# Rethinking human mobility in the face of global changes

## A focus on Bangladesh and Central Asia

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# Introduction

Migration and displacement related to climate change have received increasing attention in the media, in research and among policymakers in recent years. A range of studies have produced extremely concerning statistics and forecasts about the potential scale of migration and displacement due to climate change now and in the future. For example, the Internal Displacement Monitoring Centre calculated that in 2019 alone almost 25 million people were displaced by disasters such as floods and tropical storms – three times the number displaced by conflict and violence (IDMC 2020a). The World Bank's 2018 Groundswell report estimated that, if substantial climate change mitigation and development measures are not taken, slow-onset climate impacts could displace as many as 143 million people in just three world regions, or 55 percent of the developing world's population, by 2050 (Rigaud et al. 2018).

These kinds of figures have been widely reported and drive the prevailing narrative in media and policy debates that climate change will lead to mass migration and displacement, which, in turn, can lead to conflict. There is empirical evidence that rising temperatures, leading to disasters and slow-onset impacts such as drought or sea-level rise are already playing a role in setting people across the world on the move, and these numbers are likely to increase as climate change impacts intensify (UNINE n.d.; IOM's GMDAC 2020).

However, the links between climate change, migration, displacement and conflict are complex, and vary widely between contexts. The growing community of research on this topic has warned that, without an adequate understanding of the pathways of mobility, predictions of millions of climate migrants and displaced people can cast responses in alarmistic and counter-productive tones (Flavell et al. 2020). Policy on displacement, migration and climate change can therefore profit from investing in fine-grained analyses of the different factors shaping human mobility, and using them to support the development of effective responses that address the needs of migrants, as well as their home and destination communities.

Along these lines, this paper examines the interaction between biophysical climate impacts, migration, displacement and (in)security. It aims to go beyond the prevailing narratives to better understand the different ways in which mobility can serve as an adaptive strategy to climate- and conflict-related risks and vulnerabilities. It also aims to assess how effective mobility is as an adaptation strategy and will continue to be in light of other stresses, including the COVID-19 pandemic.

The analysis focuses on two case studies, Bangladesh and Central Asia, each presenting different human mobility pathways. It adopts a diversity lens to consider how the success/effectiveness of mobility strategies is sensitive to the position of individuals in society and the opportunities they have. It also considers how the COVID-19 pandemic is affecting the ability of climate-vulnerable populations to use mobility as an effective adaptation strategy, considering movement restrictions, increased unemployment in cities, reduced opportunities for seasonal work (e.g. in the agriculture sector), return migration and impacts on remittance flows.

In conclusion, the paper makes recommendations to inform governments in countries of origin and international development and humanitarian policies and programmes in relation to mobility and climate change/security, including those of the EU and EU

member states. Firstly, climate-induced mobility should be included in and addressed through broader adaptation and development efforts, for example building urban infrastructure, promoting nature-based adaptation, and ensuring adequate social protection and education. Policies and legal frameworks on migration and displacement in countries of origin should also be strengthened, ensuring the coordination between existing policies at all levels. Global cooperation will be essential to build international standards. And finally, all programming should be supported by an improved knowledge base on climate-induced migration and displacement, including gender- and age-disaggregated data.

**Box 1: Useful terminology on climate change, migration and displacement***

**Adaptation:** The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities.

**Climate migration (migrant):** A migration that can be attributed largely to the slow-onset impacts of climate change on livelihoods owing to shifts in water availability and crop productivity, or to factors such as sea level rise or storm surge.

**Displacement:** Forced removal of people or the process of people needing to leave their places of habitual residence.

**Forced migration**: Migratory movement in which an element of coercion exists, including threats to life and livelihood, whether arising from natural or man-made causes. Forced migration generally implies a lack of volition concerning the decision to move, though in reality the decision to move may include some degree of personal agency or volition.

**Immobility**: Inability to move from a place of risk or choosing not to move away from a place of risk.

**Internal migration (migrant):** Internal migration is migration that occurs within national borders.

**International or cross-border migration (migrant):** Migration that occurs across national borders.

**Migration**: Movement that requires a change in the place of usual residence and that is longer term. In demographic research and official statistics, it involves crossing a recognised political/administrative border.

**Mobility**: Movement of people, including temporary or long-term, short- or long-distance, voluntary or forced, and seasonal or permanent movement as well as planned relocation.

**Rapid-onset event:** Events such as cyclones and floods which take place in days or weeks.

**Resilience**: Capacity of social, economic, and environmental systems to cope with a hazardous event, trend or disturbance by responding or reorganising in ways that maintain their essential function, identity, and structure while maintaining their capacity for adaptation, learning, and transformation.

**Slow-onset event:** Changes in climate parameters – such as temperature, precipitation -, and associated impacts, such as water availability and crop production declines – that occur over long periods of time.

**Adapted from: Rigaud et al. 2018.*

# Climate change and human mobility: the debate

Empirical research on the connection between climate change and human mobility has greatly expanded in the last decade, especially after the IPCC's 2014 assessment report stated that "climate change is projected to increase displacement of people" (IPCC 2014). Still, it remains too simplistic and inaccurate to suggest that climate change drives mobility. Experts agree that decisions to move are never solely triggered by the impacts of climate change; rather they are affected by the interaction of political, demographic, economic, social and environmental drivers (Foresight 2011; Weerasinghe 2021).

Equally, it is difficult to establish clear links between mobility and conflict. There is some evidence that displaced people may be more vulnerable to being recruited by armed non-state actors, which may swell their ranks and allow them to escalate or prolong conflicts (Baillat et al. forthcoming). Both migration and displacement can also put pressure on already fragile communities and societies, increasing the potential for local resource competition and violence. However, the evidence is not clear cut; in some cases, migration can also reduce the potential for conflict, acting as a "release valve" in situations where there is competition for resources, such as land, water and food (Null and Herzer Risi 2016). In other words, the links between climate change, mobility and conflict are context specific. Research and policy learnings point to the following important areas of nuance that need to be considered when analysing the causes and effects of migration and displacement related to climate change:

- **Multicausality**: Climate change and environmental degradation are increasingly important factors in people's decisions to leave their homes. However, a whole range of social, economic, political and demographic factors can influence these decisions, individual's potential destinations, the opportunities available to them when they get there, and the capacity and willingness of host communities to receive them. The interplay of a wide range of factors determines whether people move permanently, temporarily or seasonally, and how far they are able to or wish to move (Foresight 2011).
- **Location**: The above factors and their interplay will vary in different parts of the world, different countries, and even in different community groups (Foresight 2011). Sound, on-the-ground analysis is crucial to developing effective community, country-level, and regional responses that address local needs and vulnerabilities. When responding to displacement, it is not only important to consider displaced people themselves, but conditions in their places of origin, transit, and destination.

- **Rapid vs. slow-onset climate change impacts**: Rapid and slow-onset climate change impacts lead to very different patterns of migration and displacement. Rapid-onset weather events like storms and floods lead large numbers of people to move in a short-space of time, potentially overwhelming the capacities of the places that receive them in the short term. However, individuals then often return home. Instead, slow-onset climate change impacts gradually increase pressure on water and food availability, as well as livelihoods – particularly those dependent on natural resources like farming, fishing, and herding. They also erode coping capacities, meaning that people move away more gradually and potentially more permanently. For this reason, climate-related slow-onset events tend to garner less attention than disasters that rapidly emerge, peak and cause devastation with little warning (Robinson et al. 2021). Many places have to contend with both rapid and slow-onset impacts, which puts additional pressures on communities and can further reduce resilience to climate change (Melde 2020).
- **Internal vs. cross-border migration**: Statistics show that migration and displacement usually take place within a country (internal migration), with people first moving to the next safest place or the next place where they can earn a living (Foresight 2011; Flavell et al. 2020). The availability of (higher) paid employment and education prospects in urban areas often constitute strong pull factors, especially for youth (Flavell 2020). Millions of people also migrate between countries every year (cross-border or international migration), following both South-South and South-North routes.[1] The majority of cross-border migration is to areas of economic opportunities, which are normally decided upon based on existing family relations, social networks, and many other factors (Foresight 2011). Cross-border movement can entail challenges, especially when movements are large or rapid, or border spaces are sensitive (see, e.g. Watts et al. 2017; Schleussner et al. 2016; in: Foresight 2011).
- **Non-migration: trapped or voluntary:** Even in situations where people are highly exposed and vulnerable to climate change impacts, there may be financial, social, political, or physical barriers that prevent them from moving. For example, during severe droughts, rural communities may be forced to allocate their dwindling resources to basic needs such as food and shelter, with no money left to invest in relocation (Zickgraf 2018; Foresight 2011). However, not all those who stay are trapped; non-migration can also be a choice, for example motivated by the willingness of individuals or groups to hold to their ancestral roots, land property, or social capital. Understanding such subjectivity is empirically challenging, which is why voluntary non-migration has received relatively little research and policy attention to date (Mallick and Schanze 2020).
- **Intersectionality**: It is important that responses take into consideration the needs and concerns of different demographic and social groups: women, children, elderly people, marginalised ethnic or religious groups, people with disabilities, or people living in poverty (Gioli and Milan 2018; IOM 2014). A lack of disaggregated data can be an issue, but taking an inclusive approach in the planning of responses may compensate for this.

[1] As of 2015, South-South migration accounted for more than 90 million migrants, closely followed by South-North routes with about 85 million migrants (IOM 2015; in: Foresight 2011)

- **Evolving vulnerabilities**: Different policies will be appropriate at different phases of mobility, as vulnerabilities and needs may change before, during and after movements. In fragile contexts, it may be important to consider which responses are most suitable at different stages in the escalation or de-escalation of specific conflicts.
- **Mobility as an adaptation strategy and coping mechanism**: Mobility is often seen as a failure to adapt to climate change, but field research has shown that under the right circumstances it can also be an important and effective strategy for adapting to climate change. For example, it can reduce pressure on resources like water and land, thus reducing the potential for conflict, and can lead to new sources of income for migrants' home communities in the form of remittances (Melde et al. 2017).
- **Effects of COVID-19**: In all this, the COVID-19 pandemic is creating new dynamics. Restrictions on movement are reducing the effectiveness of mobility as a strategy for coping with climate and environmental change (Mosello et al. 2020; Wright and Tänzler 2020). Evacuations in the face of disasters are much more complicated if social distancing is to be observed. COVID-19 also impacts conflict and displacement. In the Sahel, for example, the COVID-19 pandemic has intensified clashes over scarce resources and lack of available food, resulting in an increase in violence and armed attacks and new displacements (IDMC 2020b).

To date, there have been limited attempts at considering these different aspects in combination, both in analyses of and responses to climate-change related migration and displacement. This paper aims to fill this gap, looking at the case studies of internal movements in Bangladesh and cross-border mobility in Central Asia (see box 2).

### Box 2: Methodology

We conducted a desk-based review of the existing literature on climate, migration and displacement, and fragility and security risks, to which insights from emerging evidence and literature on the impacts of COVID-19 were added. We also referred to the available grey literature and newspapers articles, especially with regards to the impacts of the COVID-19 pandemic, for which less primary evidence and academic studies are available.

The analysis was guided by the following research questions:

- What are the barriers preventing people from moving and what are their consequences?
- Which individuals/groups are more at risk of being unable or are unwilling to move and hence more exposed to climate change and climate-related security risks? What are specific drivers of vulnerability?
- How viable/effective are mobility strategies as adaptation strategies in a changing world (looking at the impacts of the COVID-19 pandemic and other pressures)?

# Internal migration in Bangladesh

## Setting the context: climate, development and mobility in Bangladesh

### Climate context

Bangladesh has long faced environmental challenges due to its geography and monsoon climate. The 230 rivers crossing the country, from the glaciers of the Himalayas to the Bay of Bengal, form the world's largest river delta. These rivers are crucial to agricultural production, carrying over a billion tonnes of fertile silt through the country. However, with over 80 percent of the country covered by floodplains, the country has to regularly contend with widespread flooding (MoEF 2012; Imtiaz 2020). Further, the country lies in the pathway of tropical cyclones emerging in the Bay of Bengal, and a severe cyclone hits the country every three years on average (MFA NL 2018).

These environmental challenges are intensifying as global average temperatures rise. Climate models show that temperature and rainfall in Bangladesh will increase significantly, although these impacts will vary across the country (MFA NL 2018). The centre and northeast will have to contend with more frequent and intense flooding, and the northwest will experience significant temperature increases and droughts. Coastal areas and islands face rising sea levels and increased saltwater intrusion, as well as more cyclone activity (MFA NL 2018) (see box 3).

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**Box 3: Climate change impacts in Bangladesh**

Climate change impacts in Bangladesh are set to include:

**Temperature increases**: Rising temperatures will shorten the cool, dry season from October to February. The number of hot days and nights in Bangladesh's humid summers, when average maximum temperatures already reach 37°C, could increase by up to almost 40 percent by the 2060s. This may result in increases in disease, pests, and insect attacks, particularly in areas with standing water. The agricultural sector will need to expand irrigation to cope with increased evaporation. If wetlands dry up, ecosystems are at risk of degradation (MFA NL 2018).

**Sea-level rise**: Bangladesh's coastal regions are home to almost 46 million people, 28 percent of the total population, and the country is heavily dependent on agriculture production in these areas, which hold around 30 percent of its cultivatable land (Haque 2006, in: Day 2020). Therefore, sea-level rise is a key climate change risk for the country. The Intergovernmental Panel on Climate Change (IPCC) has projected that sea levels could rise by 32 cm by mid-century, but this could be relatively higher in Bangladesh due to the submergence of low-lying coastal areas. Rising sea-levels also lead to salination and erosion, with consequences for agricultural production, livelihood diversification, and food security (Oppenheimer et al. 2019; MoEF 2012).

**Flooding**: With most of the country three metres or less above sea level (MoEF 2012), Bangladesh is highly flood-prone. In an average year, around a quarter of the country is flooded during the heavy monsoon rains of July and August, and up to 70 percent may be inundated during severe floods (Day 2020). As rainfall increases, the area of land and the depth of inundations is expected to increase. Rising temperatures and the accelerated melting of the

Himalayan glaciers that feed the major rivers running through Bangladesh are also increasing the risk of flooding. In turn, intensified rain and floods are exacerbating the problem of land erosion, which already destroys property and land, and is a major cause of displacement in many parts of the country (Azm 2019).

**Saltwater intrusion**: Over 10,500 square kilometres of land in Bangladesh, home to 20 million people, are already affected by saltwater intrusion, sometimes stretching 100 km inland. This is largely the result of climate change impacts such as sea-level rise, flooding and tropical cyclones, but also human activities such as upstream damming and excessive fertiliser and pesticide use (Khanom 2016). Rising sea-levels and more frequent and intense storm surges are pushing seawater into wells and other sources of groundwater, thus decreasing the availability of freshwater resources for consumption and production, and damaging important water and sanitation networks. It is also increasing the soil salinity of farmland, lowering crop yields, including of rice and fodder crops, pushing up food prices and affecting the health of livestock (UNICEF 2019).

**Extreme weather events**: The United Nations ranked Bangladesh as the most vulnerable country in the world to tropical cyclones (MoEF 2009), which are becoming increasingly frequent in the cyclone season from May to November. The world's largest mangrove forest - the Sundarbans - is a crucial line of defence against these storms, reducing windspeeds as cyclones make landfall. Half a million people live in this area, with many relying directly on the mangroves for their livelihoods. However, illegal logging combined with increasing water salinity is destroying the mangroves and weakening the protection they offer (Mahmood et al. 2021).

**Drought**: Districts in north-west Bangladesh face seasonal droughts (Paul and Ramekar 2018), particularly in the months before the rice harvest in November and December. There is already some evidence that the length of the dry months is increasing, and more erratic rainfall patterns and delayed monsoons have been forecast as climate change intensifies, leading to reduced crop and livestock productivity, as well as an increased need for irrigation (MFA NL 2018).

## Major development trends

Environmental and climatic changes in Bangladesh are taking place in a rapidly developing context. The country has made remarkable development gains in recent decades. Steady growth in GDP has supported sustained and significant increases in life expectancy, education levels, and income per capita (UNDP 2020a), as well as a decline in the poverty rate from 57 percent in 1990 to 25 percent in 2014 (Glennon 2017). The proportion of the population living below the poverty line of $1.90 a day has consistently fallen, reaching 14.5 percent in 2016 (World Bank 2021a). Growing at a rate of 1 percent per year (UN DESA 2019a), Bangladesh's population of 164.7 million in 2020 is set to rise to 192.6 million by 2050 (UN DESA 2019b). Bangladesh has a young population – around 34 percent of Bangladeshis are aged 15 or younger, with just 5 percent aged 65 or older (World Population Review 2021).

The combined effect of steady economic and population growth has been increasing the demand for energy and transport, and spurred rapid urbanisation. In 2018, just over 38 percent of the population lived in urban areas, but this percentage is steadily rising: almost three in five Bangladeshis are set to live in cities by mid-century (UN DESA 2018). Around 21 million people live in Dhaka, the country's capital, largest city and economic hub, responsible for generating 35 percent of Bangladesh's GDP (The Economist 2019). Rural livelihoods remain important. Despite providing less than 13 percent of GDP, for example, the agricultural sector employed almost two in every five Bangladeshis in 2020 (World Bank 2021b).

However, this fast development is also creating new challenges. Cities, and in particular Dhaka, which receives around 650,000 new people every year, are plagued by congestion, pollution, and infrastructure bottlenecks, due to insufficient planning and investment (World Bank 2021c). Inequality has been rising and growth in jobs and real wages has been slowing. Expenditure on health and education has decreased in recent years, and there is increasing evidence of inequality of opportunities in terms of access to health care, education, financial services and social protections (Mazid 2019). Rural areas have accounted for 90 percent of poverty reduction since 2010, but little progress has been recorded in tackling extreme urban poverty.

Political stability and social cohesion have strengthened overall over the past decade (FFP 2020) and in early 2020 the country appeared to have stabilised after the tumult and violent demonstrations of the 2018 election (Institute for Economics & Peace 2020). However, despite increasing confidence in the country's economic and development outlook, Bangladesh still faces problems of corruption, inequality, dysfunctional political competition, and the Rohingya refugee crisis (CFR 2020), as well as the enormous additional pressure of dealing with the COVID-19 pandemic.

## Mobility as an adaptation strategy

Bangladeshis have used mobility as a coping strategy to deal with the impact of extreme weather events for decades: disasters such as floods and cyclones, along with landslides, droughts and riverbank erosion, have pushed people to move. Slow-onset climate change impacts, including sea-level rise, saltwater intrusion and rising temperature, each of which threatens rural livelihoods, have also encouraged rural-urban migration. Cities tend to be the preferred destinations, as they offer more diverse employment opportunities, higher paying jobs, and better healthcare and education, even if living conditions for migrants are often extremely challenging.

Without substantial climate change mitigation globally and inclusive development measures in Bangladesh, both internal displacement and migration are likely to increase, although estimates of the exact numbers vary. According to a 2018 World Bank report, 13.3 million people may be forced to migrate due to gradual climate change impacts by 2050; another study posited that 900,000 people may be forced from their homes due to direct inundation by mid-century (Davis et al 2018). At the higher end of the spectrum, a different report suggested that sea level rise alone would affect 42 million people by 2050 (Roy 2019).

Although the motivations for people to move are varied and complex, there is evidence that environmental factors play an increasingly important role. In 2015, the International Organisation for Migration (IOM) estimated that environmental factors featured in 70 percent of migrants' decisions to move to Dhaka each year (McPherson 2015). In the following paragraphs, we explore some of the more common mobility pathways in Bangladesh in more detail.

### Mobility patterns linked to slow-onset climate change impacts

Migration is predicted to be increasing particularly from areas facing water scarcity and reduced crop productivity, such as the rice-growing areas of the northeast (Oppenheimer et al. 2019). There, livelihoods may be severely threatened. Yields for two crucial crops – Aus rice and wheat – are expected to see declines in productivity of 27 percent and 61 percent respectively under moderate climate change scenarios, as flooding becomes deeper and more widespread. Under extreme climate scenarios, yields of Boro rice may decrease by 55-62 percent (Mojid 2020). Increased soil salinity, due to

climate change impacts and human activities in coastal areas, is already driving migration, as well as leading to the uptake of adaptation solutions – diversification into aquaculture, for example.

Poverty rates are highest in the regions facing significant riverbank erosion. Of Bangladesh's 64 districts, at least 20 experience severe riverbank erosion each year, as well as huge losses of arable land. Already 6 million Bangladeshis (Start Fund Bangladesh 2019) have been forced to move to a precarious life on small islands or areas of land created by floods, known as chars (UNFPA Bangladesh 2015). People living in coastal areas are also at heightened risk due to the devastating impacts of flooding, erosion and tropical cyclones, which can destroy rural farmland and livelihoods.

These environmental and climatic pressures combine with Bangladesh's population density to limit the availability of alternative land: the amount of cultivated land in the country has actually decreased by 6.6 percent since independence in 1971 (UNFPA Bangladesh 2016). This leaves many with no option but to seek alternative livelihoods in towns and cities, and particularly in the capital Dhaka (Paul and Ramekar 2018). Given its economic and political importance, Dhaka attracts 60 percent of the country's total internal migrants. Another 16 percent move to Chittagong, Bangladesh's second largest city, while many coastal migrants move to Khulna, the third most-populated city (Farole and Cho 2017). Most of these migrants end up in the more than 3,400 slums and squatter settlements, or even on footpaths or railway stations in cities across the country (Paul and Ramekar 2018).

While the majority of migration in Bangladesh is, and is likely to remain, internal, external migration provides an additional coping strategy. Many millions of Bangladeshis already work overseas. Migrant workers contribute significantly to Bangladesh's economy, with remittances thought to average around US$ 15 billion per annum. Remittances are used to ensure subsistence, but also to invest in businesses, repay loans, or to buy land. Many families are almost totally dependent on remittances for their daily expenses, which in turn provides a stimulus to the wider economy (UNFPA Bangladesh 2016).

## Mobility patterns linked to rapid-onset climate change impacts

Extreme weather events such as cyclones and floods, the resulting landslides, and other disasters are major drivers of displacement in Bangladesh. Over the last decade, nearly 700,000 Bangladeshis were displaced on average each year by natural disasters (IDMC 2021). That number spikes in years with catastrophic cyclones, like 2009 Cyclone Aila, which displaced millions of people and killed more than 200. But even in relatively calm years, displacement is rising. It is estimated that the average number of displacements per year from sudden-onset hazards will mount to more than 1.2 million, largely due to increased flood events (IDMC 2021). Combined with the increased displacement triggered by slow-onset hazards such as sea level rise and salinization, some projections suggest that more than 35 million people in coastal areas will be at risk of disaster displacement by 2050 – giving Bangladesh the second-highest risk of disaster displacement in South Asia (IDMC 2017).

Displacement related to sudden-onset climate events is particularly high in Bangladesh's coastal districts (due to their vulnerability to tropical storms), and those along major river banks (vulnerable to riverine and flash floods). Households that are dependent on agriculture and aquaculture are especially at risk and may be displaced several times a year. Most displacements take the form of pre-emptive evacuations, resulting from two decades of government investments in preparedness (Zamudio and Parry 2016). For example, there are effective early warning systems in place at the community level,

which allow individuals to receive alerts right after they are issued by the country's meteorological department (Zamudio and Parry 2016). This has made disasters far less deadly over the years, but the damage they cause to property and land-holdings remains critical (IDMC 2021). Moreover, as disasters become more frequent and intense due to climate change, they will likely reduce the time available for people to recover and hence result in further displacement, or even longer-term migration.

In most cases, movement after rapid-onset events is temporary. While people tend to flee immediately in the face of sudden-onset disasters, they also tend to attempt to return as soon as possible. For example, during Cyclone Mahasen in 2013, most evacuees returned within 2 days (Lu et al. 2016). However, Cyclone Mahasen was comparatively weak compared to other storms in the region, and for larger-scale events, displacement may last longer. As a case in point, rice farmers had to wait at least 2 years to make use of their rice paddies due to post-cyclone saline water intrusion after Cyclone Aila in 2009. In the meantime, they looked for alternative work in cities (Mallick, Ahmed, and Vogt 2017).

## Impacts on different social and demographic groups

The impacts of climate-related events, and the opportunities available to people to mitigate them, vary depending on age, gender, and other socio-economic and demographic factors. Women are generally worst affected by the direct impact of disasters. Although gender disparities are likely to have reduced over the past three decades, in the tropical cyclone that hit Bangladesh in 1991, one of the deadliest ever recorded, it is thought that as many as 90 percent of the 140,000 people who died were women (EJF 2021). Recent studies in southern Bangladesh have shown that women have less access than men to climate- and disaster-related information, including warnings and training programmes (Rahman 2013; Garai 2016). Further, as women have less access to land and resources than men – and are less involved in decision-making - they find it harder cope in the event of displacement (EJF 2021). Children are also badly affected in the event of disasters. At present, for example, drowning is the leading cause of death for children under five in Bangladesh (Kurigam 2020).

In terms of migration patterns, women are slightly more likely than men to migrate to cities, with many of them working in the garment industry, which is heavily concentrated in Dhaka and Chittagong. However, the majority of female internal migration is for family reasons. Cross-border migration has been historically dominated by men, with the number of women working abroad negligible. However, this has started to change from 2000, with women also leaving the country to be engaged in domestic work, largely in Jordan and Lebanon (ADB & ILO 2016). Migrant women are at increased risk. Numerous NGOs, for example, have highlighted the high numbers of Bangladeshi women being trafficked for prostitution in India (Chandran 2016).

## Impacts of COVID-19

The COVID-19 pandemic has adversely affected Bangladesh's economy. First, as elsewhere, the immediate impact of the disease and associated responses caused a domestic economic slowdown. Informal sector workers such as day labourers and rickshaw pullers were especially affected by reduced economic activity in urban Bangladesh. As 40 percent of rural incomes are estimated to depend on remittances from families in urban areas, this resulted in a substantial poverty increase country-wide.

Secondly, a decline in demand elsewhere in the world resulted in a fall in exports in Bangladesh, most notably of ready-made garments. As importing countries moved into lockdowns in 2020, billions of dollars' worth of clothing orders were cancelled. Exports

fell by 84 percent year-on-year in April, and at least 70,000 workers lost their jobs (Karim 2020). Many garment industry workers were already suffering, as 25 state-owned jute mills had been closed as a result of flooding (Ahmed 2020).

Moreover, remittances to Bangladesh decreased, possibly substantially, owing to lay-offs of overseas Bangladeshi workers. In April 2020, the central bank reported that international remittances had fallen by 25 percent, equivalent to US$ 353 million year on year (Wright and Tänzler 2020). This came as a consequence of the fact that many of those overseas could not work due to the restrictions imposed to contain the spread of COVID-19. Overseas migrants also faced significant additional challenges, for example being forced to live in crowded camps in the Gulf, putting them at a higher risk of being infected. Those who managed to return home were met with stigmatisation and struggled to find employment (IOM 2020a).

Although individual households claimed to have received less remittances, other figures show that remittances as a whole had actually risen by around 8 percent by the end of 2020 (The Daily Star 2021). There are several explanations for this apparent contradiction. One is that the Bangladeshi government incentivised money transfer through formal channels, so that some funds that were previously remitted through informal systems became formalised. In addition, travel restrictions both in Bangladesh and abroad prevented many Bangladeshis from returning, thus reducing inflows in the form of cash or valuable items such as gold that were previously carried home (Mehedi 2020). Finally, the impact of the COVID-19 pandemic itself – both on migrants and their family members in Bangladesh – coupled with the impact of severe monsoonal floods, may have encouraged those migrant workers with funds to increase their support to family members at home.

Regardless of the rise in remittance flows through formal channels, the reality is that the pandemic will result in a sharp reduction in rural household incomes across Bangladesh. Moreover, the pandemic recovery may well exacerbate an already on-going trend, reinforced by the fall in the price of oil, especially in Gulf countries, to prioritise local people over migrant workers. Overseas opportunities may hence be reduced in the aftermath of the pandemic. Also, internal migration may be more limited, causing labour shortages in cities like Dhaka, as those workers who went back to their rural homes during the pandemic may not have the resources to come back.

## Linkages between climate, mobility and security risks in Bangladesh

Bangladesh does not just face one, but multiple, severe compounding risks that could potentially erode and overwhelm its capacity to cope. For example, in May 2020, while Bangladesh was taking measures to deal with the COVID-19 pandemic, it suffered a severe cyclone – Cyclone Amphan – which was the most damaging disaster to hit the Bay of Bengal in centuries. The heavy monsoon rains that arrived weeks later made the situation worse, affecting around 10 million people, displacing half a million, and causing the loss of thousands of hectares of paddy. The government response demonstrated its capacity to cope with disasters, particularly cyclones. Around 2.4 million people were evacuated to shelters and the death toll was minimal. However, the longer-term impacts of events such as Cyclone Amphan, especially on livelihoods, will be harder to cope with, making migration to cities an increasing necessity.

Moreover, in the absence of adequate services and infrastructure, increasing internal mobility due to both slow- and rapid-onset disasters can further deteriorate living conditions in cities. In turn, this can lead to political instability: in the 2019 liveability

index, compiled by the Economist Intelligence Unit, Dhaka was ranked third least liveable city in the world (EIU 2019). Given all the current trends, conditions are likely to deteriorate rather than improve. Dhaka may well find itself trapped in a vicious circle, whereby improved urban governance is required, but the immense pressure on resources stemming from population density makes governance increasingly difficult. Bangladesh's other major cities are also likely to continue to expand and face similar challenges. This could have several implications for the domestic political situation. For example, increasing authoritarianism could become seen as a means of managing dysfunctional cities. Equally, as more people displaced by climatic events move into urban Bangladesh, they may well remain, as now, a significantly underprivileged and underserviced population group, or give rise, over time, to a more political – and potentially conflictual – schism between internal migrants and longer-term city dwellers.

External migration may also become more important in the future as internal migration destinations such as Dhaka become increasingly unappealing due to the many environmental, social and economic challenges they face. Those countries with larger Bangladeshi populations – and hence networks to facilitate movement – are likely to be the preferred destinations. However, new host countries which already have smaller Bangladesh populations, such as Spain, Greece and Germany, may also emerge, especially as traditional destination countries make moves to close down migration for employment, as has already happened in the Persian Gulf (Etzold and Mallick 2015). But external migration also comes with potential security implications. For example, in India, there have been communal tensions between locals and Bangladeshi immigrants in the state of Assam over the shifting religious and demographic landscape of the region, sharing of common resources, and granting of constitutional rights such as voting rights to immigrants (Jayaram 2019). Although these issues are so far not being directly linked to climate change, it is plausible that climate change will make them worse (Jayaram 2019).

# Responses

## Government responses

The government of Bangladesh has long recognised the existential threat that climate change poses to the country, and has developed substantial plans to deal with it. The 2009 Bangladesh Climate Change Strategy and Action Plan (BCCSAP), built on the 2005 and 2009 National Adaptation Programme of Action, sets out 44 programmes within six strategic areas to be undertaken over the short, medium and long term. These include food security, social protection and health, disaster management, infrastructure, mitigation and capacity building, with a particular focus on the poor and vulnerable, and especially women and children (Nakhooda et al. 2014). In its last update (to be officially adopted in 2021), BCCSAP addressed the issue of displacement by suggesting an integrated approach to displacement management.[2]

Furthermore, in 2015, as part of its action plan to implement the Sendai Framework, the Government of Bangladesh developed the National Strategy on the Management of Disaster and Climate Induced Internal Displacement (NSMDCIID) with a view to managing climate-induced internal displacement in a comprehensive and rights-based manner. The strategy focuses solely on internal displacement caused by climate-related disasters, and elaborates responses for all three phases of mobility management, i.e. pre-displacement (disaster risk reduction), displacement (emergency) and post-displacement

[2] Information from personal communication with policy expert in Bangladesh on 25th May 2021.

(rehabilitation and relocation). Importantly, the strategy requires the integration of climate-induced displacement into the existing programmes and strategies of all relevant Ministries (MoDMR 2015). The adoption of the NSMDCIID resulted in new government programmes towards improved livelihood opportunities, housing conditions and human development of displaced people in vulnerable hotspots. It also gave further impetus to government support to community mobilisation, early warning systems and disaster management reduction policies, whose effectiveness was shown by the relatively few casualties from cyclone Amphan in 2020 (The Economist 2020; WMO 2020).

Overall, over the last 35 years, Bangladesh has invested more than US$ 10 billion to minimise disaster-related risk (Rawlani & Sovacool 2011; Sovacool et al. 2012), and is today recognised as a leading international voice when it comes to disaster risk management, climate change adaptation and resilience. In 2009, the Government of Bangladesh created its own Climate Change Trust Fund to finance projects for the implementation of BCCSAP. In 2014, it adopted the Climate Fiscal Framework (CFF), which provides a roadmap for integrating climate finance into the country's public financial management system. The CFF essentially embeds a line on climate change in the budget of 25 line-ministries that have climate-relevant programming (e.g. agriculture, housing, energy, industries and food) (MoF 2019). As of 2020, the yearly investment in climate change action was about US$ 2.5 billion, corresponding to almost 8% of the country's annual budget (MoF 2019).

In its first NDC submitted to the UNFCCC in September 2016, Bangladesh presented itself as being highly vulnerable to climate change with projections that it will experience an annual loss of 2 percent of GDP by 2050 and a loss of 9.4 percent of GDP by 2100 (MoEF 2015; MFA NL 2018). Although its emissions are less than 0.35 percent of global emissions, in the NDC Bangladesh committed to play its part in the global collective action to reduce future GHG emissions, while working towards becoming a middle-income country by 2021 (MoEF 2015; MFA NL 2018).

The COVID-19 pandemic brought home the realities of life for Bangladesh's migrant workers. The government has enacted a series of measures to help them. For example, a US$ 85 million fund was set up to allow former migrant workers to borrow money without collateral, and use the funds for education or to start a business (Sorkar 2020). The plan was intended to train migrants so that they can find better jobs abroad once the situation returns to normal, and to provide them with seed money to invest in employment-generating activities in Bangladesh. However, in the current climate, it remains difficult for returnees to start a new business, and overseas employment is likely to continue to remain a more attractive option in particular for Bangladesh's young workers (Sorkar 2020).

More generally, Bangladesh is taking steps to develop Dhaka and seeking better protection for its migrant workers overseas (McDonnell 2019). There are also several ongoing projects to divert movements from the two largest cities by investing in secondary cities and making them better destinations for migrants. For example, the Liveable Regional Cities in Bangladesh project has been researching what makes the cities of Mongla and Noapara, in south-western Bangladesh, more liveable from the perspective of residents and local stakeholders, with a view to encourage policies and investments to make them migrant-friendly towns (Alam et al. 2018; Khan et al. forthcoming). This approach seems especially viable for populous countries like Bangladesh, with little space for retreat from vulnerable hotspots (Khan et al. forthcoming).

## International responses

Between 2014 and 2020, European development assistance to Bangladesh totalled 655 million € (European Commission 2021). Assistance has largely focused on human capital development, food security, nutrition, sustainable development and democratic governance, but the EU has also supported initiatives relating to migration and forced displacement, as well as climate change (European Commission 2021). For example, the "Regional Evidence for Migration Analysis and Policy" project, implemented by the IOM, is intended to strengthen the evidence-based formulation and implementation of humanitarian and development policy and programming on migration and forced displacement in Bangladesh (IOM 2020b), as well as several other countries in Asia and the Middle East (EEAS 2020).

Most of the large bilateral and multilateral development aid donors in Bangladesh, including the UK, Japan, the Netherlands, the USA, the World Bank's International Development Association, the Asian Development Bank and the European Union, have programmes on climate change adaptation and mitigation. The Green Climate Fund is currently financing 5 climate-related projects in Bangladesh, for a total of US$ 351.1 million, largely focused on enhancing the resilience of poor, marginalised and climate-vulnerable communities in flood-prone and coastal areas, and investing in climate-resilient infrastructure (GCF 2021a). A few donors have also recently started both development and humanitarian programmes with a focus on migration and displacement, although these have largely targeted Rohingya refugees. For example, in 2020, the EU mobilised a total of EUR 96 million for Rohingya refugees in Bangladesh, of which EUR 39 million have gone towards strengthening the resilience and social cohesion of Rohingya refugees and host communities in Cox's Bazar District by reducing the impact of natural disasters and strengthening basic social services (European Commission 2020).

Comparatively less focus has been put on addressing climate-related mobility, and particularly rural-urban migration, and the two programmatic areas of climate change and migration/displacement tend to remain disconnected. Some donors have invested in urban development projects, as in the case of the World Bank and Asian Development Bank supporting improved urban infrastructure in medium-sized cities (ADB 2017; World Bank 2016b). The World Bank has also invested in initiatives to promote safe migration routes for Bangladeshi workers. For example, the "Safe Migration for Bangladesh Workers" project collaborated with community-based organisations to help migrants and their families access reliable information and enable safe migration (World Bank 2017). An example of an integrated effort addressing climate change drivers of migration is GIZ's "Urban Management of Internal Migration due to Climate Change" project, running from 2018 to 2022, and aimed at improving the living conditions of climate migrants through needs-based measures in selected settlements in the cities of Barisal, Khulna, Rajshahi, Satkhira and Sirajganj (GIZ 2021).

# Cross-border migration in Central Asia

## Setting the context: climate, development and migration in Central Asia

### Climate context

Central Asia – composed of the five countries of Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan and the Kyrgyz Republic – is a landlocked region stretching from Afghanistan in the south to Russia in the north. It borders on the Caspian Sea and Russia in the West and China in the East. The region falls within arid and semi-arid zones, and has a varied physical landscape, ranging from grassy steppes to deserts and high mountains, large rivers, lakes and seas (USAID 2018). The environment and climate also differ greatly within and between the five Central Asian countries. For example, highly mountainous Tajikistan receives about 500 millimetres of rain per year, while Uzbekistan gets less than half the amount (USAID 2018). Glaciers are a key source of freshwater for the region (USAID 2018). By retaining water and controlling fresh water flows, they play a key role in regulating Central Asia's weather and climate (Murakami 2020).

Short-sighted environmental management during the Soviet period (1918–1991), when the Central Asian republics were forced to specialise in the production of highly water-consuming agricultural products, such as cotton, continues to have an impact on the region's environment (Herrfahrdt et al. 2006). The most prominent result of the persistent overuse of water resources in the region is the stark reduction in size of the Aral Sea due to water extraction from its inflows Amu Darya and Syr Darya for cotton irrigation (Herrfahrdt et al. 2006; Blondin 2019). Moreover, all Central Asian countries are strongly affected by land degradation, which negatively impacts crop productivity and livestock, food security, agricultural incomes, and rural livelihoods (Pender and Mirzabaev 2009). The annual cost of land degradation in the region is around US$ 6 billion. Reversing these trends would cost around US$ 53 billion over the next 30-year period, whereas losses due to inaction may equal almost US$ 288 billion (Mirzabaev et al. 2016).

Central Asia is regarded as highly vulnerable to climate change, given its mountainous areas and low adaptive and coping capacity (Murakami 2020). However, since the end of the Soviet Union, climate data for the region has been relatively sparse, introducing a high degree of uncertainty into both current assessments and future projections (Blondin 2019). Overall, the region is expected to become warmer and increasingly arid in the coming decades, especially in the western parts of Turkmenistan, Uzbekistan, and Kazakhstan (Lioubimtseva and Henebry 2009). Average annual temperatures have already risen by about 0.5 °C per decade in the past three decades, and are expected to increase to above 2 °C by 2050 (USAID 2018). Temperature increases, combined with irregular precipitation, can amplify the risk of desertification and soil salinization in the region, thus further reducing the amount of arable land. Temperature increases could also lead to a higher amount of forest and grassland fires, including in grain producing regions such as Northern Kazakhstan, resulting in severe economic losses (Novikov and Kelly 2017).

Projected changes in precipitation across the region are especially uncertain, but rain is broadly expected to increase in winter months, especially in Uzbekistan and Kyrgyzstan, and decrease in the other months (Hijoka et al. 2014). Changes in seasonality and amount of water flows from river systems are also likely to occur, with impacts on the power output of hydropower-generating countries like Tajikistan (Hijoka et al. 2014). A higher frequency of heavy rain events, drought and lengthened dry spells is expected, putting stresses on and threatening agricultural livelihoods, livestock, production, human settlements, and food security (Mirimanova 2018; Murakami 2020). Moreover, Central Asian glaciers are experiencing significant and accelerating area loss, resulting in a diminished capacity to store water (Hijoka et al. 2014). Given the already very high level of water stress in many parts of the region, this could exacerbate the problems of water shortage and distribution in the future (Lioubimtseva and Henebry 2009). Glacial melt can also result in more flooding events and mudflows, damaging settlements and infrastructure (Murakami 2020).

## Major development trends

Environmental and social challenges in Central Asia combine with persistent poverty and high levels of youth unemployment, in an economic system that remains highly depend on the agricultural sector generating jobs and services. During the past two decades, the region has also been experiencing a rapid population growth, from about 56 million people in 2000 to 74 million in 2020 (UN DESA 2019c). By 2050, Central Asia's population is expected to grow by 36.9 percent, crossing the benchmark of 100 million people. About half of this figure is the increase in the population in Uzbekistan (CABAR.asia 2020), which is projected to remain the most populous state of the region with 42.9 million people, followed by Kazakhstan (24 million), Tajikistan (16.2 million), Kyrgyzstan (9.1 million) and Turkmenistan (7.9 million) (UN DESA 2019b). Central Asia has a large share of young people under 25, with 50 percent of the population of Kyrgyzstan, Tajikistan, and Uzbekistan, 49 percent of Kazakhstan, and 40 percent of Turkmenistan falling into this age group (USAID 2020).

Central Asia enjoyed remarkable economic progress during the last decade, with GDP growth across the region averaging about 4.8 percent in 2019 (IMF 2020). Today, the region is at the heart of China's Belt and Road Initiative, which has resulted in new industrial and agricultural projects, as well as an expansion of power grids and the Digital Silk Road (EBRD 2018).

However, persistent development challenges remain. Relatively small, and in most cases fairly undiversified, Central Asian economies depend heavily on foreign trade and financial flows, including remittances, which makes them vulnerable to global spill overs (World Bank 2020). This has been particularly visible in the context of the COVID-19 pandemic, when lockdowns, weak trade, a collapse in tourism activity, and a sharp drop in remittances caused an average 2.1 percent contraction of GDP growth (IMF 2020). Moreover, although poverty rates have overall declined since the 2000s, high levels of poverty remain in pockets of rural and remote areas, especially in Tajikistan and Kyrgyzstan (Seitz 2019). Unemployment is also high throughout the region, particularly among youth and women (Nikolova 2020). In Kyrgyzstan, for example, youth unemployment stood at 14.8 percent in 2020, compared to just 4.5 percent overall unemployment (World Bank 2021d). High levels of informality also remain[3], as has

[3] For example, about 59.8 percent of the workforce in Uzbekistan are in the informal sector, and 39 percent of all workers in Tajikistan are estimated to work in the informal sector (UNDP 2020b).

become visible during the COVID-19 pandemic, which caused significant losses of wage income and revenues from informal work (UNDP 2020b).

Despite some significant differences between the Central Asian states, they all score low on democratic performance (Freedom House 2021), as well as on political stability and corruption indicators (Transparency International 2021), and have all been ranked as fragile on recent Fragility State Indexes (see e.g. The Fund for Peace 2020).[4] Regional cooperation in Central Asia has been strained by a modern history of antagonism between the states, which focused on asserting their sovereignty and promoting national loyalty after independence from the Soviet Union (Patnaik 2019). This hindered efforts at sharing resources and infrastructure, in addition to alienating ethnic minorities within individual states (ICG 2018). Existing regional governance mechanisms or organisations have been largely led or initiated by external powers such as Russia, China, the US and the EU, with little inertia from the region itself (Patnaik 2019; Lee et al. 2020). However, since 2016, a new trend has emerged, with the change of presidency in Uzbekistan leading to improved bilateral relations and moves towards more intra-regional cooperation (Lee et al. 2020; Cornell et al. 2018).

## Mobility as an adaptation strategy

Cross-border migration is a well-established phenomenon in Central Asia. The collapse of the Soviet Union in 1991 formed the basis of frequent movements between the newly independent states, creating the current migration system (Rocheva and Varshaver 2018). Mobility within the region largely takes place in the form of movements from Central Asian countries to the Russian Federation. 95 percent and 83 percent of international migrants from Tajikistan and Kyrgyzstan, respectively, leave for Russia, compared to about 60 percent of Uzbek migrants. Existing ties between Central Asian countries and Russia have favoured these movements. Social and family ties span the region, Russian typically serves as a lingua franca, and Soviet infrastructural developments connect countries via rail, road, and air. Today, visa-free entry regimes exist between Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, as well as with Russia and Turkey (Rocheva and Varshaver 2018). Although social and cultural reservations towards migration persist, international movements have become something of a norm within Central Asian societies (Isabaeva 2011).

Economic factors are the predominant cause of movement from Central Asia, as individuals search for better livelihoods and higher wages in the face of increasing unemployment and decreasing real incomes in most countries of the region (Rocheva and Varshaver 2018). The oil-rich economies of Russia and Kazakhstan have also created a high demand for foreign labour (Rocheva and Varshaver 2018).

As a consequence, some Central Asian countries have become highly reliant on remittances. Remittances equal 28 percent of Tajikistan's GDP, with Kyrgyzstan ranking closely behind. Money sent from abroad accounts for about 5 percent of Uzbekistan's GDP (Rocheva and Varshaver 2018) (see box 4). Labour migration can ease pressure on natural resources in sending countries, potentially decreasing climate vulnerability (Novikov and Kelly 2017). However, as external migration is especially high among low-skilled labour migrants and growing among active and motivated young and mid-age

[4] A notable exception in the region is Uzbekistan, which has made significant improvement, moving from the 36th most fragile country at the start of the decade to 74th at its end, largely as a consequence of the 2016 change in leadership, when Prime Minister Shavkat Mirziyoyev replaced President Islam Karimov after the latter's death, and started economic and foreign policy reforms. See: https://fragilestatesindex.org/2020/05/10/uzbekistan-the-quiet-achiever/.

generations, which leave for better education and more qualified jobs abroad, it can also drain human capacity in the region.

In addition to cross-border migration, movements from rural areas to urban centres are also increasing, largely by men and working-age youth looking for predominantly unskilled-labour in cities (Novikov and Kelly 2017). Yet, cross-border migration exceeds rates of internal migration, with movements consisting of both seasonal flows and long-term stays (Isabaeva 2011; Rocheva and Varshaver 2018).

**Box 4: Remittances in Central Asia**

The developmental impact of the dependence of Central Asian economies on remittances is contested in the literature.

Studying a community in Kyrgyzstan, Isabaeva (2011) notes that remittances enable family members to remain in the village, supporting their livelihoods and the local community more broadly. The author notes that families spend remittances on daily consumption and expenses, and social functions, rather than on productive investments in a narrow sense. Given the contribution to poverty alleviation, access to education and health care, as well as social wellbeing, Isabaeva concludes that remittances should be considered as contributing to development.

Blondin (2019) takes a different stance, arguing that evidence of remittances contributing to developmental gains and increased environmental resilience is slim. In many cases, migrants end up creating new families abroad once they move and stop sending money to their families in the country of origin (Novikov and Kelly 2017; Rocheva and Varshaver 2018). Moreover, as men leave the villages, much of the agricultural land is no longer being worked, which negatively impacts on households' income (Blondin 2019). Therefore, remittances are not necessarily a solution to addressing poverty in sending countries, which actually often persists, and remittances can even create dependence and vulnerability for those staying behind – largely women and children (Rocheva and Varshaver 2018; Blondin 2019).

## Mobility patterns linked to slow-onset climate change impacts

Economic circumstances and the effect of climate change impacts on migration are intertwined. Low income, unemployment and other socio-economic factors often go hand in hand with lower resilience and adaptive capacity, leaving individuals vulnerable to environmental change (Blondin 2019). While the environmental determinants of migration have found comparatively little attention in the literature on Central Asia, and are not seen as independent push factors, they can be one of many determinants of and aggravating influences on households' decisions to migrate (Blondin 2019). Indeed, migration can be both an adaptive action and a sign of failed adaptation (Blondin 2019). Whether or not communities are aware of and prepare for climate impacts is key to their ability to adapt and their decisions to migrate. In practice, however, weighing the impact of climate change effects on migratory decisions is difficult, as migrants may not identify environmental factors when speaking of their decision to move, and point instead to economic or social drivers (Blondin 2019).

Evidence of environmental migration in the region mainly stems from qualitative assessments; quantitative ones are rare, also due to the lack of regional climate data. Existing studies indicate that climate impacts on agriculture play a particularly large role in shaping migratory decisions. Agriculture is responsible for a significant share of

employment in all Central Asian countries. In Tajikistan, for example, as of 2016, the agricultural sector employed 53 percent of the active population; in Kyrgyzstan, the share of employment was 32 percent; and 27 percent in Uzbekistan (Capannelli and Kanbur 2019). Therefore, disrupted agricultural production, falling incomes, and decreased livelihood viability due to both biophysical changes and lowered resource access (e.g. destroyed infrastructure) can have important consequences for large shares of the population (Isabaeva 2011; Blondin 2019). Repeated livelihood failure due to climate change is also possible (Murakami 2020). Decreasing incomes and financial means can further complicate resource access and make production even more difficult (Blondin 2019).

With economic circumstances severely limiting the availability of other employment and livelihood opportunities, individuals have reasons to look elsewhere, and the pressure to migrate increases (Isabaeva 2011; Blondin 2019; Murakami 2020). In mountain communities, these dynamics are already fully at play. Mountain areas often face poor soil quality, limited available land and adverse climatic and weather conditions, complicating and reducing opportunities for agricultural production and husbandry. With agricultural systems operating at the edge of viability, environmental and climate change impacts can quickly render agricultural livelihoods unattractive, pushing people to migrate (Isabaeva 2011). Even adaptation strategies are starting to fail because of climate change. Pastoral nomadism in Kyrgyzstan, for example, is under strong environmental pressure (Blondin 2020). Once adaptation fails, further movements may become inevitable.

Politics also plays a role in driving migration in the region. With the collapse of the Soviet economic system, provisioning for what used to be the periphery of the Soviet Union disappeared, and large parts of Central Asian countries were left without government services and care – a gap they still face today (Blondin 2019). In Kyrgyzstan, for example, land shares were allocated after independence. However, this redistribution was poorly handled. The arable land is often of low quality, has poor irrigation, is far away from people's homes and thus requires significant labour input without necessarily meeting the needs of the community. Under these circumstances, agriculture is not an attractive choice, or cannot be upheld under worsening climatic conditions, which pushes people to move (Isabaeva 2011). In Tajikistan, the government chose resettlement policies to move communities out of harm's way, and especially away from remote mountain regions. Again, poor management turned these policies into potential push factors: identifying suitable locations has proven difficult, and resettlement areas often do not provide sufficient opportunities for work, leading to secondary movements, both to Russia and back to home communities (Novikov and Kelly 2017).

Today, governments in the region remain ill-equipped to predict environmental impacts, do not adequately consider climate change impacts on security and movements, and often cannot compensate for losses or build effective social systems (Novikov and Kelly 2017; Sharifzoda 2019).

### Mobility patterns linked to rapid-onset climate change impacts

Rapid onset climate impacts, such as natural disasters, floods, rising rivers, or mud- and landslides are observed throughout Central Asia, and especially in mountain areas (Blondin 2019), and can be the reason for short-term displacement (Novikov and Kelly 2017). A recent study found that shocks and rapid-onset events cause temporary reductions in financial means and livelihood constraints, and hence an increase in the desire to migrate – although the ability to move might be constrained by economic or social factors (Murakami 2020). Once individuals can afford to leave, they generally do

so, prioritising cheaper internal migration to move out of dangerous areas over costly international movements. In the Aral Sea region, for example, drought and insufficient water resources led to multiple waves of movements – some of them temporary – in the 1990s and early 2000s (Novikov and Kelly 2017). Following short-term displacement, repeated movements are possible, for example if livelihoods fail in destination areas.

### Impacts on different social and demographic groups

Even in the face of climate change impacts, migration may not always be an option. In Tajikistan, a study found that, while droughts lead to an increase in migration throughout the year, increased rainfall is only associated with increased movements in winter (which is planting season and a return period for seasonal migrants), whereas migration actually reduces for the rest of year (Murakami 2020). These decreases can be interpreted as a sign of liquidity constraints, meaning that even though movement may be desired, it may not be affordable for individuals due to climate-related economic losses, leaving them trapped in difficult circumstances (see also Blondin 2019). Apart from financial constraints, especially men may not be able to migrate if parents and other family members are of old age, or are otherwise considered too vulnerable (Blondin 2019). As higher income groups may have adaptive strategies other than migration at their disposal, affordability of migration predominantly impacts those with low incomes, who also face the largest pressure to find new and viable livelihoods and sources of income (Murakami 2020).

Migratory pressures and decisions not only impact those choosing to move, but also those staying behind. Remittances can be a source of valuable income for family members and might create employment in communities, enabling family and others to remain in present locations (Blondin 2020) (see box 4). Social norms have an impact on who can legitimately and safely move (Isabaeva 2011; Rocheva and Varshaver 2018; Blondin 2019). Migration in Central Asia is a predominantly male phenomenon, albeit this differs slightly between countries; for example, female migration tends to be more widespread in Kyrgyzstan than in Tajikistan and Uzbekistan (Rocheva and Varshaver 2018). This can create stress for women, children and the elderly; they might become dependent on remittances, women who have to act as both parents and carers might face additional economic hardship, while their vulnerability to environmental impacts persists (Isabaeva 2011; Novikov and Kelly 2017). Wives regularly worry about their husbands not returning, remarrying, or otherwise being harmed, all of which would negatively impact their ability or willingness to send money (Isabaeva 2011; Novikov and Kelly 2017). Remittance distribution within families, which is often taken care of by male relatives, can also reinforce harmful gender dynamics (Isabaeva 2011).

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**Box 5: Migrants' Security in Russia***

While migration may be chosen as a strategy to escape negative environmental impacts and economic hardship, migrants often remain highly vulnerable post-migration.

For people migrating from Central Asian countries, for example, visa regimes can lead to informal agreements with state bodies, or to undocumented stays in Russia. While citizens from the Commonwealth of Independent States enjoy relaxed visa rules, most Central Asian nationals still require work and residence permits after remaining in Russia for more than 90 days within a 180-day period. As applications for permits are complex, costly, and subject to strict deadlines, they require a significant upfront investment and migrants may be unable or unwilling to comply

with regulations. This leaves individuals open to persecution, and vulnerable towards state bodies, provided their limited legal protection.

Apart from entry regimes, migrants face limited access to state services, require medical insurance, encounter difficulties in housing and ethnic discrimination, and are often treated poorly by employers. Women can experience gendered violence. For example, Kyrgyz women face additional risks as groups of male Kyrgyz migrants – referring to themselves as "patriots" – in Russia have vowed to prevent interethnic relationships and target women seen to be unfaithful to their husband or heritage more broadly.

**Adapted from: Rocheva and Varshaver 2018*

## Impacts of COVID-19

The outbreak of the COVID-19 pandemic has amplified many existing socio-economic problems in Central Asia, disrupting food supply, increasing the vulnerability of rural communities, and inducing a large loss of jobs. On the one hand, the economic impacts of public health measures and COVID-19-induced global disruptions have created new migration pressures. In cities, important jobs for rural migrants, such as the construction sector, have been strongly impacted, leaving many without stable sources of income (Cirillo 2021). Additionally, parts of Central Asia that have grown tourist sectors in recent years – including otherwise struggling mountain communities in Tajikistan and Kyrgyzstan – have had to deal with large losses and missing returns on investments (Cirillo 2021). These developments might spur individuals to move as they have the opportunity to do so.

At the same time, the closure of borders and the lockdown measures imposed to contain the spread of the COVID-19 pandemic have stopped migrants travelling abroad for work, and significantly reduced the opportunities in external markets (OECD 2020). Movement restrictions have led to a chronic labour shortage in Russia, with migrant workers from Central Asia and other former Soviet republics unable to enter the country for work (Malinboym 2021). To address the problem, Russian authorities announced a plan to replace migrant workers at large construction sites with prison labour, which in the long-term may discourage migration even further (Maliboym 2021). The restrictions on movements due to the COVID-19 pandemic have also had severe impacts for Central Asian countries, and especially for those mountain communities dependent on mobility (e.g. in the form of commutes, rural-urban migration, pastoralism, or seasonal and internal migration), whose economic downfalls may continue for years to come (Blondin, 2020).

Another consequence of the COVID-19 pandemic is that, when movement restrictions were in place, those wishing to migrate or return were unable to do so, which severely limited their options, negatively impacted livelihoods and increased poverty (Blondin, 2020). For example, as the Russian economy struggled due to both the pandemic and drops in oil prices, three quarters of Central Asian migrants have become unemployed or went without hours or pay, leaving them with no income and often without social protection to fall back on (Blondin 2020; Ratha et al. 2020). Where possible, migrants have returned to Central Asia and home communities; interest in returning was so high in some cases, that the Tajik government temporarily suspended registration for repatriation flights in July 2020 due to exceeding demand (Ratha et al., 2020). Those migrants attempting to return home also faced significant challenges. For example, the travel restrictions introduced to contain the spread of the pandemic meant that some

46% of Tajik migrants in Russia were unable to return home, while 80% of those still in Tajikistan but seeking to return to Russia were blocked (OECD 2020).

These developments also harmed those relying on remittances (Blondin 2020; Takenaka et al. 2020). Remittance flows in Europe and Central Asia dropped by 20 percent in 2020 (Takenaka et al. 2020), and have been predicted to fall by a further 8 percent in 2021 (Ratha et al. 2020). In the second quarter of 2020, money sent from Russia to Central Asia fell by 23 percent, dropping at levels similar to those of the 2009 financial crisis (Ratha et al. 2020). Without remittances, spending on daily necessities, goods, and wellbeing were forced to decrease. At the same time, the disruptive impact of the pandemic on supply chains and business has led to significant food price increases, creating a difficult situation for many households in the region (Blondin 2020; OECD 2020).[5]

## Linkages between climate, mobility and security risks in Central Asia

The impacts of COVID-19 on migration in Central Asia remind of the effects of the 2008-2010 economic crisis. Much like today, the crisis led to job losses, return migration and rapidly falling remittances. Government counteraction was insufficient, exposing the dependence of Central Asia on good economic conditions in its neighbourhood and governments' strategy of exporting unemployment (ICG 2010). In Kyrgyzstan, riots followed in 2010, which overthrew the government and led to ethnic clashes along the Uzbekistan border (Aslam 2011). While the region has enjoyed western support due to its proximity to Afghanistan and crucial supply lines (ICG 2010), the coming NATO troop withdrawal could move Central Asia further down the agenda. Recent armed clash on the Kyrgyzstan-Tajikistan border over access to water demonstrated that drought and water deficiency remain closely connected to more traditional security challenges (BBC News 2021). If 2010 and the recent clashes are any indication, the long-term knock-on effects of economic impacts and migration might spell trouble for the region.

The confluence of environmental pressures, migration and the pandemic will chiefly impact those who have not yet moved. Falling remittances will hinder economic development and can lead to poverty, food insecurity, and increasing desperation. In turn, this may heighten vulnerability to climate change impacts, while creating a desire for further movements, local competition for environmental resources, and threatening social and political stability, including through rising food and energy prices. Future environmental impacts and the long-term economic impacts of the COVID-19 pandemic will add to these pressures and are likely to deepen the dependency on economic systems outside of Central Asia. Those left behind without viable livelihoods will be exposed to hardship. A long history of skill and labour drain have harmed agricultural production already (ICG 2010), and many communities and families have been strained by the absence of large chunks of the population (ICG 2010; Novikov and Kelly 2017).

At the same time, climate change impacts will increase the number of people in search for viable livelihoods, putting local labour markets under additional stress (Novikov and Kelly 2017). These developments point to the risk-laden nature of the current migration system in Central Asia. While, so far, it has been able to maintain stability, by creating

[5] Central Asian countries are heavily dependent on wheat imports from Russia and Kazakhstan (Kyrgyzstan 32%, Tajikistan 57%, Turkmenistan 40%). Therefore, border closures and other measures to contain the spread of the COVID-19 pandemic, combined with the reduced production in the exporting countries due to labour shortages, created significant food supply challenges in importing countries, in turn resulting in price increases, especially for wheat (FAO 2020).

incomes and reducing vulnerability (Novikov and Kelly 2017), with decreasing absorption capacity and increasing movements, it may cease to be a viable option for Central Asian citizens. The entire region's economic stability could be called into question, going beyond individual and community hardship. Migration to other countries, including Europe, may increase (Lang 2017). Return movements could also rise, putting additional stress on economies and governmental service provision (Novikov and Kelly 2017). Those who do not move may be environmentally trapped, exposed to climate impacts and increasingly strained local resources (Novikov and Kelly 2017).

This can pose a risk to the region's political stability. Lacking social protection and the governments' inability to address economic and social crises can lead to dissatisfaction and large-scale protests, both of which have resulted in radical political changes in the past. Governments have long relied on migration to relieve both economic and security pressure, counting on the fact that young men – often at the centre of protests – have been absent (ICG 2010; Lang 2017). If this changed, and if the migration system were to deteriorate, governments may find it increasingly difficult to justify their position vis à vis large dissatisfied groups of society (ICG 2010). Attempts by countries of origin to ensure stable migration and remittances to avoid these problems may create or reinforce political dependence on countries of destination, which can play this "card" for their political interests.

Moreover, recruitment efforts and criminal activity, including in the drug business, combined with political instability, pose a large risk to the region's stability. Although data is slim, there have been reports of recruitment efforts by non-state armed groups in Russia, primarily targeted at migrants from Central Asia. The region's proximity of Afghanistan has contributed to these fears (ICG 2010; Sharifzoda 2019). In urban centres, young rural migrants have taken up illicit livelihoods in the face of rising unemployment (Novikov and Kelly 2017).

## Responses

### Government responses

Until recently, the countries of Central Asian states have struggled to establish policies to address the impacts of climate change and to apply strategies for future sustainable resource use. Efforts to address climate and environmental concerns have tended to be largely diffuse and distributed through sectoral ministries, such as those focused on environment, natural resources, agriculture, energy and infrastructure (USAID 2018).

However, progress is being made throughout the region. All five countries have submitted their Intended Nationally Determined Contributions to the United Nations Framework Convention on Climate Change. While targeted climate change policies are still lacking, governments in the region are increasingly taking steps to integrate climate change considerations and actions into sectoral policies and sustainable development strategies, and are making efforts to seek investment in climate change mitigation and adaptation (USAID 2018). For example, in 2019, the Kyrgyz government, with the support of international donors, adopted a Green Economy Development Programme for 2019-2023, and established a new coordination mechanism on green economy and climate change (UNDP 2021b).

Disaster resilience has also been a major priority for Central Asian countries, given their high vulnerability to natural disasters, from persistent floods and droughts to rapid-onset events such as avalanches and landslides. Disaster response has traditionally been stronger than disaster risk reduction during the Soviet era. However, since the 1990s,

with the support of international partners, there has been a strategic shift in disaster management practices towards an integrated disaster risk reduction approach (World Bank et al. 2015). Several countries in the region have also been developing national disaster risk reduction strategies. Tajikistan, for example, adopted a second national disaster risk reduction strategy in 2018, with the main goal of building the country's risk management capacity over the period 2019-2030 (Government of the Republic of Tajikistan 2018). In 2019, Uzbekistan approved a national plan of action for the implementation of the Sendai framework programme on disaster risk reduction for 2015-2030 (Government of the Republic of Uzbekistan 2019).

## International responses

International donors are also playing an important role supporting the governments in Central Asia to design and implement institutional structures to build climate change resilience and improve management of and access to resources. For example, UNDP has recently launched a project to support the development of a National Adaptation Plan (NAP) for Uzbekistan (UNDP 2021a), and the Green Climate Fund is supporting the development of Kazakhstan's NAP (GCF 2021b). The World Bank's Climate Adaptation and Mitigation Program for Central Asia, running from 2016 to 2024, works with governments in the region to enhance regionally coordinated access to improved climate change knowledge services for key stakeholders (World Bank 2021e). The "Green Central Asia" initiative, launched in January 2020 by the German Federal Foreign Office in the context of the new EU-Central Asia Strategy, also aims to enhance environment, climate and water resilience in the region through science-based political dialogue and capacity-building (Yergliyeva 2020).

International partners have been especially key in supporting Central Asian countries' disaster risk reduction efforts, with multiple large programmes and investments aimed at improving disaster risk management and risk-informed investment planning. For example, the EU is currently funding a EUR 4.6 million program aimed at improving financial resilience and risk informed investment planning towards building disaster and climate resilience in all the five Central Asian countries (GFDRR 2021). In 2021, the World Bank launched a multi-peril risk assessment of natural disasters in Central Asia, aimed at strengthening the region's resilience to natural disasters and climate risks by enhancing financial resilience, risk identification capacity, and improved disaster risk management (World Bank 2021f).

The increasing recognition of the potential security implications of climate change impacts in the region is also leading to relevant projects in this area, such as the regional initiative "Policy Action for Climate Security in Central Asia" initiative, launched by UNDP, with the support of from the UK Foreign, Commonwealth and Development Office, which aims to enhance policy action for climate security in the region (UNDP 2021b).

However, less attention has been dedicated to the linkages between climate change, human mobility, and potential security risks. When it comes to mobility, most international actors in Central Asia have largely focused on displacement, supporting humanitarian assistance efforts and sometimes the resettlement to populations affected by disasters (Blondin 2019). Only a few efforts have been directed towards addressing issues related to external migration, among these the World Bank with the 'Safe Migration in Central Asia" project, and its support to the "Migration and Remittances Peer-Assisted Learning" network, which shares country experiences in establishing dialogue on migration policy. Even fewer international agencies have looked at tackling the linkages between climate change impacts and migration in an integrated way. However, there is growing recognition of the need for programmes that focus on

climate-resilient livelihoods and social programs protection in the most environmentally vulnerable parts of the region as a way to address potential instability linked to climate-induced mobility.

# What's next?

## Conclusion

Migration and displacement are likely to be aggravated by climate change, both through direct impacts, as well as through compounding effects on poverty, unemployment, and conflict, which drive mobility worldwide. In Bangladesh, for example, mobility has been used as a coping strategy to deal with the impact of extreme weather events for decades, but especially internal migration trends have increased significantly in recent years, also to cope with slow-onset climate change impacts, such as sea-level rise, saltwater intrusion and rising temperatures. In Central Asia, although economic factors remain the predominant cause of movement, largely to Russia, environmental degradation and climate impacts on agriculture also play a particularly large role in shaping mobility decisions.

Slow and sudden-onset climate impacts lead to very different mobility patterns. In Central Asia, for example, rapid-onset climate impacts, such as natural disasters, floods, rising rivers, or mud- and landslides have been linked to temporary reductions in financial means and livelihood constraints, as well as an increase in the desire to migrate, mainly internally. Instead, slow-onset climate impacts, combined with other economic and social factors, such as high unemployment rates, tend to lead to longer-term migration, often outside the region.

While movements associated with environmental drivers are mostly internal, cross-border migration and remittances can benefit sending and receiving countries and build resilience at the household and community level. However, both case studies show that a high dependence on remittances can also make the national economy – and the economy of many families, especially in rural areas – extremely vulnerable to sudden shocks and crises, and therefore needs to be carefully balanced and supported by social policy.

As the climate continues to worsen, the most vulnerable parts of society will often be unable to move, as they lack financial resources or are otherwise constrained in their choices. Moreover, different demographic and social groups experience this interplay between climate change and mobility – and especially migration – differently. Women are more likely to be "trapped", or unable to move due to financial, social or physical barriers, despite their high exposure and vulnerability to climate change impacts. In Central Asia, for example, migration remains a predominantly male phenomenon, which leaves women at home dependent on remittances, still vulnerable to environmental impacts, and having to take on additional work and caring responsibilities.

On top of all this, the COVID-19 pandemic, and the related mobility restrictions introduced to contain its spread, have increased unemployment in cities, and reduced opportunities for seasonal work and remittance flows, severely harming the ability of climate-vulnerable populations to use mobility as an effective adaptation strategy. In Bangladesh, for example, the immediate impact of the disease and associated responses not only caused a domestic economic slowdown, but also led to a substantial poverty increase country-wide, as 40 percent of rural incomes are estimated to depend on remittances from family members in urban areas.

What this paper has shown is that mobility is often used as a short-term coping rather than anticipatory adaptation strategy, especially for those individuals or households that lack the economic means and social capital to move. It can also lead to increased vulnerabilities both for those moving to even more precarious livelihoods in cities and for those being left behind. However, our analysis also demonstrated that mobility is not just the result of a failure to cope with climatic and other changes that may be at play in a given context; under the right circumstances, it can be an important and effective adaptation strategy.

This requires innovative responses and adequate investments from governments and the private sector, working together with civil society organisations, local communities, universities and international organisations, towards sustainable infrastructure and basic services, as well as social protection and economic opportunities for those who leave and for those who remain. And because mobility, including climate-related migration and displacement, does not happen in a vacuum, it needs to be looked at and addressed through multi-sectoral and inclusive policies and measures, combining research, planning, design and capacity building, with a particular focus on cities and towns.

## Recommendations

The experiences of Bangladesh and Central Asia point to a few areas for governments in countries of origin as well as international development and humanitarian policies and programmes, including those of the EU and EU member states, to better address the linkages between mobility, climate change and security, while working towards reducing the drivers and root causes of vulnerability and insecurity[6]:

1. **Increase knowledge and awareness of climate-induced mobility by**:
    a. Supporting the systematic collection of sex- and age-disaggregated data on internal and cross-border movements;
    b. Commissioning policy-relevant research on climate-induced migration and displacement, and encouraging the interaction and exchange between researchers and policy makers, for example by supporting the establishment of national or regional level networks and communities of practice.
2. **Promote adaptation and development through development and humanitarian policies and programmes, including through investments in:**
    a. Service provision and infrastructure in urban areas, in particular second-tier cities to make them a viable and attractive alternative to larger cities;
    b. Nature-based solutions, such as supporting mangrove protection and land restoration projects, which can provide cheaper alternatives to engineering solutions to protect against climate-based risks, while also providing a source of livelihood;
    c. Disaster risk management systems, including early warning systems and post-disaster sheltering plans, particularly at the community level;

[6] Recommendations have been partly adapted from and build on Asian Development Bank 2012. "Addressing Climate Change and Migration in Asia and the Pacific". Available at: https://www.adb.org/sites/default/files/publication/29662/addressing-climate-change-migration.pdf.

d. Identifying and promoting land-based green jobs as a viable and cost-effective alternative to unemployment and land abandonment, including through supporting the viability of agriculture; new or reinforced skills need to match new employment opportunities and qualification of rural youth and returning migrants.

e. Programmes supporting those living in areas impacted by environmental change, by building alternative livelihoods, improving social protection, and generating economic opportunities;

f. Education, including vocational education, to improve the skills of workers, whether they are seeking employment in their country or overseas, and in particular education for women, which has a demonstrable multiplier effect.

3. **Integrate mobility and climate change into all relevant governmental action (e.g. mobility, development, climate change, disaster risk reduction) and develop and strengthen relevant policies at the local, national, regional and international level. These approaches should focus on:**

a. Providing displaced people and migrants with access to the basic services received by citizens and other eligible individuals, facilitating their integration into communities and working against negative perceptions of migration.

b. Meeting international standards, principles and good practice related to the protection of and assistance for migrants, displaced individuals and resettled communities. This needs to include those moving due to climate change and environmental factors.

c. Supporting rural development, land access and land tenure by codifying and enforcing land ownership; where relevant, this should include action against land grabbing.

d. Facilitating mobility in the context of climate and environmental changes, including between developed and developing countries, by fostering regular migration pathways and supporting educational and training opportunities for migrants to ensure both the country of origin and host country benefit from the positive impact that migration can have on labour market, GDP growth, public revenue, technology transfer, and more.

4. **Finance responses to climate-induced migration and displacement, including by:**

a. Supporting IOM's Development Fund and new Migration Emergency Funding Mechanism, as well as the United Nations Central Emergency Response Fund, and the Green Climate Fund, and ensuring governments can access these funds to prevent and/or cope with climate change impacts on migration;

b. Strengthening the role of the private sector, including through improving access to insurance and risk management instruments, as well as by encouraging competition, which can lower the cost of services such as remittance sending.

5. **Drive strong global action and cooperation on climate-induced migration and displacement to help build networks of laws and standards at the regional and international level to manage and facilitate cross-border mobility through:**

a. Supporting the negotiation of bilateral and sub/regional agreements to enhance freedom of movement and enable the labour market access of migrants, for example through improved recognition of academic and vocational qualifications;

b. Ensuring policy coherence between sectors and organisations at national, regional and international level to address inconsistencies that can make existent policies ineffective or harmful;

c. Driving global efforts to avoid the worst impacts of climate change, by encouraging and supporting countries' plans to reduce greenhouse gas emissions in line with the Paris Agreement, and playing a key role in asking for more ambitious mitigation and adaptation action at the COP26 climate negotiations in Glasgow in 2021.

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## For more information

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