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Climate change and migration: Exploring the role of environmental factors in migration decision-making in Nepal and Bangladesh

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Acknowledgments

I would like to acknowledge and express my sincerest gratitude to my supervisor Dr. Joana Roque de Pinho, for all the suggestions and advice, and for always being there and guiding me through all the stages of the process.

I would also like to give a special thank you to all the Nepalese and Bangladeshi people who agreed to participate in this study and share their experiences.

Finally, I would like to thank Merlyn Van Voore and Yi-Ann Chen for offering me an internship at the United Nations Environment Programme that gave me the opportunity to enhance my knowledge and experience in the field of climate change, environmental policymaking, and migration.

Thank you.

Resumo

À medida que as mudanças climáticas remodelam o planeta, espera-se que milhões de pessoas respondam aos seus impactos relocando-se nas próximas décadas.

Embora os eventos induzidos pelas mudanças climáticas prejudiquem a segurança e a estabilidade dos meios de subsistência, existem poucas evidências empíricas e teóricas de que este seja o único fator de migração. A natureza da tomada de decisão sobre a migração é incrivelmente complexa e influenciada por outros fatores migratórios e pelas características individuais dos agregados familiares. Sendo assim, é importante entender como a mudança ambiental interage com os restantes fatores migratórios, tais como a percepção da mudança ambiental dos próprios migrantes e as circunstâncias em que ocorre a própria experiência migratória.

Com base em entrevistas semiestruturadas com vinte e quatro migrantes internos e internacionais do Nepal e Bangladesh, este estudo revela a percepção que estes têm das alterações climáticas. Foi descoberto que a conexão entre a mudança ambiental e a tomada de decisão sobre a migração não é linear e está interligada com outros fatores económicos, sociais e políticos já presentes nas comunidades.

Embora os resultados desta pesquisa qualitativa não possam ser generalizados, eles contribuem para a escola de pensamento minimalista que explora a complexidade da tomada de decisão sobre migração, onde alguns fatores podem dominar, interligar ou exacerbar os outros. Mais pesquisas neste campo podem ajudar a retratar a dinâmica real em comunidades ambientalmente vulneráveis e apoiar políticas que facilitem e aproveitem os benefícios da migração.

Palavras-chave: Alterações climáticas, Alterações ambientais, Migração internacional, Migração interna, Nepal, Bangladesh

Abstract

As climate change is reshaping our world, millions are expected to respond to its impacts by moving in the coming decades.

While climate change-induced events do undermine the security and stability of livelihoods, there is little empirical and theoretical evidence that climate change is the sole or main driver of migration. As the nature of migration decision-making is incredibly complex and influenced by multiple drivers, including individual characteristics of the households, it is important to understand how environmental change interacts with economic, social and political drivers of migration, how migrants perceive environmental changes, and under what circumstances migration eventually takes place.

Based on semi-structured interviews with twenty-four migrants from Nepal and Bangladesh, both international and internal, this study unveils how these migrants' perceptions of environmental change shape their decision to migrate. I found that the relationship between environmental change and migration decision-making is not linear and is interconnected with economic, social, and political drivers that are already present in communities.

Whilst the findings of this qualitative research cannot be generalized, they contribute to the growing scholarship exploring the complexity of migration decision-making where some drivers are seen as dominating, interconnecting, or exacerbating others (the minimalist school). Further research in the field could help analyze dynamics in environmentally vulnerable communities and support policies that facilitate safe and regular migration.

Keywords: Climate change, Environmental change, International migration, Internal Migration, Nepal, Bangladesh

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Glossary of terms

Displaced persons: according to the International Organization for Migration (IOM), displaced persons are “persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations or generalized violence, violations of human rights or natural or human-made disasters”. This definition applies to both international and internal displacement.

Environmental migrants: IOM’s working definition describes them “persons or groups of persons who, because of sudden or progressive changes in the environment affecting adversely their livelihoods, move from their habitual homes to temporary or durable new homes, either within their country or abroad” (IOM, 2007).

Migrants: Currently there is no formal legal definition of an international migrant, but it is widely recognized that “a migrant is someone who changes their country of usual residence, irrespective of the reason for migration or legal status, whether the movement is involuntary or voluntary, what the causes for the movement are, or what the length of the stay is” (IOM).

Refugees are “persons who are outside of their country of origin for reasons of feared persecution, conflict, generalized violence, or other circumstances that have seriously disturbed public order and, as a result, require international protection” (UN, 1951).

Introduction

Climate change regularly makes the headline of political and scientific agendas, but little is known about its impact on human mobility and large-scale migrations. With much media attention focused on so-called “climate refugees” and “climate migrants” and projections of how many people will be forced to move in the coming decades, producing catastrophic images, important aspects defining human mobility in the context of environmental and climate changes are still unknown. Some of this stems from the difficulty in isolating environmental drivers of migration from economic, political, social, and demographic ones. There currently is a significant lack of empirical support for positioning the environment as a simple casual driver of migration, but also, simultaneously, a lack of recognition for the complex mutuality of nature-society relations (Hunter and Luna, 2015). This thesis attempts to shed some light on some of the complex, interrelated environmental dynamics involved in migratory flows within Nepal and Bangladesh; and from these two countries to Portugal.

The case of South Asia is important for several reasons. While the region is particularly prone to climate hazards, it is also characterized by major international and internal migration flows that have grown significantly since the 1990s (UNESCO, 2017). According to ActionAid International and Climate Action Network South Asia, more than 62 million people could be forced to leave their homes by 2050 in South Asia alone (ActionAid, 2020). Yet, in the face of such bold claims, the empirical evidence behind such estimations is actually very weak, and there is still no coherent framework for testing hypotheses on climate change and migration (Black et al., 2011). These predictions seem to be based on ‘common sense’ rather than theoretical and empirical evidence.

Migration is an incredibly complex phenomenon and is rarely driven by one single factor. Excessive focus on the environmental nature of migration tends to overlook economic, social, and political dynamics taking place in communities as well as the characteristics of the households opting for migration. At the same time, omitting environmental change as a potential driver of migration in communities that are highly dependent on rainfed agriculture and pastoralism could give a biased perception of migration decision-making and exclude the experiences of those who are indeed affected by climate change-induced events. It is thus important to ask and understand how perceiving and experiencing environmental changes influence migratory decisions.

In this thesis, I attempt to answer this question by exploring the perceptions and experiences of Nepalese and Bangladeshi migrants, both within their countries and in Europe. I identify whether and under which circumstances migration is considered a solution; and assess the role of environmental factors in migrants' decision to move. Based on twenty-four interviews with migrants from Nepal and Bangladesh, interviewed remotely at home and in person in Lisbon, this study contributes to a more nuanced understanding of the factors and circumstances shaping migration in both these countries. It adds to the growing body of scholarship that shows the multicausality of migration decisions and investigates how environmental change interacts with previously existing local socio-economic factors that together influence migration.

This thesis is organized as follows. Chapter I provides an overview of theoretical and empirical research into the linkages between environmental change and human mobility. It summarizes key findings from research on the environmental change-migration nexus; highlights existing research gaps; and establishes this study's theoretical framework, research objectives and questions. Chapter II describes this study's qualitative research methodology. Chapter III presents key findings on the linkage between environmental changes and migration decisions based on the interviews with the Nepalese and Bangladeshi migrants. Finally, in Chapter IV I discuss the findings of my research in relation to existing scholarship on the environmental change-migration nexus.

CHAPTER I

Literature review

1.1 The environmental change - migration nexus

Migration has historically been a response of human societies to changing environments. In fact, multiple studies show that dramatic climatic alterations have encouraged periodic waves of human migration from Africa, beginning just over 100 000 years ago (Timmermann and Friedrich, 2016). Studies underline the role of global warming and cooling in the decline and fall of the Mayan civilization, and how numerous wars in Pre-Colombian America reflect the El Niño climate phenomenon and ensuing crop failures (Marx, Haunschild and Bornmann, 2017). More recently, scientists and politicians have debated potential linkages between global warming, modern conflicts in the Middle East, and the waves of migration to the EU in 2010-2011 (Abel et al., 2019).

The first theories considering the environment as a causal factor in migration date back to the late nineteenth century (Ravenstein, 1889). Ravenstein (1889) concluded that migration takes place due to “push” and “pull” factors where unfavorable conditions in one place make people move out while favorable conditions in external locations attract them. While stating that economic opportunities were the primary cause of migration, he mentioned an unattractive climate as a factor also influencing migration flows (Ravenstein, 1889). However, a deeper research interest to understand the complexity of this relationship is more recent.

In the 1980s, the New Economics of Labor Migration (NELM) (Stark and Bloom, 1985; Lucas and Stark, 1985; de Haas, 2010) theoretical framework positioned migration as both an income maximization and a risk management strategy used by households, and not by individuals, to mitigate risks posed by environmental shocks (floods, storms, drought, etc.).

According to another approach – the sustainable livelihoods perspective (McDowell and de Haan, 1997) that emerged simultaneously to NELM in rural societies – migration stands out as one of three main strategies, often used together, that help maintain the sustainability of livelihoods and address risks caused by environmental stressors such as climate change, land degradation and water shortage (McDowell and de Haan, 1997).

In the 1990s, Bilsborrow (1992) attempted to theorize the environmental dimensions of migration by relating population growth with economic motivations for land extensification and consequent rural out-migration to the nearby rural regions. According to his research,

migration was seen as one of the most accessible demographic responses of the household during challenging times.

The droughts that struck West Africa's Sahel in the 1980s led to an additional surge of interest in the linkage between periods of drought and migration flows. Studies by Findley (1994) and Suhrke (1993) suggest that the overall level of migration did not rise during the drought of 1983-85, yet there was a substantial increase in the internal migration of women and children during those years (Findley, 1994).

In the same period, various studies attempted to evaluate the possible impacts of environmental change on human societies. In 1985, the United Nations Environment Programme's (UNEP) "Environmental Refugees" report introduced the term "environmental refugees" to categorize those "who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption that jeopardized their existence and/or seriously affected the quality of their life" (El-Hinnawi, 1985, p. 4). Ever since, the interest in analyzing the influence of the environment on human migrations has been growing together with attempts to quantify dimensions of this issue. In 1988, Jacobson was one of the first to attempt such a quantification, stating that the world has already witnessed up to 10 million environmental refugees (Jacobson, 1988). In parallel to this growing field of research, alarmist and populist assertions about upcoming waves of millions of climate migrants from the Global South to the Global North and sinking island states have abounded in the media (The Guardian, 2014; The New York Times, 2020; The Telegraph, 2021). The Intergovernmental Panel on Climate Change (IPCC, 1990) declared that changes in precipitation and temperature could "initiate large migrations of people, leading over several years to severe disruptions of settlement patterns and social instability in some areas" (p. 55). The report emphasized that human migration may be one of the gravest consequences of climate change as millions would be displaced because of shoreline erosion, coastal flooding, and severe drought (IPCC, 1990, p.103). Another IPCC assessment (2014) suggested that migration could provide opportunities for certain people to escape the worst impacts of climate change (IPCC, 2014). The report concluded that migration could be an effective adaptation strategy highlighting that the vulnerabilities of the populations affected by climate change could be reduced by expanding opportunities for mobility (IPCC, 2014). Sub-Saharan Africa is believed to be one of the regions most affected by climate change and, consequently, by migration linked to climate-related drivers, including sea-level rise and disrupted resource availability (IMF, 2020; Gemenne, 2011).

Early climate change-migration research has focused on the impacts of environmental change on migration and tried to identify what geographical areas and populations would be most at risk from environmental stressors (El-Hinnawi, 1985; Myers, 1993; Jacobson, 1993; Bilsborrow, 2002; Gemenne, 2015). This type of studies has been called “maximalist” or “alarmist” due to its reliance on high-end climate change forecasts and the assumption that all societies facing such impacts would be respond by migrating. Maximalists claimed that all population movements influenced by changes taking place in their natural environments would be forced to move (Myers, 1993; Lewin et al, 2012; Van der Geest, 2011). This school of thought further shaped the discussion around the terms and concepts of “environmental refugees” and “climate migrants” (Jacobson, 1998; Myers, 1993; El-Hinnawi, 1985; Bilsborrow, 2002; Gemenne, 2015).

At the same time, the “environmental refugee” concept has been criticized (Castles, 2002; Hugo, 2008). Castles (2002) underlined that the term is “simplistic, one-sided and misleading as it implies a mono-causality which rarely exists in practice” (Castles, 2002, p. 8). In fact, people who flee their countries due to environmental reasons do not fall under the official definition of a refugee as established in international law by the 1951 UN Convention relating to the Status of Refugees. Some have argued that the use of the term “environmental migrants” would be more accurate and constructive given that a large part of environmental migration tends to take place within national borders rather than across them (Hugo, 2008; Stranks, 1997).

Recognizing the theoretical and methodological flaws of previous scholarship, including the lack of a commonly accepted definition of environmental migration, the difficulty in isolating environmental factors from other drivers of migration, limited statistical data, and little empirical evidence for such predictions and assumptions, the focus of more recent research has shifted towards exploring the complexity of the circumstances under which migration takes place (Black, 2011). Supporters of this approach are characterized as “minimalists” because of their critique of the static, deterministic, and maximalist positions. To these scholars, the linkage between environmental change and migration is neither linear nor direct, and the influence of environmental factors on migration is seen as being associated with political, social, and economic factors (Black, 2011; Warner et al, 2009; Hunter, Luna and Norton, 2015).

The discussion has further evolved around the concept that the environment does play an important role in migratory processes but that the final decision to migrate is influenced by a variety of drivers at different levels (Black et al., 2011; Warner et al., 2009; McLeman and Smit, 2006; Perch-Nielsen et al., 2005; Carr, 2005; Piguet et al., 2011). This more recent body

of work aims to retheorize the environment-migration nexus. McLeman and Smit (2006) introduced the concept of “vulnerability” in this context, which represents a function of exposure and adaptive capacity in relation to climatic stimulus in a specific time and place. Perch-Nielsen et al. (2008) and Warner et al. (2009) established that there is a range of adaptation alternatives besides migration and elaborated a conceptual model of migration decision-making in the context of hazards. Carr (2005), based on the evaluation of the role of environmental factors in migration from Ghana, established that environmental impacts alone are rarely sufficient to cause migration.

Therefore, according to the minimalist school of thought, the impact of environmental change on migration is indirect – acting by exacerbating pre-existing local political, demographic, social, or economic drivers (Black, 2011; Doevenspeck, 2011; Piguet et al., 2011). Recognizing that rural livelihoods rely on strongly intertwined agriculture and natural resources, some scholars have utilized the concept of “environmentally-induced economic migration” (Afifi, 2011; Lilleør and Van den Broeck, 2011; Scheffran et al., 2012).

Piguet et al. (2011) went even further by suggesting that in certain contexts identifying the “primary” cause of migration might be impossible as all the causes mutually reinforce each other. Black et al. (2011) analyzed how the economic, political, demographic, social, and environmental drivers of migration can be affected by environmental change. Their research concludes that the presence of migration drivers is not a guarantee that the migration will take place, but rather that migration results from decisions made in response to these drivers that are, in turn, susceptible to personal and household characteristics, and barriers or facilitating mechanisms in place (Black et al., 2011). These personal and household characteristics together with barriers and facilitating mechanisms are rather independent of environmental conditions and hence, of environmental change (Black et al., 2011). The same environmental factors might have different effects on migration in different contexts depending on the characteristic of the people and households they affect (Piguet et al., 2011).

Another important work on the linkages between migration and environmental change is the Foresight Report (2011) which introduced a conceptual framework diagram where mobility (or migration) is influenced not only by macro-level drivers (environmental, economic, political, etc.) but also by intervening factors at the ‘meso’ (access to migration networks) and ‘micro’ levels (age, gender, individual agency, household composition) (Foresight, 2011). The report underlines that environmental change will affect migration, particularly through its influence on economic, social, and political drivers but also states that “it will rarely be possible to distinguish individuals for whom environmental factors are the

sole driver” due to the range and complexity of the interactions between various migration factors (Foresight, 2011, p.9). Finally, the report also considers that environmental change could make migration *less* possible by affecting financial capabilities to migrate (Foresight, 2011). The report suggests that populations experiencing the impacts of environmental change may see a reduction in the capital required to enable mobility, which means that millions of people will be unable to relocate from locations that are extremely vulnerable to environmental change (Foresight, 2011). Hence, migration motivations and outcomes are always context-specific, which challenges the possibility of future predictions.

Human migration can be categorized according to reasons for moving, distance of movement, length of time spent moving, and migration outcomes. People may choose to move voluntarily; they may be displaced or immobile; they may move seasonally or permanently; or they may be driven by one or several factors and contexts combined. Moreover, different labels can be applied to mobile populations, according to origin and destination countries.

In the next section, I examine how linkages between environmental change and human mobility have been characterized according to the type of environmental events; spatial and temporal scale of migration; and whether the migration is forced or voluntary.

1.2 Linkages between human mobilities and environmental change

It is important to understand that environmental change might connect to different kinds of mobility. Migration can be driven by slow- and sudden- onset environmental events, it may be characterized as international and internal; temporary and permanent; forced and voluntary. Different types of mobility reflect different opportunities and constraints on migration, as well as different drivers and outcomes. At the same time, different categories and terms imply different representations and, thus, procedures regarding how migrating people should be treated and protected. Terminology is an important part of the discussion as different terms ultimately imply different rights, obligations, and actors.

A current debate exists about the definition and legal status of those who are uprooted or forced to leave because of climatic impacts on their livelihoods. In fact, there is still no consensus on the terminology to be used in research on the environment-migration nexus (for instance, such as “climate migrants”, “climate/environmental refugees” etc.). The notion of “environmental refugee”, frequently used in the media, implies forced and international nature of migration, while the true nature of the environmentally motivated movement is still being debated.

Adding to the complexity of the issue, terms are inconsistently used across the literature. According to the UN definition (IOM, 2016), temporary displacement lasts less than three months, short-term migration is three months up to one year; and long-term migration is more than one year. Long-term migration is traditionally associated with slow-onset phenomena, while short-term migration is usually associated with sudden-onset disasters. However, this categorization remains rather general and does not capture the complexity of human-environment relationships: for instance, seasonal (or short-term) migration has always been part of human response to seasonal droughts (slow-onset phenomena), therefore it cannot be associated only with the permanent and long-term migration (Piguet et al., 2011).

In what follows, I try to distinguish different types of migration and their relation to environmental change, as well as clarify different concepts and terms utilized in the environment–migration nexus; and how they relate to each other.

1.2.1 Slow-onset events and migration

Most studies have investigated migration that results from slow-onset (gradual environmental changes) environmental stressors such as drought, rainfall variability, and sea-level rise (Warner and Afifi, 2013; Hunter, Luna and Norton, 2015). The first estimates were developed in the 1980s and 1990s when Norman Myers – a British conservationist and ecological consultant who was among the first drawing public attention to the topic of environmental refugees - became a reference figure in the media with his “200 million by 2050” prediction (Myers, 1993). He suggested that all populations affected by climate change would be forced to move. His ideas were met with a wave of criticism pointing at insufficient evidence, uncertainties regarding the unpredictable nature of environmental events, and complete disregard of other factors that might stimulate but also prevent human mobility in the context of climate change (Castles, 2002; Hugo, 2008).

Yet, there are many well-known cases of drought-induced population movements in Africa, particularly in the Sahel region. Barrios et al. (2006) found that a decline in precipitation was a key determinant of migration to urban areas in Sub-Saharan Africa, while Marchiori et al. (2012) estimated that between 1960 and 2000 rainfall and temperature anomalies produced the displacement of more than five million people in the same region. Afifi and Warner (2013), based on a study of 172 countries, observed that indexes of desertification, deforestation, water scarcity, and soil salinization are all correlated with out-migration.

In contrast, Beine and Parsons (2014) state that there were no statistically significant effects of natural disasters, temperature, and rainfall volatilities on migration around the world (Beine and Parsons, 2014). Similarly, Naudé (2008) found no direct correlation between water scarcity and emigration across 45 Sub-Saharan countries. Moreover, some scholars have questioned the direct link between migration and droughts by distinguishing the variety of causes determining migration (Haan, Brock and Coulibaly, 2002). For example, Kniveton et al. (2012) noted that the effects of drought have instead decreased long-distance and international movement, while increasing the number of people engaged in short-term rural-to-rural migration.

Cattaneo and Massetti (2015) suggest that climate can shape migration through its effects on agricultural productivity: while favorable climatic conditions for farming create opportunities for families to find resources for migration, high and extreme temperatures and precipitation (and lack thereof) end up trapping households in poverty, hindering attempts at migration. Cattaneo and Massetti's (2015) analysis of marginal and non-marginal temperature changes and precipitation revealed that climate change, through its effect on economic resources, reduced migration in Ghana and Nigeria, which suggests the complexity of long-term climate - migration relationships and the influence of other factors on migration decision-making; it also contradicts the current narrative on migration as an adaptation strategy (see below). Similarly, Piguet et al. (2011) concluded that the link between rain deficits and migration remains highly contextual and projections of the magnitude of populations at risk of climate change-induced migration are thus difficult to calculate.

In contrast, the link between sea-level rise and migration can be more straightforward to observe due to the irreversibility of the event and its linear manifestation over a long period (Piguet et al., 2011). However, sea-level rise, although one of the most publicized manifestations of climate change, is a relatively new and little studied phenomenon. In the absence of adaptation capacities and new infrastructure in the face of rising sea levels, long-term out-migration is predicted to become the only possible adaptation strategy for populations residing in low-lying coastal areas (Piguet et al., 2011). However, Piguet et al. (2011) also point out that households' response to sea-level rise might involve a more complex sequence of actions than merely abandoning lands in high-risk zones.

1.2.2 Sudden-onset events and migration

Another substantial part of the literature relates environmentally induced migration to sudden-onset events such as floods, storms, tropical cyclones, and heatwaves. It is important to understand what type of migration might occur in the context of such events. According to the 2012 IPCC report (2012:10-13), climate change is predicted to increase the frequency and intensity of extreme weather events, which might become an important contribution to population displacement.

According to some estimates, today more than 100 million people are already affected by flooding and 39 million by tropical cyclones and storms (Piguet et al., 2011). For Piguet et al. (2011) and Hunter et al. (2015), these rapid onset natural disasters lead overwhelmingly to short-term internal displacement rather than to long-term or long-distance migration. When a disaster hits, people leave their homes with a single goal – to ensure survival, and they usually head to the nearest safe place. Further mobility is heavily dependent on the expected duration of recovery and rehabilitation (Myers, Slack and Singelmann, 2008). In certain cases, displacement becomes permanent and turns into migration if disasters leave lasting damage (Myers, Slack and Singelmann, 2008). However, in most cases movement is temporary, and people seek to return to their homes once the disaster retreats (Black et al., 2011; Brzoska and Fronlich, 2015).

Disaster-induced displacement can often be complex, multi-staged, and shaped by a variety of micro, meso- and macro-level factors. In some cases, extreme events might attract migrants because of post-disaster reconstruction projects, increased labor demand, and new economic opportunities in the affected areas (Paul, 2005), while in others a high frequency of natural disasters incentivizes people to move away from their towns or regions (Afifi and Warner, 2008; Naudé, 2008). Therefore, it is the level of vulnerability to rapid-onset natural disasters and the extent of the damage that define whether migration will take place in such contexts, and this varies from region to region, and from household to household. Migration may occur when households are highly dependent on the environment and when social and economic conditions are strongly impacted by the disaster (Kniveton et al, 2012; Piguet et al, 2011).

1.2.3 International and Internal Migration

Public debates and media narratives focus overwhelmingly on international migration, fueling fears and xenophobic discourses. Yet, there is ample evidence that most environmentally-

induced migration is internal, happening predominantly within national borders (Obokata, Veronis and McLeman, 2014; Foresight, 2011; Hugo, 1996; Tacoli, 2009).

Internal migration tends to be local, typically to nearby towns and villages (Warner et al., 2013). One of the key reasons is the high cost of international migration. When cross-border migration does take place, it is more often to neighboring countries (Obokata, Veronis and McLeman, 2013; Hunter et al., 2015). Another important factor is social networks as people tend to minimize risks and costs associated with migration by choosing destinations where they already have established contacts that can provide assistance with work and accommodation (Takoli, 2011; Foresight, 2011). Finally, immigration policies and restrictions can be another factor explaining the prevalence of internal migration over international.

1.2.4 Temporary and Permanent Migration

Temporary (sometimes described as seasonal) migration in response to environmental stressors is often recognized as an integral part of livelihood and food security strategies. Contrary to widespread assertions (Afifi et al., 2012; The Guardian, 2014) that drought will force hundreds of households to migrate, Findley (1994) and Henry et al. (2003) found instead that, in Mali and Burkina Faso, respectively, long-term migration drastically decreased in drought years (1983-1985), while short-term migration, particularly of women and children, increased. At the same time, Gray and Mueller (2012) and Ezra and Kiros (2001) highlighted the increase in numbers of long-term migrants during drought years in Ethiopia (over ten years between 1984 and 1994). This discrepancy exposes another important gap in the existing literature on why under circumstances featuring similar environmental stressors, some households decide to migrate, and others decide to stay put. Such differential responses to environmental stressors suggest that migration could be simultaneously influenced by a variety of drivers besides environmental change, of which environmental change is one.

In recent years, several studies have explored the increasingly popular concept of circular migration, which entails temporary cross-country or rural-urban movement of migrants between their home and host areas, mainly for employment (Tacoli, 2009). According to Tacoli (2009), circular migration might be mobilized as an adaptive response to slow-onset environmental change by allowing migrants to develop and maintain strong ties to both origin and destination areas while bringing positive contributions to the development of their places of origin. These contributions may go beyond remittances, defined as “cross-border person-to-person payments of relatively small value” (UN, 2021; Tacoli, 2009), as when both wealthy

and poorer groups in African urban centers invest their earnings in property in their home villages, thus creating a safety net against economic and political crises (Tacoli, 2009).

Furthermore, seasonal migration from rural areas to other rural areas or towards urban centers for low-skilled labor, domestic work, and petty commerce occurs widely during the “dry” and “flood” seasons. While these patterns cannot always be linked to global climate change processes, they suggest what might happen under the increased frequency of droughts and floods (Tacoli, 2011; Rademacher-Schulz et al., 2012; Warner et al., 2009; Foresight., 2011).

Permanent environmental migration typically occurs when environmental degradation becomes acute and irreversible, and livelihoods unsustainable. It is important to highlight that permanent migration can both be autonomous, i.e., happening through the movement of individuals and households without public assistance; and involve the relocation of entire communities by public authorities. In the latter cases, relocation is most likely to be internal.

Finally, research has also focused on planned relocation within countries that are caused by land-use conversion planned as part of large-scale climate-change adaptation policies (for example, hydropower projects, land conversion for biofuel crops, and reforestation) in rural areas (McDowell, 2013). In the past two decades, up to two million people have been displaced due to the development of hydropower infrastructure (UNEP, 2022). Many current and expected hydropower projects and the substantial land-use change they will cause will likely displace ever large numbers of people globally (UNEP, 2022).

1.2.5 Forced and Voluntary migration

The distinction between forced and voluntary environmentally motivated movement is often made. But according to Piguet (2011), Carling (2002), and Hugo (1996), it is blurred. Secondary movement of people displaced by sudden-onset disasters often occurs after a first immediate “fleeing” response. In this context, the decision of households to send members in search of temporary work elsewhere while the recovery is in progress might be interpreted as voluntary migration (German Environment Agency, 2020). Yet, the circumstances of this decision were imposed by a disaster or an existing environmental pressure, and the household might not have any other option to maintain its livelihood during that period (German Environment Agency, 2020).

The distinction becomes even more fuzzy and uneasy to make in the case of slow environmental degradation, especially in its early, less visible stages. In this case, the decision

to migrate might be made based on estimating *future* worsening environmental events and the anticipated resulting vulnerability of livelihoods – which makes the movement both forced (due to an inability to control environmental events) and voluntary (individually made by households) (Foresight, 2011; Laczko and Aghazarm, 2009).

1.2.6 Migration as adaptation

A growing body of research revolves around the concept of “migration as adaptation”, where migration is seen not as a threat or a negative outcome per se but rather as a means for households to diversify their resource income and secure their livelihoods (Tacoli, 2009; Warner et al., 2009; Scheffran et al., 2012; Gemenne and Blocher, 2017). For example, rural households that are highly reliant or dependent on agricultural and natural resources may use migration to urban or foreign labor markets in response to environmental strains. This is consistent with the NELM position on migration as a risk diversification strategy (Hunter, Luna et al., 2015; Stark and Bloom, 1985). In Nigeria, frequent “hot shocks” led to an increased migration among men (Dillon et al., 2011). During the 1983-1985 drought in Mali, households sent family members away to reduce household food demand (Findley, 1994). In Ethiopia during the 1984-1994 drought years, the most vulnerable households were more likely to send members to feeding camps and urban areas due to famine (Ezra and Kiros, 2001). In Burkina Faso, residents of drought-prone regions used migration to seek livelihood alternatives and better agricultural prospects (Henry et al., 2003).

Migration as adaptation strategy can also have negative implications, such as the “social costs” of migration by male members/heads of a household, leaving female household members exposed to increased risks of harassment and abuse at home (Melde et al., 2017; Warner et al., 2013; Hunter and David, 2009).

Another challenge arising from the migration of individual household members is the increasing dependence of communities on remittances. In developing countries, remittances are an important source of income for households, underwriting “many basic households needs and supporting skills formation and opportunities through education and entrepreneurship” (UN, 2021). Moreover, investing remittances into alternative action paths “could preserve the natural capital stock and protect against climate-induced risks” while offering new opportunities for development (Scheffran et al., 2012, p.6). For example, since the 1960s, sub-Saharan African migrants in France, Spain, and Italy have utilized their financial and social capital to help their origin communities to build wells, irrigation systems, and renewable energy

grids (Scheffran et al., 2012). However, communities dependent on remittances might become exposed to other risks and challenges. For De Haas (2006), dependence on remittances promotes passive, non-productive communities while Kapur (2003) recognizes that the direct benefits of remittances are often selective and not destined for the poorest communities. Scheffran et al. (2012) suggest that remittance income spent solely on consumption diverts from “productive investments and contributes to resource scarcity and environmental degradation” (Scheffran et al., 2012, p.7).

Focusing on the migration decision-making of households as an adaptation to environmental changes, however, has been criticized as having a depoliticizing effect, by freeing governments of their responsibilities (Gemenne, 2015; Felli, 2012). Felli (2012) underlined that this shifts the responsibility for successful adaptation and survival onto the vulnerable, while Gemenne (2015) argued that foregoing the term “climate refugee” is also foregoing the idea that climate-induced migration is a very political matter, rather than an environmental one.

1.2.7 “Trapped” populations in the context of environmental change

Another issue that is gaining attention is that of “trapped” or “immobile” populations. Some of the communities that are most vulnerable to climate change will be those who are unable to migrate or, for various reasons, will choose not to (Foresight, 2011; Warner et al., 2013; Melde et al., 2017).

The distinction is made between those who are unable to migrate (trapped) and those who choose not to move (voluntarily immobile) (Foresight, 2011; Geddes et al., 2011). People might not be able to move for various reasons such as the absence of financial resources, networks, skills, or knowledge of how to do so. Reasons for people deciding to stay put and withstand severe environmental impacts might include an attachment to a place, family obligations or not understanding the severity or irreversibility of the hazard.

There is evidence that better weather and environmental conditions increase migration by allowing households to escape poverty traps, while weather volatility may, instead, not have a significant impact on mobility because environmental shocks decrease the availability of resources for migration (Gray and Mueller, 2012). This contradicts the popular notion of environmental refugees according to which people will be forced to move because of deteriorating environments.

1.3 Environmental change and migration in the study areas – Nepal and Bangladesh

This thesis focuses on the migratory experiences of Nepalese and Bangladeshi migrants, both at home and in other countries. My decision to conduct this research on Nepalese and Bangladeshi migrants is based, first, on a lack of research focusing on migration drivers among Nepalese and Bangladeshi migrants in general; and because these are two rapidly growing migrant communities to which I had access to in Portugal.

The second reason are the distinct environmental contexts of two countries located in one geographical area that are both highly vulnerable to climate change due to their topographies and lacking climate-change adaptation mechanisms. Both countries have a high proportion of rural populations dependent on rain-fed agriculture and differential exposures to diverse climate-change-related risks. Both countries are prone to heatwaves, droughts, and flooding, and in the case of Bangladesh, also to sea-level rise. This combination of factors lends itself to a comparative analysis.

In this section, I assess the state of the research on the environmental change–migration nexus in both countries.

1.3.1 Nepal

1.3.1.1 Manifested climate change events and their impact on livelihoods

Due to its mountainous topography and challenging socio-economic conditions, Nepal is highly vulnerable to climate change impacts. Over the past 100 years, temperature increases in its mountainous areas have been higher than the global average (Gautam, 2017; Xu et al., 2009). Cascading effects of increased temperatures and melting ice are already affecting water availability and biodiversity, and causing ecosystem boundary shifts (Xu et al., 2009; Joshi and Dongol, 2018). The effects of climate change and increasing climate variability have manifested through erratic rainfall, unpredictable shifts of monsoon seasonality, glacial retreat, storms, severe flooding, landslides, and increased intensity of droughts (Gautam, 2017; Gautam and Andersen, 2017; Pandey and Bardsley, 2015; Nepal et al., 2021; Joshi and Dongol, 2018; Ensor et al., 2019; Gentle et al., 2018; Arslan et al., 2021). These occurrences have resulted in a significant loss of soil carbon, leading to crop failure and decreased food and livelihood security, as well as the exacerbation of water scarcity issues, increased prevalence of some human diseases; and income insecurity (Xu et al., 2009; Gentle et al., 2018).

Moreover, large portions of the Nepalese predominantly rural agrarian economy rely on climate-sensitive industries such as agriculture, forestry, and ecotourism (Nepal et al., 2021). Over seventy percent of Nepalese households' livelihoods depend on natural resources and sixty percent of the cultivated area is fully reliant on monsoonal rainfall (Pandey and Bardsley, 2015; Gentle et al., 2018). Despite the high incidence of migration and vulnerabilities to climate change, the linkages between climate change and migration in Nepal have been rarely investigated (Arslan et al., 2021). Besides, peer-reviewed studies analyzing regional changes due to global climate change in Nepal are limited, especially in relation to water resources, because of the difficulty in scaling down the general circulation models (GCMs), an absence of long-term climate records in Nepal, and the natural high variability of water supply (Bartlett et al., 2010).

Nepalese households that depend on dryland agriculture and have both limited livelihood options and low adaptive capacity, have been found to be more sensitive to climate change-related hazards (Pandey and Bardsley, 2015). People report that agricultural productivity is increasingly hindered by both longer periods of drought and flooding, and the increased prevalence of crop diseases, pests, and weeds linked to climatic factors (Pandey and Bardsley, 2015). For example, Pandey and Bardsley's (2015) research in central Nepal found that local people increasingly notice environmental shifts, for example, that "light rain in the monsoon used to continue for 15-20 days at a time but these days almost the same amount of rainfall falls in episodes of only 2-3 days, bringing devastating floods" (Pandey and Bardsley, 2015, p.83). Flooding events have severe consequences for crop and livestock production, human health, and the state of natural resources.

Similar findings were reported in higher altitudes of western Nepal: local people identified a decrease in the amount of annual precipitation and a shift in its timing (Gautam, 2017). This predominant perception of increased climate variability as a significant source of stress on local farming is consistent with other studies from the region (Gautam, 2017).

In another study (Joshi and Dongol, 2018), respondents reported that dryness during the last ten years has created more difficulties in agricultural practices; and uncertainty has prevailed even during the monsoon seasons. Respondents also reported that five-seven years ago, there used to be a lot of livestock in each household but due to drought and drying of water sources, the number of animals per household has decreased (Joshi and Dongol, 2018). Due to prolonged droughts, crop yields have become more variable, and some farmers had been forced to leave their land barren and turn to seasonal migration (Joshi and Dongol, 2018).

1.3.1.2 Relationship between environmental change and other migration drivers

A growing number of studies points to the simplistic nature of assumptions about the linear impacts of climate change on migration, which overlook major socio-economic and institutional changes taking place in rural communities that might also explain migration decisions in Nepal (Ensor et al., 2019). These changes include a growing population and land fragmentation, integration into a cash-based economy, youth education, the erosion of farmer knowledge, and movement away from farming both in reality and in aspirations (Ensor et al., 2019). Ensor et al. (2019) conclude that “while extreme weather events and climate change are causing changes in farming practices, these changes are equally if not more, influenced by out-migration, changing income opportunities, and desires to shift away from land dependency” (Ensor et al., 2019, p. 233). Thus, climate change complicates an already existing mix of pressures on agricultural systems.

While migration in Nepal is increasingly recognized as an adaptation mechanism for rural households, there is also evidence that massive exodus from rural areas hinders the resilience and adaptation capacities of both the sending rural communities and the hosting urban centers (Gautam, 2017; Adhikari and Hobley, 2015; Bartlett et al., 2010). For example, internal migration has increased population density in areas with accessible and fertile lands (Bartlett et al., 2010). Moreover, unplanned internal migration is a major cause of water stress in Nepalese urban and semi-urban areas (Bartlett et al., 2010; Gentle et al., 2018). Migration is thus both an adaptive action on the part of small rural farmers who move to urban areas, but also a constraint to adaptation as exploding urban populations struggle to handle such growth (Bartlett et al., 2010).

On the other hand, increased seasonal migration reduces the resilience of entire communities of origin during unfavorable situations (Pandey and Bardsley, 2015) and further exposes them to adverse impacts of climate change (Nepal et al., 2021). For instance, there is social pressure for men to migrate and thus migration has become socially embedded (Adhikari and Hobley, 2015). Increased male migration and the resulting abandonment of farms lead to land erosion on fragile unmaintained terraces and increase the workload of women, girls, and elderly in all types of domains (Adhikari and Hobley, 2015; Nepal et al., 2021; Joshi and Dongol, 2018). Williams and Gray (2019) write that “because of the short-term nature of migration as a livelihood strategy, most migrants move alone and remit large amounts of money, while other family members stay at home to care for children, land, and livestock” (Williams and Gray, 2019, p. 292). In the context of increased population pressure on

resources, a declining resource base, and the need and wish to consume modern amenities, migration is recognized as an important way to improve livelihood's condition through the generation of additional cash (Gautam, 2017; Adhikari and Hobley, 2015; Williams and Gray, 2019).

Adhikari and Hobley (2015) found that children's education was one of the main reasons to move from rural areas toward urban centers (Adhikari and Hobley, 2015). This negatively impacts farming production as the diversion of children's labor from the farm for school attendance contributes to farming labor shortage (Gautam and Andersen, 2017).

Structural poverty can also be the root cause of seasonal migration (Gautam, 2017). For example, for Gautam and Andersen (2017), food insecurity, often described as one of the direct consequences of climate change and a main incentive to migration, is not associated with climate change per se but with caste-based unequal power relations and socioeconomic marginalization of some groups (Gautam and Andersen, 2017). For instance, due to historical social, economic, and political marginalization, certain Nepalese low castes (Dalits) have too little land and large food deficits, rather performing a set of traditionally derived activities in service to their patrons Chhetri and Lama (Gautam and Andersen, 2017). Therefore, Dalits remain trapped in dependency, with high castes restricting their choices and abilities to alter stressful circumstances in the face of socioeconomic and environmental changes which leads to the seasonal migration of some members of their households (Gautam and Andersen, 2017).

Gautam and Andersen (2017) also take into consideration socioeconomic and institutional changes related to the liberalization of trade and the market economy and shifting structural characteristics of rural communities (Gautam and Andersen, 2017). Bartlett et al. (2010) point out that agricultural system capacity and productivity are under higher pressure not only because of climate change but also due to migration itself, poverty, and population growth (Bartlett et al., 2010). New research is becoming more inclined to investigate how environmental and socio-economic factors interact to generate vulnerability and drive migration in Nepal (Gautam, 2017; Adhikari and Hobley, 2015; Gautam and Andersen, 2017; Ensor et al., 2019; Bartlett et al., 2010).

Some studies agree that singling out climate change as the most significant factor often neglects other locally relevant livelihood challenges and vulnerability drivers (Gautam and Andersen, 2017; Gautam, 2017).

In general, climate change and variability, despite their detrimental effect on agriculture and household food security, are not described as the most significant factors in migration decision-making in Nepal, even in the areas where climate change impacts are severe. Despite

disparate estimates on how significant the impact of climate change would be on migration, there seems to be unanimous agreement that the interconnectedness of climate change impacts and migration is evident in the social dynamics of the past years in Nepal. Yet, there is a dearth of studies that integrate climate with previously existing local non-climatic factors and extra-local socio-institutional changes that would allow us to analyze how these processes together synergize or upset vulnerability (Gautam, 2017; Gautam and Andersen, 2017), and thus migration, both international and internal.

1.3.1.4 Seasonal migration and trapped populations in Nepal

Sujatha et al. (2016) write that while seasonal migration has been a historical strategy in the Nepalese uplands, the number of households involved in it is increasing, in response to either impact of climate change or socioeconomic changes (Sujakhu et al., 2016). Almost thirty-two percent of all households reported a family member migrating for employment (Sujakhu et al., 2016). Both Gautam (2017) and Adhikari and Hobley (2015) highlighted that in Nepal seasonal migration, organized according to the seasonality of local farming, is considered a way to diversify the household livelihood opportunities, and thereby improve and minimize the risks of failure for the overall well-being of the household (Gautam, 2017; Adhikari and Hobley, 2015; Williams and Gray, 2019).

Several studies report that the main reason for seasonal migration (in some cases resulting in permanent migration) is insufficient year-round sources of livelihoods (Joshi and Dongol, 2018; Sujakhu et al., 2016). Multiple reports highlight that people are responding to changes by giving less priority to agro-livestock activities and preferring activities that provide direct access to cash income, for instance, employment in construction or petty commerce (Pandey and Bardsley, 2015; Joshi and Dongol, 2018). For example, seventy-five – eighty percent of the population in both study areas of Ramechhap District in central Nepal are fully dependent on seasonal migration as an alternative income source during off-seasonal agricultural periods (Joshi and Dongol, 2018).

Another study confirmed the hypothesis of “trapped populations” in Nepal, thus contradicting the conventional media narrative that climate change displaces the poor. In a study done by Gentle et al. (2018), the interviewees who had migrated from remote hills to the Besi area (valley floors with more fertile lands) were mostly well-off families who could afford land and houses while those who stayed in the remote hills with non-irrigated uplands were

mostly the poor. Maharjan et al. (2020) come to the same conclusion that the poorest Nepalese households are less likely to migrate in response to negative shocks.

1.3.1.5 International and Internal migration

Maharjan et al. (2020) also argue that migration is not only a reaction to shocks but also an important adaptation strategy to an increasingly uncertain environment, acting as a substitute for non-agricultural income generation (Maharjan et al., 2020). Increasing rural out-migration may thus be expected as the impacts of climate change intensify if no alternative adaptation strategies are available to households (Maharjan et al., 2020). Bartlett et al. (2010) report forty percent of the interviewees for whom internal migration is an adaptation strategy and eighteen percent who had at least one member of their family who had migrated to the Gulf countries to work as a laborer (Bartlett et al., 2010). Adhikari and Hobley (2015) highlight that migration decision-making has been motivated not only by major push factors such as crop failure, decreasing agricultural production, and scarcity of drinking water together with other non-climatic factors (low wages, limited employment opportunities) but also by so-called "pull factors" including more fertile land, better services, wage rates, increased commodity consumption and proximity to other facilities in other areas

Migration from Nepal to international destinations is so common that international remittances contribute to around thirty-one percent of the total gross domestic product (GDP) of Nepal (Arslan et al., 2021). The most common destinations for foreign employment are India, Malaysia, and the Gulf states (Gautam, 2017; Adhikari and Hobley, 2015). Yet, this migration rarely becomes permanent, as these migrants often lack the social ties, education, and financial capital needed to fulfill the administrative and monetary requirements for more economically promising long-term overseas migration (Gautam, 2017; Adhikari and Hobley, 2015).

Most studies agree that poorer groups, who are the most vulnerable to climate change implications/impacts, are the most unlikely to undertake international migration due to its high cost in terms of human, social, and financial capital (Gautam, 2017). Moving across borders involves complex administrative processes such as acquiring a citizenship certificate, passport, labor permit, and visa (Gautam, 2017). At the same time, a large part of the adult population in rural areas is illiterate and often lacks the social connections that could help them contact recruitment agencies and connect to the international job market (Gautam, 2017).

1.3.2 Bangladesh

1.3.2.1 Manifested environmental change events and their impact on livelihoods

Bangladesh, one of the most densely populated regions of the world, is located in the world's biggest delta, the Ganges. Its coastal communities have been facing environmental challenges for decades. Sixty-three percent of Bangladesh's population is employed in the agriculture, forests, and fisheries sectors - all three of which are shaped by environmental conditions and access to natural resources, and consequently, are highly vulnerable to the detrimental impacts of climate change (Kartiki, 2011).

Coastal areas, which are some of the most densely populated areas of the country, regularly experience floods, river erosion, saltwater intrusion, and other hazards influenced by sea-level rise (Kartiki, 2011; Gray and Mueller, 2012; 19, Bernzen et al., 2019; Ahsan et al., 2014; Call et al., 2017). Cyclones and floods are frequent, which damage soil and available water resources, making people flee their homes, and undergo short-term evacuation and long-term displacement (UNEP, 2022). As the intensity and frequency of extreme climate events have been increasing in Bangladesh, more and more people could be forced to leave their homes. According to some estimates, more than 26 million people (which is almost sixteen percent of the total population) are likely to migrate (Kartiki, 2011; Myers, 2002).

Call et al.'s (2017) research revealed that significant changes in the annual monsoon cycle – too much or too little rain at unexpected times – are perceived by Bangladeshi people as livelihood risks. While the rural population is exposed to rainfall variability, different social groups within rural communities are sensitive to its effects to a different extent.

Kartiki's (2011) study reveals that climate shocks and stresses have been affecting households by aggravating already existing problems and ultimately increasing the impetus towards migration, forcing people to seek safer environments that can offer them reliable livelihoods, and household security.

Another study confirmed that riverine flooding had an instantaneous negative impact on migration; medium-term increases in precipitation had a nonlinear impact on migration; and increased temperature had a positive impact on migration – which altogether illustrate the complexity of the relationship between environmental factors and migration (Call et al., 2017).

1.3.2.2 Relationship between environmental change and other migration drivers

As demonstrated by Call et al. (2017), while there are clear links between rainfall variability, agricultural-based livelihoods, people's food security, and migration, it is social inequality, food insecurity as well as structural economic differences between the more remote rural areas and major urban centers and prosperous agricultural regions that drive migration. Call et al. (2017) concluded that climatic changes are more likely to impact migration decisions over the medium to long-term through increasing livelihoods insecurity rather than directly through environmental shocks such as flooding (Call et al., 2017).

Gray and Mueller (2012) point out that discussions of disaster-induced migration in Bangladesh have largely focused on the effects of flooding and have ignored drought and crop failures, assuming that the former is likely to be more important. They show instead that flooding had only modest effects on long-term mobility whereas the effects of crop failure are large and significant (Gray and Mueller, 2012).

Bernzen et al. (2019) confirm that migration is often a response to economic opportunities and the major social and economic disparities between rural and urban areas, while environmental factors boost the odds of migration (Bernzen et al., 2019). Kartiki (2011) concludes that migration happens in response to multiple pressures, and it is often impossible to isolate the environmental factors from the economic ones.

Another finding from Kartiki's (2011) study concerns the effect of gender inequality on migration decision-making and patterns - she concludes that women never migrated independently, and, in all cases, migration decisions were made by the male head of the household. This implies that women who are often the most vulnerable to the effects of environmental change are also often the least equipped to migrate. Meanwhile, those with greater human capital, access to land, off-farm occupational skills, and gender/age roles that promoted a "breadwinner" model were more likely to migrate (Bernsenn et al., 2019). Call et al. (2017) come to a similar conclusion – they found that temporary migration flows are mediated by gender and wealth whereas vulnerable populations such as women and the poor are not likely to move under environmental extremes (Call et al., 2017).

Similar findings were reported by Bernzen et al. (2019), who defined two broad sets of factors shaping migration: resources facilitating migration, and environmental stressors. Overall, resources turned out to be a stronger set of factors while environmental stressors, particularly loss of arable land, distance to a major river or the coast and residing in a shrimp growing area, and cyclone damage played a secondary, albeit significant role (Bernzen et al., 2019). While climatic events alone do not trigger both long- and short-term migration,

recurring climatic events do weaken already vulnerable socio-economic livelihood conditions and may push them to cross the tipping point of migration decision-making.

At the same time, environmental stressors can also become obstacles to both temporary and long-term migration by causing a lack of resources necessary to undertake any kind of mobility (Call et al., 2017; Gray and Mueller, 2012). Call et al.'s (2017) findings from non-coastal areas of Bangladesh highlight that climate change is much more likely to disrupt current livelihood-oriented migration flows than to directly induce mass displacement. Rather than being displaced by climate shocks, it is likely that individuals may find themselves trapped due to a loss of resources to migrate (Call et al., 2017).

1.3.2.3 International and Internal Migration

Migration itself is likely to be local and regional, and not international because of capital and social constraints (Kartiki, 2011). Gray and Mueller, (2012) also confirm that only a small proportion of displaced Bangladeshi individuals will have the means or motivation to cross the national border. Numerous studies (Kartiki, 2011; Gray and Mueller, 2012; Call et al., 2017) consider that resource scarcity, including lack of information, and financial and social capital, can prevent households from considering migration, especially international, as an option. For example, in the aftermath of cyclone Aila in 2009, some of the poorest and worst-affected households avoided migration and instead relied on the support of the government, NGOs, or affluent families in the village (Kartiki, 2011). Yet, some landless households did choose to migrate as there was no incentive for them to stay (Kartiki, 2011).

Gray and Mueller's (2012) research revealed that disaster-induced population displacements are often temporary, shorter-distance, and of smaller magnitude than expected and that the poor are not necessarily disproportionately affected. In the case of internal and often rural-rural migration, migrants continued experiencing livelihood and resource scarcity because the socioeconomic profile of the recipient areas was not much different from their village (Kartiki, 2011).

1.4 Summary

While the origin of research linking environmental change and migration dates back to the 19th century, a deeper interest in the topic is fairly recent and directly related to a more active climate change political and theoretical agenda in the last decades.

Like in any new scientific field, there is a number of methodological and theoretical challenges that persist in environmental change-migration research, which includes a lack of commonly accepted definitions; the difficulty in isolating environmental factors from other migration drivers, especially the economic ones; and limited statistical data and empirical evidence. Moreover, as migration entails different types of human mobility, the link between environmental change and migration could vary from one case to another.

Nepal and Bangladesh, while being predominantly rural agrarian economies, heavily rely on climate-sensitive industries and, therefore, are highly vulnerable to the manifested climate change impacts. In both countries, households that depend on rainfed agriculture have been found to have both limited livelihood options and low adaptive capacity, and are therefore, considered to be more sensitive to climate change-related hazards. In both countries, both internal and international labor migration are very present yet the role of environmental change in human mobility among other factors has not been thoroughly investigated.

In the context of developing countries, as in the case of Nepal and Bangladesh, there has been a notable lack of research attempting to understand how climate change interacts with local non-climatic factors and changing socio-institutional dynamics, and to analyze how these processes together impact migration both within these countries and abroad.

Acknowledging these existing challenges and by focusing on the cases of Nepal and Bangladesh, my study will attempt to further explore this complexity by examining migrants' "migration stories" – both of those who have migrated internationally and those who moved within their countries; and thus, to contribute to the scholarship on the environment-migration nexus.

1.5 Theoretical framework

Theoretically, this study situates itself at the intersection of two fields of inquiry. One is the minimalist school of thought that considers that the link between environmental change and migration is not linear, and instead investigates the complexity of the circumstances under which migration occurs and the interconnectedness of environmental, political, economic, and social drivers of mobility (Black, 2011; Doevenspeck, 2011; Piguet et al., 2011). The other is the “migration as adaptation” school of thought that posits that migration is not the result of vulnerability and is instead a strategy to which households resort to diversify their resource income and secure their livelihoods (Tacoli, 2009; Warner et al., 2009; Scheffran et al., 2012; Gemenne and Blocher, 2017).

Bringing these two approaches together, and based on my extensive literature review, I hypothesize that in this study’s Nepal and Bangladesh study areas, climate change plays a role in shaping mobility decision-making, but that how much it does is influenced by individual households’ social and economic characteristics, as well as local power dynamics. Accordingly, environmental change is not conceptualized as migration’s single driver. Moreover, I hypothesize that external drivers and the existence of facilitating mechanisms determine whether migration takes place and shapes the nature of that migration.

I also hypothesize that in my study areas, environmental change undermines existing household resources and livelihood security, pushing households to turn towards migration as the main adaptation strategy – hence, the households utilize migration as a means of adaptation to both their changing environments and to changing social and economic dynamics.

This study aims to assess the role of environmental change in migration decision-making among Nepalese and Bangladeshi migrants and to explore how international and internal (rural-urban) migration processes are shaped by interacting environmental and socio-economic drivers.

The conceptual diagram below (Figure 1) illustrates how interacting drivers are hypothesized to interact with each other and influence migration outcomes.

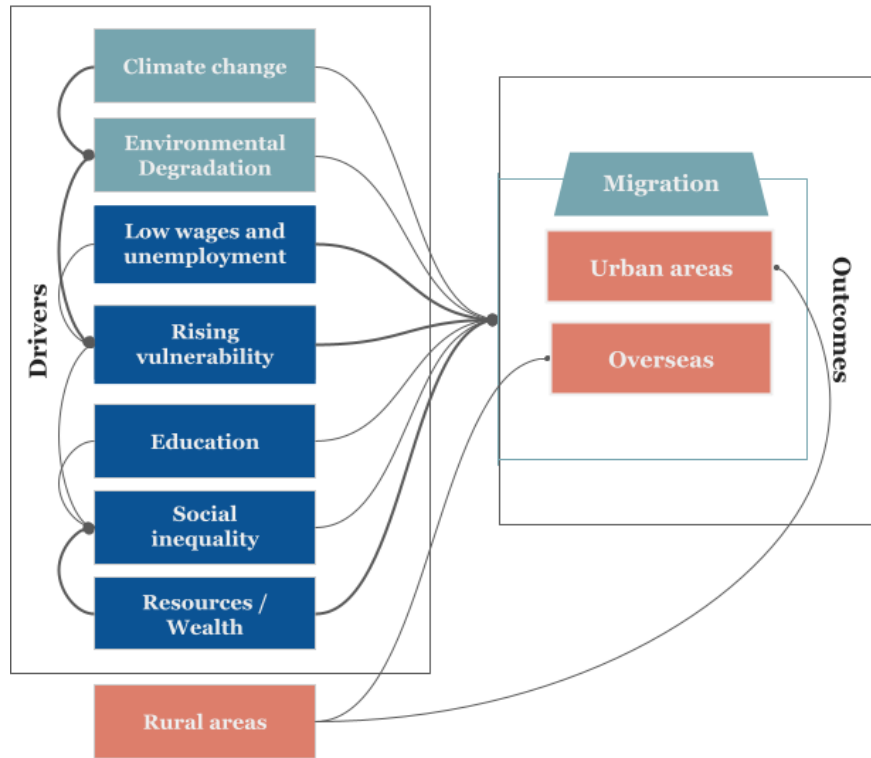


Figure 1. Migration drivers and outcomes. A conceptual framework for the study. Blue boxes = socio-economic drivers; Green boxes = environmental drivers; Pink boxes = migration departure and destination points.

1.6 Research objectives and questions

This study's main objective is to assess the role of environmental changes in migration decision-making in selected areas of Nepal and Bangladesh.

Acknowledging the complexity that exists among drivers of migration, this thesis aims to investigate the relationship between environmental change and other migration drivers such as unemployment, poverty, and education, and how the interactions between these drivers influence migration decision-making towards urban areas and abroad.

Focusing on Nepalese and Bangladeshi migrants, I ask what is the role of environmental change in their decision to migrate; and explore how, in their perception, environmental changes interplays with other drivers.

CHAPTER II

Methodology

2.1 Study areas

In this section, I describe the home areas of the Nepalese and Bangladeshi migrants I interviewed.

2.1.1 Nepal

This study's Nepalese respondents originally come from various parts of Nepal, both urban and rural (Figure 2). Thirty percent of the respondents used to live or currently live in the remote villages of the Udayapur district of eastern Nepal. A large part of their home area is covered by middle hills with steep slopes and rugged mountain topography. It has a subtropical monsoon climate. Forest and agriculture sectors are the major land use classes within the area. The other twenty-five percent of the respondents migrated to or from the remote villages of the Tanahun district - a narrow and deep riverbed valley - that lies in the middlemost of Nepal. The region is characterized by a temperate climate and more fertile land than in the upper Himalayan. Six percent of the respondents used to live in the Jumla district – an alpine, semi-arid valley in western Nepal.

Finally, the other thirty percent of the respondents migrated from or currently live in large urban areas such as Kathmandu, Pokhara, and Damak located in the central, western, and eastern parts of the country respectively.

Twenty-five percent of my Nepalese respondents are currently residing in Lisbon's Arroios neighborhood.

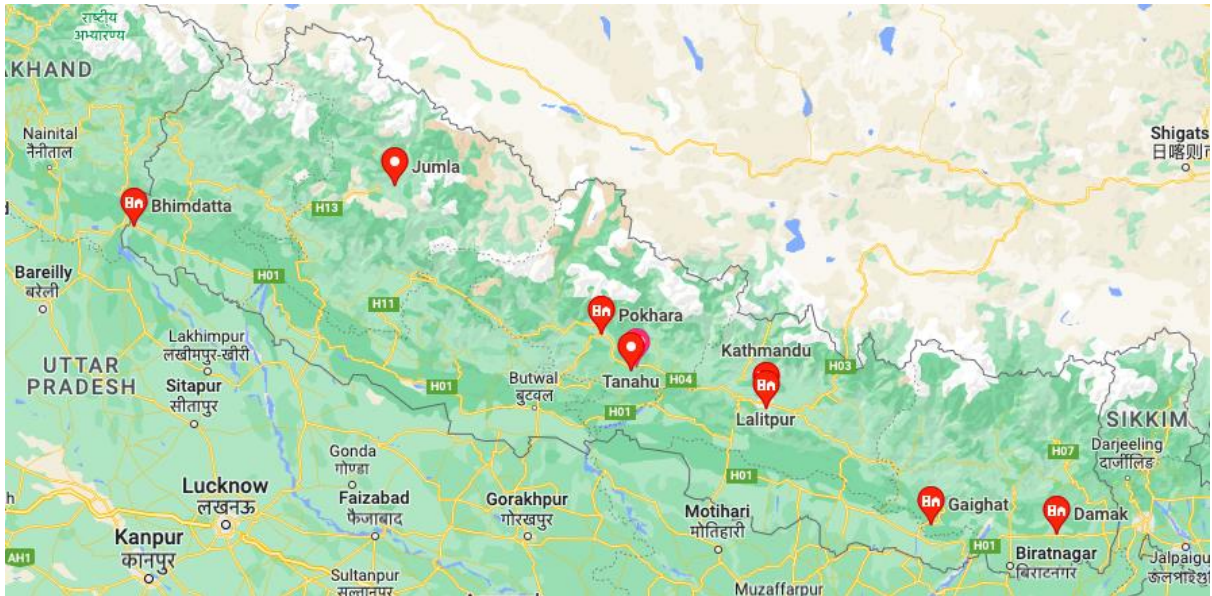


Figure 2. Nepalese respondents' home areas in Nepal. Red balloons indicate the places where they were born and raised.

2.1.2 Bangladesh

All of this study's Bangladeshi respondents are currently residing in the Arroios neighborhood of Lisbon, a multicultural neighborhood, and in Barreiro just across the Tagus river. Before coming to Portugal, fifty percent of the respondents used to live in Dhaka – the capital and the largest city of Bangladesh. The area where the city is located is characterized by tropical vegetation and moist soils, flat and close to sea level, which makes it susceptible to flooding during the monsoon seasons. Similarly, other thirty-seven percent of the respondents came from large urban areas in southern Bangladesh such as Bhimdatta, Chattogram, and Khulna (Figure 3). The area's landmass is made up of fertile alluvial lowland and the cities are located on an irregular deltaic coastline which is fissured by many rivers and streams flowing into the Bay of Bengal.

Finally, twelve percent of the respondents come from the city of Sylhet in eastern Bangladesh which is characterized by a subtropical climate and lush highland terrain.

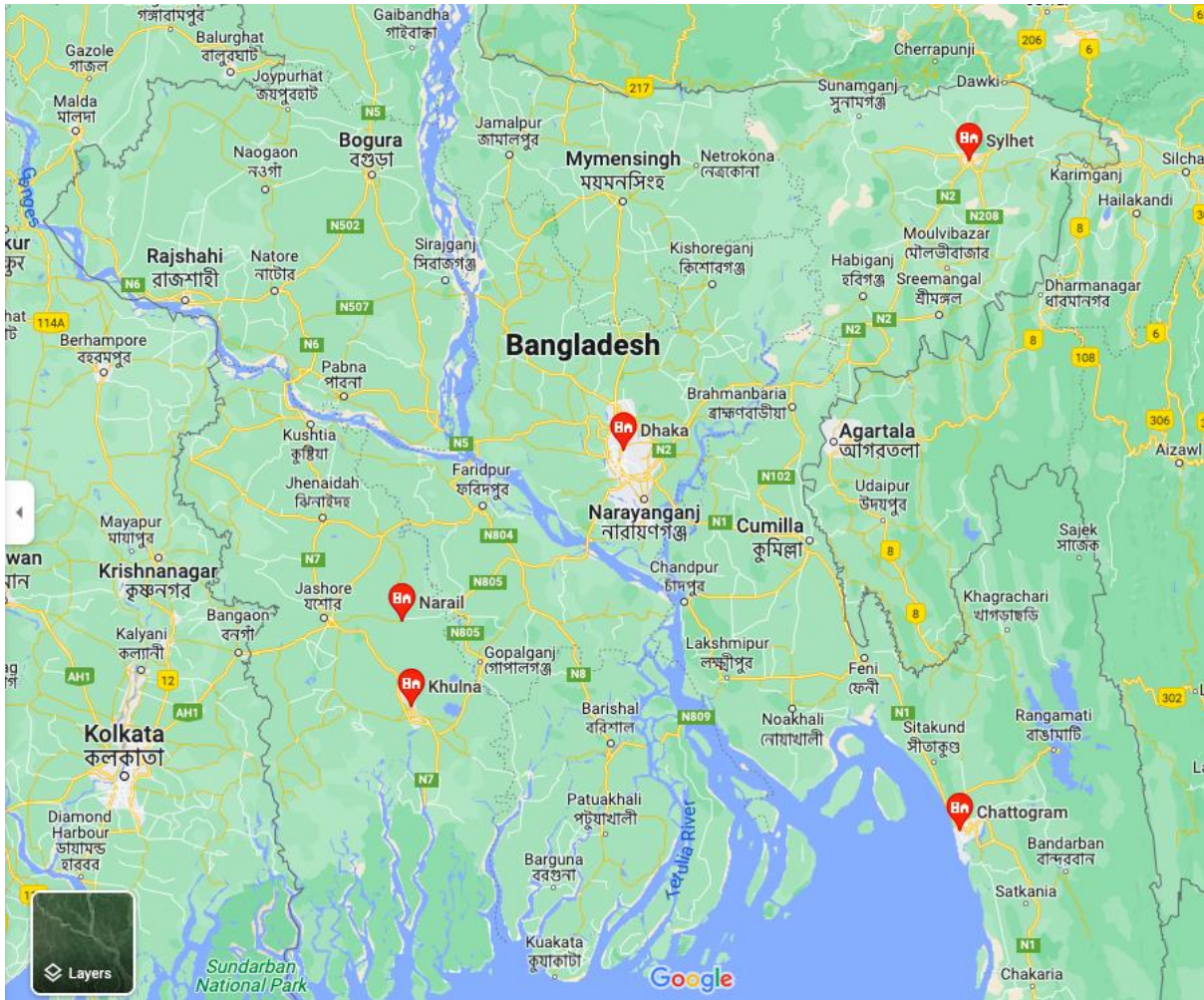


Figure 3. Bangladeshi respondents' home areas in Bangladesh. Red balloons indicate the places where they were born and raised.

2.2 Methods

To explore the role of environmental change in migrants' mobility decision-making, I examine their perspectives, perceptions, and motivations. I adopted a qualitative approach consisting of informal and semi-structured interviews with Nepalese and Bangladeshi international and internal migrants, followed by qualitative data analysis. I chose this method because less-structured interviewing gives the interviewees an opportunity to describe, define and elaborate on the questions in a free manner while I, as the interviewer, have more flexibility to adjust a selection of questions based on the experiences and background of the respondents, complement the interview with follow-up questions, explore unexpected leads, and probe specific topics.

2.2.1 Data collection

I collected data through a multi-sited approach that combines in-person interviews with the Nepalese and Bangladeshi international migrants currently living in Lisbon and remote (online) interviews with the Nepalese and Bangladeshi internal migrants. I adopted this approach because of limited resources for on-site fieldwork.

Given that a list of Nepalese and Bangladeshi migrants in Lisbon is not available to randomly sample from, I used snowball and convenience methods to identify potential respondents. Having lived in Nepal in 2017 for a substantial period, prior to starting my Master's degree, I had several established contacts and friends who guided me along the way. I contacted several Nepalese people I know, and they further helped me reach out to other young Nepalese migrants, both in Nepal and abroad.

In Lisbon, migrants were found through social media, on Facebook groups for Nepalese and Bangladeshi migrant communities. I posted invitations to participate in this research in the "Nepalese community in Portugal", "Nepal society in Portugal" and "Portugal Expat Helpline" Facebook groups. Attempts to find respondents located in Bangladesh were not as successful due to a lack of previous contacts, familiarity with the region, and the limited period frame allotted for field research.

With the goal of developing my interview guide, refining my interview questions, and receiving feedback from my respondents, including on ethical and theoretical aspects, I conducted two pilot in-person interviews with Nepalese migrants currently living in the Lisbon area.

Not all the pilot interview respondents were familiar with the concepts of climate and environmental changes in the sense they are used in this thesis; some struggled to provide complex answers due to the language barrier. Therefore, simpler questions and additional clarifications regarding farming, labor and economic activities were later added to navigate the interview and fulfill the purpose of the study. The final version of the semi-structured interview guide can be found in the Annex A.

The primary data was collected through twenty-four semi-structured interviews with both male and female, international and internal, Nepalese and Bangladeshi migrants. A total of fifteen Nepalese migrants were interviewed of whom ten are currently living in Nepal, one in Dubai, and four in Lisbon. A total of nine Bangladeshi migrants currently living in Lisbon were interviewed. The interviews were conducted both presentially and online depending on the respondents' geographical location and their availability. All the interviews lasted between

forty-five minutes and one hour and were audio-recorded and transcribed to avoid loss of or incorrect interpretation of the information.

Before each interview, I tried to engage the respondents in a friendly discussion about their daily life to create a relaxed and trusted environment. This was followed by a brief explanation of the background and purpose of the interview. During the informed consent process, I made sure to inform the participants that I am responsible for safeguarding the data and that their personal data will be pseudonymized and only in this way presented in the final thesis. Written informed consent was asked before the interviews. All the participants were fluent in the English language and thus did not require additional assistance.

The respondents were also asked about basic information such as their age, education, occupation, and where they come from originally. Finally, the semi-structured interview began. I ended each interview with an open question if the respondents had any additional questions, doubts, or remarks about the questions asked and the topic in general.

2.2.2 Data analysis

After transcribing all the interviews, I conducted a thematic analysis across the transcripts. Thematic analysis of qualitative data (interview data in this case) entails searching across a qualitative data set to identify, analyze, interpret and report recurrent concepts and main patterns and their interrelationships (Braun and Clarke, 2006).

Reading each interview transcript several times, I coded relevant words, phrases, and sentences into categories and sub-categories to identify patterns in my data and their connections. Once the analysis was concluded, I selected relevant key findings complementing them with direct, representative citations. These findings served as a basis to build, test and verify theories, answer key questions and compare them with the findings reported in the environment-migration nexus literature.

2.3 Ethics

As I expected some of my respondents' migration stories to include sensitive topics and situations linked with their vulnerability, the protection of participants and their information became crucial.

I used a pseudonymization approach to ensure the confidentiality of my data in this research, including a clear distinction between "raw data" and "processed data". Raw data does

not include identifying information in file names and folders. Processed data were pseudonymized by replacing real names with letters and by replacing specific identifying information with more general categories. The letter N denotes Nepalese respondents, and the letter B denotes respondents from Bangladesh. I am the only person having access to the records and personal data.

Moreover, I submitted an application to the ISCTE Ethics Commission enclosing a completed Submission form, Informed Consent, and Debriefing forms as well as the Personal Data Protection Questionnaire.

Having moved from Russia to Portugal, I am a migrant myself. My own experience has shaped both my curiosity for this research topic and my interpretation of the data.

In the next chapter, I present key findings emerging from my field and remote research among Nepalese and Bangladeshi migrants about the role of environmental factors and climate change on their migration decision-making.

CHAPTER III

Results

3.1 Socio-economic characterization of the respondents

A total of twenty-four respondents were interviewed, including fifteen Nepalese respondents of both genders, with an average age of twenty-eight, geographically located in Lisbon (four), Dubai (one), and various parts of Nepal (ten); and nine Bangladeshi respondents, both male and female, of an average age of twenty-eight, geographically located in Lisbon. Twenty-five percent (six) of the interviewees were women and seventy-five (eighteen) were men.

Fifty-five percent of my respondents (fourteen) are engaged in international migration and forty-five percent (ten) are internal migrants. In most cases among my interviewees, we deal with the migration of individuals rather than of entire households. Forty-one percent of respondents (nine) were born and raised in rural areas and fifty-nine percent (fifteen) come from urban areas. Twenty-five percent of respondents (six) are currently married while the other seventy-five (eighteen) maintain single status. Forty percent of the respondents (ten) have completed higher education, twenty-one percent (five) are currently enrolled in college, seventeen percent (four) have dropped out of college/higher education institutions and sixteen percent (three) have only completed high school.

As a large part of the respondents originally come from remote rural areas, agriculture was the main source of their livelihoods. For other households (fifty-four percent of the respondents), particularly those coming from urban areas, agriculture was not the main source of income, yet all the households reported having agricultural lands in their possession that have either been rented out to locals or used for small scale farming for domestic consumption. In urban contexts, livelihoods rely primarily on labor activities in the public and private sectors.

All the Nepalese respondents identified themselves as part of the Hindu religious group. Among the Bangladeshi respondents' groups, Islam predominates, with almost ninety percent of the respondents identifying themselves as Muslim and only ten percent as Christian.

As caste division still plays a substantial role in the socio-economic structure of Nepalese society, it is worth pointing out that eighteen percent of the Nepalese respondents belong to lower castes and also identify their economic situation as highly vulnerable and poor; sixty-two percent of the respondents belong to a higher caste and identify their economic situation

as average or above average; twenty percent of the respondents belong to middle castes and also identify their economic situation as average.

Visual representation of the socio-economic characterization of the respondents' group is reflected in Figure 4.

	N. of interviews	Type of migration		Economic status			Education			Marital status		Gender	
		Internal	International	Above average	Average	Below average	Higher education	Vocational	Secondary	Married	Single	Male	Female
Nepalese migrants	15 (66%)	10 (45%)	5 (21%)	1 (4.5%)	12 (50%)	3 (12%)	6 (25%)	2 (10%)	8 (33%)	2 (8%)	14 (58%)	14 (58%)	2 (8%)
Bangladeshi migrants	9 (34%)	0	9 (34%)	1 (4.5%)	7 (29%)	0	5 (15%)	0	3 (12%)	4 (17%)	4 (17%)	4 (17%)	4 (17%)
Total	24 (100%)	10 (45%)	14 (55%)	2 (9%)	19 (79%)	3 (12%)	11 (45%)	2 (10%)	11 (45%)	6 (25%)	18 (75%)	18 (75%)	6 (25%)

Figure 4. Socio-economic characterization of Nepalese and Bangladeshi migrants

3.2 Experiences of environmental changes and perceptions of their impact on livelihoods

All the respondents stated that they have directly experienced extreme weather events at some point in their lives in Nepal and Bangladesh. Depending on the area they come from, experiences vary, ranging from landslides, earthquakes, and floods in Nepal, and floods and cyclones in Bangladesh. Respondents from both countries and in Lisbon also reported an increased frequency of extreme events in their home areas.

In the case of Nepal, eight interviewees from the rural mountainous parts of the country stated that they have witnessed landslides or know about the experiences of close relatives and friends affected by landslides. For example, a female respondent from the Tanahun District of Nepal vividly describes how heavy rainfall strongly affected her village two years ago:

“There was so much rain... It kept on raining for three or four days and then a huge landslide started. A lot of crops and petty fields got destroyed, some of the animals were killed and a person in our village got killed, he was buried inside the landslide. Some of the houses were damaged and people had to seek help from the government and different family members to rebuild their houses.”

Six other Nepalese interviewees reported similar landslide experiences. One of them, a man, highlighted that this is a new phenomenon, sharing that:

“In the place where landslides never occurred before, they are occurring now. It happened in our village and also in another village where I used to live. Last year it was so crazy that I think two hundred houses were buried and they had to use bulldozers to dig out their houses. It never used to happen and suddenly it’s happening. It’s hard.”

Another informant – a young Nepalese woman - offers an explanation for the occurrence of landslides:

“Where I come from a lot of landslides happen because of poorly constructed roads and heavy rainfalls, and climate change. I have seen it with my own eyes. It did not directly affect me but it affected a family that I know. During the landslide that happened two years ago, the father of my friend was killed, and it really affected the family of my friend and in some way me a little bit.”

Some Nepalese participants coming from the Terai flatland area reported an increased number of flood incidents and their direct experience thereof. For example, a young Nepalese man shares:

“It happens every year, every monsoon season - roads and some houses end up being underwater. In our family’s kitchen garden, we used to plant so many vegetables, it was a precious piece of land. In the last 3-4 years, this land has been under so much water every year, every monsoon season.”

All the interviewees reported noticing numerous changes in their environments and climate in the past five to ten years. These include increasing temperatures, erratic monsoon

seasonality, more variability in rainfall dispersal over the monsoon season, and at the same time extremely heavy rainfall in short periods. Longer periods of droughts, land degradation, and local extinction of animal species were also observed.

In the Nepalese and Bangladeshi rural communities of some of my interviewees, life is organized according to the monsoon, with livelihood activities directly depending on rainfall timing. All the interviewees pointed out changes in the traditional monsoon seasons. They repeated the same message - rainfall is now unstable, unpredictable, unreliable, and extreme:

“Some months when it is supposed to rain it does not rain and crops don’t grow and when it is not the month for rain, it rains. The fields get affected and the crops get affected. It’s now the opposite of how it was before.”

Another young Nepalese man living in a rural area of eastern Nepal reports similar changes:

“Most of the people in my village used to plan agriculture according to the monsoon season. Now the weather is quite unpredictable - when it should rain it does not rain and there is drought and when it should not rain, it rains.”

For households whose livelihoods depend directly on rainfed agriculture, erratic rainfall presents a real challenge to their survival. This is less the case among urban interviewees who reported less concern and fewer impacts of changes in rainfall patterns on their households. Instead, they showed more concern over the rising temperatures. Indeed, rising temperatures are reported by all interviewees from both countries. Compared to the issue of erratic rainfalls which affects mostly rural populations, it has become a source of worry for both rural and urban populations.

“When the temperatures are high, people cannot do their household work. Everyone works outside of the home for sustaining families. But if the temperatures go high, people cannot work in the field or do labor work, they just cannot be in the sun.”

This is the experience shared by a young Nepalese man raised in a remote village in central Nepal but currently living in Dubai.

“We used to have six seasons in a year but now we can hardly feel it, something happened there. The temperatures changed to extremes.” - told a young Bangladeshi man who has recently arrived in Lisbon.

“If I compare it to ten years ago, I feel that the summer was not that harsh before and now it is getting hotter and hotter. If it is forty degrees here in Europe - we do not feel that, we do not sweat. If it is forty there, it means the air will be so hard and your brain won't work properly. It is a real problem - the weather.” – shared a young Bangladeshi woman who arrived in Lisbon three years ago.

Land degradation is another common issue affecting rural households in Nepal and Bangladesh. In Nepal, the challenge is particularly acute for households in the mountainous and hilly areas where land degradation is accompanied by scarce water resources. All the interviewees whose livelihoods rely on farming to varying degrees reported a reduction in food production in recent years attributed to a decrease in soil quality.

A 28-years old man from Nepal shares his experience:

“Because of climate change we cannot get that much food from the field anymore and because of that we need to go and earn money to get food.”

“I still feel that the quality of soil has completely changed. What we plant right now is not enough for the family and we have to buy things from Damauli town.” – told a young Nepalese man currently living in a village in central Nepal.

Another young Nepalese man living in a remote area of eastern Nepal shared similar observations and explained the recent changes:

“The soil has changed; it is less fertile. The number of things we used to grow in the previous years and now is completely going down. I think the climate is the major reason and the use of chemicals.”

The reduction in food production due to land degradation also happens in Bangladesh. In contrast to Nepal, where land degradation is more common in hilly and mountainous areas,

in Bangladesh land degradation is particularly severe in the coastal areas and results from rising soil salinity.

Three respondents from Bangladeshi agricultural households reported the rising costs of farming due to the need to supply water during droughts and the reduced quality and quantity of crops.

A young man from Bangladesh who has just recently arrived in Lisbon shares his experience:

“My grandparents and my uncles are growing vegetables and they have been completely affected by climate change, the production rate has gone down so much in recent years and even scientific inventions can’t make it go up.”

While local people increasingly notice shifts in their environments and its severe consequences on farming - the backbone of their livelihoods –, both Nepalese and Bangladeshi respondents also reported that most rural households have little awareness of what climate change is and how it is going to affect their livelihood in the long-term. Instead, they report people attributing religious explanations to these occurrences.

A young Nepalese man currently living in Lisbon shared his experiences back from the time when he lived in a rural part of western Nepal:

“People believe that if we want rain, we should pray to one god and if we want sun, we should pray to a different god. They believe that if God is not happy with us, that is why the climate is this way.”

The way people react to these environmental challenges is complex and varies across households. While some implemented changes in their farming activities, including plantation of new crops, and more flexible farming planning not based on the lunar calendar and traditional dates for the monsoon season, for eighty percent of the households, labor migration of individual members has become the basis of their livelihood security, ensuring sustainable cash income to cover their needs in times of instability. It is also a strategy for improving living conditions and accumulating resources for future migration, as well as even changing economic activities from farming to entrepreneurship.

3.3 Migration experiences and perceived linkages with environmental change

3.3.1 The migration processes

Migration is indeed a very common phenomenon in Nepal and Bangladesh. All the interviewees are either involved in international or internal migration. All the respondents also reported having a high number of family members and friends having migrated within the country and abroad for various reasons. According to my respondents, established social connections with migrant communities and being familiar with migration processes through friends and family significantly facilitated their mobility and, in some cases, even became one of the motivating factors to undertake migration.

In Nepal, the migration trends are most notable: internally, from mountainous areas towards flatlands in the Terai region and towards large urban areas, notably the capital Kathmandu; and externally, rural out-migration for foreign employment in the Middle East and Malaysia.

In Bangladesh, two migration trends were identified based on the conversations with the interviewees - migration from the southern rural coastal areas towards the capital Dhaka; and migration of urban and rural residents to foreign countries in the Middle East for labor.

Among both Nepalese and Bangladeshi migrants, the most common destinations for international migration were countries of the Middle East, Malaysia, and India, as explained by my respondents.

“People go to Kathmandu to seek education and search for better opportunities. Most of the people, the youth actually, go to the Gulf countries. They come back to the village at some point but most of the time they spend in Kathmandu or outside of the country. Almost every household in my village has somebody who migrated to another country or city, sometimes even two people from one household.”

These observations were shared by a young Nepalese man who has recently moved to the capital city Kathmandu from his village.

“People in my village can’t produce a sufficient number of products that they used to do previously. The remittances help them to buy certain goods from the market that they can’t produce anymore.” – told a young Nepalese man living in a remote village of central Nepal.

Migration to Middle Eastern countries is often long-term with people tending to stay in the destination countries for years and even decades, even though this type of migration never becomes permanent due to regional migration policies.

One Nepalese and two Bangladeshi migrants reported that their fathers had worked in the Middle East for several decades, returning home every two years during the festival season or between renewals or changes in their labor contracts. Indeed, the trajectories and the nature of international migration have a lot of similarities in Nepal and Bangladesh.

As permanent migration to the Gulf countries is conditioned by restrictive policies, the migrants tend to return to their home countries with enough resources and knowledge that allow them to improve their household’s living conditions, relocate their families towards urban areas and engage in entrepreneurial activities. Other migrants utilize these resources to move onwards to more permanent residence in countries outside the region, particularly in Europe, the USA, and Canada.

The respondents explained that unlike migration to the Gulf countries, migration to Western countries is not as widespread, particularly in rural communities, due to existing administrative constraints on the entrance, the higher cost of such migration, and the absence of facilitating mechanisms.

A 26-years old Nepalese migrant living in Lisbon says:

“Here in Europe getting a visa might sound like a silly problem but for us, it’s tough because there is a background check and you have to show all the valuable things, your finances, property, education - things that many of us do not have. Some people take loans, fake their documents... .“

If migration to the West eventually takes place, it often becomes permanent and sometimes involves the relocation of other family members.

The most common and easiest way of entering Europe and the European labor market, according to my interviewees, is through receiving student visas, which has lower rejection rates and can potentially be exchanged for a work permit. For example, eight interviewees in

Lisbon said that they entered the EU through a study visa program, six of whom received it from other European countries, such as Denmark and Sweden. Meanwhile, their relocation to Portugal was motivated by the restrictive labor regulations put in place on international students in the receiving countries together with the flexible and accommodating Portuguese immigration policy, both for international students and undocumented migrants.

While among migrants Portugal is known for the relatively easy access to the resident status, interviewees from Bangladesh reported that a Portuguese visa was probably one of the most difficult, time-consuming, and expensive to get due to an absence of Portuguese consular services in Bangladesh, which obliges them to travel to India. Ten interviewees (forty-one percent) reported that getting a visa was one of the most difficult parts of their migration journey. A 31-years old woman from Bangladesh shared her experience:

“We have to go to Delhi and spend a lot of money and a lot of time with the submission of the documents and the waiting time, and if you’re rejected, all these expenses go to waste. I was even worried that if I stay in Delhi for more than three weeks, I will also lose my job.”

3.3.2 International migration experiences and environmental change

Labor migration from both Nepal and Bangladesh to the Middle East dates to the 1970s and has become a widespread strategy for rural and urban households to mitigate their vulnerability and ensure a sustainable inflow of income for their households in times of instability. All my respondents reported that they know dozens of families who had one or two people migrated to the Gulf countries for labor.

In general, fifty-four percent of the interviewees (thirteen people) from both countries reported that their livelihoods have been affected by erratic monsoon seasons, heavy rainfall, drought, and soil degradation, which increased their overall vulnerability.

As rural populations are usually more susceptible to the impact of climate change events on their livelihoods, my findings suggest that when faced with long-term irreversible environmental changes and when other adaptation mechanisms were not available, households resorted to long-term or seasonal international labor migration of individual members of the household or of an entire household if they had sufficient resources to do so. Yet it is the socio-economic structure of the household that defined the nature of migration (whether it will be internal or international) and who was entitled to undertake it. In both Nepal and Bangladesh,

male members of the household, often the older children, bear the responsibility for the economic well-being of their families.

One Nepalese interviewee described his reasons as follows:

“I am the backbone of my family financially and I am taking care of them. It is actually the main reason why I am here in Dubai. Here I can earn a higher amount of money than I used to in Nepal”.

While environmental factors do have a significant impact on the decision of rural households to migrate, in big urban areas the role of environmental factors is not as significant. Nepalese urban migrants reported no impact of environmental change on their decision to migrate. Instead, economic, social, and personal reasons motivated their mobility.

In contrast, Bangladeshi interviewees who migrated from Dhaka to Lisbon reported direct and indirect impacts of environmental change on their decision to move abroad. They all reported that living conditions in Dhaka have severely deteriorated due to massive traffic jams, rising temperatures, air and noise pollution, and crime rates. In turn, these are seen as direct consequences of a perceived large-scale “climate” migration from the coastal parts of Bangladesh towards the capital in the past decade. According to the World Population Review (2021), the population of Dhaka increased from 15.8 million in 2012 to 22.8 in 2022.

One young Bangladeshi interviewee currently living in Lisbon explains:

“Earning money in Bangladesh is easy but facing a lot of difficulties is a problem. If you’d like to travel with your car for one km, you will need two-three hours. A lot of traffic and why is all this traffic happening? Because people from different areas, all the climate victims, are coming to the city and it makes it crowded.”

Three Bangladeshi interviewees currently living in Lisbon named “environment” as one of the main reasons for their international migration. For example, a 31-years old woman who has recently arrived in Lisbon shared her experience about living in Dhaka:

“I really hated the environment of Dhaka. This can be the first reason for my migration, really. The transportation system, the sound pollution, the weather, the dust everywhere. Everything is in chaos. I really hated this city.”

Another interviewee shared a similar experience:

“If I had to think about the reasons that made me move, I would say that 30 percent of it would be climate change. It’s very humid in Dhaka, if you walk for 10-15 minutes, you will feel very tired and there is a lot of pollution (air pollution, water pollution, noise pollution).

Our capital is one of the worst places to live right now.”

3.3.3 Internal migration experiences and environmental change

My data suggest that when faced with short-term, sudden-onset environmental events, like landslides, floods, or cyclones, household members who have migrated try to return to their places of residence and rebuild their lives there whenever possible. Those who receive international remittances, governmental help, and humanitarian funds also prefer to stay and rebuild their lives rather than emigrate.

For example, one interviewee from Bangladesh - an international migrant in Lisbon whose livelihood has been severely affected by a strong flood that struck his home area in June 2022 – says that his family who is now staying in a shelter is going to return to their house once the event recedes:

“I’m living in Europe, I have money and I have a business here, so I’m not worried about my family, I can help them and take care of our house.”

An interviewee from Nepal shared his experience with the landslide that struck his home area two years ago. He reported that some families tried to rebuild their houses after the disaster while others moved to nearby villages where the risk of the disaster happening again is perceived as lower.

Two Nepalese interviewees affected by the Gorkha Earthquake in 2015 also returned to their houses from the shelters once the situation stabilized and they thought it was safe to go back.

In contrast, slow-onset environmental changes including land degradation, rising temperatures, and rainfall variability stimulate rural households towards permanent migration both internationally and internally. A 24-years old young man from Nepal reported that his family had to migrate to the nearby town in the flatlands of the Terai zone because of land degradation at home and better farming conditions elsewhere:

“We used to grow crops in the place we used to live and since a few years ago there has been a reduction of soil productivity and we couldn’t grow the crops we used to grow. It was a bit hard for us to survive and my family moved to a better place where they could grow their crops and sustain the family. They have a good irrigation system there, and even though they do not have much land at the moment, they can at least sustain themselves.”

Overall, almost twenty percent of the respondents (five people) reported that environmental change and climate change influenced their decision to migrate outside of Nepal and Bangladesh. At the same time, most highlighted that those environmental changes were not the main reason for their migration.

Instead, they suggested that environmental change had intensified other problems in their communities, which in turn, shaped their migration decision-making. Among those problems are structural poverty, lack of economic opportunities and low wages, lack of infrastructure, high dependency on rainfall in the farming sector, political instability, caste-related inequality, and discrimination in Nepal.

In particular, two Nepalese interviewees from the lower caste highlighted that being discriminated against by members of higher castes was a major factor influencing their (and their family members) decision to migrate. They also emphasized the impact of caste discrimination, environmental degradation, and climate change on increasing vulnerability and insecurity:

“All my sisters and brothers are out of the village right now. No one is there. They did not want to stay in our village because the lands right now are very hard to cultivate. [...] I do not want to live in the village not only because of climate change but also because in our areas there is a huge discrimination problem related to caste. In that area my family is the only one of lower caste, the other ones are very high castes. We are having a hard time there. We cannot go inside anyone’s house, we cannot touch the food of others. If we do, they will not eat, not even drink? water. If I go to my village and I need to earn money from farming, they will not buy things from us and we do not have our own people who can buy from us in that area, so it’s quite difficult to be there and earn money.”

Similarly, female migrants from Bangladesh currently residing in Lisbon reported gender-related situations that motivated their migration. This includes a lack of safety, street

and workplace harassment incidents, social pressure for an arranged marriage and limited professional opportunities.

A young Bangladeshi woman described her reasons as follows:

“I left because I wanted to study and because I really do not fit into their culture. I always felt suffocated while living there. Society in general is oppressive. [...] Back in Bangladesh, my mom would be panicking if I am not back home by 9 PM because it is really not safe but here, I feel safe going back home. The clothes also... because it is a Muslim country, I cannot wear what I want. If I wear there what I wear here, I will get teased on the streets every day and in the office as well. In the office, harassment is a daily thing...”

Finally, more than fifty percent (six people) of my Nepalese respondents – all internal migrants – singled out lack of access to quality education as the most important driver of their migration decision-making. Other respondents working in the Nepalese education sector also shared their experiences and highlighted that they see a trend whereby rural households relocate to bigger urban areas to ensure better quality education for their children.

According to fifty percent of my respondents (twelve people), other drivers of migration also include digitalization, improved access to information, and social networks penetration, which is enhancing amongst the youth their aspirations for a better life, better facilities, freedom, and unwillingness to endure hardships of rural life in the same way they ancestors used to.

My findings also suggest that both international and internal migration are predominantly undertaken by young males in the age group between 16 and 40 years old. Even though females have been more actively involved in migration in the last years, the general number is still largely dominated by men, according to my respondents.

Overall, forty-two percent of the respondents (ten people) stated that the promise of better opportunities and living standards, access to education, and higher incomes against the backdrop of other pressing social and economic issues in a context of negative environmental change were the reasons for their migration decision-making, while for fifty-eight percent (fourteen people) these reasons had no connection to environmental factors.

CHAPTER IV

Discussion

Amongst my twenty-four interviewees, of whom fifty-five percent (or fourteen people) have become international migrants and the other forty-five percent (or ten people) have migrated within their respective countries, the effects of climate change and other environmental factors on their migration experience are recognized to varying degrees as playing a role in their decision to migrate, while often interacting with other migration drivers.

More specifically, the effects of climate change my respondents reported are consistent with the findings of Xu et al. (2009); Gentle et al. (2018), Gautam (2017), Kartiki (2011), and Call et al. (2017).

In Nepal, as explained by my interviewees, climate change has manifested through erratic rainfall, unpredictable shifts of monsoon seasons, severe flooding, increased temperatures and landslides. In Bangladesh, interviewees reported increased frequency and intensity of cyclones and floods, rising temperatures, especially in urban areas, and changes in the annual monsoon cycles as their most frequent environmental challenges.

Both rural Nepalese and Bangladeshi interviewees consistently expressed concerns related to land degradation and reduction in crop yields leading to decreased food, income, and livelihood security and increased water scarcity for agricultural and household needs. These findings are consistent with the findings of studies by Xu et al. (2009) and Gentle et al. (2018).

However, my interviewees also suggest that long-term environmental events, such as land degradation and increasing salinity, lead them to emigrate, which is inconsistent with the theoretical argument made in several studies (Beine and Parsons, 2014; Naudé, 2008; Kniveton et al., 2012).

Black (2011), Warner et al. (2009), Carr (2005), and Pigué et al. (2011) suggest that migration decision-making is influenced by a variety of different drivers at different levels where environmental change becomes an exacerbating pressure on other tensions - political, demographic, social and economic - already present in the region.

As expected from the literature and as theorized by the minimalist school of thought, my findings support the hypothesis that climate change plays a role in shaping mobility decision-making, but that how much it does is influenced by individual households' characteristics, as well as local social and economic dynamics. Indeed, in rural Nepal and Bangladesh, long-term environmental changes closely intersect with economic and social challenges faced by the households, and they together shape migration decision-making.

Among those economic and social challenges are low wages, lack of economic opportunities, limited access to healthcare and education, caste discrimination (in Nepal), political instability, and gender inequality stand out as the factors most frequently mentioned by my respondents.

Pandey and Bardsley (2015) and Joshi and Dongol (2018) explain that Nepalese households nowadays give less priority to agricultural activities (including animal husbandry) as these have become an unreliable source of sustaining the needs of families year-round and prefer activities that directly provide cash income. This is consistent with one of my main findings: all the international migrants in my sample reported that insufficient returns from farming activities and the need to provide financial support for their households were the main driver of their migration. Sixty-nine percent of them (nine people) reported that they are actually providing financial support for their families back in Nepal and Bangladesh.

My findings do not support the findings that international migration is uncommon among rural communities due to a lack of resources to do so (Warner et al., 2013; Melde et al., 2017). Instead, international migration is a widespread coping strategy amongst members of my respondents' rural households.

Both the nature of that migration and the destination countries, however, vary depending on the social and economic status of the household, presenting a more complex and nuanced picture than popularly portrayed in the media. Black et al. (2013) explain that under adverse environmental conditions it is wealthier people who are generally able to move. At the same time, the "conventional narrative" of public and policy debates asserts the idea that the poor and vulnerable are most likely to migrate in the face of environmental changes, often leaving vulnerable women and children behind (Gray and Mueller, 2012; The New York Times, 2009). Interestingly, my findings support both explanations. Seventy-nine percent of my informants identified their household economic status as average or middle class, twelve percent identified as poor or very vulnerable, and only four percent identified as wealthy. While "middle class" migrants reported that their migration decision-making was motivated by both necessity and a personal desire for a better life, "low-income" migrants highlighted that their migration was forced by a necessity to ensure the financial security of their households and reduce the environmental and economic hardships of their current lifestyle.

However, as suggested in several studies (Gautam, 2017; Adhikari and Hobley, 2015; Gautam and Andersen, 2017; Ensor et al., 2019; Bartlett et al., 2010), focusing on climate change as the sole or a major driving force of migration tends to overlook other important

challenges faced by rural communities, as well as ongoing social dynamics and economic transformation in their home countries.

In the rural scenario, the transformation of the economic and social context occurs against the backdrop of a perceived strong environmental degradation whereby families are no longer able to sustain their needs based on farming activities while also aspiring to better living conditions and opportunities.

These two causes create a situation in which households require ever-increasing amounts of cash. With limited employment opportunities in rural areas, households often find themselves in need of seeking additional income elsewhere. These combined challenges lead to situations in which households feel forced to decide to send one or even two members for labor migration to ensure a reliable source of income.

Moreover, changing dynamics also include growing women's empowerment, improved access to education, and general transformation of how education is perceived in current society - as a way out of poverty, to better living conditions and job opportunities. Indeed, twenty-five percent of my respondents reported that their migration towards urban areas (as well as the migration of people they know) was above all motivated by seeking better educational opportunities in bigger cities, as they are often absent in rural areas and small towns.

At the same time, limited access to quality education in the rural areas and lack of appropriate skills limit not only employment opportunities of rural residents but also condition them to extremely under-paid low-skilled jobs, which in Nepal are insufficient to lift their families out of poverty. Migrating to foreign labor markets, particularly in the Middle East and Malaysia, has become a livelihood strategy for many rural families, where low-skilled jobs provide a much higher income to support an entire household.

This finding is consistent with Adhikari and Hobley (2015) who argue that migration decision-making is not only influenced by major non-environmental and environmental “push factors” (including crop failure, decreased agricultural returns, and scarcity of drinking water) but also by so-called “pull-factors”, such as more fertile lands, better facilities and services, wages and increased commodity consumption. Indeed, while mentioning the pressing environmental, social and economic issues of their local environments, this study's participants consistently highlighted that it is the promise of better opportunities and living standards, access to education, and higher incomes that motivated their migration-decision making.

Beyond environmental drivers of migration, this main finding also reflects the argument put forward by the minimalist school of thought, particularly by Black et al. (2011) that migration is driven by personal and household characteristics on the one hand and by facilitating mechanisms on the other. For example, all my interviewees - both international and internal migrants - highlighted having numerous family members and friends who had migrated within and outside their countries for various reasons before them. This confirms that the presence of such social networks increases the likelihood of migration by reducing costs and risks associated with migration.

Multiple studies (Foresight, 2011; Hugo, 1996; Tacoli, 2009) suggest that migration driven by environmental factors tends to be internal and rarely becomes international. The households that are most vulnerable to climate change are also those who have an extreme dependency on rainfed agriculture, which is weakened during the manifestation of extreme events or disruptions in rainfall. Hence, these households generally lack the financial capacity to undertake international migration. My results suggest, however, that while this may be true for international migration towards the West, international migration to the Middle East and Malaysia is common among the rural, farming communities of Nepal and Bangladesh. Amongst my respondents, labor migration to the Middle East is an easily implemented livelihood strategy for overcoming poverty, ensuring financial security, and improving living conditions.

Indeed, migration to the Gulf countries, which is widespread in both Nepal and Bangladesh, is both driven by existing insecurity and by facilitated access to foreign labor markets through immigration sponsorship systems particularly prevalent in the Middle East. This system was developed in the 1960-70s to compensate for the shortage of low and semi-skilled workers, and it allows the temporary employment of non-nationals in the Gulf countries (ILO, 2017).

Nevertheless, labor migration to the Gulf region is often of a temporary or seasonal nature which is not linked to the seasonal demand for foreign labor in certain sectors of the economy but rather dictated by local employment regulations requiring labor migrants to leave the country before allowing them to change their visas or employers.

My results also suggest that the governmental migration policies, the presence of an “open-border” regime between Nepal and India, and the existence of social connections due to a long history of labor migration from the region facilitate international migration from both urban and rural areas.

In contrast to Nepal, migration from Bangladesh to India is not as widespread despite the presence of a common border between the two countries. This is due to more stringent border control, visa requirements, lack of right to work, and, to a certain degree, religious differences.

Contradicting widespread assumptions about large inflows of migrants from the Global South towards the Global North, this study suggests that migrants, in general, and environmental migrants, in particular, to Western countries, make up only a small proportion of the total number of international Nepalese and Bangladeshi migrants. Strict migration regulations including difficulties in obtaining visas and work permits, high incidents of rejections, lack of financial resources, high cost, and limited social networks in the receiving countries are the main obstacles to migration to western countries.

Long-term environmental events in rural areas, such as land degradation and salinity, do appear as major drivers of migration according to my interviewees, which is inconsistent with the theoretical argument made in multiple studies (Kniveton et al. 2012; Cattaneo and Massetti, 2015; Piguet et al. 2011). Among my interviewees, it is also clear that short-term, sudden-onset events lead to temporary displacement, accompanied by the tendency to return to their home areas once the event recedes exists, which is consistent with theoretical studies (Piguet et al, 2011; Hunter et al, 2015; Black et al. 2011; Myers, Slack and Singelmann, 2008).

In contrast, in Nepal, both sudden-onset environmental events and long-term environmental changes had little to no impact on this study's participants' migration from smaller urban areas to bigger urban areas and abroad, which is driven primarily by economic and social factors.

While the interviewees from urban areas of Nepal were less aware of environmental change in general, my interviewees from urban areas of Bangladesh, particularly from Dhaka, showed higher awareness and concerns regarding the issue. Moreover, seventy-five percent of the Bangladeshi respondents reported both direct and indirect impacts of climate change on their decision to migrate.

It is important to note that migration dynamics in Nepal and Bangladesh are different. In Nepal, topography largely determines migration dynamics within the country. Migration from the mountainous areas towards more fertile flatlands is driven by scarce water resources, erratic rainfall seasons, and soil degradation. Hence, long-term environmental degradation leads to more long-distance internal and international mobility and often becomes permanent. At the same time, seasonal migration from mountainous regions towards flatlands or the nearest

urban areas is another common phenomenon in Nepalese households, according to the interviewees.

Among the Bangladeshi interviewees, migration from rural coastal areas towards the three largest urban areas is more apparent, which is determined by the highly centralized organization of the country. The type of migration is shaped by the individual characteristics of the household, facilitating mechanisms, and the presence of external constraints.

How long people stay away from their home areas depends on various factors, especially on the type of migration. Labor migration is usually temporary (even though it could last for many years and even decades) or seasonal, while migration for studying purposes tends to become permanent due to further employment in the receiving areas.

Overall, environmental change events have manifested themselves in myriad ways across both countries and their impact varies with the characteristics of my interviewees' households. As their migration decision-making has been driven by a variety of different drivers, it is difficult to establish a direct linear link between environmental change and migration or isolate environmental drivers from economic (low wages, unemployment), social (inequality, caste and gender discrimination, security) and political ones. Moreover, social, economic, political, and environmental drivers could interconnect and mutually reinforce each other against the background of local and global dynamics.

At the same time, it remains unclear why in the presence of similar drivers and contexts certain households prefer internal migration to international migration and why certain households choose to migrate and others (choose to) stay.

The findings of this study suggest that environmental change could have an impact on people's decision to move but the scale of this impact, the nature of migration, and whether this migration will eventually take place would largely depend on the presence of other economic, social, and political drivers, individual household characteristics and the existence of mechanisms facilitating migration.

Figure 5 below provides a visual representation of this study's results on how different drivers interact and lead to migration.

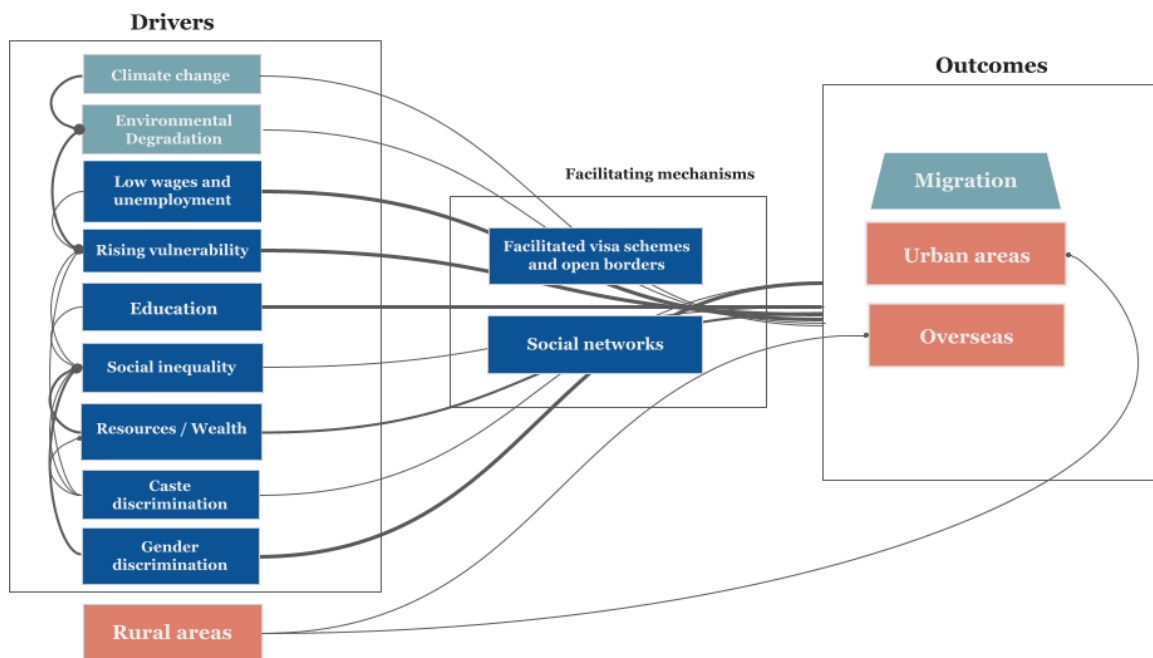


Figure 5. Migration drivers and outcomes based on the findings of the study. Blue boxes = socio-economic drivers; Green boxes = environmental drivers; Pink boxes = migration departure and destination points.

3.1 Limitations of the study and recommendations for future research

As with any other research, this study is not free of potential limitations. Firstly, the recommended sample size (thirty) was not met. Due to multiple logistic constraints and personal circumstances, ten initially agreed upon interviews were canceled by the potential respondents. In addition, due to a lack of social connections within the Bangladeshi migrant community and its perceived closeness to outsiders, this study could not achieve an even representation of international and internal migrants from both countries. However, this limitation was compensated by more in-depth informative, and detailed interviews with the respondents in naturalistic settings, which in turn enhanced the validity of the research's results.

Another limitation lies in the research method itself, particularly in semi-structured interviews. The high degree of flexibility potentially could lead to unintended leading questions and cause variations in responses. Coupled with an insufficient number of respondents the results of the study could result being biased and insufficient to make comparisons and draw conclusions. However, the main goal of this work was to gather versatile data on the phenomenon from a diverse pool of respondents rather than to make strict comparisons of their

experiences. Moreover, this flexibility enabled some of the respondents to open up about a number of unexpected sensitive issues such as caste discrimination and gender inequality, which in turn highlights a key gap in the existing literature on the interconnectedness of caste discrimination and environmental change in migration dynamics in Nepal and on the dynamics between gender inequality and environmental change in migrations from Bangladesh.

As demonstrated, despite several potential pitfalls and challenges that have arisen during the research process, the advantages of the chosen method outweighed its disadvantages and identified two directions for further research. First, my findings suggest that there is a need to further investigate how environmental changes interact with pre-existing non-climatic factors and socio-economic changes to generate vulnerability and induce migration. As an example, it could be interesting to look at how caste discrimination in Nepal interconnects with climate change-induced events and drives migration within and outside of the country. Moreover, there is a dearth of studies integrating gender and environmental stressors in migration studies. The finding of my research suggested that social reasons for migration prevail in migration decision-making among women. As women and men could be affected by environmental stressors in different ways and climate change is expected to exacerbate existing inequalities faced by women, it could be worth exploring the gender side of migration in the migration-environment nexus.

Conclusion

Migration is generally recognized as a multi-causal phenomenon, which makes it difficult and sometimes impossible to assess the degree to which environmental changes influence human mobility. While there is evidence that environmental change is a compelling factor, particularly in the case of displacement of populations due to sudden-onset disasters, migration decisions are also clearly shaped by other macro-level drivers (political, economic, and social) and micro-level individual and household characteristics (age, gender, household composition).

In this study, based on the perceptions of environmental changes and migratory experiences of migrants in and from Nepal and Bangladesh, I show that, indeed, the perceived impact of environmental change on migration is not linear; and that migration decision-making is influenced by migration drivers already present in communities. I demonstrated that the scale of impacts of environmental change on migration trajectories largely depends on the individual characteristics of the households and the area of their settlement.

In both Nepal and Bangladesh, climate change has manifested itself through increased frequency and intensity of sudden-onset events such as landslides, floods, and cyclones and more complex long-term environmental changes such as erratic monsoon seasons, rainfall variability, extended periods of drought, increased temperatures, and land degradation.

As expected, the role of these changes on migration decisions among urban and rural populations is not the same. In urban areas, environmental change does not undermine the security of individual livelihoods and communities as their means of security is not dependent on climate-sensitive industries such as agriculture and pastoralism, or other means of income are easily available. Yet, in Bangladesh, concerns over climate change are more apparent in urban areas due to the exponential growth of the urban population and deteriorating quality of life which migrants link to climate change impacts. In Nepalese urban households, the influence of environmental change on migration decision-making is insignificant.

Meanwhile, in rural areas of both countries, livelihoods are extremely dependent on rainfed agriculture which means that manifested impacts of climate change do affect the financial and food security of households and, consequently, their migration decisions. Aiming to secure their livelihoods, Bangladeshi rural migrants increasingly move towards urban areas where cash income is more accessible. In Nepal people similarly prefer to migrate from rural areas to larger cities but also from the mountainous rural regions to rural areas in flatlands where the soil is more fertile.

However, even in rural contexts, migration decision-making is heavily influenced by other economic and social drivers and overall dynamics of the changing economic and social organization of society. In both countries, migration, especially international labor migration to the Gulf countries, has become one of the main livelihood security strategies against the background of a lack of economic opportunities, low wages, political instability, and environmental changes. Moreover, the transition to a cash-based economy, women's empowerment, and access to education in today's context have manifested in changing youth aspirations for a better life and better facilities which are not available in rural scenarios.

My study did not identify environmental change as a singular factor motivating migration decision-making amongst Nepalese and Bangladeshi migrants at home and in Lisbon. While environmental change can play a role in it directly or indirectly, knowing economic, social and political circumstances under which this decision-making takes place is crucial to understanding the nature of this migration.

My findings are aligned with the minimalist school of thought (Bilsborrow, 1992; Black, 2011; Doevenspeck, 2011; Piguet et al., 2011) that posits that the environment plays an important role in migratory processes but that the final decision to migrate is a matter influenced by or interconnected with a variety of drivers at different levels. While in certain contexts it can be impossible to isolate environmental factors from other migration drivers and identify the main cause of migration, it is still critically important to explore the complexity of migration decision-making and the intricate interconnectedness among several drivers. Doing it from the perspective of both international migrants and internal migrants, as this study did, highlights the complexity of migration decision-making, adds nuance to the depiction of dynamics and linkages that are popularly depicted as linear; and suggests avenues for policymaking.

Claims that climate change would lead to the migration of millions, which have been so prominent in the media and policy debates in recent years, risk to oversimplify the issue of migration and the local contexts in which migration takes place. Oversimplification of the issue could lead to developing policy solutions that are torn away from the reality of migrants.

My conversations with migrants point out that migration decision-making is frequently driven by a combination of push and pull factors which in various circumstances could be more prevalent than the others. Researching how these multiple migration drivers interconnect and reinforce each other, and, at the same time, how they are perceived by different categories of migrants and non-migrants, could help elaborate policy and legal frameworks that facilitate regular migration and harness its benefits.

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ANNEX A

Interview Guide

A set of personal questions to understand the background of the interviewees (age, profession, education, household-specific questions):

- How old are you?
- Where do you come from / where were you born?
- Have you previously lived in other places (also within your country of origin)?
- Are you the only child in the family / Do you have siblings? Do you all live/lived together?
- Do you have children? If yes, how many?
- Are you married / single?
- What is your formal education? (Primary education / High school / University)
- Would you consider your family as a wealthy family / above average / average / below average/poor)?
- What role did the environment play in your life back then in your country? Was your income dependent on agriculture?

I. Questions for international migrants

Migration-specific questions:

- I am interested in learning about migration stories and what motivates people to migrate... Can you please tell me about your own migration story?
- What were/are your hopes for a new place, for your new life here?
- Why did you choose to come to this country instead of somewhere else?
- Have any of your relatives and close friends previously migrated?
- What was the most difficult part about leaving?
- What was the most difficult part of coming here?
- What is the most difficult part of living here currently?
- Do you think your migration was motivated by economic / political / social/demographic / environmental reasons? A combination of them?
- What role did the environment play in your life back then in your country? Was your income dependent on agriculture?

Climate-related questions:

- While living in your community of origin, what was the weather like (short-term) in the past ten years?
- What has the climate (long-term patterns) been like in the past ten years?
- Did you notice any particular changes in the environment/weather patterns while living there in the past 10 years?
- What are the main weather events you've experienced while living there?
- If any, how did these extreme events affect you (your household) and your community?
- Did they affect your life/ your well-being / your livelihoods, your capacity to economically support your family/household, to feed your family? If so, how?
- What role did the environment play in your life back then in your country? Was your income dependent on agriculture?

Additional questions:

- Do you send remittances to your family/household back home?
- Do you support your household/family back home in any other way? If yes, how? If yes, why?
- Do you know of any examples/someone who has been forced to move (within the country /from villages to cities / abroad) due to environmental reasons?
- Do you ever think about going back?
- If yes, why? Under what conditions would you consider returning to your home country? If not, why not?
- Do you think there are questions I should not ask about (from an ethical point of view)?

II. Questions for those who have not migrated outside of the country (hence, stayed in Nepal / Bangladesh)

Migration-specific questions:

- Have you ever thought of migrating to another country or another area of your country?
- If not, why not? Why did you stay? What made you stay?
- If yes, why? If you have thought of migrating, what made you think of doing it?

Climate-related questions:

- Over the past 5-10 years, have you experienced extreme weather events? If yes, which ones? If yes, how have they affected you personally and your community?
- Have you noticed any particular changes in the environmental events/weather patterns during the last few years? Which ones?
- Do they worry you? Do you think they affect your well-being? If yes, how? If not, have they affected particular groups in your community or anyone you know? If yes, who and how?
- In your opinion, how present is migration within your community?
- Who migrates and for what reasons? Who stays? Why?
- Do you know anyone whose livelihood has been affected by environmental events/changes? Which changes/extreme events? What happened? How did they respond?
- In your community, which groups are most affected by environmental changes (professional, gender, demographic, livelihoods: farmers, pastoralists, fishermen, etc., castes, wealth status)? Why? How?

Additional questions for the interviewees from Nepal:

- According to your experience and knowledge, is the caste system still practiced in Nepal? How does it affect you or someone you know? Was it one of the reasons for your migration? Why?