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Framing Environmental Migration

An Analysis of Indian Government Policies

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Abstract

Environmental change has the potential to displace people all over the world, particularly those with high exposure to change and low adaptive capacities. In this context, migration is a response to individual and collective vulnerabilities, and thus represents an adaptation strategy. Environmental migration can be triggered by environmental change directly, in the form of natural hazards, or indirectly, by negatively impacting people's livelihoods. Policy responses and the feedback they produce have the power to shape such migratory flows. Underlying notions and normative assumptions behind those policies – ultimately how the issue of environmental migration is framed – are therefore of high significance. Drawing on previous literature on how environmental migration has been problematized, this thesis explores whether India frames environmental migration as a challenge or as an opportunity. More specifically, a qualitative content analysis of five different state level policies directed towards climate action was conducted. It is demonstrated that, based on the state-wise results, the Indian government frames environmental migration as a challenge that needs to be solved by lowering the vulnerabilities of the rural population. Minimizing these vulnerabilities to stem rural-urban migration is a strategy likely to remain high on India's policy agenda, due to major problems associated with India's high urbanization rate.

Key words: *environmental change, migration, framing, vulnerability, India*

Words: 19'910

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List of Abbreviations

ASAPCC	Assam State Action Plan on Climate Change
BJP	Bharatiya Janata Party
CAQDAS	Computer Assisted Qualitative Data Analysis
DRR	Disaster Risk Reduction
EMPRI	Environmental Management & Policy Research Institute, Karnataka
FAO	Food and Agriculture Organization
GSDP	Gross State Domestic Product
HDI	Human Development Index
ICIMOD	International Centre for Integrated Mountain Development
IDMC	Internal Displacement Monitoring Centre
IFAD	International Fund for Agricultural Development
IGO	Intergovernmental Organization
INDC	Intended Nationally Determined Contributions
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
JAPCC	Jharkhand Action Plan on Climate Change
KSAPCC	Karnataka State Action Plan on Climate Change
KSNDMC	Karnataka State Natural Disaster Monitoring Centre
MoEFCC	Ministry of Environment, Forest and Climate Change, Government of India
MSAPCC	Maharashtra State Action Plan on Climate Change
NAPCC	National Action Plan on Climate Change
NEP	National Environment Policy
NGO	Non-governmental Organization
NREGA	National Rural Employment Guarantee Act
QCA	Qualitative Content Analysis
SAPCC	State Action Plan on Climate Change
SDGs	Sustainable Development Goals
TERI	The Energy and Resources Institute
UAPCC	Uttarakhand Action Plan on Climate Change
UN DESA	United Nations Department of Economic and Social Affairs
UNFCCC	United Nations Framework Convention on Climate Change

1 Introduction

1.1 Objective and Research Question

Climate change is one of the greatest challenges humanity faces today that increasingly impacts people's lives, livelihoods and food security all over the world. Being an inherently global issue, combating climate change requires strong international coordination and cooperation. Mitigation of and adaptation to climate change must go hand in hand, and sustainable adaptation strategies on global, national, local and on an individual level become indispensable. However, the international community still has a long way to go before reaching the point of a successful global collaboration. Although there exist a number of global frameworks that address climate change (e.g., the sustainable development goals (SDGs) or the Paris climate agreement), the implementation of these goals remains extremely challenging as the ultimate responsibility lies with the national governments. These decentralized responsibilities often entail unequal, slow and sometimes even inadequate implementation. Therefore, it is not uncommon that individuals and communities confronted with distress resulting from environmental change have no alternative but to cope with the consequences themselves.

One coping strategy that is being increasingly applied as a response to extreme environmental events is migration¹. Environmental change can trigger population movements both directly and indirectly. On the one hand, environmental events, such as flooding, might directly result in the short or long-term displacement of affected people. On the other hand, environmental change, such as changed rainfall patterns, might lead to lower agricultural productivity – a process that ultimately results in increased poverty and vulnerability, and therefore indirectly increases the possibility of migrating to other areas that are less affected by environmental change.

Migration in general often has a negative connotation with regards to security risks involved in large-scale human flows, and is frequently referred to as a challenge or even a threat (Huysmans 2000). However, what is often overlooked, is that migration – particularly environmental migration – can also be seen as an important positive adaptation strategy that brings along a number of opportunities

¹ As of now, there is a lack of accepted definition for this type of migration, and terminologies range from environmental migration to climate-induced migration to climate refugees (Black et al. 2011a). In this study, I will use the term of environmental migration as suggested by the International Organization for Migration (IOM 2014).

(Black et al. 2011b). Such advantages include, amongst others, a significant contribution to poverty reduction and increased resilience through remittances, as well as the reduction of pressure on resources in rural areas (IOM 2014). By focusing on the adaptive capacities migration entails, it can therefore also be framed as a solution to environmental distress, rather than a manifestation of desperation.

The way in which environmental migration is framed has far-reaching consequences. How governments perceive and frame the issue, for example, plays a particularly crucial role, as migration policies are shaped by perceptions (Gemenne 2017). Currently, the “paradigm of immobility” predominates, meaning that in an ideal world from today’s point of view, people would simply not migrate. This leads to the common perception of keeping people where they are, which is being articulated by border controls and border security. As Gemenne (2017) puts it, “the world today is obsessed with borders and with keeping people apart from each other”. However, this approach has not been successful in the sense that clearly, the increased border security has not contributed to less migration so far (De Haas 2007). A second approach that was widely pursued to control migration, was to address root causes of migration by increased development aid. However, as De Haas (2007) argues, this strategy is ineffective, and might in fact even increase migration in the short to medium term. These two rather unsuccessful strategies raise the question of how governments then *should* respond to human migration resulting from environmental change. No matter what strategy a government or the international community chooses to deal with human mobility, what is clear is, that the way in which environmental migration is framed has significant impacts on the phenomenon itself. Depending on a government’s perception of the issue – whether it frames environmental migrants as victims, security threat, or as adaptive agents – emphasis might be put either on preventing migration or on managing or even promoting migration (Ransan-Cooper et al. 2015). A government’s standpoint towards environmental migration can, therefore, have significant impacts on the issue itself.

Two central concepts in the debate around climate change and environmental migration are *vulnerability* and *social resilience* (see Black et al. 2011a and Adger et al. 2002). These concepts entail that the consequences of climate change will not hit everyone everywhere equally, which in turn means that neither all communities, nor all individuals within the same communities are equally likely to be environmentally displaced. Developing countries are among the ones being most vulnerable to the changes in climate due to their comparatively lower adaptive capacities, often in combination with the countries’ agrarian-dominated economies and their geographic locations, which tend to be more prone to specific natural disasters (Adger et al. 2003). One such country that is particularly vulnerable to many different types of climatic consequences, is India. India spreads across several different climatological and ecological zones, and thus experiences various impacts of climate change, such as increased frequency of droughts, floods, landslides, and many more (Anderson et al. 2016). This exposure to natural hazard is coupled with social vulnerabilities: the widespread poverty and social inequalities of the country pose further challenges. In addition, around two-thirds of India’s population are rural and primarily depend on climate-sensitive sectors such as agriculture

and fisheries for their livelihoods. This combination of high exposure to change, low adaptive capacities and high vulnerabilities make successful adaptation to the effects of a global warming an extremely challenging undertaking. Individuals, and sometimes whole communities, therefore increasingly resort to environmental migration as a coping strategy.

While internal migration makes up a large share of the population movement in India (mostly rural-urban migration), the country is also an attractive destination in the region for international migration, due to its comparative welfare and high number of employment opportunities (Anderson et al. 2016). Furthermore, various studies have demonstrated the devastating effects of climate change on Bangladesh, with many Bangladeshi increasingly turning to out-migration as a coping strategy (Panda 2010). This attraction in combination with the impacts of climate change in India's neighbor countries leads to extremely high numbers of in-migration, especially from Bangladesh (UN DESA 2015)².

When considering the relevance of environmental migration for India (both internal and international), it becomes apparent that the way the Indian government frames the issue is of particular importance. The feedback India's framing and consequently its policies send will ultimately influence the population movements themselves, meaning that India's standpoint towards the issue is almost predestined to have implications on migratory flows within the whole region of South Asia. However, environmental migration is not high on India's policy agenda; rather, the Indian government avoids to directly address the issue due to (seemingly) more pressing issues on the country's sustainable development agenda (Boas 2012). Nevertheless, despite the lack of a clear position, there exist normative assumptions behind India's idea of environmental migration – assumptions that have profound effects, both within India and within the region. These remarkably far-reaching consequences of India's framing of environmental migration are exactly what inspired the thesis at hand. The objective of this research is thus to generate in-depth knowledge on how the Indian government frames the issue of environmental migration and examine possible implications of this framing on migratory flows. To achieve this goal, a number of sub-national policies developed within the context of climate action will be analyzed in order to examine how the government addresses vulnerabilities relevant for environmental migration.

To guide this research process, the following research questions were defined:

To what extent is environmental migration framed as a challenge or as an opportunity within Indian government policies?

² Official estimates of Bangladeshi immigrants residing in India are around 3.2 million for the year of 2015 (UN DESA 2015). However, due to the high number of illegal immigrants, the number is expected to be much higher, and the national and international media often refers to more than 20 million Bangladeshi living in India (The Washington Post 2016).

- i. Are there significant differences between state level policies in India in terms of how to tackle the issue of environmental migration?
- ii. To what degree are the state-specific vulnerabilities discussed in the policy documents taken up in the respective action plans?

In the following, I will provide some background on the issue of environmental migration and its conceptualization within current debates and previous research, as well as expand on the relevance of the issue for India. Content of the second chapter is the theoretical framework that was developed for the sake of this study. Thereafter follows the discussion of some methodological considerations. In the fourth chapter of this thesis, I will turn towards presenting and discussing the results of the empirical analysis, which is followed by some overall conclusions and an outlook on future research.

1.2 The Environment-Migration Nexus

The phenomenon of environmental migration is by no means a new one – migration has always been a strategy to cope with a changing environment (IOM 2009). However, the current global warming will – or already did – contribute disproportionately to an increase of population movements resulting from environmental change. Climate change has different facets and consequences, many of which directly or indirectly affect people’s lives and their livelihoods. Not everyone is affected in the same way by the global warming, and adaptation measures and coping strategies thus vary widely. With environmental change proceeding further, and natural hazards becoming more frequent, migration increasingly becomes one of the responses to climate change. It is estimated that in the year of 2009 and 2010, approximately 17 and 42 million people, respectively, were displaced globally by natural hazards (Foresight 2011). According to the International Organization for Migration (IOM) (2008), South and East Asia, Africa, and small state islands are the most vulnerable regions to large-scale forced migration, due to sea-level rise and changes in rainfall patterns. The projections of future environmental migrants vary drastically, as they are associated with great uncertainty, and range from 25 million to 1 billion by 2050 (IOM 2014). Considering the internationality of climate change, it becomes increasingly important to address the issue in global governance systems. Climate change knows no borders, and overarching measures are key to climate action and the consequences it entails.

Compared to the long-standing presence of the phenomenon, the conceptualization of the environment-migration nexus is a rather recent one (Gemenne 2009). This is accompanied by a lack of comprehensive research and data that would allow solid evidence-based policymaking. Being inherently multi-disciplinary, the nexus can be approached from a variety of angles. Generally, a mutual causality between the environment and migration is assumed: one can either focus on the

effects of migration on the environment (e.g., Locke et al. 2000), or on the consequences of environmental change on human movement (Gemenne 2009: 33). As indicated earlier, this thesis is concerned with the latter approach. However, the debate is increasingly shifting towards a more complex understanding of the relationship between environment and migration, and many scholars (e.g., Black et al. 2011a, Black et al. 2013, Castles 2002, Faist and Schade 2013) stress the multi-causality of the environment-migration nexus. There exists no simple link between environmental change and human movement, which mostly results from the difficulty of isolating environmental factors from other drivers of migration. This, in turn, also contributes to the lack of data in this field of study (IOM 2014: 41).

The multi-disciplinary and multi-causality of environmental migration is also reflected in the difficulty of defining the phenomenon: environmental migration has different characteristics, and entails a wide range of migration patterns that range from short-term vs. long-term and international vs. internal, to proactive vs. reactive and voluntary vs. forced migration (Gemenne 2009, see also Section 2.2.1). The lack of a clear definition also leads to legal issues and great uncertainties and disagreements regarding the migrants' legal status (key word: "climate refugees").

The literature addressing environmental migration that exists so far is mainly organized around the so-called *alarmist* and *sceptical* coalitions. While the representatives of the alarmist coalition generally perceive environmental migration as a threat that will lead to extremely high numbers of migrants and cause major insecurities, sceptics, on the other hand, emphasize the importance of taking other factors such as poverty and vulnerabilities into account (Gemenne 2009: 120, 129).

Quite recently, a cautious rapprochement between the two coalitions took place, partly due to the increased attention towards global warming (Gemenne 2009: 138). This rapprochement and the greater awareness of climate change went hand-in-hand with a global call for climate action, and, amongst others, the need for policies addressing environmental migration. However, so far, this call only had a limited range, and although the goal was to include the aspect of human mobility into climate negotiations, references to environmental migration only rarely made it into the final versions of agreements (Wilkinson et al. 2016a). The national governments have also been quite slow in formulating relevant policies and frameworks that are concerned with environment migrants directly. While the SDGs, for example, put a strong focus on global climate action (in particular the SDG 13), the issue of environmental migration is not mentioned at all (Wilkinson et al. 2016b). Other SDGs do address migration (e.g., SDGs 8, 10, and 17) – however, they not make the connection to environmental change or climate change. Similarly, in the intended nationally determined contributions (INDC) papers prepared by 162 countries in preparation for the United Nations Climate Change Conference of 2015, only 34 referred to human mobility, which suggests that a high number of states did not consider the issue relevant enough to be mentioned in such a context (Wilkinson et al. 2016b).

While the theoretical conceptualization of environmental migration and comprehensive research within the study field becomes more frequent (Black et al.

2011a), research concerning the framing of the phenomenon remains limited (cf. Ransan-Cooper et al. 2015, Methmann and Oels 2015). However, as Ransan-Cooper et al. (2015: 106, 117) argue, “unpack[ing] how these conceptualisations get used (...)” is highly relevant for understanding how “actors are interpreting and responding to the issue of environmental migration”. There are normative assumptions behind each conceptualization of the issue that inevitably have implications on how environmental migration is addressed within a country’s policy framework. The authors identified four framings of environmental migrants, namely *victims*, *security threat*, *adaptive agents*, and *political subjects*, and argue that these typologies evolved over time. Nevertheless, all four frames remain current up to today. As the responsibility of implementing the global climate action frameworks lies with the national governments, it is of importance that these governments account for environmental migration in their climate change and migration policies. However, different governments interpret and respond to environmental migration differently, which produces varying feedback. The US government, for example, makes various references to security threats in the context of discussing environmental migration (Ransan-Cooper et al. 2015). The UK government, on the other hand, clearly framed the issue of environmental migration as a “‘transformational’ adaptation to environmental change”, that “in many cases will be an extremely effective way to build long-term resilience” (Foresight 2011: 10). With India being rather reluctant to clearly address the issue in any of its policies, it remains unclear how India frames environmental migration. I, therefore, argue that it is of relevance to analyze India’s narrative of the issue. Before presenting a theoretical framework that will help to analyze just that, I will briefly provide some more background on the Indian context of environmental migration.

1.2.1 The Indian Context

India is highly vulnerable to the impacts of environmental change due to a number of reasons. As mentioned above, India’s geographical exposure, the widespread poverty as well as the high dependence on climate-sensitive sectors result in a combination of low adaptive capacities, vulnerability to natural hazard, and social vulnerabilities. In the past, environmental change and natural hazards have created great numbers of migrants in India, and projections indicate a continuing increase of migratory flows (Anderson et al. 2016). According to the Internal Displacement Monitoring Centre (IDMC), India was among the three countries most affected by disaster displacement in absolute numbers worldwide for the period of 2008 to 2014, along with China and the Philippines (IDMC 2015). Between 2008 and 2015, the number of people that were internally displaced in India ranged in the magnitude of millions (see Figure 1.1). For example, flooding that took place in several Indian states in July 2014, displaced 1,073,700 people – the third largest displacement event globally in this year. Together with other natural disasters that occurred in 2014, 3.4 million Indians were internally displaced in this year.

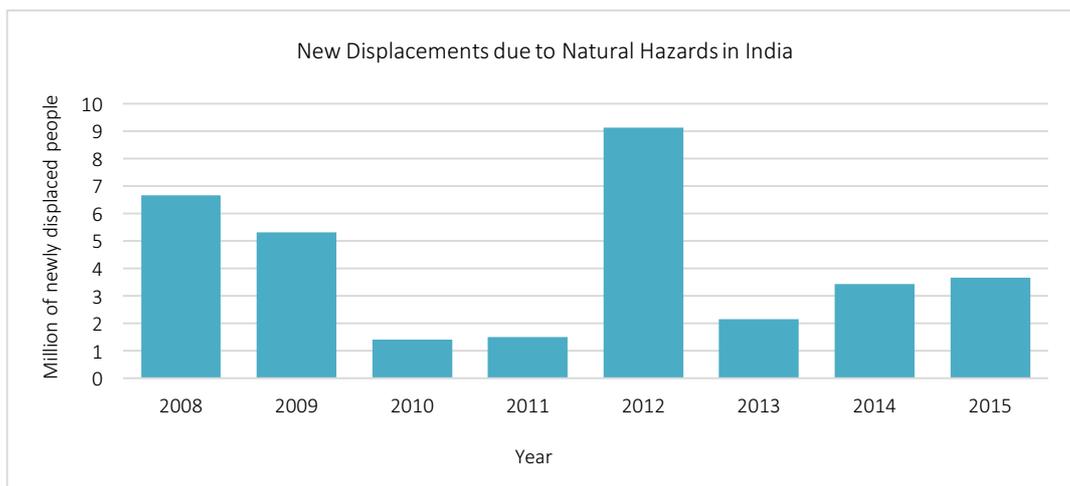


Figure 1.1 | Overview of Yearly Displacements due to Natural Hazards in India

Data source: IDMC 2017

This number, however, only accounts for people that were displaced due to a sudden-onset disaster. When considering the population that migrated due to slow-onset change, such as desertification or other gradual processes of environmental degradation, the number is expected to be many times higher. Further, these numbers are limited to internal displacement. While the vast majority of Indian environmental migrants choose to stay in India – often also within the state (rural-rural or rural-urban migration) – international human movement is nevertheless highly relevant for India when considering the large numbers of incoming migrants (Anderson et al. 2016). These migrants mostly origin from Bangladesh, Pakistan, and Nepal, and cross the border to India in search for better living conditions and employment opportunities, as their own countries are also highly affected by environmental change (Anderson et al. 2016). In the past, these high influx-rates have led to insecurities in India, particularly in the border region of Bangladesh (viz., the states of West Bengal and Assam). Internal migration in India, on the other hand, is more often linked to rural-urban migration and high urbanization rates (Anderson et al. 2016). This entails problems such as increasing levels of air pollution, along with other forms of pollution (water, solid waste, land, and soil etc.) (Revi et al. 2014). These conditions require a national government to account for environmental migration in their policies and to engage with affected communities.

As a consequence of the high vulnerabilities and India’s exposure to environmental change, one could assume that environmental migration is high on India’s policy agenda. However, despite the issue’s urgency and relevance, the Indian government inadequately acknowledges it in its national policies (Boas 2012). India’s National Action Plan on Climate Change (NAPCC) for example does not discuss the poorest and most vulnerable ones, but rather focuses on eight technical goals in the combat of climate change (Pandve 2009). As Boas (2012) argues, this could be partly due to issues that India perceives as more pressing, such as poverty alleviation, sustainable development, and urbanization. Furthermore, as defined in India’s INDC, the country’s guiding principle of “development without destruction” indicates a high priority of continued economic growth while focus-

ing on the “historical responsibility” of the developed countries in terms of greenhouse gas emissions (Government of India 2015a).

Even though environmental migration is not directly discussed in any of the policies, India’s framing of the issue nevertheless manifests itself in its policy documents. This, in turn, will inevitably shape vulnerabilities – be it directly or indirectly – and thereby have implications on migratory flows. Analyzing these policies on how they address relevant vulnerabilities is therefore of high relevance, as it might offer some insights on possible implications of human migration in the context of environmental change.

As discussed in Section 1.1, this is ultimately the aim of the thesis at hand. In order to see the whole picture of environmental migration – including underlying factors (such as vulnerabilities and exposure) –, a theoretical framework will be developed in the following. Its goals are twofold: on the one hand, it will help to generate a better understanding of the phenomenon by addressing certain drivers of environmental migration. On the other hand, the framework will explain how the feedback that policies produce will have direct and indirect implications on migratory flows. This is where the framing of the issue becomes crucial, as it is bound to have wide-ranging implications on population movements, both in India and within the whole region of South Asia.

2 A Theoretical Framework for Environmental Migration

The topic of environmental migration is an extremely context-specific and multi-causal phenomenon, and the theorization of migration within the context of environmental change has generated a large volume of literature (Castles 2002). Being a highly interdisciplinary topic, it can be approached from different angles, such as ecology, environmental anthropology or security studies. For this study, I chose to approach the topic from the two most essential components of environmental migration: environmental change, and the movement of people. Therefore, I constructed a theoretical framework consisting of theories from both environmental studies and migration studies.

As mentioned earlier, the debate around this field of study is mainly dominated by *alarmists* (mostly from natural sciences as well as a large number of security experts and Non-Governmental Organizations (NGOs)) and *sceptics* (mostly from social sciences, particularly from migration studies) (Dun and Gemenne 2008, Gemenne 2009, Greiner and Sakdapolrak 2016). One of the most popular representatives of the alarmist coalition is the environmental scientist Norman Myers. He considers population movements to be a logical by-product of environmental change, and created a stir when he projected extremely high numbers of environmental refugees (Myers 1997). Opposed to this understanding are the sceptics who consider such an apocalyptic view a neo-Malthusian approach (Black 2001). An author who has produced significant recent work on the topic is Richard Black, a migration specialist. He argues for the complexity and multi-causality of the migration process (Black et al. 2013). The existence of such opposing coalitions demonstrates the complexity of the environmental-migration nexus, and reflects the difficulty of clearly relating migrants to environmental change.

In the following, I am providing an overview of major theories of both environmental studies and migration studies. In a second step, a model for environmental migration will be presented, which served as a point of departure for the mode of analysis I applied to analyze how actual migration has been addressed – or not – by the policy process. This was done by considering migration as a response to vulnerabilities, which entails both challenges and opportunities.

2.1 Theories of Environmental Change

Theories of environmental change play a central role in the study of environmental migration. Yet, they also tend to focus on studying and explaining natural events and causes of change. As I apply a sociocentric perspective to this research, I am however interested in the impacts of environmental change on people and communities, rather than the environmental change or its causes per se. Therefore, I am going to provide only a brief overview of some of the central theories addressing causes of environmental change, and will instead discuss the more central concept of vulnerability more in depth at a later stage (cf. Section 2.3). The concept of vulnerability is taking into account both exposure to change and ability to adapt to it, and is thus well suited to explain the varying impact of environmental change on populations (Adger et al. 2003, Adger 2006), and why migration can be understood as a response to vulnerability (Black et al. 2011a).

2.1.1 Causes of Environmental Change

Causes of environmental change vary substantially, and one can distinguish environmental change with *natural causes* from *human-induced change*. Environmental change induced by natural causes, such as earthquakes or landslides, can be explained by plate tectonics, volcanic activity or erosions. Appropriate theoretical frameworks for these natural causes can be found within the fields of geology, physical geography, meteorology or the like.

Besides environmental change with natural causes occurs human-induced change, which is frequently analyzed with the help of environmental economics. Market failure is often seen as an essential factor for such change, and Gemenne elaborates three major concepts of environmental economics that relate to these failures: global commons, public goods, and externalities (Gemenne 2009). Hardin's (1968) model of the "tragedy of the commons" has been widely applied to study environmental change induced by the overexploitation of common goods. The excessive use of common natural resources can also have effects on human mobility. One such example is the deforestation that forces more and more people into migrating to other places (Hugo 1996). The study of the provision of public goods is closely related to the problem of global commons. Human-induced environmental change is often traced back to a failure of the market to provide public environmental goods, such as the protection of the climate through emissions reduction. By failing to provide this protection, climate change – the ultimate negative externality – is induced, which affects livelihood and therefore ultimately has impacts on migration decisions.

Global warming is considered a major driver for a variety of environmental changes, and there has been a continuous increase in understanding its scientific basis. Nevertheless, the phenomenon is still subject to debate regarding its credibility, and predictions of the consequences are difficult to make. The Intergov-

ernmental Panel on Climate Change (IPCC) defines climate change as “(...) a change in the state of the climate that can be identified (e.g., using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity” (2007: 30). The United Nations Framework Climate Change Convention (UNFCCC) goes one step further by referring to “(...) a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods” (IPCC 2007: 30).

However, not all variances in climate and weather are due to climate change – differentiating between climate *change* and climate *variability* is essential here. While theoretically, both phenomena have severe impacts on people’s basic needs such as water and food supply as well as their livelihoods, climate variability refers to fluctuations that can be attributed to natural causes (IPCC 2007: 78f.). Climate change, on the other hand, relates to a continuous and long-term change in climate conditions that become especially relevant in terms of more permanent resettlements (compared to rather temporary resettlements after consequences of climate variability (Wilkinson et al. 2016b)).

Climate change is generally understood to have severe long-term impacts on people’s basic needs such as water and food supply and their health (Barnett and Webber 2010). This is especially true for people in developing countries, as they are expected to be most affected due to the combination of their high risk exposure to climate change and their low adaptive capacities (Adger et al. 2003). As the majority of communities in developing country are highly resource-dependent, these changes in the environment will have substantial effects on people’s livelihoods. Amongst many others, a few expected consequences of a changing climate with drastic effects on populations are:

- Sea-level rise: Future sea levels are projected to increase, which will have major impacts on populations living in coastal areas and on islands nations. According to Anthoff et al. (2006), there will be 145 million people at risk from a 1-meter sea-level rise, of whom 41% will be in South Asia, and 32% in East Asia.
- Extreme weather events: Climate change increases the frequency and intensity of disasters such as droughts and floods (Krishnamurthy et al. 2012). This has negative consequences on both food security and livelihoods through the destruction of crops and critical infrastructure. According to the Food and Agriculture Organization (FAO) (2008), in Africa alone, 650 million people are dependent on rainfed agriculture in environments that suffer from water scarcity.
- Patterns of infection: water-borne and vector-borne diseases (e.g., Malaria) are strongly influenced by climate. It is expected that the transmission seasons and their geographic range will be heavily affected by changes in climate (WHO 2016).

These examples demonstrate just how complex the phenomenon of climate change is and the variety of consequences it will provoke. Depending on the geographic location, the exposure to climatic variability will be different. Individuals, households and whole communities will have to find coping and adapting strategies to handle the impact the changes in environment entail. Migrating is one of the possible responses to environmental change. How migration can be triggered in general will be discussed in the following when touching upon major theories of migration. These theories will then provide the basis for studying a model for the specific case of environmental migration.

2.2 Theories of Migration

In the previous section, an overview of major theories of environmental changes has been provided. In the following, I am going to focus on theories regarding population movements. I will hereby briefly mention some of the major theories explaining human mobility, before going into the specific type of environmental migration and the concept of vulnerability. First, however, I will make some distinctions and discuss some of the key concepts within migration studies relevant in the context of environmental change.

2.2.1 Relevant Key Concepts in Migration

When talking about migration, certain distinctions need to be made³. First, there exists both internal and international migration. While international migration is an omnipresent phenomenon that is increasingly displayed in the media, the vast majority of migrants worldwide actually move within their own country (IOM 2014). Approximately 740 million people are so-called internal migrants, while 214 million migrate beyond their national borders (UNDP 2009). This especially applies for those who are being displaced by environmental change, as the large majority are internal migrants that do not cross national borders (Methmann and Oels 2015). Nevertheless, especially in the case of India, international environmental migration becomes more and more common, with India representing a strong attraction to its neighbor countries due to its relative welfare (Anderson et al. 2016).

Second, migration can be of a voluntary or of a forced nature. In the specific case of environmental migration, there still exists confusion on the conditions of voluntary and forced migration. Is environmental migration in itself forced migration? Or does a slow-onset environmental change or event, such as gradual deser-

³ This overview is limited to concepts relevant to environmental migration.

tification, not constitute a prerequisite for categorizing it as forced migration (Dun and Gemenne 2008)? The difficulty to clearly relate migration to environmental change, and to thus separate environmental drivers from other drivers, further contributes to this confusion.

Third, one can distinguish between proactive and reactive migration – a differentiation that becomes especially relevant in the case of environmental migration. As Black et al. (2011a: S6) argue, “[m]obility is broadly interpreted as proactive move to improve livelihoods and opportunities, and is typically voluntary and planned”. In the case of environmental migration, proactive mobility is often triggered by slow-onset environmental change (Gemenne 2009: 25). In other constellations, environmental migration can also be of a reactive nature, for example in situations where sudden-onset disasters strike and migration serves as a reactive disaster management.

Fourth, from a temporal perspective, human mobility can be temporary or permanent. In regards to environmental change, the differentiation between sudden- and slow-onset changes once again is relevant in this context. While sudden-onset changes, such as a flood or a typhoon, often lead to immediate, but mostly temporary displacements, slow-onset changes tend to result in more permanent migration (Barnett and Webber 2010).

Finally, being a rather new phenomenon, the legal status of environmental migrants has not been fully established yet and remains a highly controversial topic (see Black 2001). The IOM refrains from speaking of “environmental refugees”, as it is both misleading and not fulfilling the conditions of a “well-founded fear of being prosecuted”, as defined in the refugee definition from 1951 (cited in IOM 2014: 23). It thus remains unclear, which legal framework includes environmental migrants, and whether future emergency situations will entitle them as refugees (e.g., submergence of an island state).

2.2.2 Major Migration Theories

Traditionally, theories of migration focus on international and voluntary movements, and tend to neglect the influence of the environment on migration. These frameworks aim at explaining economic disparities between countries and most of them emphasize economic causes as motivation for migration (Gemenne 2009). Nevertheless, some of these frameworks can easily be adapted to environmental migration. In the following, I will briefly mention some of the traditional migration theories, before turning towards a more specific model for environmental migration as proposed by Richmond (1994) and further elaborated by Hugo (1996).

One of the first attempts to theorize migration was done by Ravenstein (1885), who stressed the so-called push-pull process. In this process, push and pull factors jointly encourage people to migrate. On the one hand, unfavorable conditions “push” people out of a place, while favorable conditions, on the other hand, “pull” them into another place. The assumption is that the migration would help to achieve a balance between these push and pull factors. Traditionally, Ravenstein’s

model builds on employment factors. However, it can quite easily be adapted to environmental factors (e.g., progressive desertification pushes people out of a region, and another, more favorable region pulls them into it).

Several other theories have been developed out of this fundamental theory, one of which is the neoclassical economic theory. It applies a rational choice framework to migration, suggesting that individuals are trying to maximize their income, and therefore migrating to other places if they can expect a positive impact on their income from movement (Borjas 1989). Todaro (1969) draws a connection between this rational choice behavior and urbanization, as job prospects tend to be major drivers for rural-urban migration in developing countries.

In contrary to the neoclassical economic theory, where the focus is on individual's rational choices, the new economics of migration theory, as stated by Stark (1991), stresses the relevance of households within the decision to migrate. Rather than an individual decision, the decision to migrate is a whole household's strategy, attributing a collective dimension to migration. This, however, does not mean that the whole household will migrate. Rather, individuals are sent off to diversify the sources of income. In this way, migration serves as a risk-reduction and coping strategy, as remittances can be a crucial factor in increasing families' resilience (Adger et al. 2002).

2.3 Migration and the Role of Environmental Drivers

Classical migration models and theories barely engage with environmental drivers for migration, while also predominantly focusing on voluntary and international rather than forced and internal migration. Environmental factors however increasingly influence migration, and thus need to be acknowledged as an important driver for migration, along with other key clusters. Black et al. (2011a) stress the highly intertwined nature of drivers of migration, which makes an isolation of single drivers inappropriate. Rather, the authors identify five families of drivers that need to be considered as a whole: environmental, economic, social, political and demographic drivers. Environmental change might have direct impacts on migration (e.g., extreme weather event), or indirect impacts by influencing other drivers of migration. This is particularly the case for economic and political drivers, where environmental change might affect livelihoods or provoke conflicts over resources, which in turn will trigger migration. Environmental drivers are also more difficult to identify when resulting from slow-onset change, as they are often linked with economic incentives. The relationship between environmental change and migration, becomes more direct when choosing to migrate as a consequence of a sudden-onset event (Hammer 2004). In these cases, the movement tends to be of a temporary nature, while slow-onset changes – once the impact on the well-being has become too pressing – leads to more permanent movement.

The link between environmental change and people is often shaped by vulnerabilities. The conceptual framework of vulnerability therefore offers an explanation

for both how change affects people as well as why the changes in the environment have varying impacts on individuals, communities, and regions. According to Adger et al. (2003: 181), “[v]ulnerability is (...) a socially constructed phenomenon influenced by institutional and economic dynamics.” It is determined by two main factors: exposure and sensitivity to external stress and risks (external aspect), and the adaptive capacity (internal aspect). This means that different individuals and communities are not equally vulnerable to climate change (Adger et al. 2003, Adger 2006). Vulnerability is thus highly context-specific. This is true on a micro (individuals), on a meso (communities) and on a macro-level (countries). Developing countries have an extremely difficult stand in terms of being able to cope with the impacts of global warming, as they generally have a low resilience due to widespread poverty and predominant dependence on the agricultural sector and resource-based livelihoods (Lambrou and Piana 2006). Furthermore, a great number of the developing countries’ geographical location indicates that these countries will be exposed to the worst of the impacts (Adger et al. 2003). Consequently, regions that are expected to be hit the most, are also likely to be the ones least able to cope with the impacts.

Adger (1999) further draws a distinction between individual and collective vulnerability. While individual vulnerability refers to access to resources and the diversity of income sources, collective vulnerability (of nations, regions or communities) is determined by local infrastructures and development. Key indicators at the individual level are poverty and dependency on resources, while high inequalities indicate vulnerability at the collective level.

When applying the concept of vulnerability to the phenomenon of environmental migration, it becomes evident that the migratory responses are highly dependent on individual and collective vulnerability patterns. Migration can thus constitute a response to vulnerability – an adaptive strategy that aims at reducing vulnerabilities. In contrast, reducing vulnerabilities in the first place can also be a strategy to prevent migration. Interactions between migration and vulnerabilities are thus central to debates on environmental migration policies, and will be discussed more closely in the last section of this chapter.

In the following, I will present a model for environmental migration that takes the complexity of the relationship between environmental drivers and migration into account. Rather than understanding environmental change as directly causing migration, it acknowledges the relevance of other drivers and vulnerabilities.

2.3.1 A Model for Environmental Migration

While most of the migration theories do not address environmental change as a driver for migration, some scholars have tried to develop an explanatory model specifically for the phenomenon of environmental migration. The following model was first proposed by Richmond (1994), and later further developed and systematized by Hugo (1996) (see Figure 2.1).

The model is made up of four central elements. First, it recognizes the dynamic and complex interaction of the multiple causes that generate migration, and

acknowledges that certain environments and settings are more likely to trigger migration than others. While environmental drivers certainly play an important role, local contexts such as resilience and adaptive capacities ultimately determine the possibilities to adapt, and with it the decision-making on migration. Those *predisposing conditions* can thus be of an environmental, economic, and social nature, and are comparable to vulnerabilities. These factors influence the response to the *precipitating event* – the actual environmental change, such as flooding. Whether environmental change triggers a human movement or not is thus heavily dependent on individual and collective vulnerabilities. In other words: environmental change does not create migratory flows itself. The climatic event or change needs to encounter certain predisposing conditions in order for a migration response to be triggered. In fact, migrating often represents the last resort, and is thus only chosen when all other adaptive strategies have been exhausted (Black et al. 2013). Not being able to migrate might also be a sign of high vulnerability, as migration is a rather costly endeavor (key word: “trapped population”) (IOM 2014, Black et al. 2011b).

The next element in the line of argument are *facilitators or constraints*, which refers to pre-existing networks and connections. As Black et al. (2011a) argue, the effects of environmental change on migration are also mediated through personal and family characteristics (added in blue in Figure 2.1), such as age, sex, educational level, wealth, marital status, attachment to place, and attitudes and preferences. This perspective emphasizes the role of human agency in migration decisions.

Lastly, *feedback* plays a crucial role in understanding population movements.

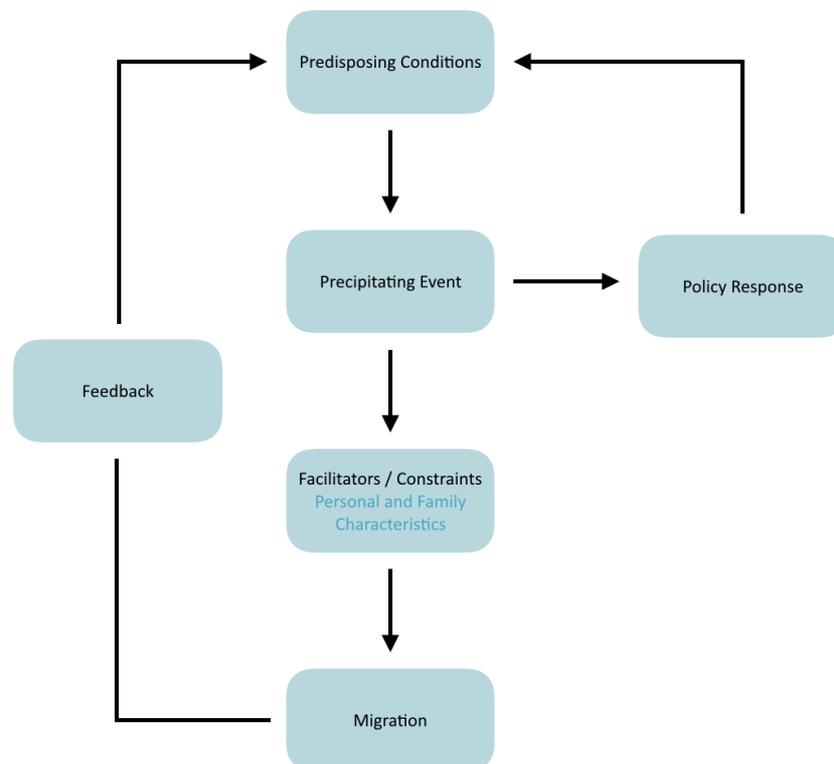


Figure 2.1 | A Theoretical Model of Environmental Migration

Adapted from Richmond (1994) and Hugo (1996), and expanded with Black et al. (2011a)

By taking off pressure of natural resources, migration can be a direct form of feedback. Environmental policies (*policy response*) have a more indirect feedback effect: by influencing predisposing conditions, the feedback that is sent via migration or via policy responses ultimately influences migration itself. The relevance of this very feedback is also emphasized by Gemenne (2009: 20), who argues that patterns of environmental migration “(...) are, to a large extent, determined by the policies implemented to address these migrations rather than by the environmental change per se.”

In sum, this model captures environmental migration comprehensively by taking environmental change as well as context-specific vulnerabilities into account. Migration is not an automatic response to any kind of environmental problem, and individuals and households will first try to lower their vulnerabilities in some other way, before resorting to migration (Black et al. 2013). It is a highly context-specific phenomenon, and a theory that addresses it thus needs to take a variety of drivers into account to adequately grasp this complex pattern of causality.

After providing some background to the mechanism and the complexity of drivers of environmental migration, I am now turning towards two different frames of the phenomenon of environmental migration. As the above explained model clearly shows, the feedback that policy responses send, will ultimately have implications for the migratory flows themselves by influencing the predisposing conditions directly or indirectly. Therefore, the normative assumptions that stand behind such policy responses have far-reaching consequences, and call for a more detailed investigation.

2.4 Framing Environmental Migration

In the previous two sections, I approached the topic of environmental migration by discussing theories regarding the two most essential components of the topic: environmental change, and the human movement it may generate. The theoretical model by Richmond (1994) and Hugo (1996) offers a comprehensive explanation of how environmental change can influence migration by taking the complexity of the issue into account. This research, however, is mainly interested in the policy responses that address the resulting migration, which is why I will now discuss two different ways of how migration resulting from environmental change can be perceived by actors.

Methmann and Oels (2015) have analyzed a number of policies and identified three different ways of problematizing the relationship between environment and migration that evolved over time. The first discourse was strongly influenced by representatives of the initially mentioned alarmist coalition, and articulated migrants and refugees as a problem. Scholars such as Myers (1997) predicted apocalyptic scenarios, where environmental degradation led to a vast number of refugees, posing a major threat to national security. This initial discourse then gradually evolved into a second discourse characterized by a necessity to “save” climate refugees along with a call for a proper legal framework. This notion further rein-

forced the securitization of migration. In recent times, however, a third discursive shift took place – this time towards the empowerment of climate migrants. Environmental migration is nowadays increasingly seen as a positive adaptation strategy that leads to increased resilience of affected people – an assumption that partly overlaps with the sceptical coalition’s point of view. However, as Methmann and Oels (2015) argue, the conceptualization of migration as a matter of fact normalizes the dispossession of people by considering the destruction of livelihoods as normal and unavoidable.

Going into details of climate refugees’ legal status would require a significant extension of the theoretical framework, and thus goes beyond the scope of this thesis. Therefore, I am in the following focusing on the two notions of environmental migration as a challenge and as an opportunity. These two perceptions correspond to two of the frames Ransan-Cooper et al. (2015) identified in their study: environmental migrants as security threats, and as adaptive agents (see Chapter 1.2). As a study produced by UN DESA (2013) found, the latest discourse has so far only partly reached policymakers. Today, most governments (e.g., the US government) tend to explore adaptation measures to reduce migration pressure and focus on policies to manage authorized movements and control irregular flows – an approach that is very much in line with the negative framing of environmental migrants. Despite the prevalence of this negative frame, Ransan-Cooper et al. (2015) were able to identify a number of actors that conceptualized environmental migrants as adaptive agents, such as the UK government or Kiribati’s president Anote Tong. Therefore, I argue, considering both the discourse of environmental migration as a security threat (from now on referred to as *challenge*) and the discourse of environmental migrants as adaptive agents (from now on referred to as *opportunity*) is well justified, as both frames prevail at present. In the following, I am therefore exploring the two frames in greater detail, before elaborating some of the methodological consideration in Chapter 3.

2.4.1 Migration as a Challenge

In present times, migration generally has a negative connotation. Terms such as “migration crisis”, “border security” and “immigration waves” increasingly come up in the media, and recent debates tended to perceive migration as a problem (Black et al. 2011a). According to a study produced by UN DESA (2013), policymakers generally approach the issue in a similar way and focus on exploring measures to brace themselves for the threat of migrants and refugees. Similarly, development aid has been a longstanding strategy followed by a great number of governments to prevent immigration (De Haas 2007). This approach has persisted up until now in spite of its effectiveness increasingly being called into question.

Migration indeed entails certain risks, both on a micro (migrants and those who stayed behind) as well as on a macro level (governments). As this thesis focuses on policy responses by the Indian government, I would like to stress two risks migration poses for governments and a country as a whole. First, migration has more and more developed into a security issue (Huysmans 2000). Immigration

is increasingly perceived as a threat, with migrants believed to impact the development and security of the host communities. In the case of environmental migration, this is especially relevant in regards to natural resources: migration puts further pressure on natural resources in the host communities, which might lead to conflicts. As Swain (1996: 971) described, these migratory flows ultimately “transport[s] (...) the conflict from the environmentally affected regions to the migrant receiving areas”. This increased risk for tensions and intolerance is especially relevant for India, where migration flows – particularly from Bangladesh – have led to conflicts induced by environmental disruption (Anderson et al. 2016: 19).

The second risk, which partly is connected to the first one, is the negative consequences environment migration can result in. Rural-urban migration has led to high urbanization rates, which in turn results in pressure on urban infrastructures, high air and water pollution rates, the development of slums, or further environmental destruction to create settlements and agriculture (IOM 2010). Urbanization thus also increases the risk of non-communicable diseases due to increased pollution. Preventing or reducing migratory flows can therefore be a strategy to counteract these negative impacts. To prevent or manage migration, significant vulnerabilities of individuals and affected communities need to be reduced. This can be achieved by, amongst other things, investing in rural development (e.g., infrastructure, providing rural employment opportunities, agricultural research to create climate-resilient crops, etc.). By implementing policies that reduce those vulnerabilities, the resilience of risk-exposed populations will be increased, which might result in lower migratory flows. An overview of such policies can be found in Figure 2.2.

2.4.2 Migration as an Opportunity

On the other side of the coin is migration as a proven development strategy that can significantly contribute to poverty reduction (Barnett and Webber 2010). Adams and Page (2005) argue that international migration and remittances can significantly reduce poverty in developing countries. This proves also true in the specific case of environmental migration, where human mobility is a response to vulnerability (Black et al. 2011a). In his assessment of a coastal area in Vietnam, Adger (1999) found that remittances sent by environmental migrants were a key factor in increasing household’s resilience to floods and sea-level rise. Environmental migration is thus a valuable adaptation measure in the context of environmental and climatic change (Gemenne and Blocher 2017). By promoting migration, the full potential of human mobility can be tapped to reduce vulnerabilities. Thereby, resilience will be built and adaptive capacities will be increased, which will ultimately provide an effective strategy to adapt to changes in the environment. This will also lead to lower pressure on natural resources in rural and hazard-exposed areas as well as reduced population pressure. Hence, there exist a number of reasons for why governments might frame environmental migration as a valuable coping mechanism, and thereby acknowledge migration as part of the

solution to adapting to climate change. By applying such an adaptive agent frame, environmental migrants will be considered “(...) with notions of agency and individual empowerment” (Ransan-Cooper et al. 2015: 112)

How can such policy measures look like that support mobility and thus enhance the contribution migration can make to adaptation? As Black et al. (2011b) argue, providing channels for voluntary migration is one possible way to do this. This requires removing arbitrary restrictions on movement and providing sustainable infrastructure in the new settlement area – mostly urban areas. The Foresight report (2011) funded by the UK Government Office for Science is also recommending the creation of policies that will facilitate migration as a means of adaptation to environmental change. This includes the building of new cities and possibly even the relocation of populations in high risk environments where no other solution can be found (2011: 182). Policies should also aim at promoting urban employment opportunities, reducing transaction costs for remittances and ensuring the rights of migrants (Barnett and Webber 2010). Especially the development of mega cities should take temporary and seasonal migrants into account and develop social policies to declare their rights. Further, additional measures for trapped populations – the poorest and least mobile ones – are required to minimize their vulnerability (Black et al. 2011b). A selection of policies that aim at promoting migration in order to reduce vulnerabilities as a means of adaptation can be found in Figure 2.2.

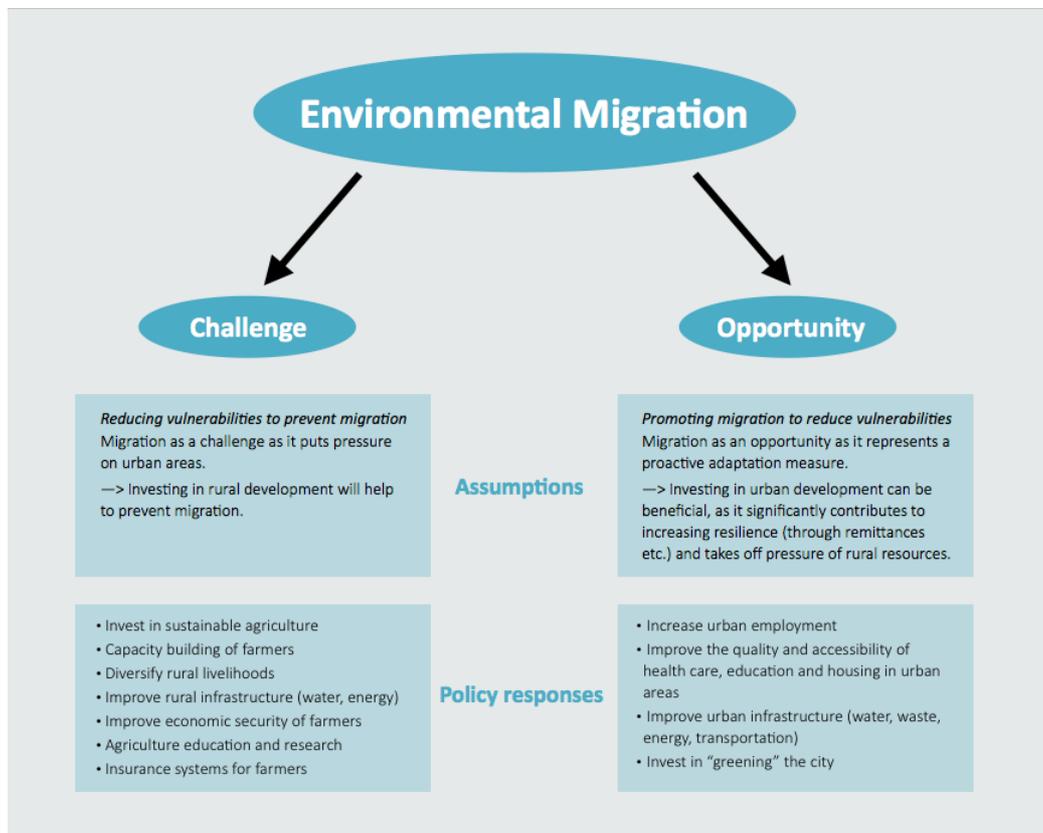


Figure 2.2 | Framing Environmental Migration as a Challenge or an Opportunity

This figure presents two possible framings of environmental migration: challenge and opportunity. The boxes “policy responses” contain a selection of possible policies that shape vulnerabilities and thereby indirectly influence migration, or promote migration in order to reduce vulnerabilities, respectively.

3 Methodology

This chapter is to explain the methodological choices that were adopted for this study. I will first elaborate on what data was analyzed within the scope of this research and motivate my choices of data sources. Thereafter, I will turn towards the specific method that was chosen for the study and elaborate on why I believe that this method fits the purpose best.

As discussed in the theory section, the way a government frames environmental migration can have direct and indirect implications on the issue itself. On the one hand, the feedback that policy responses produce, influences vulnerabilities and predisposing factors, and therefore also indirectly human migratory flows (Ra-leigh et al. 2008, see also Section 2.3.1). On the other hand, policies can also di-rectly influence human mobility, for example by hindering people from crossing borders (be it internal or international borders). Analyzing a government’s fram-ing of an issue can therefore be of high interest, as it might provide indications of future flows and trends. This is especially true in the case of India, as the country is highly affected by internal and international environmental migration. The Indi-an government’s framing of the issue and its policy responses is therefore almost predestined to have implications for the whole region of South Asia.

However, the creation process of policies and legal frameworks that address or include environmental migrations has been very slow. While the issue becomes more and more prominent in the literature debate, policy-makers have a quite re-luctant attitude towards it. This can partly be explained by the issue’s complexity and multidimensionality, and partly by the lack of comprehensive data that would allow evidence-based policy-making (IOM 2014). Further, this slow progress is common within complex and global issues such as climate change and interna-tional climate action (Wilkinson et al. 2016b). In the Indian context, the central government so far has paid little attention to the issue, and refrains from directly mentioning it in any of its national policies (Boas 2012). As the ultimate goal of this thesis is to analyze the framing of environmental migration by the Indian government, examining policies on the explicit mentioning of environmental mi-gration might therefore not bring a fruitful outcome. For this reason, the study at hand expands its focus and analyzes policies and frameworks on their influence in shaping vulnerabilities and predisposing factors, as this in turn will affect migrato-ry flows (cf. Figure 2.2).

An example of such a policy is the Mahatma Gandhi National Rural Employ-ment Guarantee Act (NREGA). It was launched in 2006 and guarantees every ru-ral worker “(...) at least 100 days of guaranteed wage employment (...)“ (Minis-try of Rural Development 2005: 1). The NREGA therefore aims at securing rural livelihoods, which ultimately serves to keep the workers in rural areas rather than

them moving to urban areas seeking potentially more promising employment opportunities.

This is just one example of how a standpoint of the government can be detected in a policy that is not directly addressing environmental migration. In the following, I will elaborate on how the analysis plans to investigate this very framing in greater detail, and which resources will be analyzed to do just that.

3.1 Unit of Analysis

This study analyzes official policy documents produced by the Indian government in order to investigate how India frames environmental migration. The Indian government has released a number of policy documents directed at the combat of climate change and environmental degradation. A major milestone in India's recent history of fighting climate change was the implementation of the National Environment Policy (NEP) in 2006 (Government of India 2015a). The release of the National Action Plan on Climate Change (NAPCC) two years later complemented the NEP with more specific policies in the form of eight missions (Government of India 2008). The NAPCC further laid the foundation for all state governments and union territories to prepare so-called State Action Plans on Climate Change (SAPCC). The SAPCCs aimed at mainstreaming climate change concerns into the states' sustainable development planning by taking every state's unique vulnerabilities into account, while adhering to the national strategy outlined in the NAPCC (Government of India 2015a). This decentralized planning for climate action provides a good foundation for a thorough analysis of the national framing of environmental migration, as the SAPCCs demonstrate a finer and more elaborated discussion of the social issues that accompany environmental change. The Ministry of Environment, Forest and Climate Change (MoEFCC) provided a common framework for the states to prepare the SAPCCs, which led to similar text structure of the policy documents (ACT 2015). The SAPCCs consist of an assessment of vulnerability to climate change at the sub-national level, which is complemented with a detailed action plan on what the state government will do to protect from or adapt to the threat of climate change (ACT 2015). This richness in information provides a suitable basis for analyzing the framing of environmental migration, and the SAPCCs were therefore chosen as the unit of analysis for this study.

The total population of SAPCCs consists of 32 policy documents⁴ (MoEFCC India 2017). To choose the documents that were analyzed within this study, a purposive sampling strategy was applied. This ensured that those documents sampled

⁴ As of 16.05.2017, 32 SAPCCs (produced by both states and union territories) have been endorsed by the National Steering Committee on Climate Change (MoEFCC India 2017).

were relevant to the research question in one or another way. Due to the limited time and resources within the scope of this thesis, a sample size of five SAPCCs was chosen. The selection will be elaborated and motivated in detail in the following section.

3.1.1 Case Selection

In the course of the methodological considerations for this study, five Indian states have been selected through a purposive sampling strategy. The goal of this strategy was to obtain a representative sample with “useful variation on the dimensions of theoretical interest” (Seawright and Gerring 2008: 296) that would therefore represent the central government’s framing as a whole. In the following, each criterion that guided the process of selecting the five states will be elaborated in detail, and the selected state will be presented (see also Figure 3.1).

Criterion I: Urbanization

The first criterion considered was urbanization and the internal migration (rural-urban) associated therewith. Urbanization poses a major problem in India, as it entails a high number of environmental issues (e.g., air and water pollution, urban infrastructure problems, slum formation, etc. (IOM 2010)) (Anderson et al. 2016). In 2015, 33% of the total population in India lived in urban areas (World Bank 2016a), and the Indian government predicts this share to rise to 40% by 2030 (Government of India 2015a). As India is the world’s second most populated country (World Bank 2016b), the current share of 33% urban population in absolute numbers is significant: Based on the census conducted in 2011, India has eight megacities (i.e., cities with more than four million inhabitants) and 46 cities with more than one million inhabitants – and these numbers continue to rise (Office of the Registrar General & Census Commissioner, India 2011).

Considering the relevance of urbanization and the resulting environmental problems for India, it seemed only natural to consider this aspect in this research study. Mumbai is India’s largest city, and its metropolitan area records a continuously high in-migration (TERI 2014). Further, the state of Maharashtra, where Mumbai is located, has the highest number of people living in urban areas, and is India’s third most urbanized state (45% of the whole population is living in an urban area) (Government of India 2015b). It is expected that by 2050, Maharashtra will be the second most urbanized state with an urban population accounting for 62% of the total population (TERI 2014: 78). For these reasons, the state of Maharashtra was selected as the state to represent criterion I.

Criterion II: Political Representation

Another criterion that was formulated relates to the political situation in India. At present, the Bharatiya Janata Party (BJP) is the largest political party in India, with Narendra Modi acting as current Prime Minister. In order to adequately represent the national government’s framing of environmental migration, the current

ruling party in the states and union territories should therefore be taken into consideration.

Generally, the BJP strongly opposes illegal migration, as these movements threaten the national economy, security, and society (Gillan 2002). For this reason, the party has launched an anti-migrant campaign in the 1990s, mainly directed towards the “illegal” Bangladeshi migration into India. India is a very attractive destination in the region for migration, due to its comparative welfare and high numbers of employment options, and continuously experiences high in-migration rates from its neighbor countries, such as Bangladesh, Nepal or Pakistan (UN DESA 2015). Northeast India is the region in India that has experienced the highest and most prolonged immigration (Dikshit and Dikshit 2014). Already under the British rule, the region was subject to high in-migration, and this trend continues until today.

Assam is one of the states that has been most affected by the immigration (Anderson et al. 2016). The state experiences an immense population growth due to in-migration from the neighboring country Bangladesh. Environmental factors represent one of the reasons for the high influx of Bangladeshi migrants, as Bangladesh suffers from immense environmental problems (Dikshit and Dikshit 2014: 496f., IOM 2010). Increased pressure on land and water resources coupled with frequent natural disasters continuously force Bangladeshi to move. The overall high population growth in Assam (especially of Muslims) has led to rising intolerance, political concerns and protests, which developed into a political movement against illegal immigration (Dikshit and Dikshit 2014, Anderson et al. 2016). Out of this movement, the Hindu nationalist movement increasingly gained popularity, securing the BJP early representation in the government in Assam (Gillan 2002). Ever since, the BJP has been highly involved in anti-migrant political mobilizations, and ordered the construction of a fence along the Indo-Bangladesh border to stop migrants from entering India.

For these reasons, I argue that it is justified to include the state of Assam in this study. Assam is not only politically represented by the same party that leads the national government, but is also very relevant in terms of affectedness by international in-migration.

Criterion III: Sudden-onset Disasters

The third and fourth criterion addresses two different types of environmental change: sudden- and slow-onset change. Both forms of environmental change frequently occur in India. While a sudden-onset disaster refers to incidents such as floods and storms, slow-onset disasters relate to gradual processes of environmental degradation, such as droughts and desertification (IOM 2014). By considering both factors of sudden- and slow-onset disasters, it was hoped to analyze possible differences in addressing each of the types of changes.

The first type of disasters considered is sudden-onset disasters. Storms and floods have become more frequent and devastating all over India. An increase in the intensity of summer monsoons has been recorded in India, which often is coupled with water scarcity in non-monsoon seasons (Hijioka et al. 2014). Such extreme weather events are particularly fatal when met with vulnerabilities and low

adaptive capacities – a combination that is often found in India due to the high dependence on natural resources and the widespread poverty.

One state that is particularly often affected by sudden-onset disasters is the state of Uttarakhand, located near the Himalayan foothills. Probably the worst disaster Uttarakhand has experienced so far was the “Himalayan Tsunami” in June 2013, which resulted in the death of several thousands of people (Chand 2014). As Chand (2014) argues, one of the many reasons that led to this disaster was heavy rainfall coupled with unprecedented glacier melting. The frequent natural disasters experienced in Uttarakhand have led to great uncertainties in hill agriculture, ultimately resulting in high rural out-migration (Mamgain and Reddy 2016). The state of Uttarakhand therefore served as a representative of a state experiencing massive sudden-onset disasters.

Criterion IV: Slow-onset Disasters

The second type of natural disasters considered is slow-onset disasters, such as droughts or desertification processes. Similar to floods, droughts are an exacerbating factor when it comes to rural poverty due to negative impacts on agriculture and livelihoods (Hijioka et al. 2014). One of the states that are affected by frequent and severe droughts is Karnataka, located in the southwestern region of India. As discussed by Ravindranath et al. (2005), 21.5% of the examined households affected by droughts in Karnataka adopt migration as a coping strategy for food insecurity, reduced agricultural production and shortage of drinking water. Further, Karnataka is also one of the states that experience high numbers of farmers’ suicides – a phenomenon that is often related to frequent and severe droughts (The Indian Express 2016). For these reasons, Karnataka was selected as a representative state for the criterion of slow-onset disasters.

Criterion V: Poverty Rate

The fifth criterion chosen for the sample refers to the poverty rate of a state. As discussed earlier, poverty is linked to social and economic vulnerabilities experienced by individuals and communities. Poverty and low adaptive capacities associated therewith will make it more difficult to increase resilience through adaptation strategies. Further, implementing a policy such as the SAPCC might be particularly challenging due to insufficient funds of a state.

According to the Indian Government, Jharkhand is the third poorest state of all states and union territories in India (based on numbers from 2011/2012, Reserve Bank of India 2013). In Jharkhand, 37% of the population live below the poverty line, with the national average standing at 22%. Due to the pressing problem of poverty, Jharkhand experiences a particularly high out-migration, with many migrants seeking better employment opportunities in other states due to the loss of traditional livelihood. This continuous out-migration led to the loss of close to five million of its working population – the highest net outflow of all states in India (The Times of India 2017). According to Deshingkar (2012), a combination of farming and seasonal migration is a very common coping strategy in Jharkhand, as yields tend to be too low to feed a whole household (due to severe droughts, the yields can be reduced by up to 40%). The combination of high poverty along with

low adaptive capacities and high out-migration as a coping strategy for reduced yields, resulted in the selection of Jharkhand as a representative state for the fifth criterion.

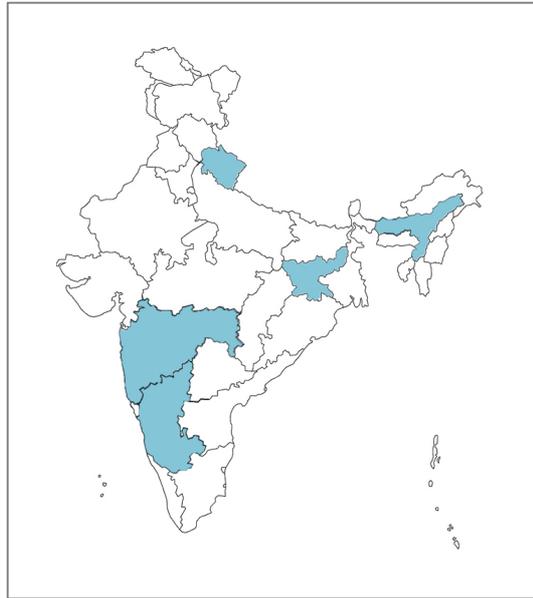


Figure 3.1 | Overview of Case Selection

From top to bottom: Uttarakhand, Assam, Jharkhand, Maharashtra, and Karnataka.

3.2 Qualitative Content Analysis

To analyze the framing of environmental migration, official Indian policy documents were examined. Different models exist that enable such a textual analysis. The method of qualitative content analysis (QCA), sometimes also called ethnographic content analysis, seemed to be the best fit for the intended research (Bryman 2016). The reasons for this choice, as well as the exact application of the method in this research, will be explained in the following section.

Documents can be analyzed both quantitatively and qualitatively, and constitute a fairly heterogeneous set of sources of data that range from personal to official documents to websites to photographs (Bryman 2016: 546). As the aim of this study is to investigate underlying tendencies, trends, and motivations, a qualitative approach to the study of the policy documents seemed to be more pertinent than a quantitative one. The QCA, a frequently used qualitative method, generally analyses the examined material in a qualitative way, but also builds on the strengths of the approach of a quantitative content analysis (Mayring 1994). While maintaining the structured procedure of its quantitative counterpart, the qualitative version of a content analysis focuses much more on underlying themes, trends and patterns in the material that is being analyzed, and is therefore more flexible (Bryman 2016: 563ff., Schreier 2014: 171). Categories are hereby a central concept of the

approach, and systematic coding the core process of a QCA (Bryman 2016: 598). Ultimately, a content analysis therefore serves as a data reduction technique (Stemler 2001) – a characteristic that contrasts with most of the other qualitative research methods (Schreier 2014: 170). Another difference to the quantitative content analysis is the constant revision and development of the themes and categories (Bryman 2016: 563ff.). Predefined categories only initially guide the analysis, and the researcher needs to keep an open mind throughout the analysis towards newly emerging themes and subcategories, which have to be continuously coded until a certain level of saturation is met (Schreier 2014: 176). A QCA hereby “emphasizes the role of the investigator in the construction of meaning of and in texts” (Altheide and Schneider 2013, cited in Bryman 2016: 285).

Making use of a computer-assisted qualitative data analysis software (CAQDAS) as a way to facilitate this process becomes more and more popular (Bryman 2016: 603). CAQDAS makes the process of coding and retrieval much faster and can be helpful in finding possible connections between the codes. However, it also has a risk of decontextualizing the text. Yet, the risk of decontextualizing is not limited to the use of CAQDAS. Rather, it is a commonly mentioned critique in connection to QCA. The focus on categories and codes makes it more probable to lose the context within which the codes were produced (Bryman 2016: 583). Remaining a high awareness of the context throughout the analysis is thus crucial (Bryman 2016: 603).

3.2.1 Application in this Study

In this study, a qualitative content analysis of policy documents was performed, where policy documents served as resources to analyze how the Indian government frames the issue of environmental migration. The QCA is particularly well suited due to the structured and comparable nature of the sources: on the one hand, the SAPCCs have an overarching national framework that guides them, and a central government that ultimately has to endorse the end product. On the other hand, every state and union territory in India has produced such a document (or is currently in the process of doing so), which ensures a high comparability among the documents. These policies can be classified as official documents and as derived from the state (Bryman 2016: 552).

As proposed by Schreier (2014: 176), I applied a combination of concept-driven and data-driven categories in this study. Several core concepts – as deduced from the theoretical discussions in Chapter 2 (see Figure 2.2) – led the structured text analysis (e.g., social protection measures, disaster risk reduction, etc.). Similarly, a number of subcategories were derived from possible manifestations of the core concepts. However, to make sure that every relevant part of the material is accounted for, a subsumption strategy (a structural type of QCA) was applied, to complement the concept-driven categories with data-driven ones (Schreier 2012: 112ff.). Thereby, subcategories were generated by applying a data-driven approach (examining one passage after another, and creating new subcategories from newly emerging themes until saturation is reached). This was

done by continuously being aware of the text and asking questions: What is the *problem* in this section (e.g., urbanization)? What is the *solution* to this problem (e.g., diversify rural livelihoods)? And what does *this solution* mean for the study case (e.g., diversifying rural livelihoods to lower vulnerabilities in rural areas, which ultimately aims at reducing rural-urban migration)?

By applying this structured qualitative content analysis (see Mayring 1994: 169ff.), it was hoped to develop a problematized understanding of the issue and to reveal how the Indian government frames the issue of environmental migration. Due to the large size of the policy documents, the analysis was conducted with the CAQDAS Dedoose to facilitate the process.

3.2.2 Coding Frame and Pilot Phase

To develop the coding frame, a number of key concepts derived from the theory were set up, and categories and subcategories were developed (for a complete overview of the coding frame, see Table A.1 in Appendix I). What followed was a trial coding, where the first draft of the coding frame was tested, and new (sub-) categories were generated through a data-driven process following the above-described subsumption strategy. After the trial coding, the coding frame was evaluated, modified and expanded with the data-driven codes. Additionally, residual categories were added for all main categories. However, one main category that was part of the pilot coding frame was dropped after conducting the trial coding. It was expected beforehand that certain action strategies might directly aim at facilitating or preventing migration (e.g., restricting movement, or promoting freedom of movement). This, however, was not the case, which is why these main- and subcategories were excluded during the evaluation of the coding frame.

The final version of the coding frame contained five main categories: disaster risk reduction, infrastructure, social protection measures, sustainability, and awareness raising and participation. Each of these main categories had three to six subcategories. The subcategories can be assigned to either an urban or a rural/agricultural⁵ dimension. This allowed analyzing what the action strategies really aimed at: promoting rural development to directly reduce vulnerabilities, or promoting urban development, which ultimately would encourage migration and thereby reduce vulnerabilities (see Figure 2.2 for more specific examples). This distinction will help to analyze whether the Indian government frames environmental migration as a challenge or as an opportunity.

After the final version of the coding frame was set, the material was then selected, meaning relevant parts were chosen and irrelevant parts excluded (Schreier 2012: 81). As the focus of this analysis was on the actual action plan, the vulnera-

⁵ In the rural/agricultural dimension, allied sectors, such as fishery, animal husbandry, and forestry, were also included.

bility mappings of the states were deemed irrelevant for the QCA and were only part of a descriptive analysis and the contextualization of the results.

3.3 (De)limitations

Certain limitations relevant for this study, as well as delimitations made, need to be discussed. In terms of limitations of this qualitative research, it needs to be remembered that the particular interpretation of the texts I have developed within this study is just one of many ways of reading them (Wesley 2010). Indeed, they are my own interpretation, and even though I have continuously tried to ground all interpretation in theory and previously acquired knowledge, no interpretation is ever fully free of value, as “values and assumptions shape what we think we ‘know’” (Sumner and Tribe 2008: 4). This requires a high subjectivity-awareness. Nevertheless, there exist a number of criteria for evaluating the quality of research, and in the context of QCA, two concepts are of particular importance: *reliability* and *validity*. Reliability is relevant when evaluating the quality of a specific instrument of research (Schreier 2012: 166f.). In the context of a QCA, this refers to the consistency of the coding, i.e., on whether different applications of the instrument will yield the same codes. Validity, on the other hand, refers to the degree of adequately representing the concepts and categories the coding frame sets out to capture and measure as compared to the concepts in the research question (Schreier 2012: 175). With this thesis being an individual project, some shortcomings – especially in regards to reliability – are inevitable: conducting a QCA in a team with other coders would have certainly been a big advantage. Being aware of this, I aimed at making the production of this study as transparent as possible by providing a detailed theoretical framework and coding frame that explains all categories and sub-categories that have been applied in this study. Systematically following a certain sequence of steps and thereby sticking to a strict coding frame is hereby key to increasing the validity and reliability of the results.

Further, there are delimitations that need to be considered. One such delimitation relates to the sample size and its representativity, respectively. Due to the limited scope of this thesis, the number of the units of analysis used in this study was relatively low. More time and resources would have allowed analyzing a higher number of policy documents, ultimately leading to a better generalizability of the results. Furthermore, it is also worth mentioning that there exists quite a wide diversity among the states, as to how the SAPCCs were designed and planned (Viswanathan 2015). Even though the SAPCCs broadly had to be aligned with the national missions provided in the NAPCC, the state governments nevertheless had a certain degree of freedom.

The approach chosen in this study also influenced the results produced with it. It was only one way of answering the research question, however the one I deemed to be most suitable. Nevertheless, other methods would have offered different methodological lenses to analyze India’s framing of environmental migra-

tion, that would certainly have been just as interesting to analyze (e.g., discourse analysis might have unveiled underlying power relations between central and state governments, etc.).

Finally, as mentioned earlier (see Section 1.2 and 2.4), there exist different ways of framing environmental migration. Methmann and Oels (2015) have identified three different discourses (*fearing climate refugees*, *saving climate refugees*, and *empowering climate-induced migrants*), while Ransan-Cooper et al. (2015) have identified four different frames (*victims*, *security threat*, *adaptive agents*, and *political subjects*). I have decided to focus on the two I deemed most relevant in present times: the security threat associated with environmental migration, and environmental migration as a rational adaptation strategy. Nevertheless, had I chosen to focus on other frames, the results would be different ones.

4 Analyzing India's Framing of Environmental Migration

4.1 Context within which the Documents were produced

On June 30 in 2008, the much-awaited National Action Plan on Climate Change (NAPCC) was released by the Indian government (Pandve 2009). Its aim is to complement the earlier published National Environment Policy (NEP) with more focused interventions and strategies to combat climate change (Government of India 2015a). The NAPCC outlines eight major missions: *National Solar Mission*, *National Mission for Enhanced Energy Efficiency*, *National Mission on Sustainable Habitat*, *National Water Mission*, *National Mission for Sustaining the Himalayan Ecosystem*, *National Mission for a "Green India"*, *National Mission for Sustainable Agriculture*, and *National Mission on Strategic Knowledge for Climate Change* (Government of India 2008). With these missions, the NAPCC represents an overarching national framework, which laid the foundation for all states and union territories to prepare individual State Action Plans on Climate Change (SAPCCs). With the NAPCC, India aims at sustaining its rapid economic growth and simultaneously improving its mitigation and adaptation measures – two goals the Indian government sees as highly interdependent (Government of India 2008). Economic growth can only sustain in its speed when the environment is protected, and the environment can only be protected with resources generated in the course of the country's economic development and growth. In this regard, the Indian government refers to its guiding principle of "development without destruction" (Government of India 2015a). As stated in the introduction of Karnataka's SAPCC, "(...) India's plan does not sacrifice developmental goals for emission reduction targets. Instead it emphasises appropriately on long-term mitigation strategies promoting sustainable development and growth with climate 'co-benefits'" (EMPRI and TERI 2012: 11). In addition to promoting sustainable growth, the Indian government also stresses the international responsibility in terms of necessary climate action, and emphasizes the fact that India has produced nowhere near as much GHG emissions as other states – a fact that sometimes leads to the framing of India as a "climate victim" (Narain 2008).

When considering the varying consequences climate change has on such a large and diverse country, it seems only reasonable to issue adjusted actions plans,

meaning that every state formulates its own plan on how to deal with the specific vulnerabilities relevant for it. Furthermore, many areas that are particularly climate-sensitive – such as agriculture or water resources – are responsibilities of the state level governments, due to the division of power in this federal state (ACT 2015). This makes it even more crucial to have an elaborated discussion on environmental change and its impacts on a sub-national level. The states, therefore, have the opportunity to mainstream climate change concerns outlined in the national strategy of the NAPCC into their own development planning processes, and thereby incorporate regional and site-specific variations.

Each state went through a similar process of preparing a draft, proposing it to the Indian Ministry of Environment, and then revising it according to the comments made by the central government. The steps of revising the document were repeated several times if necessary. Once all the suggestions and comments have been addressed, the National Steering Committee on Climate Change endorsed the SAPCC. Due to this extensive revision process, the timescale of preparing the SAPCCs is quite individual, resulting in different levels of progress. The state of Odisha, for example, already completed the first period of its action plan (2010-2015) and is currently implementing the second phase (2015-2020) (MoEFCC India 2017). Other states, in contrast, have only recently received the MoEFCC's endorsement for their SAPCCs (e.g., Uttarakhand in 2016).

As elaborated earlier, this decentralized planning for climate action will form the basis of the empirical analysis of this thesis. In the following, I will therefore provide a brief overview of the content of the documents, before presenting the results of the analysis case-wisely.

4.2 Analyzing the State Action Plans on Climate Change

With the NAPCC acting as a common framework, all SAPCCs have a certain consistency regarding their structure. This entails that all documents contain a number of common elements, such as a first section with a vulnerability assessment of the state, and a second part on specific actions the government is planning on taking to adapt to climate change. However, the states had a certain degree of freedom when it comes to the content of the documents. As the focus of this thesis is on adaptation measures and how their feedback might impact environmental migration, the empirical analysis was limited to the actual action plans and the entailed strategies and measures of mitigation and adaptation. Both already existing strategies and strategies planned for the future were hereby considered. Nevertheless, the vulnerability assessments of the SAPCCs were subject to descriptive analysis in order to better understand the implications of the actions proposed in the SAPCCs and to contextualize the results of the QCA.

The number of pages of the selected SAPCCs ranged between 127 (Assam) and 304 (Maharashtra), with some including far more detailed vulnerability assessments than others. This is most likely explained by the fact that some of the SAPCCs were prepared by government ministries, while others were produced by research institutions appointed by the state governments. The varying extent of the documents is also the reason for why no frequencies of the code application can be provided, as they are not really comparable. Rather, the results will be presented purely qualitatively.

In the following, the results of the QCA will be presented case-wisely, meaning that each SAPCC will be discussed on its own. The respective introductions are oriented towards the checklist for evaluating documents developed by Bryman (2016: 566f.), while the vulnerability assessments are based on a descriptive analysis. In the sections “action plan”, the results of the QCA will be presented, before making some state-wise conclusions. This is followed by bringing the discussion to the macro level, and discussing the results in relation to India as a whole (Section 4.3).

4.2.1 The State of Maharashtra

In 2010, the government of Maharashtra appointed The Energy and Resources Institute (TERI) to conduct a study to assess climate change vulnerabilities and possible adaptation strategies for the state (TERI 2014). This study was later used to formulate the Maharashtra State Action Plan on Climate Change (MSAPCC). The Department of Environment of the Government of Maharashtra then submitted the MSAPCC to the National Steering Committee on Climate Change, which approved it in 2014. The fact that the MSAPCC is based on an extensive study on the “urgent need to integrate climate change concerns into the State’s overall development strategy (...)” (TERI 2014: 7) results in a detailed examination of the consequences of climate change in Maharashtra as well as how adaptation strategies should be designed and planned. Amongst other things, a macro-level vulnerability index for the state of Maharashtra was developed, and an additional case study on Mumbai’s vulnerability was conducted. The MSAPCC starts off with an exhaustive vulnerability assessment, which is followed by sectoral actions and strategies.

Vulnerability Assessment

There are a number of factors that make Maharashtra particularly vulnerable to environmental change. These are, amongst others, the fact that Maharashtra is home the India’s largest city with a population of more than 18 million and is India’s second most populated state. In addition, the state also has one of the largest in-migration figures of the country (around 400,000 people every year in the period from 1991 to 2001) (Government of India 2015b, TERI 2014: 40). Considerable regional variation within Maharashtra in terms of economic development, natural resource availability, and the exposure to environmental change make it challenging to set up a comprehensive state-wide strategy for climate action (TERI

2014: 38). According to the climate projections presented in the MSAPCC, rainfall patterns are likely to change, which will have immense impacts on the agricultural sector. Maharashtra is a highly drought-prone state, and despite being known to be an industrialized state, agriculture and allied sectors are still predominant in Maharashtra. In addition, the exploitation of the state's groundwater sources is a further challenge that needs to be addressed (TERI 2014: 112).

According to the IPCC's fifth assessment report, the global sea level is *very likely*⁶ to continue rising in the 21st century (IPCC 2014). This will have disastrous consequences, particularly for the Mumbai metropolitan region, a region that has a maximum exposure for coastal flooding. As the MSAPCC projects, the urbanization rate for the state will continue to rise, and by 2050, Maharashtra is expected to be the second most urbanized state in India. With this continuous increase of urban populations, adaptation strategies aiming at increasing urban resilience are key to climate action in Maharashtra.

Action Plan

A common theme that emerged throughout the action plan is rural development. In all main concepts defined in the coding frame, the focus of the actions clearly was on measures benefiting rural areas. Investing in rural disaster risk reduction measures, sustainable agriculture, rural infrastructure, as well as promoting rural livelihood opportunities seem to be top priorities of the MSAPCC. One exception constitutes the comprehensive measures aimed at greening urban areas. It is further striking that most urban infrastructure strategies aim at increasing resilience through adaptation measures, and do not focus that much on mitigation strategies.

Creating urban employment options is no high priority on Maharashtra's climate action agenda. Rather, urban employment opportunities are mentioned several times in connection to the continuous population influx, which in turn results in pressure in peri-urban areas (TERI 2014: 288).

Conclusion

Due to the combination of a high urbanization and a large dependence on agriculture, one would expect the action plan to focus on both rural and urban action. However, while there certainly are strategies aiming at increasing urban resilience, most of the action points target rural development. The MSAPCC directly mentions the impact of climate stresses and disasters on rural-urban migration, and clearly demonstrates an aspiration to invest in rural areas in order to both achieve developmental goals and support traditional livelihoods:

(...) [T]he impacts of climate change on key sectors and ecosystems will adversely affect livelihoods – farming, livestock rearing, fishing, forest-based livelihoods, tourism, etc. Climate stresses and disasters

⁶ The IPCC defined the likelihood of an outcome described with the term *very likely* as to be between a 90-100% probability (IPCC 2014).

threaten the viability of traditional livelihoods, exacerbating rural-urban migration, and heightening competition and conflict over dwindling resources. These, in turn, will hinder the attainment of desired developmental goals. Consequently, there is a strong need to develop long-term strategies to make livelihoods more resilient. (TERI 2014: 100)

Particularly interesting in this context was a household study conducted within the scope of the MSAPCC with the aim of investigating coping mechanisms that households facing climate variations and uncertainties employ (TERI 2014: 244ff.). Migration was listed as one of the three distress coping mechanisms, together with selling available stock of food grains and cattle. It comes as no surprise that migration was the least prominent coping option among the three, which is probably explained by the fact that migration is often referred to as being the last resort that is only being adopted when all other coping mechanisms have failed (Black et al. 2013)⁷.

The MSAPCC acknowledges that in some situations, migration might be the only solution to the “vicious cycle initiated between ‘food insecurity-malnutrition’ and ‘livelihood loss-poverty’” (TERI 2014: 181). However, the MSAPCC promotes actions such as investing in sustainable agriculture in order to increase food security, rather than acknowledging this impasse and making use of migration as a proactive adaptation measure to break the vicious cycle.

Further, with regard to Mumbai’s highly vulnerable population due to future sea-level rise, one could also assume that Maharashtra might take up migration (relocation) as an adaptation strategy in this context. This would resonate with what Black et al. (2011b) suggest, namely facilitating or promoting migration in situations where people are threatened of being “trapped” in the near future. Yet, the Maharashtra action plan does not explore such adaptation strategies at all.

To sum up, it can be said that despite Maharashtra’s high urbanization rate and the increasing vulnerability of urban areas due to rising sea levels, the focus of the MSAPCC clearly is on investing in rural development by, for example, promoting traditional livelihoods to increase the resilience of people in rural areas. Although the existence of environmental migration is mentioned at several instances, it is continuously referred to as a problem that requires immediate and far-reaching action.

⁷ As an aside: I am not familiar with the methodology of this survey, but I cannot help but wonder if the share of people resorting to migration as a coping mechanism might not in fact be higher, but due to the fact that they have migrated to other places were now not available for participating in the survey anymore.

4.2.2 The State of Assam

The Assam State Action Plan on Climate Change (ASAPCC) was produced by the Department of Environment and Forest of the Government of Assam (Department of Environment and Forest, Government of Assam, India 2015). The preparation of the ASAPCC started in 2008 right after the release of the NAPCC, and after several draft submissions, the plan was approved by the National Steering Committee on Climate Change and formally launched in 2015. Several NGOs, research institutions, and individual experts have contributed to the content of the ASAPCC throughout the creation process. The ASAPCC contains three main sections: section A with a state profile and the vulnerability to climate change, section B with actions and strategies for each relevant sector, and section C with a way forward and implementation suggestions.

Vulnerability Assessment

Assam is the largest state in northeast India and is the seventh fastest growing state in the country in terms of economic growth (Department of Environment and Forest, Government of Assam, India 2015: 46). The geography is greatly influenced by the Brahmaputra-Barak basin, and floods are an annual feature that leads to frequent human and cattle lives loss. As climate change progresses, these floods are expected to become more devastating due to substantial increases in extreme precipitation events (Department of Environment and Forest, Government of Assam, India 2015: 10). However, during the dry season, droughts occur frequently as well, and due to lacking infrastructure to capture the rainwater, they have dire effects. This combination of droughts and flash floods has particularly far-reaching consequences for Assam, as the state is highly dependent on the agricultural sector, especially on its tea plantations: 50% of India's tea is produced in the state of Assam. In total, 86% of Assam's population depends on agriculture and allied activities. The state is further characterized by a relatively high poverty rate with 32% of the population living below the poverty line (compared to the Indian average of 22%). These developmental gaps and the dependence on climate-sensitive sectors make communities in Assam vulnerable. Particularly the tribal population is expected to suffer from the consequences of global warming, as part of it heavily relies on forests and their produce. Furthermore, people living on the river islands located in the Brahmaputra river are especially vulnerable, as they have nowhere to go to when floods occur and are isolated from the rest of Assam. Also, the area of the islands has shrunken significantly due to erosion.

Finally, Assam records massive in-migration from the neighboring country Bangladesh – one of the highest international in-migration rates of India (Dikshit and Dikshit 2014). The high influx of migrants contributed to social and political unrest in the history of Assam, and remains a heated topic that only recently experienced a considerable upturn after the BJP gained the majority of seats in the state's congress. However, despite the actuality and relevance of the topic, the high in-migration is only mentioned in a single sentence in the ASAPCC and is not referred to again throughout the rest of the document.

Action Plan

The most common theme to emerge from the ASAPCC were strategies aiming at reducing the risk of disasters – both in rural and in urban areas. These disaster management measures mainly aimed at managing and adapting to flash floods as well as erosion. Similarly, sustainable agriculture is one of Assam’s top priorities. Hereby, applying indigenous knowledge for adaptation strategies is frequently mentioned. Furthermore, many strategies have a clear focus on supporting and creating rural livelihood opportunities, particularly during the off-season. The ASAPCC also points out that food security should be ensured by creating “maximum employment in the agricultural sector” (Department of Environment and Forest, Government of Assam, India 2015: 54). Urban employment opportunities, by contrast, are not promoted. There is also a large interest in investing in urban infrastructure. These measures mostly deal with water-related strategies, such as water drainage and the water availability during floods. Finally – similar to the vulnerability assessment – there is no reference whatsoever to migration, neither to migration in general nor to environmental migration.

Conclusion

Due to Assam’s heavy dependence on the agricultural sector – particularly with the importance of Assam’s tea production – it seems to be a logical consequence that investing in sustainable and climate-resilient agriculture is one of the ASAPCC’s key priorities. Equally important are disaster risk reduction measures, which seem to stem from the frequent occurrence of flooding and erosion.

While it is readily apparent that Assam has a large emphasis on its rural development, the ASAPCC is also the only action plan that does not acknowledge the problem of environmental migration – it merely states the large-scale immigration from Bangladesh as one of the reasons for its high population growth. This is despite the fact that the state experiences one of the highest influx of international migrants in the country – a population movement that to a large extent is climate-induced (Dikshit and Dikshit 2014). In the past, this high influx of Bangladeshi migrants has triggered political unrests and an “anti-foreigners movement” (Dikshit and Dikshit 2014). A reason for why it might not have been made a subject of discussion in the ASAPCC could be, that the environmental degradation and low resilience in Bangladesh are out of the jurisdiction of Assam’s government. With that, I mean that Assam cannot address the root causes of these migratory flows, by for example contributing to lowering the vulnerabilities of people affected by climate change in Bangladesh; this can only be done by the Bangladeshi government itself. Rather, if Assam wanted to react to the high influx from its neighboring country, it should be with efforts within the state. Exactly such an effort has been going on in the form of the “detect-delete-deport campaign” (The Washington Post 2016). This campaign arose out of a call for preserving Assam’s cultural identity and has the aim of deporting illegal immigrants from Bangladesh. It, therefore, seems likely that Assam addresses the issue of migration in another way than through the ASAPCC. This, however, also leaves the question of the framing of environmental migration open to some extent. The government (and

the people) of Assam clearly seem to frame migration as a problem, but might not differentiate between environmental migration and migration in general.

4.2.3 The State of Uttarakhand

The Uttarakhand Action Plan on Climate Change (UAPCC) was produced and submitted by the Government of Uttarakhand in 2014 and formally launched in 2016. Its guiding motto is “transforming crisis into opportunities”. The preparation for the UAPCC started in 2011, and the process included a range of activities, such as expert consultations, stakeholder workshops and a civil society consultation (Government of Uttarakhand 2014). The action plan contains a baseline assessment, sectoral approaches, and strategies, as well as an action plan including a budget. Further, the importance of gender mainstreaming and gender-sensitive approaches is emphasized throughout the UAPCC. Additionally, the annex presents results from studies conducted by WWF India and by the International Centre for Integrated Mountain Development (ICIMOD) and International Fund for Agricultural Development (IFAD) and provides a more detailed overview of the flood disaster that occurred in June 2013.

Vulnerability Assessment

Uttarakhand, formerly known as Uttaranchal, is a comparatively young state that separated from Uttar Pradesh in the year of 2000. Uttarakhand is a hill state located in the Himalayan region and is a highly disaster-prone state, where “landslides, forest fires, cloudbursts and flash floods are seasonal in nature and strike very frequently” (Government of Uttarakhand 2014: 127). Due to the sensitive Himalayan ecosystem, the region has become highly vulnerable to environmental change. Despite the proximity to many water resources, adequate water supply is a difficult endeavor, mostly due to the lack of infrastructure in the hilly areas. In addition to the great risk of flash floods and other sudden-onset disasters, recurring droughts are also a problem, which leads to frequent failure of crops.

The cost of cultivation is much higher in such a hilly state, due to mostly small, fragmented and marginal land holdings coupled with limited use of farm machinery due to the difficulty of access in the mountains. These challenging conditions increasingly lead to out-migration from the hills, which in turn has resulted in a rapid urban growth and unplanned development of urban areas. This out-migration has two main consequences: on the one hand, the land is in many cases left untilled and fallow. On the other hand, the agriculture in Uttarakhand undergoes a feminization process, as in many cases it is the males that migrate to the cities. Empowering and supporting women is therefore especially relevant for the state of Uttarakhand.

Action Plan

Two of the UAPCC’s top priorities are disaster risk reduction and raising awareness, both of which tend to focus on measures in rural areas. The shortcomings in rural infrastructure and the out-migration associated therewith are explained quite

detailed, which leads one to assume that investing in just this infrastructure might be another priority of Uttarakhand's government. However, contrary to expectations, it seems that there is a larger focus on urban infrastructure. Most of these action points seek to develop strategies for harvesting rainwater and the collection of solid waste in urban areas. Yet, when it comes to the social protection measures, the UAPCC clearly aims at supporting and protecting people living in rural area, including exploring new livelihood opportunities such as tourism. Throughout the UAPCC, migration is a frequently mentioned topic – in fact, it is the action plan with the most references to migration.

Conclusion

The high priority of disaster risk reduction measures clearly seems to be connected to the frequent occurrence of sudden-onset disasters in Uttarakhand, such as the “Himalayan Tsunami” in June 2013. Throughout the action plan, migration is frequently mentioned. The UAPCC acknowledges that decreased “agricultural productivity is an important push factor for seasonal and rural-urban migration” (Government of Uttarakhand 2014: 212), and further states that “[h]istorically, migration has been an important element of an adaptive livelihood strategy, which, while obtaining cash income, leads to functionally women-headed households for much of the year” (Government of Uttarakhand 2014: 23). Furthermore, “[t]he state faces the challenge of promoting livelihoods to retain people through local employment and income generation and to enhance their quality of life. Hill development remains an uphill challenge as out-migration of local peoples continues from the highland hinterlands” (Government of Uttarakhand 2014: 36). Moreover,

(...) the region does not have alternative gainful employment opportunities and climate change–driven uncertainty [sic] in mountain agriculture has forced people to migrate from the hills in search of employment. A large proportion of the males/able-bodied persons of the region have thus resorted to migration to urban and proto-urban centres in the plains in search of alternative employment opportunities. The mountainous areas are thus left with women, the elderly and children, who are amongst the most vulnerable section of the society. The overall situation has resulted in the farming hands being depleted in the region, which has further led to deterioration of the state. This harsh ground reality of the region is clearly reflected in the census statistics. Therefore, ensuring and exploring livelihood options in the hills is of utmost importance. (Government of Uttarakhand 2014: 105)

These statements clearly demonstrate that the Government of Uttarakhand is mainly interested in investing in rural development to make the life in the remote areas easier, more comfortable and more resilient, with the ultimate goal of preventing out-migration from the hills. Tourism is identified as a way to stem rural-urban migration, as it offers a range of new livelihood opportunities in the hills (Government of Uttarakhand 2014: 136). This focus on rural development is also visible in terms of social protection measures in the action plan: the priority here

clearly is to diminish rural people's exposure to social risks such as unemployment and sickness.

At the same time, however, the UAPCC also acknowledges the potential migration entails, as “[m]igrants acquire new ideas, skills, perceptions and technologies, which they carry back to their home country. They stimulate the flow and exchange of views and ideologies, which often challenge traditional structures. Such new human capital is a powerful factor in modernization and social change” (Government of Uttarakhand 2014: 114).

In conclusion, environmental migration clearly has a prominent status on Uttarakhand's policy agenda, as the issue is repeatedly being addressed throughout the UAPCC. While certain positive aspects of migration are being acknowledged, viz. bringing in new human capital, the vast majority of action points nevertheless aims at retaining the rural people in the hills and thus to stem rural-urban migration by lowering rural people's vulnerabilities to environmental change.

4.2.4 The State of Karnataka

In June 2009, the government of Karnataka appointed the Environmental Management & Policy Research Institute (EMPRI) to prepare the Karnataka State Action Plan on Climate Change (KSAPCC) (EMPRI and TERI 2012). The KSAPCC was then endorsed by the central government in the end of 2013. Similar to Maharashtra's action plan, the KSAPCC contains an extensive study on climate trends, as well as comprehensive sectoral analyses and action plans. In total, the KSAPCC defines more than 200 action points aiming at increasing the state's preparedness for the consequences of global warming, 31 of which were identified as priority actions. In addition, the document contains an estimated budget for the next five years of implementing the action plan.

Vulnerability Assessment

The state of Karnataka is India's eighth largest state in terms of geographical area, and the fifth most urbanized state in the country (EMPRI and TERI 2012). In total, 57% of Karnataka's working force are farmers and agricultural laborer, meaning that the agricultural and allied sectors remain of high importance to the state. However, more than half of Karnataka's state area is drought prone, making the state rank second in India in terms of area prone to drought. This has devastating effects on climate-sensitive sectors such as agriculture. Changes in rainfall patterns do not only lead to more frequent and severe droughts, but also to increased flooding during the monsoon season, which constitutes a further challenge for agriculture in Karnataka. Overall, the state has diverse climates ranging from arid to humid tropical. Based on this climatic variation, formulating an action plan that meets all needs certainly is a difficult endeavor.

37% of Karnataka's population lives in urban areas. A large share of this urban population lives in Bangalore – a city with a 9.6 million population and an enormous decadal growth of 46.7% (against the national average of 15.7%) (EMPRI and TERI 2012: 119). This fast urbanization created a large number of prob-

lems within a short period of time: an increased number of buildings has resulted in so-called heat islands in the city area, and the vehicular population increased by 70% within the last six years. Furthermore, urban areas struggle with solid waste management, air and water pollution, and with meeting the basic needs of the urban poor.

However, Karnataka started early with investing in better natural disaster management. In fact, the Karnataka State Natural Disaster Monitoring Centre (KSNDMC, located in Bangalore), makes an important contribution to risk reduction by providing a detailed picture of weather conditions including early warning systems for weather related hazards. In this sense, the KSNDMC is unique as it was the first center of this sort established in India.

Action Plan

The results of the analysis suggest that sustainable agriculture and diversifying rural livelihood opportunities are two key priorities of the KSAPCC. Awareness raising in issues relevant in a rural context as well as investing in agricultural insurance are also focal point areas of the agenda. Further, quite a few action strategies are directed towards urban infrastructure, most of them regarding the extreme water shortage in urban areas, particularly in Bangalore.

Beyond those priority areas, the action plan makes specific reference to environmental migration by acknowledging how changes in weather patterns are expected to, amongst others, cause changes in cropping patterns and increasing water temperatures, which ultimately will lead to unemployment and migration from coastal communities (EMPRI and TERI 2012: 25). Finally, the significance of the KSNDMC is brought up several times in connection with specific strategies, as a number of action points build upon the services provided by the center.

Conclusion

Given the fact that more than half of Karnataka's population is employed in the agricultural and allied sectors, it comes as no surprise that sustainable agriculture is one of the key priorities of the KSAPCC. Furthermore, despite its significant urban population, the common theme that emerged throughout the action plan were actions directed towards the promotion of rural development with the aim of increasing the resilience of its rural population.

In its preface, the KSAPCC states that its over 200 action points "(...) would help enhance resilience in pursuing sustainable development while exploiting opportunities that could come with climate change" (EMPRI and TERI 2012: preface). Although the majority of the action plan seems to focus on preventing migration, and therefore not to explore opportunities that come along with environmental migration, there is one exception. The KSAPCC elaborates on the contribution of environmental migration to increasing rural-urban migration flows. This growing urbanization, in turn, leads to a lack of employment, housing, education, and health facilities in the cities – a problem that the KSAPCC wants to address in two different ways. On the one hand, it is suggested to invest in the improvement of the quality and accessibility of healthcare, education, housing and employment in small and middle-sized cities. This would aim at reducing the migration to

large-sized cities such as Bangalore. On the other hand, the KSAPCC urges to “create employment opportunities for the rural populations especially in seasons of non-cultivation (...)” (EMPRI and TERI 2012: 159). These two strategies suggest an approach to the issue of environmental migration from two different angles: while both strategies generally aim at preventing migration to urban areas, the first approach nevertheless seeks to support migrants affected by the environmental change in rural areas in the sense that an incentive to move to small and middle-sized cities is provided, and therefore partly explores an opportunity that environmental migration provides.

Hence, it can be said that Karnataka’s overall focus when dealing with environmental migration is on limiting the flow of migration from rural to urban areas. Nevertheless, the KSAPCC is the only action plan that partly explores options of peri-urban development in order to provide opportunities for environmental migrants from rural areas, with the underlying goal of reducing flows to metropolitan areas.

4.2.5 The State of Jharkhand

The Jharkhand Action Plan on Climate Change (JAPCC) was prepared by the Jharkhand state government, which received support from the United Nations Development Programme (Government of Jharkhand 2014). The preparations started in mid-2011, and the plan was endorsed by the National Steering Committee in the year of 2014. The JAPCC’s vision is “(...) achieving economic growth and poverty alleviation objectives and enhancing livelihood opportunities while ensuring ecological sustainability” (Government of Jharkhand 2014: 12). The action plan contains a state level vulnerability assessment, followed by sectoral analyses and actions.

Vulnerability Assessment

Jharkhand is one of the youngest states in India, and it separated from Bihar in the year of 2010. It is also one of India’s poorest states, with 37% of its population living below the poverty line. In addition, almost a third of Jharkhand’s population belongs to tribal communities that often rely on the forest as a source of livelihood. Jharkhand has high mineral resources and ranks first in the country in the production of coal, copper, and other minerals (Government of Jharkhand 2014: 4). While Jharkhand is often acclaimed as “the growth engine of the future” due to the huge potential of its mineral industry, the state also acknowledges a certain suffering resulting from the industry, such as water pollution (e.g., arsenic), and the massive carbon footprint (Government of Jharkhand 2014: 7, 101).

Furthermore, the state is also marked by high out-migration – the highest net outflow of all states in India (The Times of India 2017). Due to inadequate employment opportunities in the state, many people faced with the loss of traditional livelihoods will migrate to other districts or other states (Deshingkar 2012). In fact, an analysis of migration history found “that as many as 60 percent of the households have recorded livelihood migration over the 20-year period between

1985 and 2005” (Government of Jharkhand 2014: 94). This loss of traditional livelihoods can often be traced back to environmental degradation that deprives people of their livelihoods in the forests and lowers the agricultural productivity.

Action Plan

Early in the action plan, it is stated that the JAPCC follows the principle of “shared visions yet differential responsibility” (Government of Jharkhand 2014: 10). This is due to Jharkhand’s low ranking in terms of Gross State Domestic Product (GSDP), Human Development Index (HDI), and other state rankings, which makes it clear that the state lacks necessary resources to contribute to climate action to a similar extent as other states do. Furthermore, it is also stated that the JAPCC emphasizes mitigation rather than adaptation measures due to the importance of its energy sector (Government of Jharkhand 2014: 13).

Apart from that, the JAPCC is characterized by a relative lack of social protection measures directed towards both its rural and its urban population. There exists virtually no effort towards creating or promoting livelihood opportunities, neither in rural nor in urban areas. By contrast, Jharkhand strives for a 100% coverage of the below poverty line households under the Rashtriya Swasthya Bima Yojana, a health insurance scheme established by the central government in 2008 (RSBY 2009). Beyond that, there are no aspirations to invest in rural infrastructure. Awareness raising directed towards rural issues, on the other hand, is a theme that frequently emerged throughout the action plan. Similarly, measures to reduce the risk of disasters – mostly regarding rural areas – are commonly mentioned. Overall, the high share of tribal people (28% in Jharkhand compared to 8% on the national level) has implications in many of the sections within the action plan.

Conclusion

In its action plan, the government of Jharkhand acknowledges the wide-ranging consequences of climate change on, amongst others, migration:

(...) [G]iven the gravity of the challenge posed by climate change it is time to display and develop strategies for economic diversification in terms of risk spreading, diversifying livelihood strategies in rural sector, strategies to cope with migrations (arising from crop failures) and financial mechanisms to meet the potential rise in rural requirements to cope with weather fluctuations. (Government of Jharkhand 2014: 39)

Nevertheless, the points listed in the action plan do not seem to include many of these aspired strategies, such as diversifying livelihood or direct strategies dealing with environmental migration. One possible explanation for the lack of wide-ranging social protection measures might be found in the low economic status of Jharkhand and the insufficient funds associated therewith.

Jharkhand’s strategy for increasing its economic growth clearly involve its coal and mineral based industry. The JAPCC identifies this sector as the economic driver for the state’s future development. After the separation from Bihar, Jhar-

khand's industrial sector has undergone an immense growth, with the secondary sector now being the major contributor to the state's GSDP growth (Government of Jharkhand 2014: 7). Clearly, Jharkhand wants to forge ahead with investing in this sector: "[T]he vast mineral resources clubbed with the human resource are shaping the future of the state" (Government of Jharkhand 2014: 4). Due to this essential role of the mineral industry, it could therefore be argued that Jharkhand expects to see reduced migratory flows in the future, as the secondary sector increasingly requires human resources, which in turn will provide new livelihood opportunities.

To sum up, the JAPCC has the least far-reaching goals and strategies in terms of adapting to climate change. However, this was also signaled in the beginning of the JAPCC, when the emphasis on mitigation rather than adaptation measures was stated. Although environmental migration was mentioned, and the aspiration to address it stated, the plan lacks such strategies in many ways. I can thus only assume that Jharkhand's hope is to address the problem by further advancing its mineral industry, which will generate employment in a less climate-sensitive sector compared to the primary sector.

4.3 India's Framing of Environmental Migration: Opportunity or Challenge?

The results of the state-wise analysis suggest that the states almost unanimously perceive environmental migration as a problem that needs to be solved. Four out of five states acknowledge the impact climate change has on migration in their action plans. Assam was an exception to this, as the state's SAPCC did not make any reference to environmental migration. However, none of the SAPCCs directly deals with the issue. Rather, the vast majority of relevant action strategies aim at indirectly preventing environmental migration by investing in rural development. This will lower social and economic vulnerabilities and thereby increase the resilience of the rural population. This approach is taken despite the fact that projections on future climate change show more dire consequences yet to come, such as sea level rise, which will likely result in coastal communities eventually having no other option but to migrate (IOM 2014).

The states of Karnataka and Uttarakhand constitute an exception to some extent, in terms of their definition of environmental migration and the actions directed at environmental migration, respectively. Karnataka partly creates incentives for people to migrate from rural areas to small and middle-sized towns in order to stem migration to large-sized cities. Uttarakhand even goes a step further and acknowledges some of the positive effects migration brings along in terms of social change and transformation due to new ideas, making it the only state that directly highlights beneficial aspects of (environmental) migration. Nevertheless,

the overall focus in both states remains at lowering rural people's vulnerabilities in order for them not to migrate to urban areas.

Furthermore, it can also be concluded that the SAPCCs take the state-specific vulnerabilities into full consideration, as the strategies tend to emphasize areas that were deemed as particularly vulnerable (e.g., Uttarakhand's key priority of disaster risk reduction due to the high frequency of sudden-onset disasters). Maharashtra is somewhat different in this regard, as the Mumbai metropolitan area was attributed with particularly high vulnerabilities, while the action plans then displayed a remarkable high focus on lowering rural vulnerabilities.

Due to the relative consistency of the state-wise findings, it can be concluded that India as a whole frames environmental migration as a challenge. However, this statement requires caution, due to the limitations in terms of generalizability (see Chapter 3.3 and 5). A likely explanation for these findings is India's focus on agricultural and rural development as a means of poverty reduction and economic growth. The Indian government defined the maintaining of a high growth rate as the best strategy to mitigate and adapt to climate change (Government of India 2008). Various state level and national level policies have stated that India is not willing to lower its economic growth at the expense of climate action (e.g., NAPCC, India's INDC, Jharkhand's SAPCC, etc.). Rather, the country wants to continue its "development without destruction" to reduce people's vulnerabilities to the impacts of climate change (Government of India 2015a). Furthermore, as mentioned in virtually all SAPCCs and in the NAPCC, India considers its urbanization a major issue, as it leads to many problems (e.g., air, water, and land pollution (Revi et al. 2014)). Therefore, stemming rural-urban migration is an aim that is likely to remain high on India's policy agenda.

5 Conclusions and Outlook

The overall aim of this thesis was to analyze India's framing of environmental migration. For this purpose, two frames were developed based on previous research: environmental migration as a *challenge* and as an *opportunity* (cf. Methmann and Oels 2015, Ransan-Cooper et al. 2015). To investigate India's framing, five state level policy documents were examined with the help of a qualitative content analysis (QCA). Special attention was paid to state-specific vulnerabilities, which were subject to a descriptive analysis, and were essential for the contextualization of the results.

The main finding of this thesis is that, overall, India frames environmental migration as a challenge. All five state level policies pointed towards this framing, as the majority of action strategies clearly aimed at lowering rural people's vulnerabilities to stem environmental migration, rather than promoting or facilitating environmental migration as a means of adaptation. These findings concur with other studies, which demonstrated that today, most governments continue to frame the issue as a threat and therefore explore adaptation measures for reducing or controlling the migration pressure (UN DESA 2013). This is despite the recent discursive shift towards resilience and the increasing number of NGOs, Intergovernmental Organizations (IGOs) and researchers calling for the empowerment of environmental migrants (Methmann and Oels 2015, Ransan-Cooper et al. 2015, Gemenne and Blocher 2017).

With regard to the theoretical model for environmental migration (cf. Figure 2.1), the feedback that the SAPCCs send has a significant impact. The policy response in the form of the SAPCCs contributes to lowering the rural people's vulnerabilities (*predisposing conditions*), which, in turn, will result in increased resilience. The *precipitating event* – the actual environmental change – will therefore not have such a strong impact, as the people have higher adaptive capacities. This might lead to lower migratory flows, as the affected people do not have to resort to the distress coping option of migration. Therefore, India's framing of environmental migration and its manifestation in the policies might decrease the likelihood of people migrating, despite progressive environmental change.

I would like to point out two possible limitations of this study (see also Section 3.3). First, the low sample size results in the limited generalizability of the results. An increased number of policy documents would, therefore, be desirable, as it would allow a better representativity of the results in terms of drawing conclusions relevant for the whole country. However, being aware of this drawback, the study at hand attached particularly high importance to the selection of the cases and the transparency of this process to achieve a representative and balanced sample and to minimize the effects of a limited sample size (see also Section 3.1.1). Second, the SAPCCs can only address environmental migration that occurs on an

internal level, meaning within India. The state of Assam illustrates this restriction well: in Assam, in-migration from the neighboring country Bangladesh constitutes a big issue. However, no matter how the Assam SAPCC influences the vulnerabilities of its population, it cannot reach the underlying causes for Bangladeshi to migrate to India. To address this kind of migration, other frameworks would be required, such as migration policies, increased border security, or an increased cooperation between India/Assam and Bangladesh.

This thesis has also pointed out a number of gaps in research and policy frameworks and opened up possible expansions of this research. First, on a more overarching level, more research is needed to clearly relate environmental change as a driver of migration. In doing so, the complexity and multidimensionality of environmental migration should however not be ignored. This will help to close the gap of defining the issue – especially in legal terms. Furthermore, the implications climate change has or will have on migration should be studied more in depth to make better projections and to allow evidence-based policy making. Second, regarding the framing of environmental migration, it would be interesting to go a step further to understand processes behind this framing better. This could be done by for example conducting interviews with people involved in formulating relevant policy responses. Finally, I would like to mention one particular state that might be worth looking into more closely, as the state’s framing of environmental migration could differ from the rest of the states: the island state of Andaman and Nicobar. As this state has a high risk of “falling off the map”, it is possible that its SAPCC might address the issue of environmental migration differently, due to the high likelihood of it being the only option once the state is close to being submerged (Andaman and Nicobar Islands 2013). However, as the sampling strategy of this study aimed at achieving a balanced representation of the whole country, the state of Andaman and Nicobar, being such an extreme case, was not included in this research.

Overall, India’s main aim clearly is to engage in adaptation in rural areas, rather than enhancing adaptation through migration. With migration ultimately being a response to individual and collective vulnerabilities (Adger 1999, 2006), reducing those vulnerabilities to lower migration flows is a legitimate strategy. However, as climate change progresses further, and situations such as exacerbating desertification or the submergence of islands are more likely to occur, India will inevitably have to deal with migration as an effective adaptation strategy at some point. Future policies should therefore also aim at minimizing risks associated with environmental migration while simultaneously maximizing the benefits migration entails as an adaptation strategy (Gemenne and Blocher 2017). The Indian government – just as every other national government – will have to account for environmental migrants in their policies and engage with affected communities – no matter what the country’s perception of environmental migration is.

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Appendix I

Table A.1 | Coding frame

Key concept	Subcategory	Description
Disaster Risk Reduction (DRR)	1.1: Rural / agricultural DRR	Research, monitoring and actions of DRR aiming at strengthening rural / agricultural resilience and reducing socio-economic vulnerabilities, e.g.: weather forecast systems for agriculture, reducing damages caused by natural hazards such as floods, droughts etc., capacity building / training of farmers, government officials, etc.
	1.2: Urban DRR	Research, monitoring and actions of DRR aiming at strengthening urban resilience and reducing socio-economic vulnerabilities, e.g.: urban flood management, water scarcities in cities, urban heat islands, capacity building / training of communities, government officials, etc.
	1.3: Miscellaneous	Any other measures of DRR that cannot be clearly assigned to the above subcategories.
Infrastructure	2.1: Rural / agricultural infrastructure	Measures aiming at improving rural and agricultural infrastructure, e.g.: improved water and energy supply, expanded rural road networks, strengthen cold storage networks, schools and health centers in rural areas, etc.
	2.2: Urban infrastructure	Measures aiming at improving urban infrastructure, e.g.: urban transportation, houses for the urban poor (counteracting slum formation), waste management, rainwater harvesting systems, etc.
	2.3: Miscellaneous	Any other infrastructure measures that cannot be clearly assigned to the above subcategories.
Social protection measures	3.1: Diversify rural livelihood opportunities	Creating, promoting and supporting rural livelihoods, e.g.: creating employment opportunities in seasons of non-cultivation, promoting tourism in rural areas, financially supporting fisherwoman, etc.
	3.2: Agricultural insurance	Creating and promoting agricultural insurances, e.g.: weather based crop insurance, weather indexed insurance for loss of milk yield, etc.
	3.3: Rural health	Research, monitoring and actions aiming at improving rural health, e.g.: mobile medical units, providing free of cost medical facilities to rural masses in remote areas, etc.
	3.4: Urban employment opportunities	Creating and promoting urban employment opportunities, e.g.: skill training for employment promotion among urban poor, urban wage employment program, etc.
	3.5: Urban health	Research, monitoring and actions aiming at improving urban health, e.g.: improving the quality and accessibility of health care in cities, developing disease-forecasting systems for disease outbreaks, etc.

	3.6: Miscellaneous	Any other social protection measures that cannot be clearly assigned to any of the above subcategories.
Sustainability	4.1: Sustainable agriculture	Facilitating and promoting sustainable agriculture, e.g.: promoting micro-irrigation techniques, research on nutrient requirements of soils, training farmers on new techniques, promoting traditional crops, etc.
	4.2: Green cities	Measures aiming at “greening” cities, e.g.: development of lung spaces, control of vehicular pollution, promoting green buildings that are energy and resource saving, etc.
	4.3: Miscellaneous	Any other measures that aim at increasing sustainability, but cannot clearly be assigned to the above subcategories.
Awareness raising and participation	5.1: Rural / agricultural awareness	Awareness raising, promotion of people/institutional participation and promotion of a certain behavior in rural areas, e.g.: environmental awareness programs, promote water use efficiency through water harvesting, drip and sprinkler irrigation, promotion of renewable energy, etc.
	5.2: Urban awareness	Awareness raising, promotion of people/institutions participation and promotion of a certain behavior in urban areas, e.g.: awareness creation about and encouragement of rainwater harvesting in cities, incentives for the use of public transportation, create awareness in order to enhance social acceptability of treated water, etc.
	5.3: Miscellaneous	Any other measures of awareness creation and participation that cannot clearly be assigned to the above subcategories.