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Social Vulnerability and Adaptation in Fragile States

by Cosmin Corendea, Koko Warner and Kristina Yuzva

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Kristina Yuzva

Social Vulnerability and Adaptation in Fragile States

Cosmin Corendea, Koko Warner and Kristina Yuzva

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Foreword

Until recently, fragile states were seen as those failing to provide basic services to poor people because they were unwilling or unable to do so (OECD, 2007). Today, the concept of fragile states has expanded towards a general incapacity to deliver to the majority, rather than to a specific segment of the society. However, poor people often continue to be the most vulnerable, particularly under a government which intentionally fails to deliver basic services, as well as a weak government with political will but no power – a topic which is analysed by the authors of this article.

In the context of climate change, the Intergovernmental Panel on Climate Change (IPCC) considers vulnerability as “a function of the character, magnitude and rate of climate change and variation to which a system is exposed, its sensitivity and its adaptive capacity” (IPCC, 2007). In this definition the last aspect explicitly takes into account the social components of vulnerability (Kelman and Gaillard, 2008). Although the probability of more extreme events is significant, it is likely that most of the effects of climate change will be gradual, incrementally affecting communities that are already dealing with high levels of social vulnerability, thus turning creeping, chronic disaster into rapid onset disaster (Lavell, 2008).

Talking about climate change in fragile states and the vulnerabilities created by this process in addition to all other shortcomings – economy, medical resources, etc. – represents a challenge for scholars and researchers around the world, particularly in assessing the impact of the climate change in an unstructured and unpredictable social environment.

As this publication highlights, the international community must be very careful when addressing such matters and try to avoid implementing ‘blueprints’ or ‘standard’ methods, since all fragile states are particular and need policies specific to their realities. There is no assurance that the international aid will bring immediate improvements by remediating social vulnerabilities, but it needs to guarantee that human security increases, and the respective society is not falling into the worst scenario imagined: conflict.



Prof. Dr. Jakob Rhyner
Director, UNU-EHS

Foreword

There is no standard international definition of the term “fragile state”. Generally speaking, countries whose authorities cannot or will not assume key functions such as the maintenance of security, the respect of the rule of law or the satisfaction of basic social needs are considered fragile. Political wilfulness and unpredictability are stress factors which may interact with other negative circumstances: instability, social inequality and lack of adaptability, to name but a few.

It is particularly difficult for fragile states to cope with stress. Corruption, violence, ethical conflict and poverty are difficult parameters to address with regard to building resilience. Minor changes that create additional stress can cause tremendous problems for people at risk, and trigger humanitarian crises.

Nowadays, the risk situation that prevails in many parts of the world is often further exacerbated by climate change. Our statistics prove that natural disasters, and especially weather disasters such as cyclones, floods and droughts, are increasing in number and intensity, while complex man-made disasters like the “Deepwater Horizon” oil spill or the Fukushima nuclear disaster are also on the rise.

Sadly, the ongoing terror in Syria throughout 2012 shows how weak the international community’s management skills and ability to influence can be. International community endeavours to save human lives – be it through embargoes or political pressure – become embroiled in protracted negotiations so that any resulting action may come too late.

Climate change and its impacts cannot be avoided – that much is certain. People will be forced to adapt to a changing environment. Time is short, and we have to act now. If civil society is not included in the adaptation process, peace and stability will be at stake, especially in politically weak or fragile states. The safety of whole regions is at risk; worse still, the problems could spill over into other areas, potentially even with global repercussions. For this reason, it is also in the international community’s own interests that it lends its support to fragile states.

This key issue of InterSecTions puts forward ideas on how to better manage the challenges facing fragile states in the context of climate change, and provides a basis for approaches leading to sustainable solutions.



Thomas Loster
Chairman of the Munich Re Foundation

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User guide

The margins of the InterSecTions series – A service for the cursory reader

The InterSections Series means to provide direct, knowledge-based recommendations as basis for well-founded decisions.

Our InterSecTions Series provides authoritative research and information for policy-makers and decision makers; additionally we provide a service for the cursory reader.

To receive the full message of the respective page one has to read the quotations provided in the margins. In those margins the reader will find thought-provoking, but well researched policy recommendations and the quintessence of the page.

Additionally, the quotations are placed directly beside the respective paragraph, so if the reader wishes to find out more, the quotations can easily be found in the text and the reading can be taken from there.

The editorial team of UNU-EHS hopes this format will be well received. However, any comments and/or recommendations of improvements are very welcome.

Social vulnerability is created through the interaction of social forces and multiple stressors

Introduction

Today, the challenges faced by fragile states are multidimensional. Mainly, there are political, economic and social areas where one government could prove its weakness and incapacity to practice the rule of power. Environmental factors further challenge fragile states in applying approaches to be used for delivering resilience and institutional stability to their populations.

As part of this, climate change makes no distinction between solid states and fragile states and creates very difficult situations for so many by now feeble states. Drought, lack of water or salinization are only a few examples which fragile countries must handle with care and precaution besides already existing tensions, conflicts or social vulnerabilities.

Mechanisms of social vulnerability in fragile states

State fragility and social vulnerability are correlated, an observation with profound implications for the potential current and future impacts of climate change. Often people living in fragile states have high degrees of social vulnerability – little access to power structures, assets to secure safe and dignified livelihoods and low welfare (measured by health, education and life expectancy). Those elite groups engaged in conflict over state control are often in direct opposition to socially vulnerable groups who do not have power. Fragile states in turn lack the ability or political will to deliver goods and services to socially vulnerable people who need to be resilient to a variety of stressors, including climatic stressors. Often socially vulnerable groups in fragile states are engaged in livelihoods highly dependent on climate-sensitive ecosystem services – herders, fisher-folk and farmers depend on appropriate rainfall, soil and flora conditions as well as temperatures to carry out their livelihoods.

Social vulnerability is created through the interaction of social forces and multiple stressors, and resolved through social (as opposed to individual) means (Ballesteros, 2008). While individuals within a socially vulnerable context may break through the “vicious cycle”, social vulnerability itself can persist because of structural (i.e. social and political) influences that reinforce vulnerability (Cutter et al., 2003).

Social vulnerabilities contribute to the difficult situation in fragile states – as institutions struggle to provide basic goods and services, and may abuse or socially exclude certain groups (The Yogyakarta Principles, Principle 9, 11 and 15) – narrowing the generally accepted definitions where social vulnerability appears as a precondition that affects a society’s ability to prepare for and recover from a disruptive event (Conway and Norton, 2002).

Politically motivated social exclusion undermines climate resilience of vulnerable groups

There are two specific scenarios which need attention in regard to this approach. In some cases, the weak government tends to expose *intentionally* the relationship between the state and the society for different reasons – facile exploitation, corruption, attracting external aid funds, etc. With high social vulnerabilities present at local or regional level, people tend to look for guidance and assistance, which

facilitates the role of the fragile government 'to deliver'. Any 'deceptive' solution is followed and less analysed and balanced. Although apparently it is a good political solution and it might superficially strengthen the power of rule, actually it has a *boomerang* effect. It comes back faster and more damaging than expected. Regardless of different indexes to measure fragility, the state becomes weaker in capacity and legitimacy leaving its population to a great range of shocks. This scenario is mainly used in cases of climate change adaptation and development when governments take a political decision to stop finding any solution and start asking for international assistance. While international actors step in, it is essential to understand the context in each state, and develop a shared view of the strategic response accordingly. It is particularly important to recognize the different constraints of capacity, political will and legitimacy, and the differences between post-conflict/crisis or political transition situations, deteriorating governance environments, gradual improvement or prolonged crisis or impasse (Fragile States Principle 1, OECD, 2007). Although different indicators and analyses are used, in most cases the international response is not tailored to the specific situations and the impact is not the one anticipated.

Lack of governance capacity undermines climate resilience of vulnerable groups

In some other cases, the governments prove political will but they lack capacity with ineffective governmental strategies and superficial (development) opportunities. By implementing short-term programmes which facilitate solutions for a momentum (e.g., natural hazard, climate change rapid-onset event), the government-led strategies 'work' to solve the problem, without addressing any causalities or future impacts. In this case, social vulnerabilities decrease temporarily with a significant boost when the phenomenon becomes repetitive or when the strategy initially chosen proves to be inappropriate for the respective scenario. It clearly demonstrates that poorly conceived involvement can do more harm than good: these fragile states face brutal development challenges such as lack of security, weak (local) governance, limited administrative capacity, social tensions, conflict or war, etc.; characteristics which could be easily interpreted as social vulnerabilities. In most cases, again international assistance steps in (in different forms) which generally leads to 'parallel systems' – a 'shared' (national and international) plan usually not considering any transition mechanisms or long-term capacity-building, although it is well accepted that fragile and conflict-affected situations require different responses to those applied in better performing countries (OECD Fragile States Principle 7 – Align with local priorities in different ways and in different contexts).

Extreme weather events and stressors to development in fragile states

The recent IPCC Special Report on Extreme Events (2012) stresses that there is a high confidence that development practices, policy and outcomes are critical to the impacts of weather-related extreme events. Vulnerability to weather extremes results from skewed development processes such as failures of governance, scarcity of resources for the marginalized communities and environmental degradation. The literature on disaster management has acknowledged the inadequate track record of development assistance in achieving coherent sustainable development in the face of natural hazards, particularly in fragile states.

Development practices, policy and outcomes are critical to the impacts of weather-related extreme events

In the case of fragile states, social exclusion can be severe and the capacity to respond very limited

According to the IPCC Fourth Assessment Report (IPCC, 2007, 9.2.1, 9.4.4, 9.6.1), agricultural production and food security (including access to food) in many African countries and regions are likely to be severely compromised by the effects of climate change and climate variability. Subsistence and smallholder farmers, including pastoralists and agro-pastoralists, are likely to be most severely affected (Morton, 2007). The effects of climate change, as Morton (2007, see also Tröger et al., 2011) highlights, will increase the likelihood of crop failure, increase diseases and mortality among livestock, impact livelihoods by forcing households to sell their assets, cut health and educational expenditure and migration, and increase the likelihood of indebtedness and dependency on external help. There could be possible feedback through unsustainable adaptation strategies which lead to environmental degradation. With regard to agricultural production, the IPCC has projected reductions in yield in some African countries to be as much as 50 per cent by 2020, and crop net revenues could fall by as much as 90 per cent by 2100 (IPCC, 2007).

Social exclusion of particular groups (which may also be particularly sensitive to weather extremes and incremental changes in local and regional climate) may be driven by ruling elites in fragile states. In the case of fragile states, social exclusion can be severe and the capacity to respond very limited. This results in major relative loss and damage and exacerbated exposure to future weather-related extremes and other climatic stressors (IPCC, 2012). In Somalia and Sudan, for example, social conflict has contributed to a complex dissolution and failure of the state system as well as violent conflict. The exposures to climate change or any other environmental hazard become secondary and hidden by the gravity and intensity of such events. Processes to foster development, risk reduction and management for extreme weather events, or adaptation processes to build resilience to such stressors are interrupted by such disarray and conflict.

Structure of this paper

This edition of *InterSecTions* approaches general problems of fragile states in the context of social vulnerability and climate adaptation. It represents an extension of the UNU-EHS SOURCE No. 16/2012 (Hamza and Corendea, 2012), which addresses the topic of climate change and fragile states in the context of adaptation.

Structured in two parts, this paper endeavors to answer, *in general terms*, some challenging questions in regards to climate change in fragile states: Is it possible to have climate change adaptation in fragile states? What methods are suitable and efficient to implement in a frameless context? Or is it possible for social vulnerability to cause state fragility? These are only a few questions which the authors of this article answer, based on specific case studies and relational research.

Part 1

How do socially vulnerable groups from fragile states experience climatic stressors?

1.1 Perceptions of climate stressors in fragile states

Recent studies have recognized the importance of studies on the perception of climate change (Deressa et al., 2011; Tröger et al., 2011); to date, few have examined the nexus between climate change and fragile states from the perspective of those affected. A number of recent studies have, however, recorded a growing perception among communities in fragile states of negative climate impacts being linked to the phenomenon of climate change. A 2010 inter-agency report by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations Environment Programme (UNEP), the International Organization for Migration (IOM) and the Institute for Security Studies, consulted with over 60 pastoralist community leaders representing approximately 100,000 pastoralists in the East and Horn of Africa. The study notes that pastoralists have registered climate variability in the form of increasing weather extremities and unpredictability over the past 40 years.

The community in the Somali region of Ethiopia, examined by Radice et al. (2011), reported that droughts experienced over the past two decades are a result of climatic changes. For the local people Meze-Hausken (2004) interviewed, climatic stressors were considered the underlying cause of the frequent harvest failures experienced in the past years and the reason why the animal stocks they managed had recently become considerably smaller. In the Shinile and Borana zones of Ethiopia, Riché et al. (2009) analysed the perceptions of communities as well as government officials and non-governmental agencies. The perceived increase in dryness and reduced rainy season are consistent with climate change projections for Ethiopia (with respect to temperature) and local precipitation data. In Borana, the decrease in rain frequency and the changes in distribution and predictability have already led to increased water scarcity and depletion of resources, in turn contributing to competition and conflicts over pasture and water resources. These studies indicate a correlation between people's observations and meteorological data.

1.2 Implications of climate change for socially vulnerable groups in fragile states

Social cohesion

Less direct and more subtle is the impact of climate change and climate variability on the social fabric and moral economy of a community. It can be assumed that sustained stress and increasing resource scarcity in a community will lead to a transformation of the ways people within the community interact and organize themselves. Climatic stress can negatively affect the way different segments of society support each other. Fear of violence can prevent socially vulnerable groups in fragile states from accessing all the adaptation options which may otherwise be available.

Studies indicate a correlation between people's observations and meteorological data

Social disruption in the Horn of Africa has resulted from fragile states in conflict and "scorched earth" policies of warlords

"Before, Eritreans used to help each other. All Eritreans helped each other and there was a 'good attitude'. But now the attitudes of Eritreans have changed – because of the drought. People do not help each other anymore and that makes it harder to survive."

Saho farmer from Eritrea, My Ayni Camp, Ethiopia

"Because of lack of rain, I totally stopped farming and turned to raising cattle instead. I used money from the sale of animals. I could not work in another place because of fear of the government and of violence. I tried to work as a pastoralist but the money was not enough to send to my family. I also felt bad because I was not with my family – for this reason I decided to leave Eritrea altogether."

Elderly Eritrean farmer, My Ayni Camp, Ethiopia

Source: Interviews with refugees as part of a UNU-UNHCR study (Afifi et al., 2012).

Social disruption in the Horn of Africa, according to Kibreab (1997), has resulted from fragile states in conflict and "scorched earth" policies of warlords. These long-standing traditional resource management systems for coping with spatial and temporal variability (Weiss and Reyes, 2009: 100) note the effects of social vulnerability and pressures on social cohesion in fragile states: "Due to already significant levels of social vulnerabilities, poverty, and harshly arid ecosystems, the negative consequences of increased population pressures, compounded by environmental degradation, are more severely evidenced in the Sahel and the Horn of Africa".

Livelihoods

Because large numbers of the population in fragile states are farmers and pastoralists, this means that they are dependent on rainfall to sustain them. Climatic stressors have a significant negative effect on their livelihood, and if incapable of developing adaptation strategies, their survival can become threatened.

"98 per cent of the agriculture in Uganda is rain-fed so without rain at the right times, people do not know what to do. People are trying to adapt but the changes are so intense that they cannot do this fast enough."

GIZ, Uganda

"The Government in Uganda is developing dams in the Karamoja region – trying to get pastoralists to settle and become agriculturalists."

Ministry of Agriculture, Uganda

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Experts noted that since the animals are prone to the droughts, the pastoralists often need to settle close to water sources. Therefore, some governments provided dams that secure the livelihood of the animals and their owners. This adaptation strategy does not deter the pastoralists too much from their original activities, as compared to a situation where they would have to completely change their activities by moving

to neighbouring cities and working in the informal labour market. Adaptation strategies of the farmers were efficient in the traditional occasional/seasonal dry season. However, this did not necessarily apply to the longer droughts they were exposed to in their regions of origin. Therefore, drastic climatic changes entirely changed their lives, given their absolute exposure and vulnerability to such changes.

Some vulnerable groups seek different livelihoods, such as switching from pastoralism to farming, or from farming to construction or jobs in nearby towns. Sometimes violent conflict is centred in capitals, reducing the ability of such urban areas to provide alternative livelihood options for adaptation.

"Due to the severe droughts in the late 1970s, I switched from pastoralism to farming by moving towards the river. My farming activities were successful since I lived close to the river, but still I relied on rainfalls. I left in the year 2007 due to the unrest." Elderly Somalis, Nakiavale Settlement

"Because there was no rain we changed from farming and raised cattle instead." Elderly farmers, My Ayni Camp, Eritrea

"During the drought, we tried other activities like fishing, collecting wild fruits, hunting and milking the cattle." Sudanese farmer, Fugnido Camp

"After the rains became less, we changed our cultivation system – we changed cropping to a short-term cultivation system. We selected grains that could be produced with less rain. Short-term grains only needed 30 days of water. The short-term crop was successful for a while but not as successful as the seeds we used before." Eritrean family, My Ayni Ca

Source: Interviews with refugees as part of a UNU-UNHCR study (Afifi et al., 2012).

Conflict

Potential interaction between fragile states and climate change is a notable future challenge, as expressed by United Nations Secretary-General Ban Ki-moon (2007, cited in Evans, 2010, p. 5): "changes in our environment and the resulting upheavals – from droughts to inundated coastal areas to loss of arable lands – are likely to become a major driver of war and conflict". As underlined by the IPCC in 2007, conflicts which have recently occurred in the Greater Horn of Africa, namely in Somalia, Ethiopia and Sudan, caused by structural inequalities, resource mismanagement and unstable governments, were often exacerbated by environmental degradation. Climate stressors may intensify or become a contributing factor to conflicts (Abdalla, 2006; IPCC, 2007). Climate change-induced resource scarcity is projected to increase the risk of violent conflicts between competing groups (UNEP et al., 2011; IPCC, 2001; WBGU, 2007). Discussions are ongoing about whether climate change is a cause of conflicts or rather a threat multiplier (see for instance Barnett and Adger, 2007; Evans, 2010).

Climate stressors may intensify or become a contributing factor to conflicts

Pre-existing conflict can exacerbate the effects of climate variability and accelerate vulnerability

Research suggests that pre-existing conflict (rather than conflict as a result of climate stressors) can exacerbate the effects of climate variability and accelerate the vulnerability to other more acute political factors (i.e. looting of crops by government troops, taking of children for military service, violence towards family members and communities). The following quotes from a UNU-UNHCR study (Afifi et al., 2012) illustrate some of these linkages in fragile states.

"The drought made the conflict worse. Everyone became afraid of everyone. Some raiders came and took away the little food we had raised on our farm. Now we are in a very hard time: the people at home face conflict and famine. They are starving. If we could go back, we would have only dry land and death to greet us."

Pastoralist from Somalia, Shedr Camp, Ethiopia

"Before we sometimes had drought, but we managed because we had peace and ways to move shorter distances to cope with the weather problems. But the hostility today ruins our way to live – we are cut off from every way of coping. So now when the rains do not come, we either starve or we flee far away. My future is in God's hands."

Elderly Somali farmer, Shedr Camp, Ethiopia

"After the war a lot of deforestation took place – the army was cutting down trees for weapons. Trees were used for firewood and the construction of houses. There was no grazing left for the cattle. Animals died because of toxins in the soil. We moved to a village near the border of Eritrea and Ethiopia."

Saho man from Eritrea, My Ayni Camp, Ethiopia

"The drought and the war – they ran side by side. It is difficult to say which one forced us to move."

Pastoralist from Somalia, Nakiavale Settlement, Uganda

"We had droughts in the 1970s and 1980s. However, the government supported us at that time, which allowed us to survive. As for the seasonal shifts in the years 2006–2007, they are accompanied by longer, drier seasons. And since there was the war, we did not receive any support from the government. Therefore, there are combined factors that made us suffer: droughts and war. If war did not exist, then we might have been able to stay, but now that the land is looted, there is no way for us to claim it."

Elderly Somali farmer, Nakiavale Settlement, Uganda

Source: Interviews with refugees as part of a UNU-UNHCR study (Afifi et al., 2012).

1.3 Human mobility in the context of climate adaptation and fragile states

The mass exodus of people from Somalia to Kenya and Ethiopia in late 2010 and throughout 2011, spurred by the intertwined impacts of severe drought and continuing civil war, provided a devastating backdrop for a research project by UNU and UNHCR with partners in 2011/12. Some of the results of that study are paraphrased in this section. The main aim of the study was to understand the extent to which ref-

ugees and internally displaced persons (IDPs) coming from fragile states – as “people of concern” to the Office of the United Nations High Commissioner for Refugees (UNHCR) – have perceived, experienced and responded to climatic variability and long-term negative climatic change in the East and Horn of Africa. The findings are pertinent to discussions about social vulnerability in fragile states and provide an indication of how such groups experience and manage climate stressors.

According to the IPCC Fourth Assessment Report (IPCC, 2007, 9.2.1, 9.4.4, 9.6.1), the East and Horn of Africa is projected to be one of the regions of the world most negatively affected by climate change. Environmental change in countries in the East and Horn of Africa already includes prolonged droughts, desertification, flash floods and land degradation, all of which will likely be exacerbated by climate change in the medium and long-term. The interplay between climate change, conflicts, violence and refugee movement is considered to be particularly striking in this region.

The above-mentioned UNU-UNHCR study (Afifi et al., 2012) examined the perceptions and experiences of refugees in the East and Horn of Africa (specifically refugees in camps and settlements in Ethiopia and Uganda respectively, who originated primarily from Eritrea, Somalia and some from Eastern Sudan) in order to better understand, if, how and to what extent the impacts of climate and environmental change in their countries of origin played a role in their movement away from their homelands. The **key findings** are the following:

- **Many of the refugees interviewed had perceived discernible shifts in weather in their home countries over the past 10–15 years.** Many were able to distinguish between the occasional bout of bad weather (i.e. a flash flood or heat wave) and what they described as more “permanent” shift weather patterns. These shifts in climate were described variously as prolonged drought, disrupted rainfall patterns or intense flooding.
- **The biggest impacts of these discernible shifts in weather included severe impacts on farming and livestock husbandry in the homelands of the refugees interviewed.** For those who relied on agricultural and pastoral activities for a living, this had a direct and negative impact on their livelihoods and food security. Those not directly involved in agricultural and pastoral activities were also indirectly affected by declining turnover and profit amongst traders and by rising food prices as a consequence of diminished agricultural output.
- **Although none of the refugees interviewed described the impacts of climatic variability as a direct catalyst for violent conflict, resource-scarcity exacerbated by worsening weather conditions was often described as a multiplier or magnifier of pre-existing conflicts in refugees’ countries of origin.**
- **All refugees interviewed, whose livelihoods had been severely affected by climate change in their homelands described a wide range of traditional and innovative adaptation strategies to enable them to remain in their areas of origin.** These methods ranged from adopting new cultivation techniques and reorganizing cropping cycles to abandoning farming altogether to take up alternative non-agriculture based occupations.

The East and Horn of Africa is projected to be one of the regions of the world most negatively affected by climate change

- **Where movement away from homelands was taken in response to worsening impacts of climatic variability, such movement was only taken as a *measure of last resort* and only after all efforts to adapt to the changing conditions had been exhausted.**
- **Where movement away from homelands did take place, in most cases it was *internal, circular and temporary in nature*, rather than **cross-border and permanent**.** Many refugees described several stages of localized, in-country migration before fleeing across a border (usually as a consequence of experiencing the threat of political violence).
- **Very few of the refugees interviewed made decisions to move away from their homelands permanently because of the impacts of climatic variability.** Only those with assets and transferable skills made conscious decisions to leave (before their livelihoods completely failed) and for longer periods of time.
- **Permanent relocation in response to climatic variability, though described in very few cases, was not only limited to those who were better off.** In fact, the very poorest, once they had made a decision to move, would be more likely to relocate permanently, though internally.
- **Cross-border movement, as a direct response to climatic variability, was rarely mentioned.** For most, cross-border migration was typically a second migration, the first often being internal (and often induced by environmental considerations) and the second caused by violence, drought or a combination of both.
- **Violent conflicts, state failure as well as state repression, reduced the adaptive capacity of those exposed to extreme weather and accelerated their vulnerability to other more acute political factors.** Many refugees described how the inability of the state actors or de facto authorities to maintain order and to prevent violent acts, as well as oppressive acts by these actors themselves, reduced their ability to cope and adapt to climatic events forcing them to move.

Source: Afifi et al. (2012): 12–13.

The links between primary internal movement/displacement related to climate variability, followed by a secondary cross-border movement are complex. Climate factors exacerbate the trajectory of social vulnerability in fragile states. Mobility is an important strategy that has been used to adapt to and cope with climatic stress in the past. Pastoralism, for example, is a livelihood strategy based on mobility that has evolved as an adapted way to co-exist with conditions of high climate variability characteristics in the East and Horn of Africa. More recently, people have used internal migration – often to the urban centres – as a way to cope with the negative impacts of climatic events. For many, internal movement would often result in individuals confronting political violence in larger urban settings, which would then cause them to flee across a border. This study found that cross-border movement hardly ever occurs as a direct reaction to climatic stress. It was evident from the reports of refugees interviewed that broader political conditions, breakdown in civil order as well as excessive state oppression, severely reduced their ability to cope with and adapt to climatic crisis.

Cross-border movement hardly ever occurs as a direct reaction to climatic stress

Expert reflections on fragile states, mobility and climate stressors

Prolonged drought and severe flooding experienced in recent years were identified by experts interviewed as key factors leading to an increase in rural–urban migration within the countries in which they were situated (i.e. Ethiopia and Uganda). Few were able to comment on cross-border migration situations, with the exception of the migration of pastoralists along the so-called “cattle corridor” (which diagonally bisects Uganda and which extends into Rwanda, the Democratic Republic of the Congo and Tanzania) and the migration of Ethiopian pastoralists into Kenya.

“People are moving from the country to big urban areas (in response to climate change) in Uganda.” Climate Change Department, GIZ, Uganda

“Movement as a form of adaptation [to climate change] has increasingly taken place in the last 10 years, particularly from rural to urban areas... Farmers are moving to cities in search of alternative forms of livelihoods. For example, many of the young Boda Boda (motorcycle taxi) drivers in Kampala are farmers from the countryside.” Ministry of Agriculture, Uganda

“In the South-West of Uganda, people from this region have always moved in response to environmental change as they are pastoralists. However, movement of people from the South-West is becoming more permanent. The cattle corridor... has seen some Ugandan pastoralists moving more permanently south across the border into Northern Tanzania.” Ministry of Agriculture, Uganda

“Ethiopian pastoralists have for a long time crossed the border into Kenya when water was scarce and then moved back again. Because of prolonged drought, this has changed this coping mechanism of this society. Now they not only move across borders but to other regions in Ethiopia. This creates conflicts with other groups.” International Organization for Migration, Ethiopia

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Refugees' comments on experiences with internal movement

Overwhelmingly, stories of mobility associated with moving away from worsening impacts associated with climate variability followed a specific pattern. That is, where movement related to climatic stressors did occur, such movement was taken as a last resort (only after all efforts to remain and adopt other methods of adaptation had been exhausted), particularly where the land being left was self-owned and only after all efforts to remain and try a number of alternative forms of adaptation had failed. Where movement occurred, in most cases it was likely to be internal, circular and temporary rather than cross-border and permanent.

Where movement related to climatic stressors did occur, such movement was taken as a last resort

Many refugees reported several stages of localized, in-country migration before fleeing across a border

"Permanent movement to another place (because of drought) was not an option because we owned our own land."

Lau woman from Sudan, Fugnido Camp, Ethiopia

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Many refugees interviewed reported several stages of localized, in-country migration before fleeing across a border. Some of the interviewees reported that their first decision to move internally was driven by worsening impacts of climate variability (i.e. prolonged and severe drought and lack of crops or fodder). This internal movement would typically be to an urban centre in search of an alternative livelihood. Many spoke of confronting political violence only once they reached these larger townships, which then caused them to flee across a border. For these people, climate stressors can be seen to play a key role in their trajectory towards becoming a refugee.

"Because of severe drought my family and I moved permanently to the river some distance away. But this was difficult because of fighting going on in that area and eventually we moved because of it."

Lau woman from Sudan, Fugnido Camp, Ethiopia

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Circular movement is something that many refugee families reported having done during normal dry seasons. They would often travel to areas which were wetter and swampier. Such movement was reliant on a number of factors including: (a) owning land or having access (ability to rent) land or family ties in other areas; (b) those areas being relatively close to the place of habitual residence (i.e. usually not more than 10–30 km away); and (c) having in place social structures to enable this to occur (i.e. an older child to care for children at home for a number of weeks or months while the parents were away).

"One woman spoke about regular experiences of flooding. When this happened, she and her husband would move to an area 15 km away from their farm. They would leave an older child at home to look after the other children. The land they moved to was provided by elders in the family."

Woman farmer from Sudan, Adjumani Settlement, Uganda

"At times we would move to an area near the river – it would take two days by foot to get there. We would stay there for three to seven days and then return."

Lau woman from Sudan, Fugnido Camp, Ethiopia

"During the dry season I would go with the cattle to a big river near the border with South Sudan (Bahr al Ghazal). It took me around three days of travelling. I would stay there for around three months. Many people did this in the same manner. The family was always left behind."

Darfuri farmer from Sudan, Fugnido Camp, Ethiopia

"We moved from the southern part of Eritrea to the west, near the border with Sudan, which was more fertile. We rented this land. I found it difficult to send money to my family because of Government check-points. Government had many restrictions on movement. If I had not been able to rent land from my brother's widow, I would not have moved."

Elderly farmer from Eritrea, My Ayni Camp, Ethiopia

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Temporary relocation is the next stage along the continuum in response to climate stressors. Such migration was normally reported to have been undertaken by the male head of household in search of an alternative livelihood such as casual labour or new skills, where drought had become too prolonged. In such cases, original farmland was kept and maintained by remaining family members (usually the wife and children). Only when social ties would start to suffer or break down would the relocation of the entire family take place.

"We were involved in agricultural activities in Bimbi. We grew fruit trees and cereals. We owned land near the Shibebe River. Our family received irrigation water from the river. However, recently water availability declined because of less rain. Rain did not start at the normal time. This reduction in water led to a decline in agricultural output compared to input... I (the husband) moved to a nearby market town to sell products. The town was five hours away (walking). I also worked as a carpenter in the town. When the rain came I would return to farm in Bimbi. But because of my absence, my wife was not able to sustain the farming work by herself. So at one point, when it hadn't rained for a long time, the whole family decided to move to the market town. Different families had different levels of resilience to the drought. Our threshold was low because we had young children to feed."

Bantu Somali family, Shedr Camp, Ethiopia

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Very few of the refugees interviewed made decisions to move away from their homelands permanently because of the impacts of climate variability. Only those with assets (including intangible assets such as family connections capable of supporting those who relocated for a period) and transferable skills (including education) managed to make decisions to leave earlier (before livelihoods completely failed) and for longer. Those without such resources reported that "they had no choice" and "no other destinations to go to", so they remained until political violence forced them to flee for their immediate safety. In the context of IDPs interviewed from the Mount Elgon region in South Eastern Uganda, who were resettled in Kyriandongo by the Ugandan government as a result of severe flooding resulting in landslides in the Mount Elgon region, they noted that without the government's intervention they would never have come to Kyriandongo because of the distance away from their homelands and their lack of skills, assets and family ties with people in this area.

The interviews revealed that where permanent relocation in response to climate stressors was being considered, such a coping mechanism was not only limited to

Temporary relocation is the next stage along the continuum in response to climate stressors

Cross-border migration was typically a secondary movement, caused by violence, drought or a combination of both

those who were wealthy. In fact, the very poorest, once they had made the decision to move, would be more likely to relocate permanently (albeit internally) because of lack of networks, assets, education and skills which would keep them tied to a place.

Refugees' comments on experiences with cross-border movement

Cross-border movement as a direct response to climate-related impacts was rarely mentioned during the course of the interviews. Where refugees did recount stories of crossing an international border, it was usually because they were already living close to that border and were more familiar with places, customs and people in the neighbouring country than in other regions in their own countries. For most of those interviewed, cross-border migration was typically a secondary movement, caused by violence, drought or a combination of both.

"When the drought came (in 1993) in Sudan, it spread everywhere. There was nowhere to move in Sudan."

Nuer woman from Sudan, Fugnido Camp, Ethiopia

"When there was drought in Southern Sudan, we would often come to Ethiopia."

Lau woman from Sudan, Fugnido Camp, Ethiopia

Source: Interviews with experts as part of a UNU-UNHCR study (Afifi et al., 2012).

Part 2

Policy reflections for adaptation and resilience building in fragile states

2.1 Developing strategies for adaptation in fragile states

Adaption to climate change – a process of adjustment in natural or human systems to actual or expected climate and its effects in order to build resilience and reduce vulnerability (IPCC, 2007) – is especially challenging for poor and marginalized communities, as they are disproportionately affected by the impacts of climate change. Partially, this is because poor communities often have limited adaptive capacity and are highly dependent on climate-sensitive resources (IPCC, 2007). Social vulnerability is not only shaped by the lack of good infrastructure, persistence of poverty, limited access to world markets and new opportunities, but also by the fragility of state institutions, the effects of recent conflict, and/or the instability of political arrangements. As Barnett and Adger (2007) state, “the risks of climate change to social systems are as much about the characteristics of those systems as it is about changes in environmental systems”. These issues work to destabilize the structure of the state and make it even more difficult for the state to implement successful adaption measures. As Houghton (2012) highlights, “adaptation is most urgently needed where it is most difficult to implement”. Due to challenges like corruption and lack of capacity to deliver goods and services normally provided by the public sector, most fragile states need to receive forms of international assistance like projects, financial aid, humanitarian support, religious aid, etc. The largest part of relief addresses local vulnerabilities, and some of them cover national issues. International institutions play a mediating role, assisting in the process of re-establishing the role of institutions and ability to govern a state. This role requires a delicate balance of adjusting interventions to local and national contexts, values and political realities while neutralizing or resolving conflict situations that have led to statelessness.

In sum, climate adaptation strategies in fragile states need to be approached in a comprehensive way that maximizes the productive capacity of local communities, while also minimizing the risk of instability and conflict. This requires close examination of a broad suite of adaptation measures and examples of good practice to show the successes and challenges associated with each approach.

In situ adaptation

The effectiveness of *in situ* adaptation plays an important role for socially vulnerable people in fragile states. A few studies (e.g., RoR, 2006; RoS, 2007) identify general *in situ* adaptation activities and needs as well as recommendations with regard to adaptation strategies, including drought early warning systems for disaster preparedness; community-based forest and rangeland management rehabilitation; introduction of drought-resistant seed varieties; replacement of household goat herds with sheep herds to reduce pressure on fragile rangelands; land use conversion from agricultural activities to livestock raising; promotion of non-rain-fed agriculture and improving agricultural techniques, etc.

Climate adaptation strategies in fragile states need to be approached in a comprehensive way

A study by Deressa et al. (2009), which focuses on farmers in Ethiopia, concludes that the different *in situ* adaptation strategies include “planting trees, soil conservation, use of different crop varieties, changing planting dates and irrigation”. The study, moreover, considers farmers who have not been able to adapt to be those who lack information, money, labour and land. Oxfam (2008) distinguishes between pastoralists’ traditional adaptation methods such as changing the herd composition and moving to alternative water sources, and adaptation to recent environmental changes. One such new adaptation strategy by communities in the Wajir District in Kenya and in the Kotido District in Uganda is to explore rainwater harvesting as an alternative to the exploitation of groundwater, which is increasingly unreliable with a fluctuating water table.

Whilst Gebre Michael et al. (2011) have found similar adaptation strategies of pastoralists in Niger and Ethiopia, they question Oxfam’s distinction of adaptation measures: because the pastoralists’ system has always been changing, “it is not easy to distinguish these practices from more recent processes of local innovation, which is equally a reflection of flexibility and adaptability” (Gebre Michael et al., 2011: 6). Furthermore, as a result of the heterogeneity of the communities and ecologies in the pastoral areas, “it is extremely difficult for outsiders to recognise local adaptation, as these may be only small incremental changes in what appear to be ‘traditional’ practices” (Gebre Michael et al., 2011: 6). Gebre Michael et al. moreover emphasize that there are many difficulties in separating climate change impacts from other pressures on pastoral systems. The authors argue that “the root causes of pastoralists’ vulnerability to climate stressors lie in their marginalization in decision-making and in the unfavorable government policies”, and therefore their inability to adapt, as well as their adaptation methods, cannot be understood by focusing only on the technical adaptation to climate change.

In general, programmes introduced to reduce drought vulnerability have changed, as compared to the programmes used in the 1970s (Turner, 2010). For example, nowadays there is more reliance on community-based initiatives to respond to climatic changes, such as the establishment of grain banks, microfinance schemes and small-scale irrigation. However, in the past there were more tendencies to apply large-scale irrigation systems, new crop cultivars and borehole programmes (Ribot, 2002).

Change in aid delivery

One of the most important starting points in climate change adaptation is the revision of internal structures within donor organizations and aid practices, particularly in fragile states. For starters, fragile states often have poor or deteriorating governance and access to resources and climate funding often remain in the grasp of a few privileged elites. This is because the political and economic elite in fragile states are often organized to give themselves privileged access and control over limited resources and opportunities (Hamza, 2012; Tanner and Allouche, 2011). Moreover, there are pronounced gaps in aid delivery and management including: conflict between state building objectives and the donor’s objectives; lack of coordination between donor organizations and state actors, which hampers the state’s capacity to handle funds; limited research on the potential variables that make aid effective in conflict-prone areas; and lack of detailed donor-recipient information on the geographic distribution of aid, making it difficult to assess whether some states are over-funded or under-funded (Hamza, 2012; OECD, 2011).

One of the most important starting points in climate change adaptation is the revision of internal structures within donor organizations and aid practices

To better address these challenges, it helps to look at the five principles of the Paris Declaration on Aid Effectiveness (OECD, 2006/2008; Cammack, 2007):

1. **Ownership:** Recipient countries be more involved in the funding allocation process and set their own strategies for poverty reduction and tackling corruption.
2. **Alignment:** Donors align their priorities and goals with those set by the aid-receiving country.
3. **Harmonization:** To avoid duplication, donors coordinate and share information among recipient countries.
4. **Managing for results:** donors and developing countries focus on producing and measuring results.
5. **Mutual accountability:** Both donor and partners are accountable for development results.

While these principles were set forth to improve the quality of aid and its impact on development, they can also be applied when providing aid to combat climate change in fragile states. As Cammack (2007) noted, “the profound changes to aid delivery being shaped by this agenda [*the Paris Declaration on Aid Effectiveness*] need to be transferred to the mechanisms for providing aid to combat climate change”. In addition to effective aid delivery in fragile states, donor institutions must also focus on long-term fiscal sustainability.

Long-term commitment

The literature on conflict and fragile states stresses the need to move away from short-term measures such as immediate emergency assistance towards long-term, sustainable fiscal commitments. Of equal importance, short-term measures that are taken should not undermine the state's viability and long-term capacity. This requires a “transition from working around the weak state to working with and through it as it strengthens” (Nixon, 2007). However, by working through the governments, donor institutions can also face the problem of a corrupt, overtly centralized and inefficient administrative system (International Crisis Group, 2011). As such, donors should ensure that they foster inclusive and coherent approaches which work to engage with the state and flag concerns about the protection of human rights and government accountability (International Crisis Group, 2011). Furthermore, it is important to look at additional elements of climate sensitivity along with adaptation measures to avoid further conflict in a region.

Avoiding policies that incentivize mal-adaptation

Adaptation strategies that fail to account for the broader socio-political and cultural context can unwittingly reinforce existing tensions rather than build resilience. As Goulden and Few (2011) point out, “Good adaptation which is equitable has the potential to avoid conflict. In some cases, however, adaptations may contribute to conflict, as there are often winners and losers associated with adaptation actions.” For example, in a drought-affected mountain village in Raamechchap, Nepal, the

Adaptation strategies that fail to account for the broader socio-political and cultural context can unwittingly reinforce existing tensions rather than build resilience

Education and the dissemination of climate risk information are important adaptation tools in fragile states

district government provided the community with a 'one-off cash handout' to invest in a water tap to address severe water shortages in the area. However, the community did not have the necessary knowledge about the groundwater levels and that uncontrolled water extraction would lead to further water problems. In few months the tap ran dry, which only fueled further frustration at the lack of government support to address basic water needs (Upreti, 2007). This case demonstrates that climate change impacts along with additional social and environmental factors can foster greater political instability in a country with an existing weak governance structure. Thus, it is important to respond to the root causes of vulnerability and to integrate conflict-sensitive approaches into adaptation programmes. Such an approach emphasizes that a purely technical response to climate change impacts (e.g., building dams) is not enough and should include multidisciplinary projects (such as peace building and socio-economic development) (Yanda and Bronkhorst, 2011). Equally important, the conflict-sensitive approach tries to respond to the needs of the people by capitalizing on local knowledge and actually providing communities with more resources and information to better handle conflict and build resilience (Smith and Vivekananda, 2007). In this regard, education is necessary to help local communities understand and manage climate and conflict risks as described below.

Education and information

Education and the dissemination of climate risk information are important adaptation tools in fragile states. For example, when it comes to coping with extreme events such as floods, children as well as adults can benefit from knowledge on flood risks, how to plant natural flood barriers and apply new farming techniques, along with preparation of evacuation plans to adapt to changes in rainfall patterns. This is what Vivekananda (2011) refers to as 'the social basis of resilience' on a local level. Beyond this, education is one of the most visible and widespread institutions in a given country and teachers can act as an important resource in post-conflict situations as they are often one of the most highly trained members of a community (Rose and Greeley, 2006). Furthermore, special attention to curriculum development may ensure children receive the necessary education in science and tolerance, while contributing to certain aspects of state-building (e.g., designing curriculum reform by involving state actors alongside NGOs and the private sector) (Rose and Greeley, 2007). Despite these noted advantages, the education system in fragile states has various limitations:

- **Lack of funding:** There is lack of investment in education in fragile states and/or the government revenues frequently 'dry up', which leads to a decline in teacher wages. Thus, teachers are forced to take on new jobs to make ends meet and slowly leak out of the system, affecting the overall quality of education (Rose and Greeley, 2007).
- **Accountability:** The accountability of schools to the state is likely to weaken because of the lack of capacity (and in some cases access) of government officials to monitor the system, or because civil society and community organizations cease to function due to lack of resources (OECD, 2011).
- **Lack of trust:** On the community level, outsider information may be at odds with traditional knowledge that served the community for generations. Thus, simply imposing new knowledge upon a community might result in that information being ignored (Smith and Vivekananda, 2007).

In turn, to ensure that education is a valuable adaptation tool in fragile areas requires some possible ways to overcome these challenges. For instance, donors can pool their funding and channel it through government systems to maintain teachers' salaries, while taking note of government ownership and accountability. With this, early efforts have to be made to build the ministry capacity to take leadership in managing and monitoring the sector (Berry, 2007). At the local level, people have to understand and trust the information they receive. In order to build trust from the community, an inclusive and context-sensitive process of knowledge gathering and sharing builds long-term habits of cooperation and practical conflict settlement that can have great payoffs in the effort to build a peaceful society and a responsive state (Smith and Vivekananda, 2009).

Thus, any efforts to enhance climate information must be sensitive to the context, especially in marginalized communities where trust in local governments is already low. In addition to education, effective natural resource management is necessary to strengthen a country's social capacity to understand and respond to conflict and climate risks.

Effective natural resource management

Increasing demographic pressures and urbanization, inequitable access to land and resource depletion are predicted to worsen, having profound effects on the stability of the state. In addition to this, climate change will generate further fluctuations in the supply of key resources such as water and food, aggravating existing tensions and possibly generating new conflicts (UNEP, 2009). In Sudan, for example, competition and confrontation over gas and oil reserves, timber and water, along with land disputes related to agricultural land are important triggers for conflict. UNEP (2007) was requested by the Government of Southern Sudan to conduct fieldwork and consultations on what can be done to ameliorate such conflicts in the future. One of the main conclusions drawn from UNEP's assessment was that adequate management and rehabilitation of natural resources are prerequisites to peace building in Darfur and they must be considered a national priority. Furthermore, sustainable management of the country's resources is not possible without the long-term process and multilayered commitment from both the international stakeholders and the Government of Sudan. In addition, Smith and Vivekananda (2009) stress the importance of involving both local communities and government authorities in discussions on how resources are managed, which allows for lines of communication between hostile groups and cooperation through the process. Such an exchange can also occur between countries as demonstrated by the transboundary cooperation between each of the Nile riparian countries, which has led to more sustainable management and development of the common Nile water resources (Nile Basin Initiative, n.d.). In turn, while resource scarcity can perpetuate conflict, it also has the potential to resolve and prevent it given that appropriate natural resource management is in place.

In sum, the aim of climate change adaptation in fragile states is for societies to have the capacity to handle a broad range of climate risks. Beyond this, communities have to be prepared for unpredictable events and to simultaneously face political instability, lack of security and a weak governance structure. This requires careful examination of the existing adaptation strategies – such as natural resource management, migration, education and effective aid delivery – and to adequately address the gaps with each approach.

The aim of climate change adaptation in fragile states is for societies to have the capacity to handle a broad range of climate risks

2.2 Building resilience and peace among socially vulnerable groups

Role of women in peace building

By the late 1990s, the topic of women and gender became a priority for international organizations as exemplified by the United Nations Security Council (UNSC) Resolution 1325 (2000). This was the first legal document that drew the attention of global public opinion and governments to the special needs of women and girls in armed conflict and post-conflict processes. In particular, it urged them to ensure the “increased representation of women at all decision-making levels in national, regional and international institutions and mechanisms for the prevention, management and resolution of conflicts” (UNSC Resolution 1325). As women constitute a large group of victims in armed conflict it makes sense for them to be involved in the process of maintaining international peace. Moreover, after disasters they often occupy the only available land and implement diverse survival strategies such as reconstructing shelters from materials found in disaster areas, and collaborating with other community members on the provision of food and the demand for public assistance in land, housing and poverty alleviation support (Oswald, 2008). In effect, the post-war recovery phase can present women with a unique window of opportunity for climate change adaptation in fragile states.

Two case studies help to demonstrate how women can actively engage in adaptation measures despite conflict situations. For example, during the civil war in Sri Lanka, women played a key role in livelihood security. This is because the men were more likely to be detained by rebel groups or be held up at checkpoints by military guards, while women were able to relocate to agricultural areas and also engage in wage labour. In addition, those women living in fishing communities got involved in various productive activities such as net making and repair, along with harvesting, processing and marketing (Wanasundera, 2006). Women can also play a key role in peace negotiations, as was the case during Somalia's peace process in the mid-2000s. During this time, women's networks, with their extensive local and increasingly regional reach, were key allies in building and sustaining vital public support for ongoing peace processes (Agbajobi, 2010). As such, women's participation in climate change adaptation and conflict resolution is vital in fragile states. In order to encourage and assist them in this role, governments should:

1. Include women in the design and implementation of post-conflict activities.
2. Support women's organizations for peace building via adequate funding and technical support.
3. Strengthen the protection of displaced women and refugees by noting their health, training and rehabilitation needs.
4. Replace policies that discriminate against women with policies that promote gender equality.

Working towards these goals can help climate-affected communities to move away from conflict towards building resilience. Moreover, resilience building in fragile areas will not be possible without an adequate participation of children and youth.

Children and youth in fragile states

Children and youth form the majority of people who need to deal with and adapt to climate change. This is because more than 46 per cent of the current population is now younger than 25 years old and climate change impacts (such as food and water insecurity, health and sanitation) often lead to disruption in education and family separation (UNICEF, 2007; Peek, 2008). Community-based advocacy activities in certain countries have begun to create opportunities for young people to participate in actions that reduce the incidence of water-related disease and deforestation, as well as involving youth in the clean-up of degraded community environments and watersheds to improve their surroundings (UNICEF, 2007). However, children and youth are often not formally involved in disaster preparedness planning and their knowledge of the natural environment and experience with disasters continues to be unnoticed (Anderson, 2005). The de Milliano and Sparre's (Hamza, 2012) study on young people's resilience in Burkina Faso shows that this African country is not only vulnerable to the impacts of climate change (such as variation in rainfall, water shortage and decline in agricultural yields), but since 2011 it has faced rising food prices, episodes of internal violence resulting from neighbouring countries, and high rates of unemployment. Youth make up the majority of the population and, therefore, can play a vital role in adaptation. The study found four key measures necessary to promote children's resilience to climate change:

1. Strategies are required that enable youth to be better prepared for, and adaptable to, existing and anticipated change. This means that young people's participation, knowledge, resources and agency should be further explored in crises situations.
2. Any strategy targeting youth should recognize that they are a heterogeneous group. Thus, successful adaptation strategies involving youth should pay extra attention to ethnicity, gender and age.
3. In order to promote children's resilience to disasters it requires improved access to the necessary resources (including natural, physical and financial).
4. As migration is a common strategy among young Burkinabe, managing youth migration is vital.

While these recommendations are specific to Burkina Faso, they help to reinforce that effective approaches to climate change require inclusion strategies aimed at building youth resilience.

In short, efforts to build resilience to climate change exist in fragile states and require several key players. The next section discusses the potential role of key actors from the community to the transboundary level, and then explores some of the strategies and conditions necessary to adapt to climate change in fragile states.

Effective approaches to climate change require inclusion strategies aimed at building youth resilience

The first step in climate change adaptation in fragile states is to recognize how crucial local institutions are in building resilience

Local and community level

An appropriate entry level for climate change adaptation in fragile states is at the local level. This is because communities are hit the hardest by the interaction between changes in climate, conflict and pre-existing underdevelopment (Smith and Vivekananda, 2007). In addition, local actors play a viable role under such circumstances as they (Vivekananda, 2011):

- Represent the concerns and insights of specific interest groups;
- Can monitor the implementation of adaptation policies on the ground and flag problems and the need to adapt approaches where necessary; and
- Have the potential to strengthen social capital at the community level to better manage and understand climate and conflict risks.

There are some case studies which help to demonstrate how local actors can improve the adaptive capacity of their community despite being based in conflict-prone regions. The first case study is in Khaksi Toli, a small tribal hamlet in Jharkhand. Pressures of climate change along with high levels of poverty, frequent changes of government and the extreme left-wing armed guerilla movement Naxale continue to put pressures on the tribal communities of Jharkhand. Despite these challenges, villagers in Khaksi Toli use local institutions and traditional skills of water and land management, in consultation with local weather predictions, in order to successfully manage the forest and protect their agricultural harvest (Ranjan and Prasad, 2012). Another positive example is the community reforestation projects near Bamiyan, Afghanistan, which were implemented by the Afghanistan Conservation Corps (ACC). The projects were designed to respond to the decades of conflict, poverty, ongoing instability and prolonged droughts, all of which had a heavy toll on Afghanistan's natural resources (UNOPS, n.d.). In total, the ACC implemented over 300 sustainability projects and worked with local community development councils and traditional leaders and used a participatory approach to identify potential challenges and opportunities for future projects (UNEP, 2009). This initiative has not only improved rural livelihoods and built capacity to restore land and watershed sustainability, but also generated jobs for vulnerable residents including women and returning refugees (UNOPS, n.d.). In sum, the first step in climate change adaptation in fragile states is to recognize how crucial local institutions are in building resilience. However, strengthening local institutions and community-based solutions will not be possible without commitment from the state, regional actors and the international community.

In cases where ruling elites in fragile states use social exclusion as a political tool, international aid and donor agencies should focus on bottom-up approaches, integrating conflict sensitivity principles to adaptation strategies (Hamza and Corendea, 2012).

Head of state and governments

Ultimately, the state is responsible for the implementation of adaption measures as is set-forth by the UNFCCC and related agreements (UNFCCC COP 16, 2011). The 1992 UNFCCC and the documents that followed, including the recent Cancun

Agreement on Long-term Cooperative Action, are explicitly targeted to states as they play a predominant role in the international community. As both a consequence and a prerequisite, adaptation to climate change must be understood as a function of the state and seen as part of the spectrum of rights and obligations bindings on the states under international law (Houghton, 2012).

The challenge for fragile states is that they lack the ability to effectively perform key functions and have limited governance capacity to respond to climate shocks. As such, building resilience necessitates multilevel and multidimensional approaches as discussed further below.

In cases where states lack capacity to assist socially vulnerable groups, the international community could focus on state building as central objective, applying practical coordination between actors or validating human rights and environmental principles. This, however, will definitely not end the state fragility status of a country, but it could lower the risk of future conflict and contribute to long-term development by improving the international engagement and minimizing the negative aspects of social vulnerabilities.

Regional organizations

One major under-researched area is fragility within countries. This is unfortunate as regional organizations play a key role in fragile states for several reasons. For starters, personal relationships within regions are often strong, which allows regional actors to create incentives for responsible leadership (Ranjan and Prasad, 2012). Neighbours are also a source of exchange, cooperation and trade, and can potentially share administrative capacity by pooling together administrative functions (World Bank, 2011). Some positive examples already exist in Central America where peace processes explicitly include neighbours into the implementation and monitoring arrangements. This has helped to both reduce violence and create a foundation for greater subregional economic integration (World Bank, 2011). On the flip-side, neighbours can also be the source of conflict as is the case with organized criminal groups and cross-border rebels. The World Bank (2011) made five key suggestions for effective cooperation in fragile regions:

1. Regional cooperation is a gradual process, which requires time and flexibility;
2. Strong leadership at the country and institutional level is required;
3. Membership and size of regional organizations should be kept manageable;
4. Financial resources are required to support regional investments and cooperation;
5. External actors should be involved whenever possible in order to convene, mediate, or resolve issues.

As can be seen, more emphasis needs to be placed on the role of regional institutions in addressing climate change and security issues in fragile states. There is also a need to look at international donors and the development community.

More emphasis needs to be placed on the role of regional institutions in addressing climate change and security issues in fragile states

Cross-border cooperation should be included in thinking about climate adaptation in fragile states

International community

The international donor and development community are important motors for climate change adaptation and building resilience in fragile states. Working in this area, the international community must not look at climate change impacts in isolation, but rather acknowledge the political dimensions of intervention. For example, measures that address a specific physical vulnerability related to climate change, such as water management, must be shaped by the understanding of water systems and also the structures of power and equity. By ignoring such issues, the water management scheme could exacerbate further conflict in fragile states (Smith and Vivekananda, 2009). In this regard, responses require: coordination amongst donors and recipient government where possible, avoid purely technical approaches that fail to account for power distribution and social order, and express the needs of the people by involving them in the consultation process (including marginalized groups and the private sector) (Vivekananda, 2011). Please see section 1.2 for further analysis on the role of donor communities in fragile states. Furthermore, fragile states can also benefit from the coordination between states as described below.

Transboundary level

With the urgency of climate change and the potential mutual gains from sharing and learning between states, opportunities for cooperation should be created and explored. Given the political contestations among certain neighbouring states, this will not be an easy task. However, some positive examples of cross-boundary initiatives exist as demonstrated in the Middle East. Countries of the Middle East and North Africa (MENA) are the most water-scarce in the world and many of the countries in the MENA region rely on water sources outside their borders (e.g., Jordan and Syria primarily rely on transboundary water resources). Moreover, there is ongoing tension between states, which exacerbate the problem of water security (World Bank, 2007). Despite this, the World Bank (2011) concludes that cross-border initiatives to manage water resources have survived even under turbulent political and security relations. As such, cross-border cooperation should be included in thinking about climate adaptation in fragile states.

Conclusion

Fragile states are located in regions of the world which will be particularly exposed to the negative impacts of climate variability – dry lands, mountains, low lying coastal and delta areas. Agricultural production and food security are likely to be severely compromised. The citizens of fragile states have particularly low capacities to cope with and adapt to projected stresses as they are already facing high levels of poverty and are repeatedly victims of violent conflicts. Fragile states often lack the resources to assist their citizens in times of crisis, which further aggravate their vulnerabilities.

A study (Afifi et al., 2012) of refugees in the Horn of Africa confirmed some of the climatic stressors that socially vulnerable groups face today: interviewed refugees reported an increase in frequency and severity of extreme climatic events and observed shifts in seasons as well as unreliable and untimely rainfall. These climatic trends and events not only had a negative impact on agricultural production and food security but also led to deteriorating social cohesion and the occurrence of resource-use conflicts. In fragile states, socially vulnerable groups often rely most heavily on climate-sensitive resources. In the Horn of Africa study, pastoralists and farmers have developed a wide range of coping and adaptation strategies including mitigation of the negative impacts of the stress (e.g., building water reservoirs), changes in production practices (e.g., terracing), diversification of and complete changes to livelihood strategies.

Opportunities do exist for fruitful policy interventions. Nevertheless, as mentioned so many times, the respective plans need to be in accordance with the realities in the fragile states. Any policy planned by international and national actors without considering what is relevant for the vulnerable societies may be subject to fail, and sometimes extend conflict with unpredictable outcomes.

From children and women to head of governments and non-governmental organizations, all should contribute to redress fallen societies and reduce vulnerabilities by actively participating in this process. Nevertheless, their ability to do so should not be reduced by political actions or any other external factors which contributes to the society/state fragility.

Policy interventions need to be in accordance with the realities in fragile states

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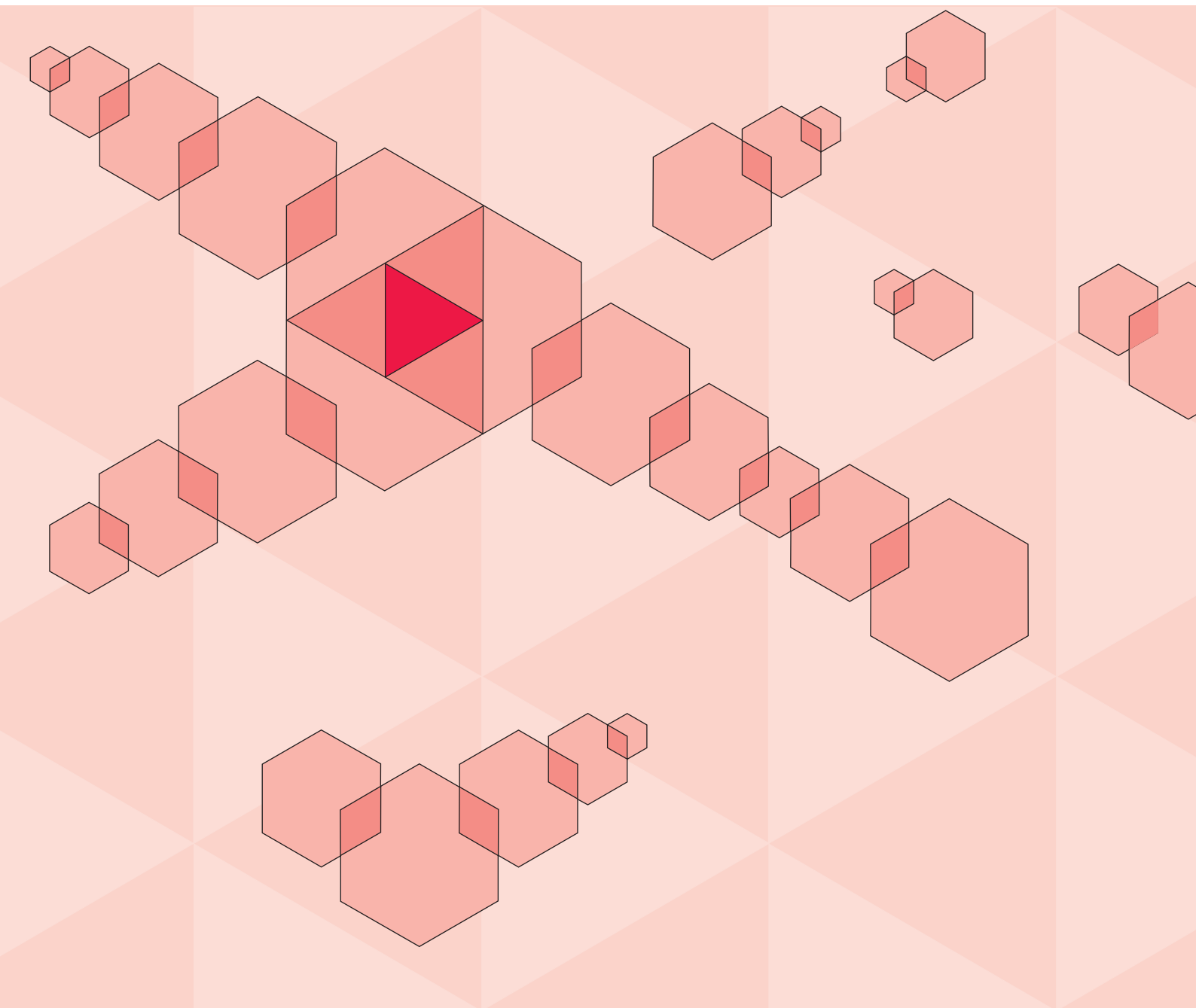
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