

# **Linking Migration and Adaptation to Climate Change**

## **How Stakeholder Perceptions Influence Adaptation Processes in Pakistan**

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### **Abstract**

In many countries of the Global South, climate-induced migration is still stigmatised as a failure to adapt. However, comprehensive adaptation requires open approaches that include migration as part of the solution. Stakeholders from governments and NGOs play a central role in shaping actions for adaptation. Using Pakistan as a case study, this paper analyses how stakeholders perceive the nexus between environmental risks and migration, and how these perceptions influence adaptation outcomes. Pakistan is expected to be strongly affected by future climate change. Repeated natural hazards are threatening the highly vulnerable population. Results from qualitative expert and stakeholder interviews reveal that climate change has a low priority in Pakistan. Other problems such as violent conflicts and hunger are perceived as more urgent. Internal migration is generally perceived as negative. An open approach that recognises how migration holds both challenges and opportunities in dealing with climate change is largely unknown. These perceptions are reflected in national policies. Both climate change and migration are still addressed separately, and comprehensive plans are lacking. Thus, the results show that negative views about migration hamper regional climate adaptation processes.

### **Keywords**

Migration, climate change, stakeholders, perception, adaptation, Pakistan

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## **Introduction**

In the media and the national policies of many countries in the Global South, the linkage between migration and climate change is still predominantly assumed to be causal and direct. Migration is mostly seen as a failure to develop and to adapt to climate change. However, a number of empirical studies show that migration is a far more complex process and that it can even be an adaptive strategy (e.g. Jäger et al. 2009; Scheffran et al. 2012). The key message of the UK Foresight Report in fact states that “migration in the face of global environmental change may not be just part of the ‘problem’ but can also be part of the solution” (Foresight 2011: 7). The report emphasises that “critical improvement to the lives of millions are more likely to be achieved where migration is seen as offering opportunities as well as challenges” (Foresight 2011: 7). As a result of this report, a certain paradigm shift can be identified in the research on climate-induced migration, with the “Foresight approach” becoming dominant. On the international political agenda, more and more international agencies such as the International Organisation for Migration, the UN and the World Bank are recognising the importance of these insights (see IOM 2009; World Bank 2014).

However, in national and local policy making, a negative perception of migration prevails and concrete political plans for action remain scarce, especially in countries of the Global South. This attitude is reflected, for example, in the National Adaptation Programme of Action (NAPA)<sup>1</sup> of some states. Thirteen out of 45 programmes contain policies focusing on limiting rural out-migration and nine aim to reduce the reasons for migration. Some South Asian countries such as Nepal and Bangladesh even disregard migration completely in their proposed adaptation projects (Sward / Codjoe 2012).

Stakeholders from governments and NGOs play a central role in shaping actions for adaptation. This paper defines stakeholders as people who participate in decision- and/or policy-making processes regarding adaptation in Pakistan. Analysing what they perceive about the nexus between climate change and migration is crucial in making sense of “how such perceptions influence the decision-making process leading to the adoption of certain adaptation strategies or coping mechanisms rather than others” (Gioli et al. 2014: 1152).

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<sup>1</sup> NAPAs have been developed by the ministries of environment of several countries in the Global South under the leadership of the UN Framework Convention on Climate Change. Within such programmes, the country identifies key activities which have to be implemented in the short term to address urgent actions on adaptation to climate change (Adger et al. 2007).

Several empirical studies (e.g. Roncoli et al. 2002; Vogel / O'Brien 2006; Tschakert 2007; Gioli et al. 2014) show that perceiving natural hazards and climate change as risks is a prerequisite for adapting. In fact, empirical studies prove that how environmental risks are perceived – and not the actual risks per se – influences the decisions to act (see Adger 2003; Tschakert 2007; Jónsson 2010). Local people and communities in the Global South, while often being highly vulnerable towards environmental stress and natural hazards, also show high levels of resilience in dealing with these circumstances (Braun / Abheuer 2011). They are important actors in climate adaptation and due to high levels of local social capital they are often able to make up for a lack of governmental support (Adger et al. 2003). Hence, the perception of these people towards climate change and natural hazards is crucial for understanding their behaviour and adaptive capacities.

However, while all the above-named studies focus on the perceptions of local people, only recently have studies on how stakeholders perceive environmental risks and adaptation processes emerged (see Otto-Banaszak et al. 2011; Wyborn et al. 2015; Lim-Camacho et al. 2015). A study by Otto-Banaszak et al. indicates “that although promising adaptation measures exist, they are often not implemented due to differences in stakeholders’ mental models and different perceptions of how to adapt” (Otto-Banaszak et al. 2011: 217). The objective of this paper is to contribute to this emerging research focus and to connect it to the debate on climate-induced migration by adding the views of those in charge of developing adaptation policies. Based on qualitative stakeholder and expert interviews, it explores what local stakeholders know and perceive about the impacts of climate and environmental change on Pakistan. Furthermore, the study analyses the images of internal and international out-migration, and investigates stakeholder perceptions of the nexus between migration and adaptation to climate change. Finally, I explore how these perceptions are reflected in the national policies on climate change and migration in Pakistan, to reveal how stakeholder perceptions influence adaptation outcomes.

Pakistan was chosen as the study area because of the country’s high vulnerability to natural hazards, as well as its persistent internal population movements and large international diaspora. Thus far Pakistan has no NAPA and the “National Climate Change Policy” remains in an early stage of development (see Satter 2014). Pakistan is a particularly challenged country due to its specific topography, including the Hindu-Kush-Himalayan ranges (which contain extended glaciers), flood plains, semi-arid and arid regions, and the coastline with the Indus Delta. Every change in climatic conditions is highly likely to affect at least one part of the country. Climate models for Pakistan forecast a median temperature increase of 3.8°C by 2100, a tendency

towards more heavy rainfalls and a slight lengthening of dry periods. However, precipitation models indicate no clear trend; a change in a range from -15 to +10 per cent of annual total precipitation is likely by 2100 (CSC 2013). In contrast to other Himalayan regions, Pakistani glaciers are still exhibiting a net increase in their mass balance (Bolch et al. 2012). This observation is highly significant, as the country's most important freshwater source, the Indus River, originates from glacier-fed rivers in the Hindu-Kush-Himalaya region. Concerning the rise in sea levels, a mean increase of about 0.5 mm/yr over the twentieth century has been observed in Karachi (CSC 2013).

In addition, Pakistan is affected by numerous natural hazards such as glacier lake outburst floods, tropical cyclones, droughts, and salt-water intrusion. It is one of the most flood-prone countries in the world. The largest flood in its history occurred in 2010, affecting some 20 million people and displacing approximately 3.4 million, about 17 per cent of them permanently (Emerson 2011). Economic and infrastructure damage accounted for about 10 billion USD, reducing the GDP of Pakistan by 5.8 per cent (Emerson 2011). These natural hazards increasingly threaten the population of Pakistan, 44 per cent of which still rely on climate-sensitive sectors such as agriculture and fishing (World Bank 2015).

The country's financial and institutional capacities to respond to natural hazards are limited. Since its independence in 1947, Pakistan has had a government with alternating democratic and military regimes, resulting in insecurity and instability. Social problems such as violent conflicts, an ongoing energy crisis and a lack of transparency constrain national development. Making a living is especially difficult in the rural areas because of class, gender and ethnic divides, and the lack of facilities and basic services (see Gazdar 2003; Geiser 2010; Gioli et al. 2014).

The country is already confronted with large internal rural-urban migration flows that exceed the infrastructural capacity and services of the major urban areas, especially in Karachi (see Gazdar 2003; Satter 2014). Still, the percentage of the urban population in Pakistan remains at a low level of 38.75 per cent (World Bank 2016). Hence, rural-urban movements constitute the dominant labour migration pattern, especially from the rural areas of Khyber Pakhtunkhwa and Punjab. Besides economic reasons, people tend to migrate voluntarily for family relationships such as marriage (Gazdar 2003). In addition, an estimated number of over 2.4 million people are displaced internally by armed conflicts and terrorism (Emerson 2011). The largest group of foreign migrants within Pakistan are Afghani refugees, with an estimated number of 2.5 million, who are among the poorest people within the country (Gazdar 2003).

In this context of high exposure and vulnerabilities, international remittances play an important role for the macro-economy. Today the Pakistani diaspora accounts for more than 4.2 million international migrants (World Bank 2015). Officially transferred remittances in 2014 added up to more than 17.06 billion USD – equivalent to seven per cent of GDP (World Bank 2015). Research conducted after an earthquake in 2005 in the northern Pakistani provinces of Khyber Pakhtunkhwa and Kashmir found that remittances played a significant role in the relief action (Suleri / Savage 2006).

### **Theoretical considerations: Linking migration and adaptation to climate change**

Adaptation in this paper is understood as “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (IPCC 2007: 750). Successful adaptation processes imply technical and institutional innovations to coordinate measures taken and to organise the distribution of resources. How risks and adaptive capacities are perceived strongly shapes whether or not actions for adaptation to climate change are taken (see Figure 1). To adapt to a negative change, people first need to be aware of it and, second, they need to believe that taking action is within their power (Adger 2003).

The difference between actual adaptive capacity and perceived capacity works as a direct constraint to adaptive action (Adger et al. 2007). Analysing the perceptions of stakeholders is highly relevant to exploring how adaptation policies and strategies evolve. In addition, structures outside the range of influence of local actors might facilitate or prevent adaptation pathways (Wyborn et al. 2015). For these reasons, this study also examines how stakeholders perceive the context in which they operate.

Nonetheless, perception is not the only factor shaping actions. In fact, even existing knowledge about climate change impacts and adaptation possibilities does not necessarily result in adaptive action (Adger et al. 2007). This fact is known as the “value-action” gap. In reality, individuals often prioritise the risks they face at any given moment. The IPCC report (2007) stresses that concerns about present stressors such as hunger, violent conflicts or diseases often outweigh considerations about long-term climatic changes and adaptation planning (Adger et al. 2007). In Pakistan, concerns about migration and its potential role in adaptation processes might be overshadowed by the more pressing problems mentioned above.

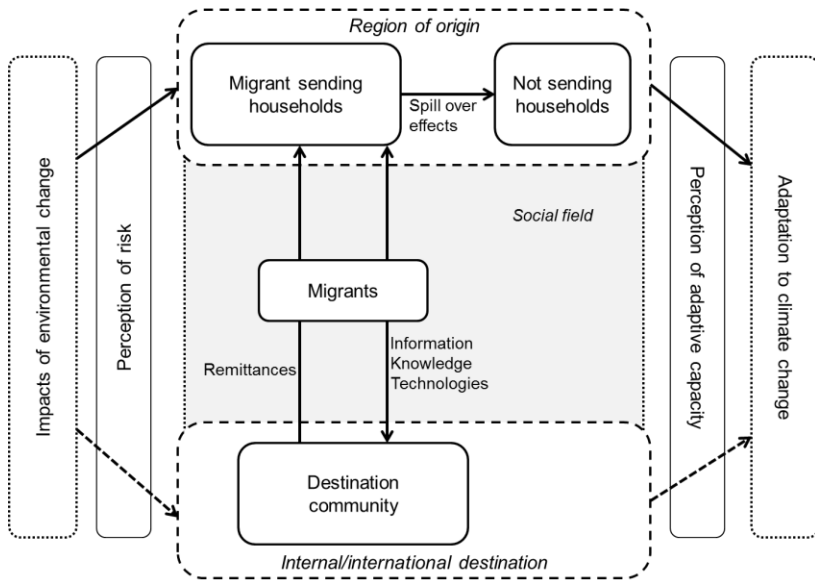
Nevertheless, research on the nexus between migration and climate change is important, as climate change is very likely to alter the complex pattern of human migration (IPCC 2014), and negative perceptions of “climate refugees” still prevail. Empirical findings, however, indicate that “it is almost impossible to distinguish a group of ‘environmental migrants’, either now or in the future” (Foresight 2011: 8). Rather, environmental change influences the migration process indirectly, by stimulating other macro-level drivers (political, social, demographic, economic and environmental ones). Present drivers do not necessarily lead to migration, however. Several obstacles or facilitators (e.g. levels of participation, financial assets) and personal and household characteristics (e.g. gender, education) determine migration outcomes (Foresight 2011). For example, in Pakistan prevailing gender norms largely exclude women from labour migration (Satter 2014).

A deterministic approach neglects the active agency of human individuals and social groups in dealing with environmental stress. Furthermore, it ignores constraining factors. In contrast to common narratives in the global media, population movements in relation to environmental stress and natural hazards are highly likely to occur within a region or country and do not lead to massive waves of international refugees (Tacoli 2009; IPCC 2012). In fact, environmental change can reduce opportunities to migrate by eroding important assets e.g. income from agriculture. Empirical evidence in fact shows that “environmental change is equally likely to prevent migration as it is to cause migration” (Foresight 2011: 12). Recognising this fact is crucial in planning for national adaptation, as the poorest members of a society are less likely to migrate but are most vulnerable to environmental change (de Haas 2005; IPCC 2012).

In this paper, migration is recognised as an opportunity to adapt to climate change. Figure 1 illustrates the relationship between migration and adaptation. In brief, migrants establish social networks that link host and home communities. The social and financial transfers within these networks can become a resource for adaptation to climate change. However, there are several multi-level ways in which migration can contribute. I have structured this multi-level relationship between migration and adaptation to climate change in four modes of interaction (see Scheffran et al. 2012):

- 1) In-situ adaptation (to prevent forced migration): Strategies to adapt in situ are urgently required to prevent people from becoming displaced or trapped. In-situ adaptation should not aim to prevent voluntary migration but focus on how to reduce risks and enhance livelihood opportunities for populations exposed to environmental stress. Such populations include people who are unable (or unwilling) to move, typically the poorest members of a community.

FIGURE 1: The nexus between migration and adaptation to climate change



Source: compiled by author

Examples of adaptation measures are an improved distribution of and access to resources, flood alert systems, improved crops (e.g. more salt-resistant ones), development of new labour sectors, better infrastructure (e.g. drainage systems), and training and education programmes. It is important that a comprehensive long-term adaptation process takes place, involving local people (see Thomalla et al. 2005).

2) Migration as adaptation: In-situ adaptation is impossible or insufficient in some cases. In many cases, migration can be a highly efficient contribution to long-term resilience (Foresight 2011). Seasonal or permanent migration can be an adequate adaption strategy to avoid natural hazards and climate stress, as it directly reduces the exposure of the affected population as well as pressure on scarce local resources (Castles 2002; Castles 2011; Gemenne et al. 2011; Foresight 2011; Black / Adger et al. 2011). The resulting lower vulnerability can lead to a higher overall adaptive capacity and potentially contributes to adaptation processes at the destination (Gallopín 2006; Black /

Bennett et al. 2011). Nevertheless, strategies and management for planned migration are required both in the regions of origin and at destinations. Especially in urban destinations, institutions and policies need to be in place to provide livelihood opportunities and to avoid marginalisation and social conflicts. Only if these circumstances are a given, can migration be an effective adaptive response and a free choice (Adger et al. 2003; Gallopín 2006).

3) Migration as a resource: Insights from the New Economics of Labour Migration (NELM) and the Sustainable Livelihood Approach (SLA) show that migrant transfers can work to improve the development and co-insurance of households (see Stark / Bloom 1985; Taylor 1999; de Haas 2010). Migrants establish new social fields and networks between communities of origin and destination (see Figure 1). Through these networks, remittances, know-how, technologies, information, etc. are transferred. Thus, migration can act as a resource for building resilience and adaptive capacities at the household level. The original reason for migrating is insignificant in this case; the importance lies in the social networks that emerge after migration and in the social and financial transfers. Remittances provide flexibility for livelihood options for many households in the Global South (Adger et al. 2002). They substitute for the lack of state capital for risk reduction, insurance, micro-credits and especially for recuperation from natural disasters. Spatial mobility can result in social mobility when transfers improve the social and economic situation of a household (Agrawal 2008). Nonetheless, it is unlikely that migrant networks alone can solve larger constraints such as corruption, macro-economic instability, lack of appropriate public policies, market and security failures, and trade barriers (de Haas 2005, 2010). Important instruments to enhance the benefits from migrant social networks are the reduction of transfer barriers, such as high costs, and the implementation of policies and multilateral agreements that facilitate circular and temporary migration (de Haas 2010).

4) Cooperation and co-development: Migrant networks are not restricted to the household level but can be expanded by incorporating further actors from governmental organisations and NGOs. Migrants can become mediators for cooperation and co-development as they link countries and their communities. Diaspora organisations, co-development<sup>2</sup> and institutional collaborations can spread the effects of remittances and social transfers by channelling them into larger adaptation projects, which benefit the whole community. Thus, theoretically transfers can become a resource for technical and insti-

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<sup>2</sup> Co-development refers to an initiative by migrant organisations in a participatory and bottom-up manner (Scheffran et al. 2012).



tutional innovations, sustainable development, community resilience and adaptation to climate change, e.g. through investments in infrastructure, schools or flood alert systems (Adger 2003; Scheffran et al. 2012). Many diaspora organisations engage in development projects in their regions of origin, e.g. by donating money to social funds (schools, hospitals) or by designing and funding their own projects (see Bakewell 2007). Scheffran et al. (2012) describe investments in water development projects in the Sahel region as examples of co-development projects initiated by diaspora organisations. However, co-development and initiatives of migrants are no panacea for adaptation and development (Taylor 1999). Investments need to be promoted and guided by governments.

In summary, a broad framework of migration and adaptation includes options to adapt in situ, options to migrate with human rights in place, the facilitation of circular migration, the possibility and facilitation of the establishment of transnational networks and identities, an easier and cheaper money transfer system, and options for institutional cooperation and co-development. In this way, benefits can be achieved for the migrants, the people who stay and the communities of origin and destination. None of the four modes described should be implemented alone. In practice, they need to be combined to empower affected communities and to enhance an effective climate adaptation process.

## **Methods**

This paper is based on qualitative semi-structured stakeholder and expert interviews conducted between August and December 2012. In total, I conducted seventeen interviews, first with twelve policy makers, experts from the scientific community, and environment and development NGOs in Pakistan and Europe. In addition, five Pakistani migrants and diaspora stakeholders living in Germany were interviewed to gain further information on social and financial transfers and engagement in home communities. The interview partners were selected via “snowball sampling”. This method proved highly suitable, as being introduced personally by one interview partner towards another was an important asset in gaining access to high-level Pakistani stakeholders.<sup>3</sup> The stakeholders and experts interviewed cover a

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<sup>3</sup> Research data collection was self-funded under the auspices of the Research Group Climate Change and Security (CLISEC) at the University of Hamburg. First expert and stakeholder contacts were facilitated by collaboration with senior researchers at the SDPI Institute in Islamabad.

broad range of institutional backgrounds (e.g. the Universities of Karachi and Islamabad, the WWF Pakistan, the Sustainable Development Policy Institute (SDPI) Islamabad, the GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit, the UK Climate Change and Migration Coalition and the Embassy of the Islamic Republic of Pakistan in Germany) and different disciplines (e.g. meteorology and oceanography, biology, labour and gender economics, economics, sociology, politics, architecture, engineering and urban planning). Thus, the scope of the interview partners matches the socio-environmental focus of this study. All the interview partners based in Pakistan are involved in policy- and/or decision-making processes in their country and are, thus, considered as stakeholders. All but one of the European experts also have close affiliations to Pakistan.

The interview guidelines included questions about environmental change, migration patterns and natural hazards in Pakistan. To analyse perceptions on the nexus between migration and adaptation to climate change, each interview partner received a short description of the four modes of interaction (see p. 184) in advance and was asked to compare them to the current situation. Furthermore, I questioned the interview partners on what they perceive as major drivers and barriers to migration and adaptation in Pakistan.

For the concrete analysis, an open coding system was applied using the software MAXQDA. In the process, I identified patterns and linkages between statements and linked them into concepts and categories (codes) (see Bryman 2008). As a follow-up, a content analysis was conducted (see Mayring 2004). To guarantee the anonymity of the interview partners (IPs), their names were changed into a numbering system.

## **Results and Discussion**

### **Analysis of the climate and migration policies of Pakistan**

The research gaps concerning migration and adaptation to climate change in Pakistan remain large. However, recently new publications have emerged. In 2014, Adnan Satter published a paper on “Climate Change and Migration: Exploring the Linkage and What Needs to Be Done in the Context of Pakistan”. It is one of the first papers in the national context of Pakistan to recognise the potential opportunities of migration. Satter concludes that Pakistan requires a political framework linking migration and climate change, in order to protect rural-urban migrants from becoming marginalised and seasonal migrants from exploitation and to ensure that migration does not become unaffordable for the vulnerable.

Thus far, linking migration and climate change has not been a concern in the national policies of Pakistan. The National Climate Change Policy (launched 2013) remains completely silent on climate-induced migration (see Government of Pakistan 2011). Proposed adaptation measures do not involve migration, neither by reducing forced migration nor by facilitating voluntary migration. Up until now, there is no comprehensive national climate adaptation strategy. Current climate adaptation is based on sporadic projects conducted by or with the help of foreign governments, the UN or NGOs (statements of the interviewees; Satter 2014).

Pakistan still has no internal migration policy, and protecting internal migrants remains a huge challenge (Satter 2014). Internal migration remains outside of the focus of Pakistani policy documents, despite the fact that empirical evidence shows that environmentally induced migration is likely to be internal (IPCC 2012). The policies of Pakistan primarily still focus on international labour migration and remittances. The National Emigration Policy presented in 2009 also remains silent on environmental or climatic stress in the context of migration. As the main challenges, the policy names safe emigration and future prospects to encourage international labour migration (see Government of Pakistan 2009). While the document has been recognised as a first step, it can be criticised for insufficiently recognising the role of migrant networks within the migration process, for focusing exclusively on international labour emigration and for failing to focus on protecting emigrant household members who stay in Pakistan (Jan 2010). Thus far, Pakistan has signed neither the Refugee Convention (1951) nor its Protocol (1967) nor the Convention on the Protection of the Rights of All Migrant Workers and their Families (1991) (Satter 2014).

Some actions to deal with natural hazards are nevertheless notable. In 2010, Pakistan established a National Disaster Management Authority (NDMA), which was later placed under the authority of the Ministry of Climate Change established in 2011. The target of this ministry is to develop adaptation plans and policies (Rahman / Shaw 2015). Thus, there are governmental structures for the protection of migrants and displaced people which can be built upon (see Satter 2014). However, policy documents released by the NDMA reflect the political disregard for internal migration and for the nexus between migration and climate change. The National Policy Guidelines on Vulnerable Groups in Disasters (NDMA 2014) fails to recognise rural-urban migrants among these vulnerable groups. In fact, it does not mention migrants at all. A recent publication by Khan et al. (2016) on “The Challenge of Climate Change and Policy Response in Pakistan” comes to the same conclusion: both migration and population displacements are missing within disaster management frameworks.

### **Analysis and discussion of empirical findings**

The interviews revealed that local stakeholders do not lack the knowledge required to enhance adaptation to climate change, although research data on climate change is still insufficient. All the stakeholders and experts interviewed from Pakistan and Europe have a broad knowledge of climate change. Stakeholders from Pakistan are well informed of the current environmental changes and natural hazards affecting their country. Their statements about environmental change and future climate predictions largely match the scientific evidence. However, Pakistani stakeholders agreed that overall awareness of climate and environmental change in Pakistan is low. They stated that an ordinary person in Pakistan would know nothing about climate change in a scientific sense, but only in the logic of personal observations of changes in the weather. This impression was substantiated by the finding that the Pakistani migrants interviewed had a more limited knowledge of environmental issues and the meaning of climate change was not entirely clear to all of them. All the stakeholders agreed that Pakistan is already confronting negative environmental changes and that the country will have to deal with climate change and its impacts in the future:

[Pakistan] is very vulnerable because it contains mountain as well as plains areas. If there is any climate change some part is affected.<sup>4</sup>

Stakeholders from Pakistan, furthermore, showed awareness of social, economic and environmental vulnerabilities in their country. In general, they perceive the vulnerabilities of Pakistan's society to be high. Key problems named by the stakeholders are the inefficiency of the state system, poverty, lack of basic needs, lack of jobs and education, violent conflicts and corruption. Violent conflicts were particularly emphasised as the reason why Pakistan has not been able to focus on national development.

You need peace, you need to fight corruption, you need democracy, so all these things and I can't see that they are in reach.<sup>5</sup>

The stakeholders and experts interviewed have a broad knowledge of the current level of disaster preparedness in Pakistan. All of them perceive the current preparedness of the state in tackling climate change and natural hazards as very limited. The interviewees mentioned learning processes from previous events such as the 2010 flood but these are still assessed as limited:

They are learning and a lot of things have – I think – changed, but the room for improvement is very large.<sup>6</sup>

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<sup>4</sup> Interview with sociologist, PhD, 9 December 2012, Islamabad, Pakistan.

<sup>5</sup> Interview with professor of meteorology, 17 October 2012, Kiel, Germany.

<sup>6</sup> Interview with senior diplomat, 12 December 2012, Berlin, Germany.

Measures are described as being reactive, rather than proactive, and effective prevention is lacking. One European expert (a professor of labour and gender economics) pointed out that the same discussions about bad governance and necessary developments have arisen after every natural disaster in the last decades but have not been translated into tangible improvements.

A major reason for the low level of preparedness can be found in the frequent occurrence of armed conflicts. Climate change is a slowly emerging problem that is pushed aside by a number of burning issues such as hunger, corruption and insecurity, which are perceived as more urgent by the public, the media, politicians and the majority of interviewees. One Pakistani stakeholder (a macroeconomist, scientist and political advisor) reported that he had asked the planning commission of Pakistan if any environmental issues had been discussed in the national parliament or the senate floors in the past year (2011) and that the answer was negative. Thus, there is a prevailing “value-action” gap (Adger et al. 2007) regarding climate and environmental change.

In addition, the limited financial and institutional capacities are perceived as insufficient to tackle all of the social, economic, political and environmental problems. Consequently, barriers preventing adaptation to climate change are perceived as very high. The scope for taking action for adaptation to climate change or for any environmental engagement is perceived as limited against this backdrop. These perceptions are highly relevant because perceived constraints to adaptive capacities become genuine barriers to adaptive actions, even when there are sufficient resources and capacities to act (Adger et al. 2007). For any successful adaptation process in Pakistan to take place, all interviewees agreed that transparency, democracy, peace, and development are required first:

So if you want to have climate change thinking going to Pakistani heads, you have to have their stomachs filled. Otherwise their burning issue will be their belly and not climate change.<sup>7</sup>

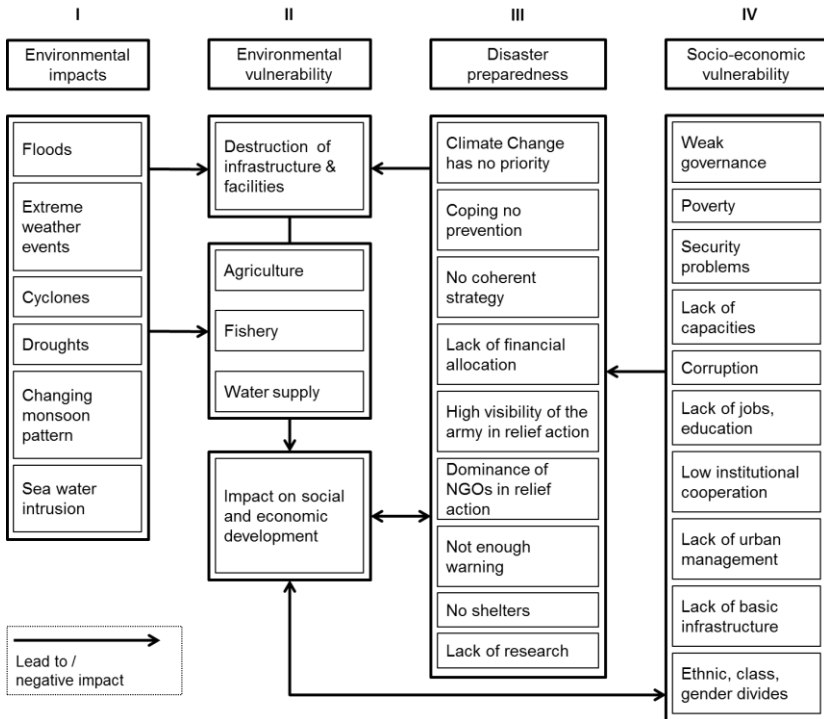
In summary, Pakistani stakeholders perceive that their scope to take action for adaptation is constrained by a cycle of interlinked environmental stressors, vulnerabilities and bad governance. Figure 2 summarises the stakeholder’s narratives about the context in which they operate. These concern environmental stress, vulnerabilities and preparedness. Environmental impacts (Column I) lead to the destruction of infrastructure and facilities and deplete the resources of agriculture, fisheries and fresh water supplies (Column II). Environmental vulnerabilities and exposure interact with socio-economic

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<sup>7</sup> Interview with Pakistani migrant, IT-specialist, 29 November 2012, Hamburg, Germany.

and political vulnerabilities (Column IV). The high socio-economic and political vulnerabilities, in turn, lead to limited disaster preparedness in Pakistan (Column III), which again increases environmental vulnerabilities.

FIGURE 2: Schematic of the perceived environmental impacts, socio-ecological vulnerabilities, and the disaster preparedness in Pakistan.



Source: compiled by author

While the overall situation is assessed as highly negative, stakeholders had substantiated ideas on how to enhance adaptation to climate change in Pakistan. One interviewee suggested a four-step process to increase environmental engagement in Pakistan: (I) create awareness of climate and environmental change, (II) provide people with possible solutions (options for mitigation and adaptation), (III) tell them about the resources required and

(IV) develop a transparent mechanism so that people can see that their donation is being spent for the original purpose.<sup>8</sup>

Another stakeholder elaborated detailed plans for resettlement and the planning of new villages. He reported that there is knowledge about flood routes and flood-safe grounds in Pakistan and that he had developed a resettlement plan accordingly. However, he said that so far little attention had been paid to his plan.<sup>9</sup> Stakeholders are also aware of some positive developments in Pakistan. The National Disaster Management Authority (NDMA), the Ministry of Climate Change and the adoption of the National Climate Change Policy are seen as first steps in the right direction. Nevertheless, stakeholders described the ministry as “toothless” because of its minimal budget allocation.

Concerning the perceptions on migration, the interviews revealed a different image of internal versus international migrants in Pakistan. While international migration is generally perceived as positive, internal migrants have a negative image and are mostly perceived as a problem contributing to destabilisation. International migration gives a person status in Pakistan, especially migration to Europe or the USA, whereas rural-urban migration is associated with poverty. Consequently, Pakistani stakeholders showed a much larger concern about international migration than about internal migration. They had more ideas both in number and detail on how to address international migration and how to enhance benefits from international remittances.

All interviewees were, however, aware of the large (temporary) displacements during the 2010 flood. But despite this awareness, migration was scarcely included in their ideas for adaptation strategies. The majority of Pakistani interviewees perceive that internal rural-urban migration is related to poverty, not to climate change, and should thus be tackled within rural development and education programmes. However, the “migration hump theory” shows that more socio-economic development in the initial phase leads to more, not less, migration, as better education and higher income facilitate movement (de Haas 2005).

While stakeholders were aware of problems related to internal migration, such as management problems in major cities and the marginalisation of many rural-urban migrants, they had fewer ideas on how to tackle problems of internal migration than on how to deal with climate change. One interviewee stated:

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<sup>8</sup> Interview with biologist, NGO, 3 October 2012, Lahore, Pakistan.

<sup>9</sup> Interview with economist, PhD, 29 September 2012, Karachi, Pakistan.

Our population in the villages is more than what is required for agricultural occupations, and we need to move these into towns. We need more urbanisation, more cities and development of industry in these cities. [...] but for them to come to a city we need to create jobs [in non-farming economies].<sup>10</sup>

Through such urban development, the major management problems of larger cities could be diminished. The other ideas primarily focused on international migration, such as the reduction of travel costs, easier and cheaper money transfer systems, and more protection for migrants in the Gulf States.

Despite not being central to this study, some gender issues emerged during the interviews. Gender issues are of particular concern in Pakistan, especially as disparities are slightly worse than those of other countries with similar income levels (Gazdar 2003). One interviewed female Pakistani migrant stated that it would be perceived as shameful for a family if women were to send remittances.<sup>11</sup> One European expert called for a cultural change towards women's empowerment in Pakistan:

It is a huge challenge for cultural change, but also strengthening the rights of women, for example, to access and use remittances according to their own ideas, allowing for circular migration in order to make sure that men can actually return more regularly.<sup>12</sup>

Altogether, the results of the stakeholder interviews coincide with the focus and content of national policy documents. Climate change has a low priority and the National Climate Change Policy (2013) is in an early stage of development. Internal migration is predominately framed as a problem that is unrelated to climate change. In general, internal migration does not receive much concern and there is no migration policy. In contrast, international migration is seen as a positive economic asset which should be encouraged, and there is a National Emigration Policy (2009).

The interviews, furthermore, show that the potential of linking migration and adaptation to climate change was new to most Pakistani stakeholders. A connection between migration and climate change was familiar to them only in the context of forced displacement. All the stakeholders agreed that the current situation in Pakistan is not related to any of the four modes of interaction described in Figure 1. Likewise, policy documents still address migration and climate change separately.

When we frame the National Disaster Management Strategy, when we frame the Sustainable Development Strategy of Pakistan, or the terms of

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<sup>10</sup> Interview with economist, PhD, 29 September 2012, Karachi, Pakistan.

<sup>11</sup> Interview with linguistic student, 14 December 2012, Berlin, Germany.

<sup>12</sup> Interview with professor of labour and gender economics, 4 September 2012, The Netherlands.



references of the Ministry of Climate Change, none of these three documents that I have seen have correctly been able to take stock of migration and bring in policies that facilitate migration or at least make the burden of the migrants a little lesser after that environmental disaster [flood of 2010].<sup>13</sup>

The approach that migration can be “part of the solution” in adapting to climate change remains to be recognised by the majority of Pakistani stakeholders and policy makers.

Nevertheless, the Pakistani stakeholders interviewed perceived the idea of linking migration and adaptation to be sound from a theoretical perspective. Still, the different images of internal and international migration have influenced their perception. Strategies on in-situ adaptation in Pakistan were described as fragmented, insufficient and not well coordinated. However, this strategy was assessed as important by all the stakeholders and they agreed that the issue of forced displacement must be tackled. Migration as adaptation, in contrast, was viewed more heterogeneously, and the majority of Pakistani stakeholders were sceptical as to whether it could be implemented. From the stakeholders’ point of view, migration as adaptation appears to be unlikely in terms of a legitimised, guided and managed migration process.

By contrast, the ideas of migration as a resource and cooperation and co-development were received very positively. These ideas fit with positive images of international migration, which is primarily based on international remittances. All the stakeholders perceive that remittances play an important role in the macro-economic stability of the country. They also reported that remittance-receiving households could recuperate faster from natural disasters, and that remittances can enhance social resilience at the household level, e.g. by financing better housing facilities and better education or by enhancing upward social mobility and participation, which depends on land ownership in many rural areas of Pakistan, e.g.:

There is a district called Swabi in Khyber-Pakhtunkhwa [...], almost 90 per cent of rural housing has [a] concrete roof, which is very unusual in Pakistan. [...] And Swabi has no industry, almost one person from every house works abroad in the Middle East and it is very clear, [...] that the economy of Pakhtunkhwa is largely remittances driven.<sup>14</sup>

Thus, remittances are assessed as contributing to declining disparities in some regions of Pakistan and to the creation of a middle class. However, political guidelines for investing in adaptation or in environmental projects do not exist and regional disparities are high.

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<sup>13</sup> Interview with economist, PhD, 29 October 2012, Islamabad, Pakistan.

<sup>14</sup> Interview with economist, PhD, 29 September 2012, Karachi, Pakistan.

Most of the badly affected regions [by natural hazards] have historically low rates of international migration and low levels of incoming remittances.<sup>15</sup>

Despite the awareness of the positive effects of remittances, the idea of using remittances directly to finance adaptation to climate change or to donate money for environmental purposes was relatively new to Pakistani interviewees. Traditionally, donations go to social projects such as schools or hospitals. None of the stakeholders knew about any cases where remittances had been spent on environmental projects. Developmental constraints were perceived as the major barrier in this regard. One interviewed senior diplomat pointed out:

We have not reached that level of our development where these environmental issues are discussed.<sup>16</sup>

However, Pakistani migrants living in Germany reported that their environmental awareness has increased in their new destination. All the interviewees agreed on the perception that migrant networks can contribute a lot to raising awareness of climate change and to promoting environmental engagement in Pakistan:

Yes, I think awareness raising, knowledge sharing, is an area where migration can play an important role.<sup>17</sup>

## **Conclusion**

This paper has tackled the relevance and influence of stakeholder perceptions on national adaptation processes using the example of Pakistan. I analysed what stakeholders know and perceive about the links between migration and adaptation to climate change, and examined how these perceptions influence national adaptation outcomes by comparing them to national policy documents from Pakistan.

Stakeholders from Pakistan are well informed about environmental change and natural disasters in their country and have substantiated ideas on how to tackle climate change. However, there is a “value-action” gap. Concerns about climate change lag behind problems of security and poverty, which are perceived as more urgent. In addition, many Pakistani stakeholders perceive the barriers to adaptation (such as corruption and bad governance) as overwhelming and their adaptive capacity is constrained by these percep-

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<sup>15</sup> Interview with professor of labour and gender economics, 4 September 2012, The Netherlands.

<sup>16</sup> Interview with senior diplomat, 12 December 2012, Berlin, Germany.

<sup>17</sup> Interview with biologist, NGO, 3 October 2012, Lahore, Pakistan.

tions. If people perceive that acting is not within their power, no action on adaptation will take place (Adger et al. 2007).

Furthermore, the results show divergent perceptions of internal and international migrants in Pakistan. While international migration gives a person status, internal migration is widely perceived as negative and framed as a problem. Changing these negative perceptions is nonetheless necessary to inform a political agenda that recognises that migration offers opportunities as well as challenges in the context of climate change.

Thus far, the idea of linking migration and adaptation remains largely unrecognised. I found that stakeholders' perceptions and the national policies of Pakistan on migration and climate change correlate, both in their focus (e.g. on international before internal migration) and in terms underlying normative assumptions (internal migration as negative). While there is knowledge about climate change on the one hand and on migration on the other, the two issues are not thought of cohesively, as yet. Policy documents and the perceptions of stakeholders in Pakistan are still based on negative assumptions of migration. This current negative appraisal of internal migration in Pakistan limits the country's adaptive responses to environmental change. Opportunities that could be offered by migration networks remain unused.

Policies are based on the perceptions of the people who develop them. If migration is to be incorporated in the national adaptation plans as "part of the solution", the negative image of internal migration first has to change. This fact concerns not only Pakistan but many countries in the Global South, as their NAPAs show. Negative perceptions, which are based on scientifically incorrect facts, lead to policies that fail their purpose.

More research is needed to better understand how perceptions and discourses on climate-induced migration evolve worldwide. If adaptation strategies are to make a difference in the life of vulnerable populations, research has to focus on how stakeholders and local people perceive the realities they live in and their adaptive capacities, because perception is the most important first determinant. Research on how to change negative perceptions of migration is urgently required and should be a prime political goal.

Multilateral agreements are necessary to facilitate temporary and circular migration and cheaper money transfers. Migration cannot be stopped, but migration can be guided and facilitated. In the best case, under the necessary political guidelines and institutions, a win-win-win situation can emerge: for the migrants themselves, the communities in the regions of origin and the communities in the regions of destination. However, the overall aim should be to ensure that migrating or staying put remains a free choice and that migration can occur under conditions of equality and human rights.

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