to the specific needs of their localities, but also more likely to be captured by local elites; avoiding the latter is challenging, but necessary. Decentralizing authority may provide cities with opportunities to test various approaches and share best practices. Given the history of disinvestment in localities, however, local authorities may not yet have the capacity to implement and manage the necessary policies. Before decentralizing authority, it is important to invest in training and capacity building for local officials and consider co-creating a plan for gradual expansion of local responsibilities.

Implement flexible labor laws and migrant rights:

Passing laws that allow migrants and refugees to work in the formal sector, particularly in sectors with high labor demand, is essential. Such laws should be reinforced by additional legal measures that protect migrants' rights, including those related to safe living and working conditions and to preventing discrimination.

Address root causes of migration: In addition to addressing pressures in urban areas, it is important to address local stresses that lead to migration, especially through climate adaptation measures that provide more secure livelihoods and allow people who want to remain in their communities to do so. In rural areas, these efforts have already included investments in early warning systems (for cyclones and hurricanes, for example), along with investments in climate-resilient seeds and water-saving technologies. A great deal more needs to be done,

however, particularly in creating robust, universal social protection schemes for both rural and urban populations.

Invest in development directed to smaller cities and

towns: Federal governments should consider directing new development in industry, services, tourism, and other economic activities to smaller cities and towns. This approach can shift the pressures of a growing population from a challenge to an opportunity. Such investments could also be tied to efforts to support planned relocation to less vulnerable geographies through incentives for voluntary relocation.

Include priorities in national planning documents:

National governments should undertake vulnerability mapping to identify at-risk populations among urban migrants and assist in redirecting peri-urban expansion and IDP camps out of climate-vulnerable areas such as floodplains. In addition, urban and rural resilience measures, innovation in public services and planning, and early warning systems all deserve a place in national planning documents. For example, in Bangladesh, disaster risk reduction programs have helped save lives and bolster preparedness and resilience by disseminating early warnings about impending flash floods.¹⁹²

Advocate for international frameworks and protections around migration:

There is currently no body of international law that effectively categorizes or protects persons displaced by climate or conflict disasters. Governments should work to incorporate the definition and protection of climate-displaced persons into international law. This step would involve recognizing the multifaceted impacts of climate change on migrants and advocating for legal recourse that protects their human rights in the face of both slow- and rapid-onset disasters. Governments can lead by example to ensure that such protections are incorporated into the policies and programs that they implement across all sectors.

Notes

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