



Insurgency, Terrorism and Organised Crime in a Warming Climate

Analysing the Links Between Climate Change and Non-State Armed Groups

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Authors

Katharina Nett
Lukas Rüttinger

Pictures

See page 67

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ABBREVIATIONS	I
EXECUTIVE SUMMARY	III
I. INTRODUCTION	1
1.1 BACKGROUND	1
1.2 GOAL AND STRUCTURE OF THE REPORT	2
1.3 APPROACH	2
II. NON-STATE ARMED GROUPS: NEW ACTORS IN THE GLOBAL CONFLICT ARENA	3
2.1 CURRENT TRENDS	3
2.2 CLASSIFICATION OF NSAGs	6
III. CLIMATE CHANGE AS A RISK MULTIPLIER	8
IV. CASE STUDIES	10
4.1 CLIMATE CHANGE, LIVELIHOOD INSECURITY AND BOKO HARAM AROUND LAKE CHAD	10
4.2 CLIMATE CHANGE, DROUGHT AND THE 'ISLAMIC STATE' IN SYRIA	20
4.3 CLIMATE CHANGE, VIOLENT CONFLICT AND ILLICIT LIVELIHOODS IN AFGHANISTAN	28
4.4 CLIMATE CHANGE, URBAN VIOLENCE AND ORGANISED CRIME IN GUATEMALA	35
V. CLIMATE CHANGE, FRAGILITY AND CONFLICT – WHAT IMPLICATIONS FOR NSAGS?	46
VI. POLICY IMPLICATIONS AND RECOMMENDATIONS	49
6.1 ENSURING CLIMATE AND CONFLICT SENSITIVITY	49
6.2 STRENGTHENING GOVERNANCE AND LOCAL INSTITUTIONS	50
6.3 SUSTAINABLE LIVELIHOODS	51
6.4 DISASTER RISK REDUCTION	53
6.5 BUILDING MORE RESILIENT CITIES	54
VII. CONCLUSIONS	55
BIBLIOGRAPHY	57

ABBREVIATIONS

ACCORD	Austrian Centre for Country of Origin and Asylum Research and Documentation
BIPSS	Bangladesh Institute of Peace and Security Studies
CBLT	Commission du Bassin du Lac Tchad (Lake Chad Basin Commission)
CEPAL	Comisión Económica para América Latina y el Caribe
CFR	Council on Foreign Relations
CIA	Central Intelligence Agency
CPHD	Centre for Policy and Human Development, Kabul University
CRS	Congressional Research Service
DCAF	Geneva Centre for the Democratic Control of Armed Forces
FAO	Food and Agriculture Organisation
FEWS NET	Famine Early Warning Systems Network
FFP	Fund for Peace
FLASCO	Facultad Latinoamericana de Ciencias Sociales Secretaría General
FLEGT	Forest Law Enforcement, Governance and Trade
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ICG	International Crisis Group
ICRC	International Committee of the Red Cross
IDMC	Internal Displacement Monitoring Centre
IEP	Institute for Economics and Peace
IFAD	International Fund for Agricultural Development
IISS	International Institute for Strategic Studies
ILO	International Labour Organisation
IMF	International Monetary Fund
IOM	International Organisation for Migration
IPCC	Intergovernmental Panel on Climate Change
IPS	Inter Press Service
IS	Islamic State
ISIS	Islamic State of Iraq and Syria
ND-GAIN	Notre Dame Global Adaptation Index
NRC	Norwegian Refugee Council

NSAG	Non-State Armed Group
OCHA	Office for the Coordination of Humanitarian Affairs
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OSAC	Overseas Security Advisory Council
PAHO	Pan American Health Organisation
PIK	Potsdam Institute for Climate Impact Research (Potsdam-Institut für Klimafolgenforschung)
RESDAL	Red de Seguridad y Defensa de América Latina
SCPR	Syrian Centre for Policy Research
SNAP	Syria Needs Analysis Project
UCDP	Uppsala Conflict Data Program
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UN ESCWA	United Nations Economic and Social Commission for Western Asia
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Emergency Fund
UNODC	United Nations Office on Drugs and Crime
UNOWA	United Nations Office for West Africa
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management and Emergency Response
UNSSC	United Nations System Staff College
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USIP	United States Institute of Peace
WBGU	Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen
WFP	United Nations World Food Programme
WHO	World Health Organisation

EXECUTIVE SUMMARY

Over the past ten years, both our understanding and awareness of the links between climate change and security have increased tremendously. Today the UN, the EU, the G7 and an increasing number of states have classified climate change as a threat to global and/or national security. However, the links between climate change, conflict and fragility are not simple and linear. The increasing impacts of climate change do not automatically lead to more fragility and conflict. Rather, climate change acts as a threat multiplier. It interacts and converges with other existing risks and pressures in a given context and can increase the likelihood of fragility or violent conflict. States experiencing fragility or conflict are particularly affected, but also seemingly stable states can be overburdened by the combined pressures of climate change, population growth, urbanization, environmental degradation and rising socio-economic inequalities.

Taking the state of play on the links between climate change and fragility as a starting point, this report addresses the question of how the impacts of climate change are a contributing factor in the rise and growth of NSAGs. Non-state armed groups are not a new phenomenon. Today, however, we can observe an increasingly complex landscape of violent actors with a range of hybrid organisational structures, different agendas and different levels of engagement with society that set them apart from 'traditional' non-state actors and result in new patterns of violence. They operate on different levels, within or outside formal armed conflict and include youth and street gangs, criminal groups and organised crime as well as highly professionalized terrorist groups such as Al Qaeda, ISIS, or Al Shabaab or militia providing community security.

Four case studies that span the whole spectrum of NSAGs and patterns of violence, conflict and fragility explore in depth the specific role NSAGs play in the complex dynamics of climate change and fragility and try to identify how climate change acts as a risks multiplier in regards to NSAGs. These case studies show that as the climate is changing, so too are the conditions within which NSAGs operate. The complex risks arising from climate change, fragility and conflict can contribute to the emergence and growth of NSAGs. This does not imply that there is a direct link between climate change and NSAG-related violence and conflict. However, large-scale environmental and climatic change contributes to creating an environment in which NSAGs can thrive and opens spaces that facilitate the pursuit of their strategies.

There are two main mechanisms by which climate change facilitates the rise and growth of NSAGs:

1. Climate change is increasingly contributing to fragility, in the analysed cases mainly by contributing to conflicts surrounding natural resources and livelihood insecurity. NSAGs proliferate and can operate more easily in these fragile and conflict-affected environments where the state has little to no authority ('ungoverned space') and is lacking legitimacy. Sometimes, NSAGs also try to fill the gap left by the state by providing basic services in order to gain legitimacy and secure trust and support among the local population.
2. Climate change is having increasingly negative impacts on livelihoods in many countries and regions, e.g. through food insecurity or water/land scarcities. This makes the affected population groups more vulnerable not only to negative climate impacts but also to recruitment by NSAGs. These groups can offer alternative livelihoods and economic incentives and/or respond to political and socio-economic grievances.

Another interesting finding is the way NSAGs leverage the fragile environments arising from compound climate-fragility risks:

3. NSAGs are increasingly using natural resources as a weapon of war. The case studies show that in resource-scarce and fragile environments, NSAGs can use natural resources such as water as a weapon of war or inhibit access to natural resources. This in turn further compounds and exacerbates resource scarcities. This dynamic might be exacerbated as climate change increases the scarcity of natural resources in certain regions of the world: the scarcer resources become, the more power is given to those who control them.

Looking at the interplay between climate change, fragility and NSAGs, there is a risk that the feedback loops and complex interactions create vicious cycles of increasing climate impacts, vulnerability, violence, conflict and fragility. As the negative impacts of climate change increase and contribute to fragility, this benefits NSAG, which leads to further destabilization and fragility, and increases vulnerability to the negative impacts of climate change. These dynamics can be further exacerbated by using increasingly scarce natural resources as a weapon.

In general, climate change will increasingly challenge the ability of states to deliver services and provide stability. Extreme climate events, in particular, can strain the social fabric and the relationship between governments and populations. While government responsiveness in the face of disasters can strengthen the social contract, poor and slow responses are likely to weaken it, contributing to further instability and feeding into the downward spiral of fragility, violence and vulnerability.

However, it is also important to emphasize that climate change is just one among many drivers of fragility and conflict. Climate change acts as a threat multiplier and compounds other risks. Other important drivers of fragility include ineffective responses by state security forces, a lack of traditional conflict resolution mechanisms, a lack of government legitimacy, marginalization, religion, identity, and endemic corruption.

Foreign policy makers have to play an active role in breaking the vicious cycle of increasing climate impacts, vulnerability, violence, conflict and fragility and in preventing climate change contributing to an environment in which NSAGs can thrive. However, action should be based on a thorough understanding of the hybrid and complex nature of NSAGs and it needs to address the root causes of the rise and growth of NSAGs.

In the political realm, there is a tendency to frame NSAGs primarily in the context of the war on terrorism. However, these actors are much more complex and diverse. States are increasingly confronted with NSAGs that blur the lines between intra- and interstate war, between traditional and non-traditional conflict settings, between ideological, political and economic interests, and between armed conflict and crime. Climate change combined with other pressures and stressors creates a specific context that is conducive to the rise and growth of NSAGs.

Broadening the perspective and understanding the hybrid and complex nature of NSAGs, the motivations that drive them, and the context in which they thrive is indispensable for adequately responding to the security challenges they pose. A broader perspective will help to better address the root causes of the rise and growth of NSAGs: While economic, social and political factors remain important, the environmental dimension of fragility and conflict cannot be separated from the other three dimensions. An overly narrow perspective on NSAGs and the misuse of the concept of 'violent extremism' "risks downplaying other sources of fragility, delegitimizing political grievances and stigmatizing communities as potential extremists" (*Crisis Group 2016*).

Based on this broad understanding, foreign policy makers can help to address the challenges of NSAGs in a changing climate by supporting the building of more resilient states and societies. The key will be to more effectively link climate change adaptation, development and humanitarian aid, and peace-building and conflict prevention. The five action areas outlined in this report could serve as a starting point.

1. Ensuring the climate and conflict-sensitivity of interventions will be key to making sure that interventions are less prone to failure, and are able to realize synergies and co-benefits. At present, like many peacebuilding activities, interventions and strategies to counter violent extremism largely do not take climate change into account.
2. Promoting good governance and strengthening local institutions may not traditionally fall under climate change adaptation programming, but such activities are priorities in reducing the risk that climate change presents to the rise and growth of NSAGs, as well as being a core component of adaptation and peacebuilding writ large.
3. Creating sustainable livelihoods is both important to adapting to climate change and to preventing the rise and growth of NSAGs. Peacebuilding, climate change adaptation and development impacts could be achieved by focusing on climate-sensitive sectors such as agriculture and fisheries, and taking specific account of the risks and opportunities associated with youth bulges and migration.
4. Improving disaster risk reduction can help to break the mutually reinforcing relationship between fragility and disasters and prevent NSAGs abusing the weakness of the state. If underpinned by a plan and political willingness, disasters and crises can also be used as opportunities to increase resilience and not only rebuild better but also to increase legitimacy and even build peace.
5. Climate change and other risks and challenges, including NSAGs, often converge in cities. Resilient cities are at the heart of resilient states and societies. It is important that the whole range of interventions including climate change adaptation, disaster risk reduction, humanitarian aid, peacebuilding and conflict prevention put a stronger focus on cities affected by fragility and conflict.

Broad and integrated approaches, however, are not a goal in themselves. They are processes that need to engage people and their problems. Although there is a great potential for co-benefits and synergies, integration also often brings with it trade-offs and the need for negotiating competing interests and goals – a challenge foreign policy makers are well equipped to address.

I. INTRODUCTION

1.1 BACKGROUND

Terrorist groups such as the Islamic State and Boko Haram have been dominating the headlines since 2013. Both groups have gained international notoriety for their ruthless brutality and their rise is posing new challenges for national, regional and international security. Such non-state armed groups (NSAG) are not a new phenomenon. Today, however, we can observe an increasingly complex landscape of violent actors with a range of hybrid organisational structures, different agendas and different levels of engagement with society that set them apart from 'traditional' non-state actors and result in new patterns of violence.

At the same time, there has been increasing acknowledgement within the academic literature and among the policy community of the relationship between climate change and security. The Intergovernmental Panel on Climate Change (IPCC) underlined in its latest report from 2014 that human security will be progressively threatened as the climate changes. Analysing its impacts on fragility, an independent report for the G7 Foreign Ministers concluded that climate change is a global threat to international security. As the ultimate threat multiplier, it aggravates already fragile situations and may contribute to social upheaval and even violent conflict (Rüttinger et al. 2015). While these reports touch upon the topic of non-state armed actors, they do not specifically and comprehensively spell out the links between climate change, fragility and these actors.



Violent actors threaten states and societies. How do the impacts of climate change contribute to the rise and growth of non-state armed groups?

1.2 GOAL AND STRUCTURE OF THE REPORT

Against this backdrop, this report addresses the question of how the impacts of climate change on states and societies are a contributing factor in the rise and growth of NSAGs. It particularly focuses on the compound climate-fragility risks that emerge when weak states are overburdened by the convergence of climate change with other pressures such as economic shocks, environmental degradation and population growth. The report covers different types of NSAGs and country case studies to explore how climate change is already impacting these dynamics today. In addition, the paper examines what these links mean for foreign policy makers and how they could respond.

The report starts by shedding some light on the new generation of NSAGs in the global conflict arena. It briefly outlines different forms of NSAGs and classifies them (**chapter 2**). The **third chapter** introduces the climate security discourse and explains how climate change can contribute to fragility and conflict.

The **fourth chapter** consists of four case studies that examine the links between climate change and different non-state armed actors in their specific country and/or regional context. They include Boko Haram in the Lake Chad region, ISIS in Syria, the Taliban in Afghanistan, and urban violence and organised crime in Guatemala. All case studies follow the same structure: They start with a contextual analysis that includes the socio-economic and political background, an actor analysis of the relevant NSAGs, and climate impacts, followed by an analysis of links between climate change and the rise and growth of these groups. The case studies aim to cover a broad spectrum of different actors and country contexts and were chosen based on the availability of existing literature and research. In addition, climate-induced disasters and human trafficking in Bangladesh are discussed at the end of the chapter.

In the **fifth chapter**, the findings of the case studies are systematically reviewed and compared to identify common patterns. The **last chapter** also explores the role of foreign policy in addressing these risks and gives recommendations. In particular, it proposes different sectors that can serve as entry points for implementing a resilience agenda to address NSAGs in a changing climate.

1.3 APPROACH

This report is based on a thorough review of the existing literature, peer-reviewed research and case studies and was informed by a database on conflicts with climate dimensions.¹ However, studies and papers specifically analysing the links between climate change and NSAGs are few and far between. As there is a lack of literature on the theoretic links between climate change and NSAGs, the case studies in this report aim at bridging this gap and providing evidence from specific countries or regions.

¹ See <https://factbook.ecc-platform.org/>

II. NON-STATE ARMED GROUPS: NEW ACTORS IN THE GLOBAL CONFLICT ARENA

2.1 CURRENT TRENDS

Following the end of the Cold War, the nature of armed conflicts changed from predominantly interstate to civil wars and armed conflicts within states. This new type of armed conflict and non-conventional armed violence dominated conflict settings in the post-Cold War era and is often referred to as “new wars” (*Kaldor 1999*). These “new wars” entailed a number of shifts and changes:

- a shift from regular armed forces to non-state actors, illicit networks, paramilitaries, and warlords;
- a change of motives from geopolitical to identity politics;
- a shift of methods to asymmetric warfare;
- and the emergence of new war economics including illicit activities, smuggling, and human trafficking instead of state finance (*Kaldor 2013*).

This trend has continued until today. Since 2004, the number of non-state armed groups involved in civil conflicts has increased fourfold (*McQuinn and Oliva 2014*). However, in addition to these changes that continue to shape violence and war, there have also been important new developments and changes in patterns of violence and the actor landscape in the last decade.

Note 1

DEFINING NON-STATE ARMED GROUPS

In the past, definitions of non-state armed groups were largely confined to organised groups considered parties to an international or intra-state armed conflict. More recent definitions go beyond this traditional perspective. They define NSAGs broadly as groups that challenge the state’s monopoly of power and its capacity to control violence throughout its territory (*Grävingholt et al. 2007; Small Arms Survey 2013*), thus covering a broad spectrum of actors both with and without intentions to take over political power and induce political change.

All of these actors share a basic organisational structure that persists over a certain period of time, the readiness to employ arms and use force to achieve political, economic, or ideological objectives, and a command structure outside state control.

NSAGs are often perceived as challengers without formal responsibilities that are not part of state structures, in contrast to state actors like governments that are tasked with maintaining peace and security and providing public goods (*DCAF 2015*). This also implies that they have not committed to adhering to international humanitarian law, such as the Geneva Conventions or the Hague Conventions.

1. CHANGING PATTERNS OF VIOLENCE

Today, NSAGs are increasingly operating in non-conflict and non-war settings – so-called ‘unconventional’ armed violence. This includes “violence that is not captured by the terms ‘armed conflict’ or ‘post-conflict’, and that does not violate international human rights law” (*Small Arms Survey 2013*). Non-conflict setting is a broad concept that describes situations where armed violence has become endemic and includes threats such as (transnational) organised crime, gang violence, domestic violence, gender-based violence, and terrorism. Examples are mafia violence in Italy, above-average levels of armed violence and homicide in South Africa, and illicit weapons in Mexico and the Philippines (*Small Arms Survey 2013*).

In 1989, 20 percent of one-sided violence² was attributable to NSAGs (*Eck and Hultman 2007*). In 2011, 90 percent of violent deaths occurred outside conventionally defined armed conflict³ or were a result of terrorism (*Geneva Declaration 2011*). This shift in patterns of violence is reflected by the emergence of a hybrid form of NSAGs that increasingly operate outside “classic” conflict environments (*Oliva 2015; Briscoe 2013*). Instead, they can also be found in situations of fragility where there is no conventionally defined armed conflict but violence and insecurity prevail. For example, the International Committee of the Red Cross notes that in some countries of Latin America and Sub-Saharan Africa, “armed violence in urban settings at times reaches a degree similar to armed conflict” (*Harroff-Tavel 2010*). In contrast to armed conflict or post-conflict settings, non-conflict violence usually receives little to no international support in the form of relief aid, interventions by the UN Security Council, or peacekeeping missions.

Violence in non-conflict settings is equally directed against the state and the civilian population. It is a particular problem in states with poor governance, inefficient state institutions, and dysfunctional rule of law, as they lack the capacity to respond to high levels of violence (*Small Arms Survey 2013*). State fragility combined with livelihood insecurity often gives rise to violence linked to “alienated, frustrated, or excluded populations, particularly associated with younger men” (*Moser and Rodgers 2005*) in the form of gang violence, identity conflict, or gender-based violence. Another trend is the increasing presence of violent extremism, manifesting itself in an almost tenfold increase in the number of fatalities from terrorism between 2000 and 2014 (*IEP 2015*). While terrorism itself is not a new phenomenon, it is increasingly brutal and regionally networked across borders, and strives in some cases for territorial control (*Powell and Griffin 2014*). In addition, it increasingly recruits foreign fighters and targets private citizens, as opposed to religious, military, government, or business actors (*IEP 2014*).

2. HYBRIDITY OF ACTORS AND MOTIVES

NSAGs span a wide range of actors. They operate on different levels, within or outside formal armed conflict and include youth and street gangs, criminal groups and organised crime as well as highly professionalized terrorist groups such as Al Qaeda, ISIS, Al Shabaab, or militias providing community security (*DCAF 2015; Schneckener 2010*). Despite their diverse appearance, many NSAGs share a certain set of characteristics, including organised crime as a source of major stress in the conflict landscape, transnational elements, and effects like arms flows, cross-border refugee flows and criminal networks, and the presence of violent extremism⁴ with different motives (*UNSSC 2015*).

² Defined as “intentional attacks on civilians by governments and formally organised armed groups” (*UCDP 2015*).

³ Armed conflict refers to “contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths” (*Wallensteen and Sollenberg 2001*).

⁴ The Australian Government defines violent extremism as “the beliefs and actions of people who support or use violence to achieve ideological, religious or political goals. This includes terrorism and other forms of politically motivated and communal violence” (Living Safe Together).

Moreover, they often have networked structures, rely on the control of civilians to achieve their goals, and engage in illicit trade and acts of terrorism alike as strategies of survival (*Briscoe 2013*). This hybridity of agendas manifests itself in the blending of violence and crime, of interstate and intrastate conflict, and of terrorism and cross-border crime (*Powell and Griffin 2015*). As a consequence, the distinctions between politically motivated insurgents and organised crime groups or gangs become increasingly blurred (*McQuinn and Oliva 2014*).

This also means that the motivations of these groups are increasingly hybrid. Where state capacity is weak, NSAGs are often increasingly engaged in the provision of public services and goods including security to build legitimacy and establish mutually beneficial relations with the local population (*DCAF 2015*). However, while much of the academic literature still assumes that “many armed groups turn into state actors” (*Schlichte 2012*), if they gain power, this new generation of NSAGs is less interested in establishing formal authority. Many NSAGs do not seek to gain political control, since they can best achieve their goals outside the realm of formal state structures and laws and are characterized by their distance from formal power (*Briscoe 2013*). Many armed groups today do not conceive of peace or settlement of political disputes as desirable outcomes for a conflict. Instead, economically motivated warfare, in which the group’s strategy relies on income from illicit economic activities and thus seeks a perpetuation of violence, often prevails (*Oliva 2014*).

At the same time, where government reach and presence are limited, these groups nonetheless profit from poor institutional structures and the weak authority of the formal state, and pursue territorial ambitions or establish informal and often illegal systems of governance. The Islamic State has, for example, built structures and institutions resembling a government, including a military, a police force, and public services (*Waddell 2014*). Territorial control is often closely intertwined with economic motives, as NSAGs deliberately engage in destabilization and exploit state weakness to “control key local nodes and transnational networks to make their economic activities possible” (*Davis 2010*).

Although many NSAGs still have explicit political objectives, these are increasingly difficult to separate from economic goals. Economic activities, in turn, are often linked to international criminal networks. Illicit sources of income span activities such as drug trafficking, human trafficking, extortion, wildlife trafficking, kidnapping, and illegal exploitation of natural resources (*Nellemann et al. 2014*). While NSAGs traditionally followed a linear and standard pattern of development in which the political agenda dominated over the military and economic motives, unconventional armed groups follow more volatile trajectories in which economic incentives prevail (*Oliva 2014*). However, the importance of economic motives is not to disguise the fact that financial incentives for NSAGs always interact with long-standing socio-economic and political grievances, as well as poor and unaccountable governance systems (*Ballentine and Nitzschke 2003*).

3. TRANSNATIONAL NATURE

Another important characteristic is the increasingly transnational nature of violence that goes hand in hand with organised crime becoming a key characteristic of many NSAGs. In the past, transnational connections were mostly in the form of diaspora support for combatants or insurgents. Today, a common element of this new generation of non-state actors is their transnational organisational structure, and their reliance on transnational networks as supporters and facilitators of their strategy. Where state institutions and control of power are weak, transnational organised crime and criminal networks can thrive, as they can easily use continuing unrest and exploit ungoverned spaces to pursue their strategic interests (*Cockayne 2011*). Cross-border relations and organisational structures of NSAGs make these groups more resilient. NSAGs are not only organised across borders, they also form networks and have connections with other (transnational) NSAGs, as can be observed in the case of terrorist groups in the Sahel, Syria and Iraq, Mali, and Somalia (*Oliva 2014*).

2.2 CLASSIFICATION OF NSAGs

NSAGs can be characterized based on these three main trends that shape the landscape of NSAGs today. Each characteristic can be defined along a spectrum on which different actors can be placed to better understand them and differences between NSAGs. These categories will be used to describe the different NSAGs covered by the case studies. Some actors can also be placed at different points within a spectrum. One example is ISIS, which is also trying to commit acts of terrorism outside of zones of traditional armed conflict. As part of this report the placement was done based on the focus of the case studies. The same groups might be placed differently in other conflict contexts.

1. Patterns of violence: The environment in which NSAGs operate ranges from 'traditional' intrastate conflict to non-conflict situations of violence and insecurity.



2. Territorial aspirations: The degree to which NSAGs strive for territorial control differs: while some actors actively pursue a strategy of territorial conquest and establish state-like governance structures, other groups simply strive to create insecurity and destabilize the national government without territorial claims.



3. Identity and economics: Strategies of NSAGs normally rely on narratives of identity and on economic motives, but to different degrees. Group identities can be based on religion, ethnicity, ideology, or group loyalty, and constitute non-material resources of a group. On the other hand, economic incentives also play an important role and include natural resources, taxation, and criminal activities.



4. Relationship with society and state: NSAGs challenge the state and its relationship to civilians to different degrees. Some groups may choose to engage more constructively and amicably or more hostilely with state and/or society.



5. Transnationality: Refers to the degree to which an NSAG is a purely local phenomenon, or is transnationally organised, or has relations with transnational (criminal) groups.



Overview

Features Case studies	Patterns of violence	Territorial aspirations	Identity and economics	Relationship with society and state	Transnationality
Boko Haram	Conflict situation; insurgency with high levels of violence	Control of territory in north-eastern Nigeria and parts of Niger, Burkina Faso	Group identity based on opposition of western education and influence; ostensibly religious but backed by ethnic and regional identities and mixed with feelings of injustice and oppression Funding from robberies, extortion, ransoms from kidnapping	Goal to establish an Islamic caliphate in the current government's place Attacks against civilians based on ideology	Regional; probable links with ISIS and Al Qaeda
Islamic State	Civil war with high levels of violence Guerrilla tactics and acts of terrorism with high levels of violence	Control of territory to establish an Islamic caliphate	Strong group identity based on Salafi extremist ideology Economic motives as means to achieve the ideological goal: illegal oil revenues, arms trade, looted antiquity trafficking, drugs trade	Fights against government troops, but little interest in overthrowing Assad regime Provision of basic services and governance structures	Regional with international links (recruitment of foreign terrorist fighters) Involvement in terrorist acts outside the country
Taliban	Insurgency; not classified as terrorist group Asymmetric warfare	Control of territory	Islamic fundamentalist and nationalist ideology Strong links with transnational narco-trafficking networks	Increasing attacks against civilian population Violent acts against the state/government troops	Aligned with transnational networks
Maras	Non-conflict situation; high levels of violence	No territorial claims (although they may effectively control certain areas/neighbourhoods)	Economic motives prevail (extortion, drug trade); strong group identity	No motives of deposing a standing government Closely aligned with society	Mainly acting on the local level increasingly involved in cross-border criminal drug-related activities – Local
Transnational drug networks	Non-conflict situation	No territorial claims, but de-facto control of areas for economic reasons	Economic motives dominate; no political intentions or group identity	Exploitation of state fragility; bribery of public officials	Transnational

III. CLIMATE CHANGE AS A RISK MULTIPLIER

Over the past ten years, both our understanding and awareness of the links between climate change and security have increased tremendously. Today the UN, the EU, the G7 and an increasing number of states have classified climate change as a threat to global and/or national security (*American Security Project 2014; European Commission 2008; UN Security Council 2011*).

However, the links between climate change, conflict and fragility are not simple and linear. The increasing impacts of climate change do not automatically lead to more fragility and conflict. Rather, climate change acts as a threat multiplier. It interacts and converges with other existing risks and pressures in a given context and can increase the likelihood of fragility or violent conflict. States experiencing fragility or conflict are particularly affected, but seemingly stable states can also be overburdened by the combined pressures of climate change, population growth, urbanization, environmental degradation and rising socio-economic inequalities (*Carius et al. 2008; WBGU 2007, CNA 2007, Rüttinger et al. 2015*).

In 2015, the report “A New Climate for Peace” (*Rüttinger et al. 2015*), commissioned by the G7 Foreign Ministries, identified seven compound climate-fragility risks that pose a serious threat to the stability of states and societies.⁵



Local resource competition: As the pressure on natural resources increases, competition can lead to instability and even violent conflict in the absence of effective dispute resolution.



Livelihood insecurity and migration: Climate change will increase the human insecurity of people who depend on natural resources for their livelihoods, which could push them to migrate or turn to more informal or illegal sources of income.



Extreme weather events and disasters will exacerbate fragility challenges and can increase people's vulnerability and grievances, especially in conflict-affected situations.



Volatile food prices and provision: Climate change is highly likely to disrupt food production in many regions, increasing prices and market volatility, and heightening the risk of protests, rioting, and civil conflict.



Transboundary water management is frequently a source of tension; as demand grows and climate impacts affect availability and quality, competition over water use will likely increase the pressure on existing governance structures.



Sea-level rise and coastal degradation: Rising sea levels will threaten the viability of low-lying areas even before they are submerged, leading to social disruption, displacement, and migration, while disagreements over maritime boundaries and ocean resources may increase.

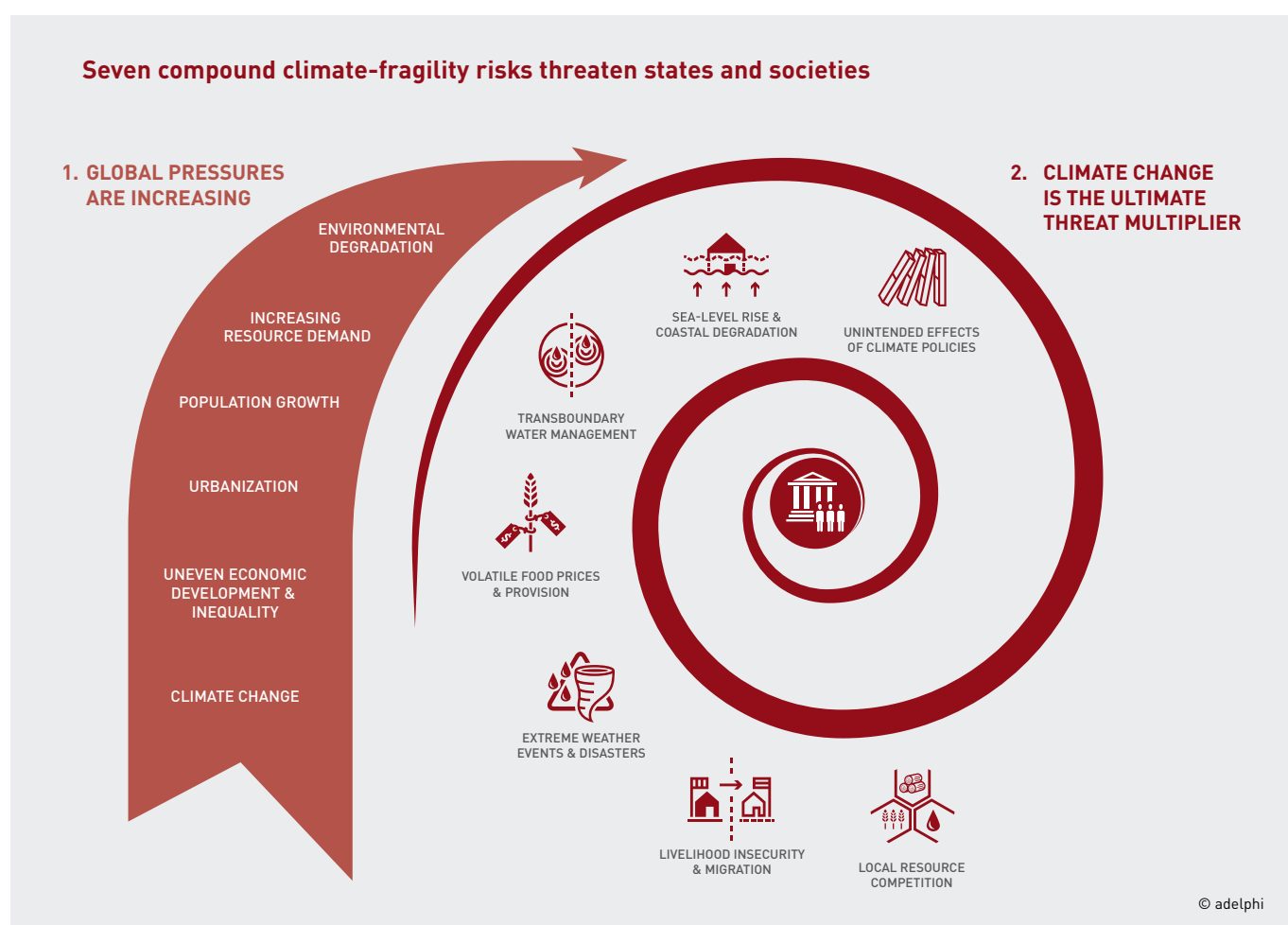


Unintended effects of climate policies: As climate change adaptation and mitigation policies are more broadly implemented, the risks of unintended negative effects – particularly in fragile contexts – will also increase.

⁵ “A New Climate for Peace” is an independent report commissioned by the G7 Member States. The report was prepared by an independent consortium of leading research institutions, headed by adelphi, with International Alert, the Wilson Center, and the EU Institute for Security Studies, and was submitted to the G7 in April 2015.

Most of these risks are closely linked to food, water, and energy security, natural resources and ecosystems. They are therefore not isolated from each other and are affected by the same drivers and pressures such as climate change, increasing population and resource demand, mismanagement of resources, and environmental degradation. The main difference between the seven compound risks is how these pressures interact and what situations of fragility they can create.

Some risks may push a state farther towards fragility and, in extreme cases, into conflict. Local natural resource conflicts and livelihood insecurity operate mainly at the local level but can have significant national or regional knock-on effects, such as migration. In places where these compound risks cross a threshold, they can destabilize whole countries and regions. Conversely, the impacts of transboundary water conflicts often threaten livelihoods and access to natural resources at the local level. Global market volatility and extreme weather events impact global supply chains and can drive political instability (Ruettinger et al. 2015).



IV. CASE STUDIES

Taking the state of play on the links between climate change and fragility as a starting point, the following case studies will focus on the specific role NSAGs play in these complex dynamics and try to identify how climate change acts as a risks multiplier in regards to NSAGs. The case studies span the whole spectrum of NSAGs and patterns of violence, conflict and fragility: urban violence and gang crime in Guatemala, insurgents and criminal networks in Afghanistan, terrorist groups around Lake Chad, and terrorism and civil war in Syria. At the end of the chapter, climate-induced disasters and human trafficking in Bangladesh are shortly discussed.

Each of the case studies starts with a contextual analysis, outlining the socio-economic and political context, environmental challenges, the most important NSAGs, and both the impacts of climate change today and future projections. On the basis of this contextual information, the second part of the case studies analyses how climate change and NSAGs interact.

4.1 CLIMATE CHANGE, LIVELIHOOD INSECURITY AND BOKO HARAM AROUND LAKE CHAD

In the region around Lake Chad, including Niger, Nigeria, Chad and Cameroon, multiple crises and stressors converge. The crisis-stricken region is under pressure as a result of a dangerous mix of unemployment, depleting resources, economic hardship and violent conflict. At the same time, the region has been hit hard by climate change: prolonged severe droughts have caused a massive shrinking of Lake Chad, main source of livelihood for millions of lake dwellers. The resulting resource scarcity and livelihood insecurity have exacerbated tensions between pastoralists, farmers and fishers.

Extreme poverty and economic fragility together with drought and environmental degradation are providing a fertile ground for non-state armed groups such as the Islamic extremist group Boko Haram to thrive and contest state authority across the region. Grievances and severe lack of economic opportunity are making young people vulnerable to recruitment by rebel groups and illicit employment, feeding into armed conflict and accelerating massive internal and cross-border displacement. The security challenges resulting from local resource conflicts, large-scale violence from terrorist groups, and mass migration are particularly strong where the state's authority and legitimacy are weak – nurturing a vicious cycle of fragility and armed violence. As insurgencies from Boko Haram have increasingly spread from Nigeria to Cameroon, Niger and Chad throughout 2015, the already fragile security situation in the region has become tenser. The impacts of climate change on states and societies around Lake Chad will most likely add fuel to the fire.

CONTEXTUAL ANALYSIS

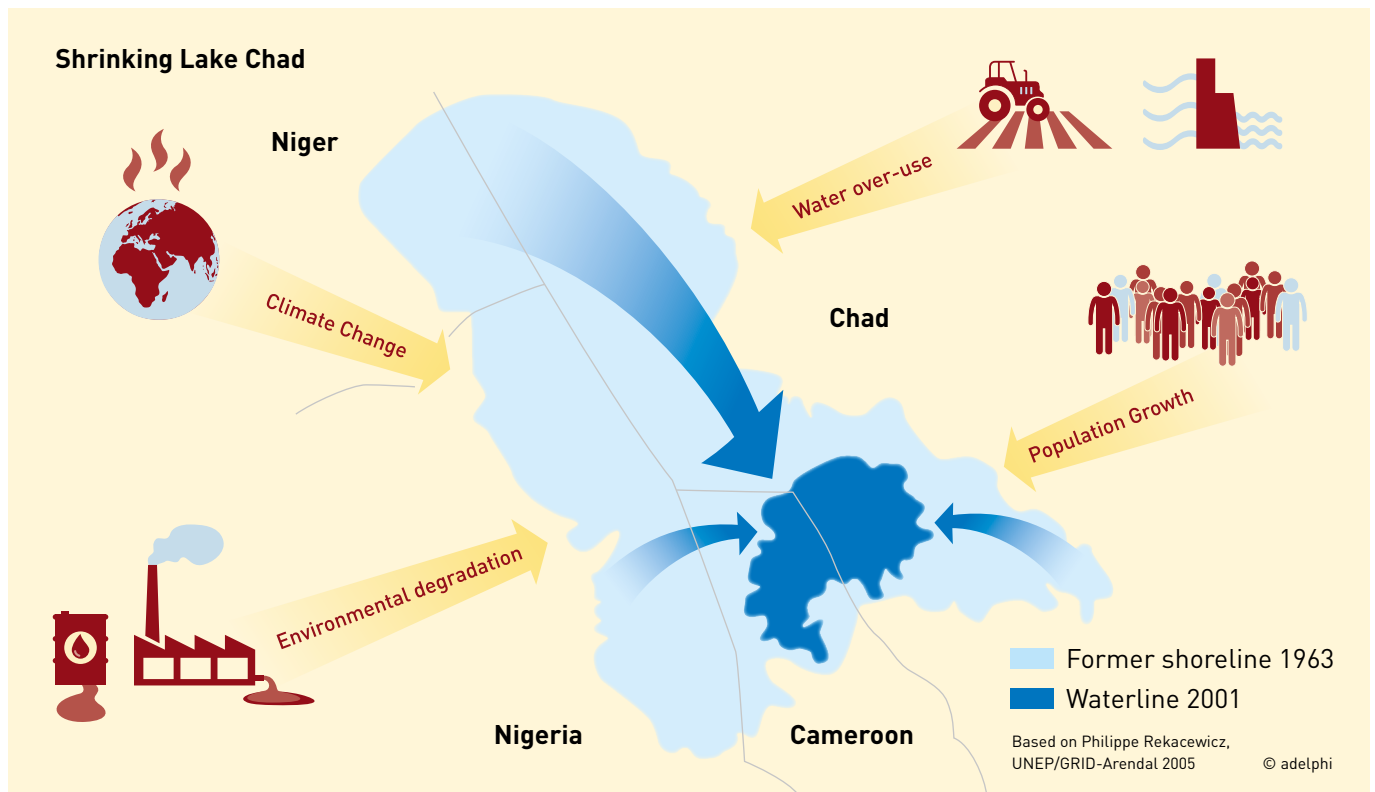
Socio-economic development and political context

The Lake Chad Basin is home to a rapidly growing population of approximately 38 million from diverse ethnic backgrounds. The region's human development indices are among the world's lowest (*UNDP 2015*), and the youthful age structure (almost 50 percent of Nigeriens are under 15) in combination with population growth rates of around 3 percent intensify demographic pressures (*CIA 2015*). Since the intensification



of violence and Boko Haram's insurgency, poverty rates in Nigeria have deteriorated from 55 percent in 2004 to 61 percent in 2010 (*National Bureau of Statistics 2012*). On the Nigerian side around Lake Chad, literacy rates are roughly 30 percent, which is less than half of Nigeria's average (*Lake Chad Basin Commission n.d.*).

The predominantly rural population around the lake is composed of more than 70 ethnic groups, each relying on the area's natural resources for their livelihoods and largely climate-sensitive agriculture-related activities (*Ovie and Emma 2012*). Economic development in Lake Chad's riparian countries is slow and unstable with low labour productivity, large-scale informal employment, lack of innovative private investment and poor infrastructure (*Department of State 2015*). Even though oil-rich Nigeria has experienced annual GDP growth rates of up to 8 percent since 2006, the economic situation has deteriorated since the intensification of Boko Haram attacks in 2009, and foreign direct investment dropped by 23 percent in 2012 (*Kimenyi et al. 2014*).



The Chad Basin has a longstanding history of violent conflict, including civil war and rebellions in Chad, Niger and Nigeria. Drivers of violence are deeply rooted in the ethnic cleavages and religious divisions of the region (*Gould and Pate 2016*). After a series of coup d'états following Nigeria's independence in 1960, the country's democratic system today is considered relatively stable, in particular after its first peaceful transition of power through elections in 2015. In contrast, Niger, Cameroon and Chad are still under authoritarian rule or in democratic transition. All four countries are characterized by rampant corruption, with large-scale diversion of oil revenues in Chad and Nigeria (*Freedom House 2015*). With the exception of Niger (rank 99), all states were ranked in the last quintile of Transparency International's Corruption Perception Index in 2015 (*Transparency International 2015*). All four countries in the basin have been ranked on the OECD's list of fragile states in 2015 (*OECD 2015*).

The unstable security situation in the region also has visible impacts on economic activities. As transportation of goods and means of production like fertilizers and seeds has become more risky, commodity prices in northern Nigeria have sharply increased, in particular for agricultural crops exported to Niger and Cameroon. Moreover, agricultural yields have declined due to farmers' fears of attacks by Boko Haram (*FEWS NET 2016*). Fisheries value chains are also being impacted, as Boko Haram is using the lake's wetlands for shelter to launch attacks. Both livestock and fish processors suffer from restricted and unpredictable access to markets (*Kimenyi et al. 2014*).

As a result of the terrorist group's violent attacks and mass destruction of infrastructure, millions of people have fled their homes in Nigeria and North Cameroon. Along the shores of Lake Chad in Niger and Chad, refugee camps have mushroomed to accommodate the influx of people fleeing Boko Haram violence, who add to the more than 70,000 displaced by natural resource-related violence (*ACTED 2015; Doyle 2015*). Not only does this humanitarian crisis pose immense challenges for health provision, food security and sanitation but it also adds stress to already scarce resources. Moreover, it threatens to push the hosting countries Niger and Chad, "fragile island of stability in a region of conflict" according to an OCHA Operations Director (*OCHA 2015*), further towards fragility.

The shrinking lake: Overuse and climate change in the Chad Basin

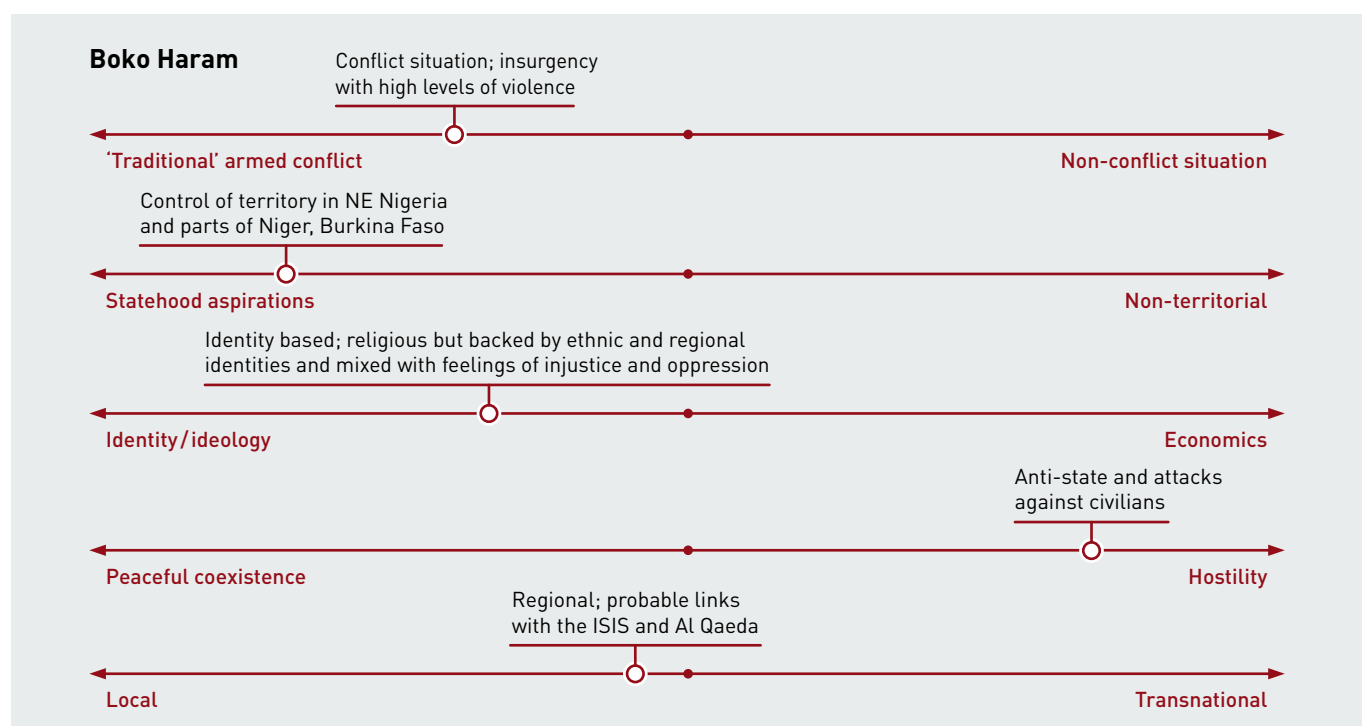
Largely located in the semi-arid Sahel zone, the Chad Basin is particularly vulnerable to the adverse impacts of climate change and its ramifications can already be felt today (*Federal Ministry of Environment Nigeria 2014*). Within Nigeria, the northeast around Lake Chad is the region most vulnerable to climate change. Since the 1970s the number of rainy days in north-eastern Nigeria has decreased by 53 percent and southward desertification of the Sahara of 1-10 km per year is reducing arable land (*Odjugo 2014*). In Chad, the average temperature has increased by 0.8°C since 1975 – at a rate twice as fast as global warming (*Funk et al. 2012*).

Lake Chad has traditionally been the primary source of irrigation and freshwater for livestock, providing livelihoods for about 30 million people settled along its shores. As the population living in the lake's catchment area doubled between 1960 and 1990, human water demand rose rapidly. Variations in water levels between rainy and dry seasons have always occurred naturally (*Brown and Crawford 2008*), but over the past 50 years a combination of water over-use and shifting climatic patterns with increasing temperatures and unreliable rainfall has caused the lake's surface to shrink by 90 percent. According to *UNEP (2008)*, about 50 percent of the decrease can be attributed to climate change, while the other half was caused by human intervention like dam construction or irrigation (*Ovie and Emma 2012*).

According to the IPCC, the Sahel is the world's region with the "most substantial and sustained decline in rainfall recorded" (*IPCC 2001*) and climatic conditions are expected to deteriorate further (*IPCC 2014*). Temperatures are projected to increase by 3.7 percent from the current level by the 2020s (*Federal Ministry of Environment Nigeria 2014*). If shrinking of Lake Chad continues at the current pace, the lake could completely disappear within the next 20 years (*von Droste zu Hülshoff and Bretin 2015*).

Boko Haram: a brief overview

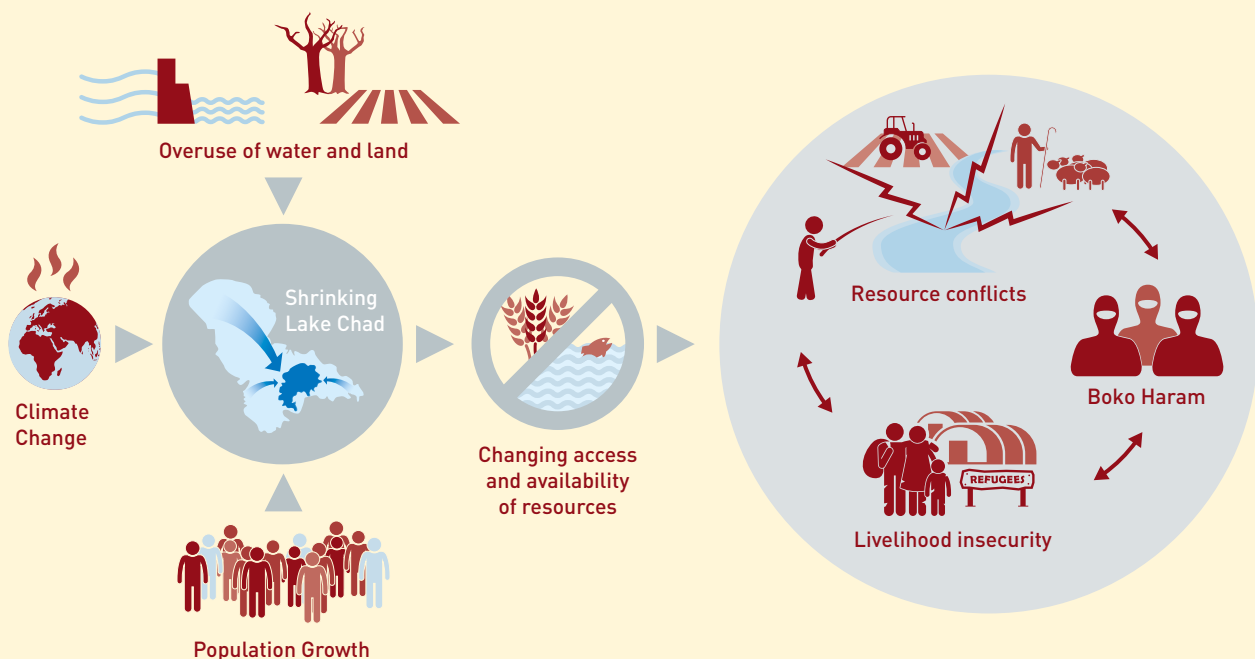
In 2009 the Islamist extremist group Boko Haram, founded in 2002, launched an insurgency against the Nigerian government that subsequently spread to Chad, Niger and Cameroon. Since then, the terrorist group has killed more than 20,000 people and is responsible for the mass displacement of more than two million (*OCHA 2015*). It is believed to have gained control over 18 local government areas in Nigeria alone, with a total size equalling that of Belgium (*Abubakar 2015*).



The group started as a non-violent sectarian Islamic movement in opposition to the more tolerant Islam of northern Nigeria around 2003, but radicalized in the wake of the brutal suppression of their uprising against the government in 2009 and started actively fighting against the Nigerian state (*Campbell 2014*). Boko Haram emerged against the background of a “history of dissidence through radical ideology, and sometimes violence, and in movements [...] with virulently anti-state agendas” (*Hoffmann 2014*). This facilitated the group’s growth in a region characterized by a long-held sense of political and economic marginalization. It is equally driven by ideology and the wish to combat perceived injustices and oppression. However, in contrast to other groups, Boko Haram’s relationship to society is less concerned with winning the support of the local population, but rather relies on ruthless violence to maintain control over the population (*Gould and Pate 2016*). While Boko Haram has pledged its allegiance to the ‘Islamic State’ (ISIS), it is still more of a regional threat with few transnational elements, including the recruitment of mercenaries, training of combatants in jihadist camps, and arms trafficking (*Oftedal 2013*).

Boko Haram’s self-declared goal is the establishment of an Islamic state under Sharia law. Over time, multiple agendas have emerged, ranging from religious ideology to social rebellion, and the group’s tactic has proven very adaptable to changing circumstances. Initially poorly planned attacks on state security evolved into violent cross-border activities of regional and international concern with increasingly strategic and sophisticated actions (*Abubakar 2015; Walker 2012*). In the beginning, Boko Haram particularly attracted poor and unemployed people through its rejection of the Nigerian state and the provision of meals, arrangement of marriages, and loans for small commercial activities. However, the group’s shift to violent extremism in 2009 was also accompanied by changing recruitment tactics towards an increasing use of coercion, monetary incentives, family pressure, or kidnapping (*Meagher 2014*). While economic motives, including kidnapping for ransom, play an important role in funding the activities of Boko Haram, they are subordinate to ideology as motivation. The extremist group’s brutal methods include the pillaging of villages, destruction of public buildings, systematic abduction, imprisonment, rape and forced marriage of girls and women, and forced recruitment or execution of boys and men (*Amnesty International 2015*).

Climate change, livelihood insecurity and Boko Haram around Lake Chad



© adelphi



Dry riverbed in Niger.

CLIMATE-FRAGILITY RISKS

1) Intensifying resource competition and increasing conflicts

As water levels decreased so did the Chad Basin's plentiful natural resources. Not only have the availability and quality of fresh water decreased, but adverse impacts also include reduced fish stocks, loss of vegetation, and depletion of grazing land (*Onuoha 2010*). Drought-related decreases in fish populations and over-fishing are estimated to have reduced annual fish catch from 140,000 tonnes in 1970 to 80,000 in 2006 (*Odada et al. 2006*). Desert encroachment and changes in rainfall patterns aggravate the problem: erratic rainfall harms yields from rain-fed agriculture, whereas flooding from heavy rainfall erodes farmland. Between 1978 and 2008, the length of the rainy season in northern Nigeria dropped from 150 to 120 days (*IRIN News 2008*). This together with the tripling of the Basin's population since the 1980s has led to massive food insecurity: 2 million people in Northern Nigeria, nearly 1 million people in Chad and almost 2 million individuals in northern Cameroon were estimated to be food insecure in 2015 (*European Commission 2015*).

As economic activities in the basin are characterized by high degrees of mobility and flexibility, these changes in the resource base have affected patterns of migration particularly in the lake's wetlands, which serve farmers as fall-back areas for crop cultivation in times of drought. As these wetlands degraded, local population groups had to migrate in search of new fertile soils and better fishing grounds, moving closer to the shorelines for cultivation and increasing the population density in still intact wetlands and in some cases across borders (*Shettima and Tar 2008*). At the same time, pastoralists have traditionally migrated through the region in search of grazing grounds and water. However, due to increasing land degradation and water scarcity, the frequency of pastoralists moving closer to the lake to water their animals has increased. As a result the concentration of users around the remaining dwindling resources and the rate of contact between population groups with different livelihood strategies also increased (*Odjugo 2014; Lake Chad Basin Commission n.d.*). The situation was aggravated by a gradual transition of pastures and fisheries from open access to private ownership (*Blench 2004*).

As a result, pressure on the remaining resources and competition between different user groups has increasingly led to social tensions and even violent intergroup conflict (FAO/LCBC Workshop). In Niger, an increase of conflicts between migrant fishers and local law enforcers has been observed since the 1980s

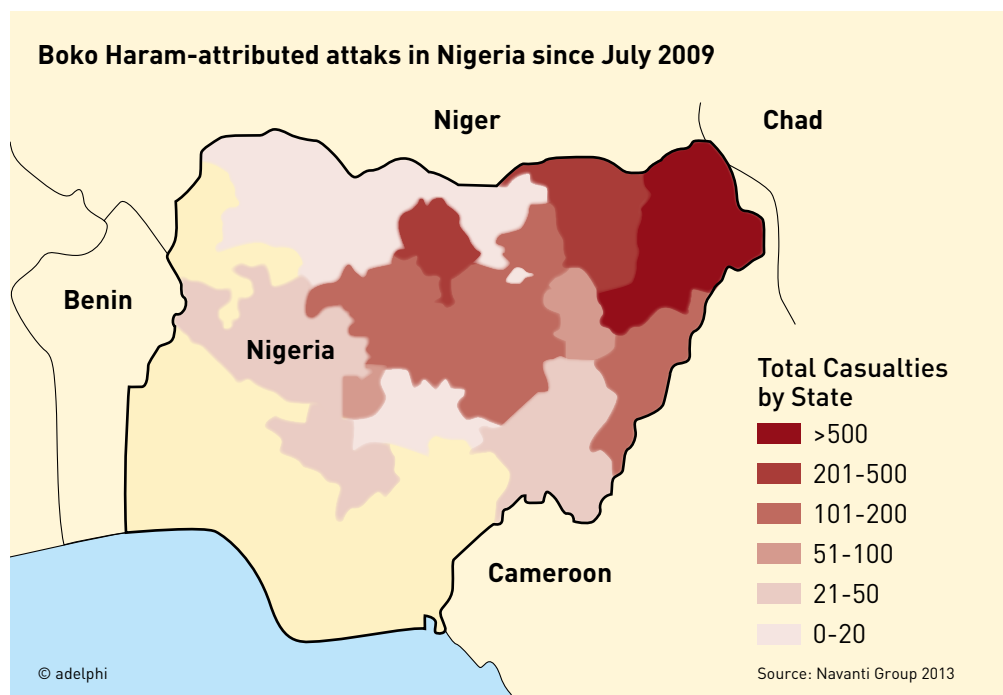
(Hendrix 2014). Pastoralists moving closer to water sources and grazing land to feed their livestock have triggered disputes with farmers and local landowners, exacerbated by unclear land ownership (Onuoha 2008). In Nigeria, regular clashes between nomadic herders and farmers over land around Lake Chad have already claimed hundreds of lives (Olukoya 2015; Wilkie 2015).

This has been exacerbated by dysfunctional or lacking conflict management: Traditional authority played a key role in mediating local conflicts, but their authority has declined with the institution of local political authority. The new elite shows less interest in resolving farmer-herder disputes (Baca 2015). Observers assess the government's responses to violent conflict between pastoralists and farmers as weak, reactive instead of preventive, and lacking contextual knowledge of the underlying grievances (Blench 2003; Baca 2015). Moreover, responses are said to discriminate against Fulani nomads and tend to side with farmers, thereby reinforcing anti-state grievances and eroding social cohesion (IRIN News 2009). As military and state security agencies are perceived to be highly corrupt and unable to respond to outbursts of violence, trust in the government has been undermined and fragility compounded (Ikita 2014).

Although academic literature does not establish direct links between conflicts around natural resources and Boko Haram violence, these conflicts contribute to overall instability and fragility, thus creating more hospitable conditions for Boko Haram to mobilize support, commit acts of violence and engage in organised criminal activities. Against the backdrop of diffuse, daily, and structural violence from cattle rustling and vigilantism and inadequate government intervention, many communities supported Boko Haram hoping that it would entail government change (ICG 2016).

2) Livelihood insecurity and recruitment around Lake Chad

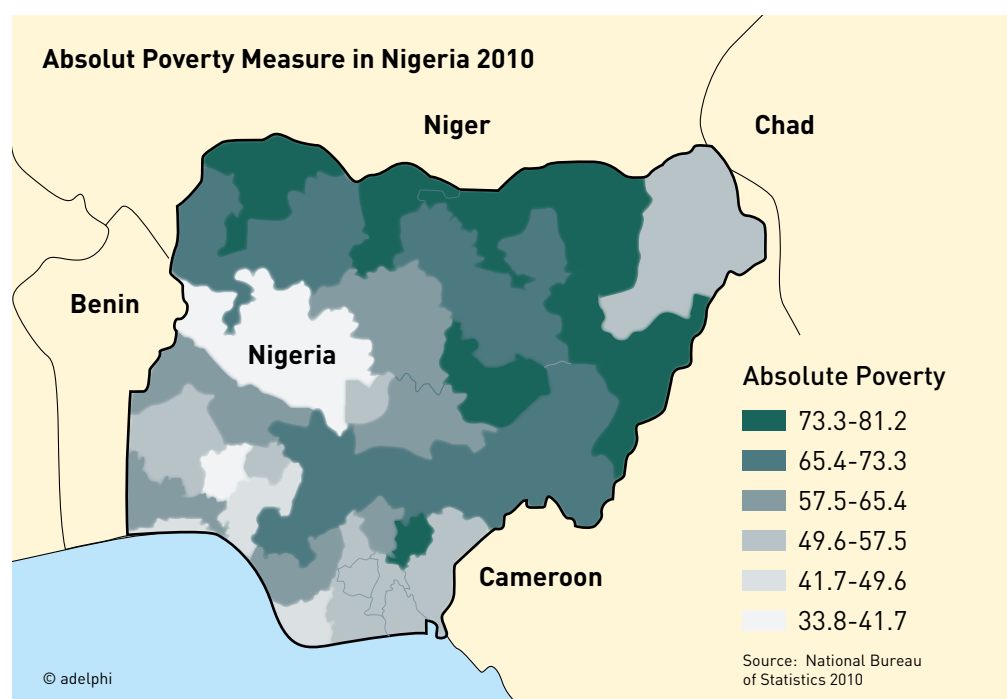
The alarming pace at which Lake Chad is shrinking has severe impacts on the livelihoods of the lake's residents. 80 percent of the Basin's population depends on subsistence farming, fishing and livestock rearing for their livelihoods (Lake Chad Basin Commission 2016), all of which rely on the vanishing water resources of Lake Chad. In Niger, economic conditions are "almost entirely dependent on environmental conditions" (Hendrix 2014). Several studies point towards strong evidence that the socio-economic impacts of Lake Chad recession, though not a stand-alone factor, have played an important role in fuelling violence and facilitating the activities of Boko Haram (Onuoha 2014; Maplecroft 2015).



Livelihood insecurity and lacking economic opportunities seem to provide a fertile ground for NSAGs. While a direct causal link between unemployment and participation in violence is disputed among scholars, there is research showing that precarious situations with little socio-economic prospect, including situations of unsteady or underpaid employment, can drive people to join armed groups (*Cramer 2010*). Economic and social frustrations make terrorist ideologies seem increasingly attractive, particularly for young people with few livelihood options and low levels of formal education, as they provide both future perspectives and economic incentives. According to Johan Galtung's concept of structural violence, political and socio-economic structures and institutions can act as agitators of violence, while armed groups instrumentalize individual and group grievances like marginalization, discrimination and poverty for recruitment (*Galtung 1969*).

These dynamics can also be observed in the Lake Chad region: In north-eastern Nigeria, the region closest to Lake Chad and where Boko Haram is strongest, 71.5 percent of the population live in poverty and more than 50 percent are malnourished (*UNSSC 2014*). In Nigeria's rural areas, almost 60 percent of youth were unemployed in 2011 (*Akande 2014*), while in Chad, Cameroon and Niger about 9 to 13 percent of all youth were unemployed and up to 80 percent were under-employed (*World Bank 2015; African Economic Outlook 2014*). This kind of economic deprivation provides an ideal breeding ground for recruitment by Boko Haram. UNOWA found that youth unemployment and a poor socio-economic environment "foster conditions in which people are recruited into armed conflicts" in West Africa (*UNOWA 2005*). A study on behalf of the U.S. Institute of Peace identified poverty, unemployment, illiteracy, and weak family structures as the main reasons that make young people, particularly men, vulnerable to religious radicalization in the Chad Basin (*Onuoha 2014*). Apart from many cases of forced recruitment, young people in Nigeria's north reportedly accepted payments from militants in order to carry out violent attacks (*Olojo 2013*). Financial incentives as well as prospects of social status from marriage or income offered by Boko Haram are particularly appealing to young males in Nigeria and Cameroon (*Tull 2015*).

In addition to these factors, lacking opportunities for peaceful participation in decision-making, political marginalization and alienation are also important factors driving the recruitment of youth by armed groups in Africa (*McIntyre and Weiss 2003*). This is particularly relevant in the case of Nigeria, where Boko Haram initially gained support by speaking out against corruption and social injustice, channelling frustrations of the young generation (*IRIN News 2011*). Other important factors for armed group mobilization





The Lake Chad region experiences a humanitarian crisis as violence and destruction caused major population displacements.

around Lake Chad are religion and identity. A proliferation of sects and a poor understanding or misinterpretation of Islam, along with a low level of education are reasons for youth to increasingly rely on preachers, making them very vulnerable to recruitment and radicalization (*Onuoha 2014*). Moreover, religious identities increasingly substitute an underdeveloped national identity. Boko Haram effectively uses narratives of Islamic identity, alluding to their historical dominance in Nigeria, to win young people over (*Barkindo 2014*). Political marginalization of the Muslim-dominated north and the resulting alienation from the government reinforces the turn to religious identities (*Gould and Pate 2016*).

In addition, grievances and lack of economic opportunity make young people more susceptible to illicit activities and organised crime. Shortage of water from Lake Chad and the subsequent losses of livelihoods in combination with a highly unstable security situation and weak presence of government authority have driven people into drug trafficking and arms trading (*Okpara et al. 2015*). As the lake is shared by four countries, its hundreds of small islands have made it an ideal environment for cross-border smuggling of weapons, drugs and other contraband items (*Vanguard 2015*). Boko Haram is itself heavily involved in arms trafficking across the Nigerian border (*Zenn 2014*). Besides weapon smuggling, human trafficking and kidnapping for ransom and slavery are major sources of income for Boko Haram (*Zenn 2014*). While there is a high likelihood of drug revenues contributing to funding Boko Haram's activities, investigations have not yet shown direct links (*Naij 2014; Alexander 2013*).

3) Resources as a weapon and strategy of violence

According to recent reports from the Nigerian military, Boko Haram has resorted to using natural resources as a weapon and part of their strategy of violence. They have poisoned water sources such as wells and streams in areas where they were dislodged by state troops, making water use dangerous for both humans and livestock (*Naij 2015; Vanguard 2015a, etc.*). While it remains unclear whether this strategy is being systematically used as a weapon against civilians, it underlines the strategic importance of natural resources in the conflict.

CONCLUSIONS

Climate change around Lake Chad contributes to resource scarcities that increase local competition for land and water. This competition in turn often fuels social tensions and even violent conflict. At the same time, this resource scarcity erodes the livelihoods of many people, aggravates poverty and unemployment, and leads to population displacement. NSAGs, in particular Boko Haram, thrive in this environment. The interactions are complex and create feedback loops contributing to a vicious cycle of increasing violence, conflict and fragility:

First, the increasing number and intensity of resource conflicts around Lake Chad is exacerbating existing fragility in areas where state presence and authority are low. In this context of contested authority and legitimacy, Boko Haram can operate more easily and engage not only in acts of violence but also in transnational organised crime as one of its main sources of income. Marginalization and state responses that are perceived as inadequate contribute to an overall fragile situation. In addition, the group has started using natural resources as a weapon and has impaired economic activities with severe repercussions on food security. This can create a vicious cycle in which climate change-related resource conflicts aggravate fragility, which in turn benefits terrorist groups that further add to the destabilization.

Second, a number of studies underscore the link between increasing climate change impacts, deteriorating livelihoods and increasing recruitment by Boko Haram. As climate change degrades yields from agriculture, cattle rearing and fisheries, many people are left unemployed, with few economic opportunities and low levels of education. This makes them extremely vulnerable not only to negative climate impacts but also to recruitment from terrorist groups (*Darby 2015*). The deteriorating security situation contributes to further undermining economic activity and young people's perspectives.

However, it is also important to emphasize that climate change is just one among many drivers of fragility and conflict in the Lake Chad Basin. Other important drivers of fragility include ineffective responses by state security forces, a lack of traditional conflict resolution mechanisms, marginalization, religion, identity, and endemic corruption.

The links between climate change and Boko Haram have also been increasingly voiced by West African politicians (*Eichelberger 2015*). For example, Niger's defence minister Mahamadou Karidjo explained that dwindling water resources helped make people more vulnerable to extremism (*L'Economiste*). Although there are reasons to believe West African leaders may be overemphasizing the role of climate change to cover up for their inability to stem violence, these concerns should not simply be discarded.

Given the region's climate projections, local competition for dwindling resources is likely to increase and become more violent in the future. This can create a vicious cycle in which climate change-related resource conflicts aggravate fragility, which in turn benefits terrorist groups, increasing dynamics of violence and conflict that further add to the destabilization of the Lake Chad Basin. Recent developments like the poisoning of water sources are particularly alarming, as the potential damage is extremely high and this strategy becomes all the more dangerous in the face of a changing climate. This once more shows the strategic importance of natural resources and how Boko Haram is already considering this in their strategy. The scarcer resources become, the more power it gives to those who control them. Moreover, where state or customary institutions are unable to equitably manage natural resources, competition for scarce resources is more likely to result in violence and situations of fragility (*Rüttinger et al. 2015*).

4.2 CLIMATE CHANGE, DROUGHT AND THE 'ISLAMIC STATE' IN SYRIA

Following a wave of uprisings in the Arab world and the promise of the Arab Spring, initially peaceful protests in Syria escalated and the country descended into protracted civil war in 2011. Five years of violent conflict have taken a heavy toll on Syrians. Between 2011 and 2013, the impact of armed conflict rolled socio-economic development indices backwards by 35 years (*UNRWA 2013*). What was first and foremost a reaction to a repressive and corrupt authoritarian regime can, however, also be traced back to climatic changes and the way they contributed to eroding the social contract in Syria. Scarcity of water played a key role contributing to the outbreak of civil war in Syria and continues to impact the strategic choices of parties to the conflict. Violence, devastation and the descent into state fragility provided a perfect breeding ground for jihadist extremists who both benefit from livelihood insecurity and water shortages to mobilize combatants and systematically use water as a weapon of war.

CONTEXTUAL ANALYSIS

Socio-economic and political context

In 2011, driven by years of rapid population growth, the Syrian Arab Republic had a population of roughly 22 million. Five years into the conflict, 6 percent of the population has been killed or wounded and more than 10 million people have been displaced, almost half of them outside national borders (*IDMC 2015*). As of 2015, more than 80 percent of the population was living in poverty, life expectancy had decreased from 76 to 56 years and Syria had fallen from 111 to 173 in the Human Development Index. Economic losses created by the war amounted to over USD 202 billion, or 383 percent of the GDP of 2010 (*SCPR et al, 2015*). In 2015, the country ranked among the ten most fragile states worldwide with the second most critical deterioration compared to 2014, after Libya, according to the Fund for Peace (*FFP 2015*).

Syria's society is characterized by multiple ethnic, sectarian and religious divides dating back to the country's colonial and precolonial history. Approximately two thirds of the population are Sunni Arabs, while the other third is made up by Sunni Kurds, Christians and Alawites (10 percent each) as well as smaller minorities such as the Druze and Ismaili (*Mahmoud and Rosiny 2015*).

The autocratic rule of Hafez al-Assad, and later his son Bashar al-Assad, was based on Alawite domination and control of the state bureaucracy, while regime support was not clearly structured along sectarian and ethnic divisions. Today, the country is strongly divided along religious and sectarian lines, in particular between Arabs and Kurds as well as Sunnis and Alawites. Even before the conflict, the regime had heavily restricted civil liberties like freedom of expression and access to media and had curtailed minority rights. Corruption, nepotism, mismanagement and favouritism were widespread and have further deteriorated over the past five years (*Freedom House 2015, 2014, 2012, 2011*).

Syria's pre-war economy was characterized by high GDP growth rates and a series of market-oriented reforms, cutting back on state subsidies, modernizing the tax system and facilitating private investment (*Butter 2015*). At the same time, economic development was not pro-poor and contributed to growing rural-urban inequalities and unemployment, particularly in rural areas (*IRIN News 2008a*). Agriculture employed 15 percent of the workforce and contributed 25 percent to the GDP, but was very reliant on subsidies for fertilizer, seeds and fuel (*SNAP 2013; World Bank 2016*).

Climate projections

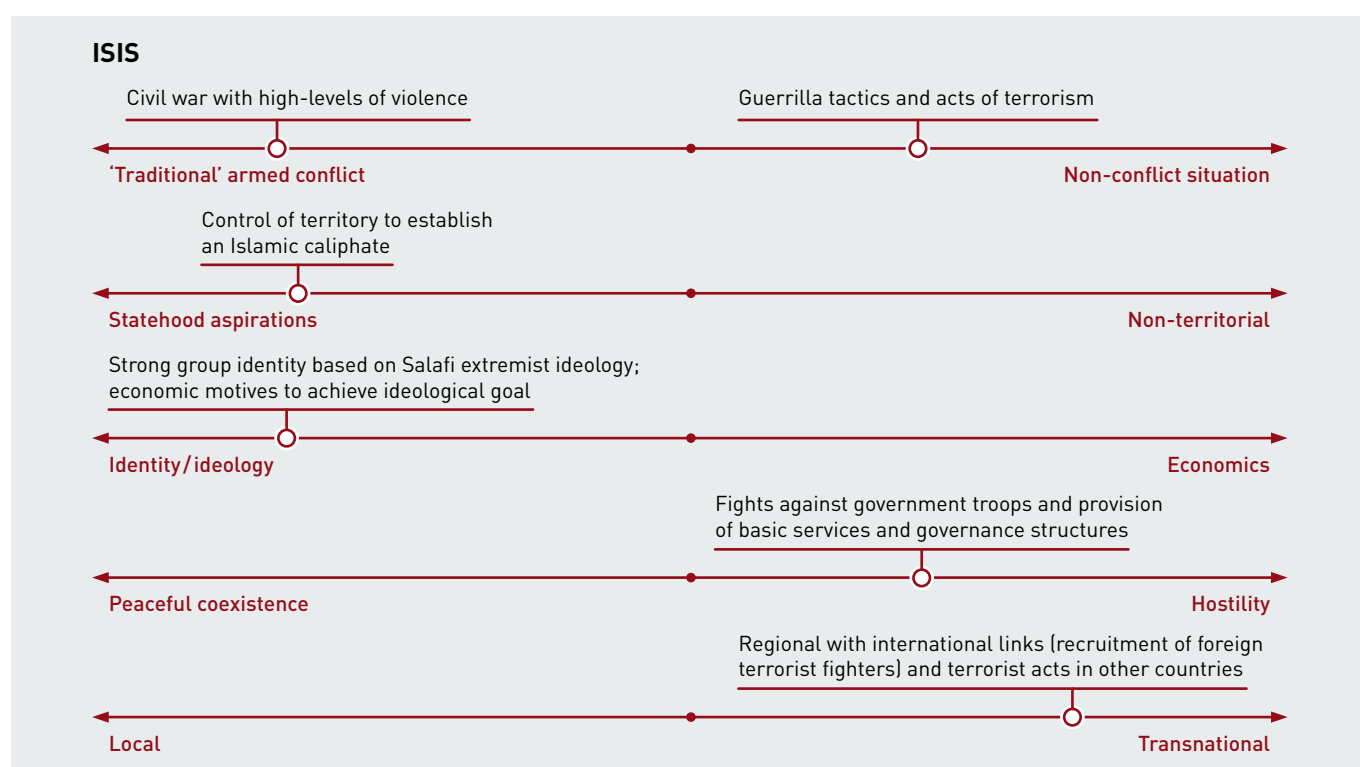
Climatic trends in the Middle East and Mediterranean region point towards increasing temperatures and drier winters, with more frequent events of prolonged drought. Since the beginning of the 20th century, 10 of the 12 driest winters occurred within the past 20 years (*Hoerling et al. 2012*). Average rainfall has

reached new record lows over the last three decades. While droughts have always occurred in Syria, their frequency and intensity have increased since the 1990s. Studies suggest that anthropogenic influences have made the occurrence of severe drought 2 to 3 times more likely than natural variability (*Kelley et al. 2015*). Climate analysis of the eastern Mediterranean projects an increase of average summer temperatures by 0.5-0.9°C per decade, 50-60 additional warm days by 2100, and a decrease in annual rainfall by up to 25 percent in the 2060s (*Åkesson and Falk 2015*).

Conflict history and actors

The Syrian uprising was triggered by the imprisonment and torture of a group of school boys in Dara'a by the secret police in 2011. The event in the rural farming town sparked initially peaceful protests against the regime's failure to address the basic needs of the drought-stricken population and against corruption and repression by government officials. The protests were brutally repressed by the regime, and the movement militarized and spread across the country, evolving into full-fledged violent conflict between state authorities and a range of scattered rebel opposition groups. The resulting fragility and lack of territorial control by the state facilitated the rise of the self-proclaimed 'Islamic State' (IS), also known as the 'Islamic State in Iraq and Syria' (ISIS), that had emerged in Iraq and spread to Syria, and the Al-Nusra Front. Fighting also spilled over into neighbouring countries, particularly Lebanon (*Humud and Blanchard et al. 2015; Fröhlich 2016; Jenkins 2014*).

Underlying pressures and drivers of the ongoing conflict can be found in ethno-religious grievances, decades of brutal political repression, economic discontent and the cutting of subsidies to basic commodities, environmental degradation, mismanagement of natural resources, and resulting loss of livelihoods, as well as massive rural to urban migration. The actor constellation in the conflict has changed over time, and the large number of state actors and NSAGs – Shia, Arab Sunni, Kurdish Sunni, Alawites etc. – pursue very different goals that range from overthrowing the Assad government to establishing an Islamic state under Sharia law. What initially resembled the traditional definition of armed conflict with direct battle fronts has over time evolved into fighting that shows many similarities with non-conventional violence in other places (*Briscoe 2013*).



Extremist and terrorist groups

Al-Nusra and ISIS seem less interested in regime change than in controlling territory, applying guerrilla tactics and providing minimal services to the population (*Jenkins 2014*). ISIS's territorial aspirations are underpinned by its goal of establishing an Islamic caliphate. It builds on strong group identity based on Salafi extremist ideology, but economic motives also play an important role in achieving its ideological goals. It mainly uses oil, arms, drugs trafficking and trade in looted antiquities to create revenues. In the areas it controls, ISIS has installed governance structures including military, security and intelligence councils, and controls and manages the education system, humanitarian aid, and water and power systems (*Stanford University 2016*). ISIS is a regional group with strong international links and networks, which it particularly uses for the recruitment of foreign terrorist fighters, committing terrorist attacks worldwide, and for financing. Popular support for ISIS is built on the utopian vision of an Islamic political entity, particularly appealing to young people, and on the alleged protection of disenfranchised Sunni Arabs (*Malka 2014*).

CLIMATE-FRAGILITY RISKS

1) Climate-induced drought, instability and conflict

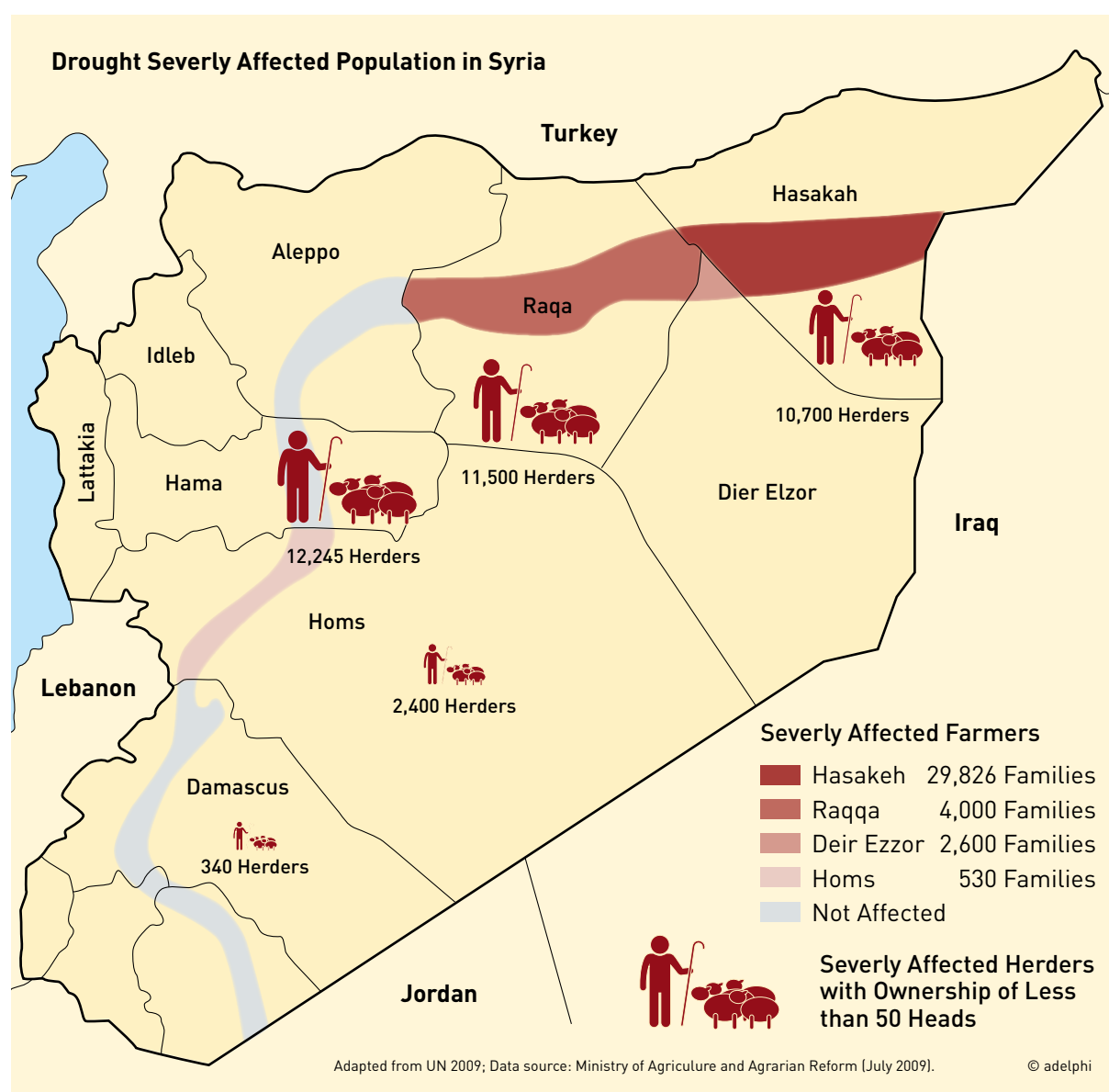
Syria is not naturally water scarce. However, rapid population growth and years of water mismanagement have severely stressed the country's water system. In 2007, Syria's water consumption exceeded the natural replenishment rate by more than 20 percent (*IRIN News 2010*). Most of this overuse came from agriculture, accounting for 90 percent of water use. For many years the government incentivized water-intensive wheat and cotton cultivation with subsidies to sustain self-sufficiency, and highly inefficient flood irrigation contributed to 78 percent of groundwater being overused (*Gleick 2014*).

Syria's water system was thus already vulnerable when a five-year drought hit the country in 2007. It was the worst long-term drought since the beginning of historic records and its impacts on the livelihoods of many farmers and herders were devastating (*Kelley et al. 2015*). Absence of rain, overuse of ground water, and dam projects in Turkey further decreased water availability. In the mostly rain-fed region in the northeast, 1.3 million people dependent on agriculture experienced crop failure and herders lost up to 85 percent of their livestock (*Gleick 2014*). The preceding cut of fuel and food subsidies in 2008/9 and lack of social safety nets decreased people's ability to cope (*de Châtel 2014*). Massive loss of livelihoods caused migration from the countryside into the cities (*Erian et al. 2010*). These were already overcrowded due to the influx of an estimated 1.2-1.5 million Iraqi refugees and rapid population growth. Between 2002 and 2010, the urban population of Syria had grown from 8.9 to 13.8 million (*Kelley et al. 2015*). Crime, unemployment, food price hikes and stress on urban infrastructure increased, and grievances from disenfranchised urban and displaced rural people combined, deepening pre-existing ethnic and socio-political divides (*King 2016*).

Downplaying the drought, the regime failed to install economic measures to alleviate the impacts of the drought and respond to the mounting humanitarian crisis. The city of Dara'a, where initial protests sparked the uprising, along with Damascus, Hama and Aleppo was one of the main receiving regions of displaced rural people. However, this does not necessarily imply that the rural displaced population initiated the protests. Newer research seems to suggest that urban dwellers who witnessed the unwillingness of the government to support the displaced rural population and address the challenges they posed for urban infrastructure were the ones who participated in the protests (*Fröhlich 2016*). Other sources report that displaced rural populations protested with the urban population (*Imady 2014; Leenders 2012*).

The initially secular opposition movement and protests rapidly descended into a complex sectarian conflict. Amongst the chaos and instability brought about by fighting between the government, the Free Syrian Army and rebel groups, terrorist groups such as ISIS were able, later in 2014, to easily gain control over large parts of contested territory. Although ISIS had already been present in Iraq, it could only expand its influence to Syria when the country was pulled into a civil war. Their initial rise was substantially facilitated by an unstable security situation in Iraq (Randall 2015). Though far from being the only or the primary driver of conflict in Syria, climate change did play a catalytic role in accelerating the descent into fragility and facilitating the rise of NSAGs.

To explain why people choose to join extremist groups both the individual decision-making process (micro level) as well as the context in which the decision takes place (macro level) need to be taken into account. The fragile political context in Syria was certainly a key factor in facilitating the rise of ISIS but cannot be the only explanatory variable, which is why the next section examines how the impacts of climate change on livelihoods influenced individuals' decisions to join ISIS (Zeitsoff 2016).



2) Water scarcity and livelihood insecurity facilitate ISIS recruitment

Livelihood insecurity and water scarcity were important factors in creating a fertile ground for terrorist groups' recruitment in Syria. The detrimental effects of climate change on the ecological and human systems, in particular the death of livestock, loss of agricultural land and food insecurity, likely facilitated the rise of militant extremism (*King 2016*). Apart from ideological reasons, the deprivation resulting from policy failure and drought made it much easier for ISIS to recruit as much as 60 to 70 percent of its fighters locally (*Leggiero 2015; Al-Tamimi 2013*).

ISIS control between 2014 and 2016 was strongest in Syria's northeast, a region that was hit hardest by the 2007-12 drought. As the Syrian regime failed to provide security and relief to the drought-stricken population, grievances intensified and public support for the government decreased. By establishing social services, implementing irrigation projects and providing clean water, ISIS could more easily recruit from disaffected local populations that felt neglected by the state (*Hassan 2014*). A recent study by International Alert found that the main drivers of vulnerability of Syrians to recruitment by extremist groups include a "lack of economic opportunity, disruptive social context and experiences of violence, displacement, trauma and loss" and lack of education and opportunity (*Aubrey et al. 2016*).

With resources gained from the seizure of oil fields, extortion and foreign support, the terrorist group financed infrastructure and state-like institutions such as the 'Islamic Administration for Public Services', providing electricity and public transport in Aleppo (*Al-Tamimi 2013*). In its north-eastern territories, ISIS installed "new institutions [judicial, police, economic] and co-opted others [e.g., education, health, and infrastructure]" (*Laub 2016*), trying to gain public support and legitimacy.

Farmers and herders in the northeast who were faced with crop failure and livestock death had little to no economic prospects and there were no adequate social safety nets in place for them under the Assad regime. As ISIS pays its fighters an estimated USD 400 per month, about five times as much as a normal wage in the region, it also provides economic incentives for young and unemployed people with few perspectives (*Laub 2016*). Economic hardship is a primary driver for Syrians to join armed groups, as unemployment reaches up to 90 percent and most salaries of those who still have employment are insufficient for meeting basic needs (*Aubrey et al. 2016*).

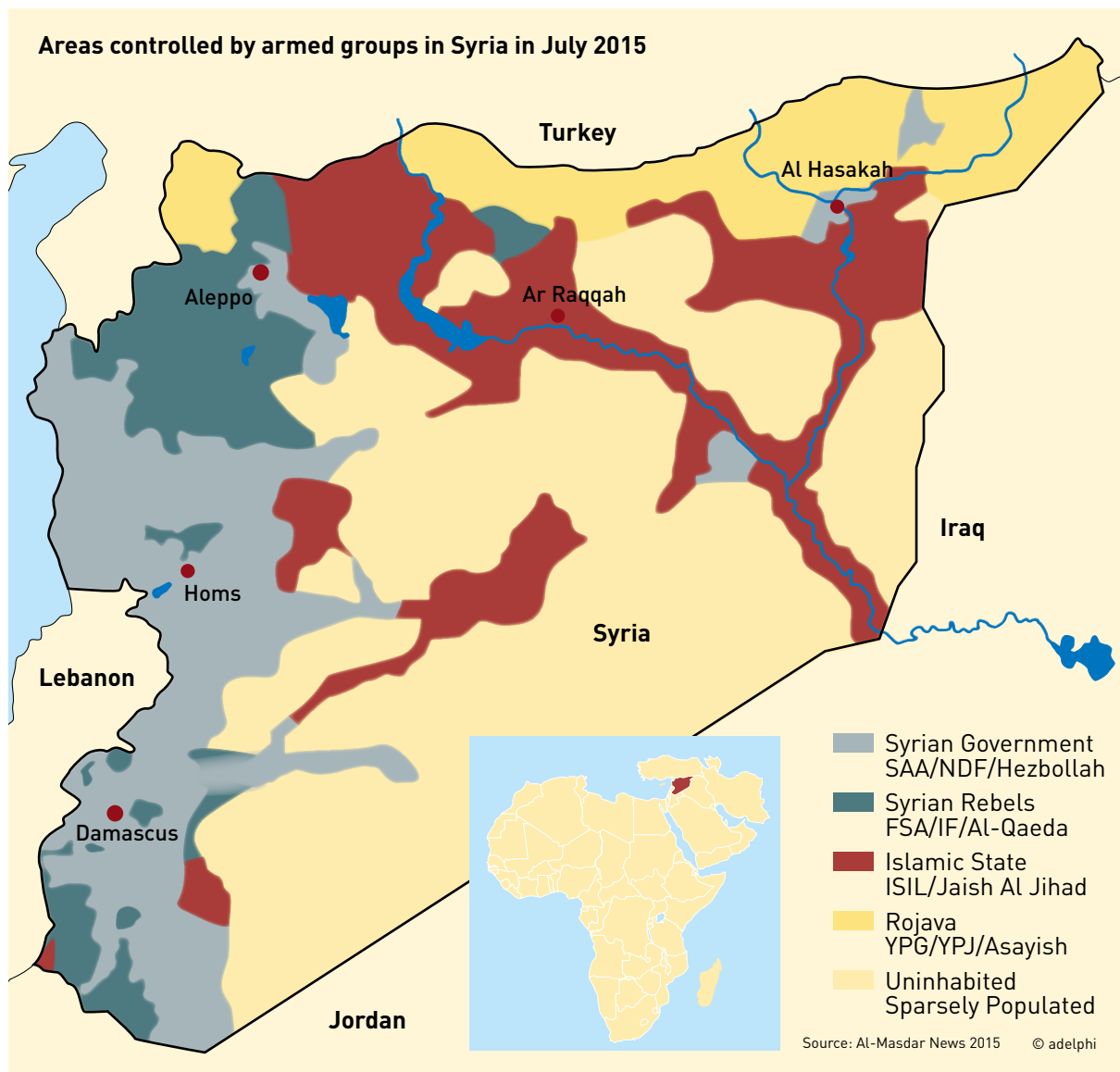
3) ISIS is using water as a weapon

Water was not only a key factor in the Syrian uprising, but continued to play a crucial role in the fighting. Given its vital importance, it can be strategically used to exert political and military pressure. The different actors involved in the Syrian conflict have used different strategies to employ water as a weapon. In 2014, a number of reports stated that opposition forces and the regime used deliberate water and electricity supply cuts to weaken the opponent in the divided city of Aleppo. In other cases, rebel groups diverted water to supply only those neighbourhoods that they controlled, inflicting severe harm upon civilians and farmers dependent on irrigation (*Shamout 2014; Cockburn 2014*). Though different actors instrumentalize water, ISIS is responsible for by far the largest number of incidents (*King 2016*).

ISIS had by 2014 gained territorial control over large parts of Syria and Iraq that contained key parts of the region's water infrastructure. Most notably, the river Euphrates that comes from Turkey and is critical for food, water, energy and industry had largely fallen under ISIS control. This also included the Tabqa dam, which is the source of 20 percent of Syria's electricity, supplies water to 5 million people and is crucial for irrigation (*Shamout 2014*). As the map shows, the regions held by ISIS by mid-2015 extended along Syria's major rivers, showing the strategic importance of water for ISIS.



© adelphi



Control over dams gave the terrorist group the power to cause hardship in water-scarce areas, harm their enemies and leverage the redirection of the flows to expand territorial control. In 2015, ISIS closed the gates of the Ramadi dam to more easily attack regime forces further downstream. Weaponization of water can also take the form of using it as a source of funding by taxing it, as ISIS did in Raqqa (King 2016). In other instances, ISIS did not cut the supply, but rather used water to flood land in order to expel people from their homes (von Lossow 2015). At the same time, control over and effective distribution of water can also help ISIS gain legitimacy and work towards its goal of establishing a 'caliphate'. In December 2014, ISIS was reported to have poisoned drinking water with crude oil in Iraq (Mamoun 2014; von Lossow 2015) and allegedly also in Syrian towns (Vishwanath 2015).

CONCLUSION

In Syria, the impact of climate change facilitated the rise of NSAGs, in particular ISIS, in various ways. First, the conflict in Syria was a result of converging pressures including government failure, extreme weather events, population growth, water resource mismanagement, sectarian grievances, urbanization and unemployment. The resulting fragility and weakness of the Assad regime facilitated the rise of terrorist organisations such as ISIS and Al-Nusra. Secondly, drought-induced water scarcity played an important role in the recruitment of local fighters who had lost their livelihoods and were offered an economic perspective as well as a sense of belonging and appreciation by ISIS. Similarly, ISIS tried to gain and retain legitimacy by providing water and other services to garner support from local populations. Thirdly, NSAGs, in particular ISIS, are using water as a weapon against both other armed actors and civilians.

Broadening the perspective to the whole region and looking into the future, a study by UN ESCWA projects longer dry seasons and higher temperatures for the region by the year 2100 (*UN ESCWA 20145*). This means that climate change will continue to have a negative impact on the conflict in Syria. In addition, the potential damage inflicted by using water as a weapon, including damaged infrastructure, crop losses and poisoned drinking water, will have long-lasting effects on the population and challenge effective adaptation.

It is unclear how the impacts of climate change will affect Syria's neighbouring countries. They have experienced similar conditions of drought, but were hit less hard by the drought between 2007 and 2012. This also underlines that vulnerability always depends on the specific socio-economic and political context and that there is no single cause for a conflict. However, similar dynamics of mismanagement, unresponsive governments, sectarian divides, economic depression, and climatic shocks are not unlikely to also occur in other countries in the region. Syria can thus serve as a worst-case scenario and warning signal.



A woman walks through a destroyed residential area in Homs, Syria.

4.3 CLIMATE CHANGE, VIOLENT CONFLICT AND ILLICIT LIVELIHOODS IN AFGHANISTAN

The Islamic Republic of Afghanistan is a landlocked, mountainous country in Central Asia with a multi-ethnic population of approximately 32 million. Decades of armed conflict, foreign military intervention and fragility have left a legacy of protracted humanitarian crisis, low levels of human development, dilapidated infrastructure and a crippled economy. Despite substantial socio-economic improvements since the fall of the Taliban in 2001, the country remains highly dependent on foreign aid and ranks among the twenty states with the lowest human development index worldwide (*UNDP 2015*). Development progress is undermined by weak governance, nepotism, widespread, persistent corruption and ongoing conflict and insecurity. Since 2001, the country has been in a state of political transition, but its new regime and governance system were flawed from their beginning and have failed to establish security and government control throughout the country (*Barfield 2012*). A large number of NSAGs, including the Taliban and narco-traffickers, continue to influence the political process and impact the security situation.

Widely underreported, natural resources and their management are playing a key role in the conflicts and violence in Afghanistan (*Brown and Blankenship 2013*). Competition over scarce resources, partly driven by trying to gain political power through their control, and profit seeking interact with other conflict drivers such as unresolved grievances, patronage, corruption, and a legacy of violence. NSAGs instrumentalize local conflicts surrounding natural resources and exploit the void left by the absence of government control for illicit activities (*Gould and Pate 2016*).

In addition, Afghanistan is among the most vulnerable countries to the adverse impacts of climate change (*DARA and Climate Vulnerable Forum 2012; Kreft et al. 2015; ND-GAIN 2014*). The country has been repeatedly hit by devastating droughts, floods, landslides, and other natural hazards. Afghanistan has been ranked second among the ten states most affected by a combination of high levels of fragility, disaster risk, poverty and climate change vulnerability (*Harris et al. 2013*), and the multiple intersecting crises are overstraining the already low governance capacities. NSAGs like narco-trafficking networks and insurgents thrive in this environment, which is likely to deteriorate as climate change intensifies.

CONTEXTUAL ANALYSIS

Socio-economic and political issues

Afghanistan is the country with the highest birth rate outside the African continent, and its population has more than doubled since the 1980s (*World Bank 2014*). Poverty is widespread and particularly in rural areas, where 45 percent of the population are poor, compared to 27 percent in urban areas (*IFAD 2014*). Since 2002, Afghanistan's GDP has increased fivefold (*USAID 2016*), but economic growth has substantially decelerated in the past few years and has hardly trickled down to the general population (*Mohmand 2012*). Government estimates of unemployment range between 30 and 40 percent (*Central Statistics Organisation 2015; CIA 2008*). Years of conflict have inflicted hardship and insecurity, internally displacing more than 800,000 and driving at least 2.5 million Afghans outside their home country (*Ginetti and Lavell 2015*).

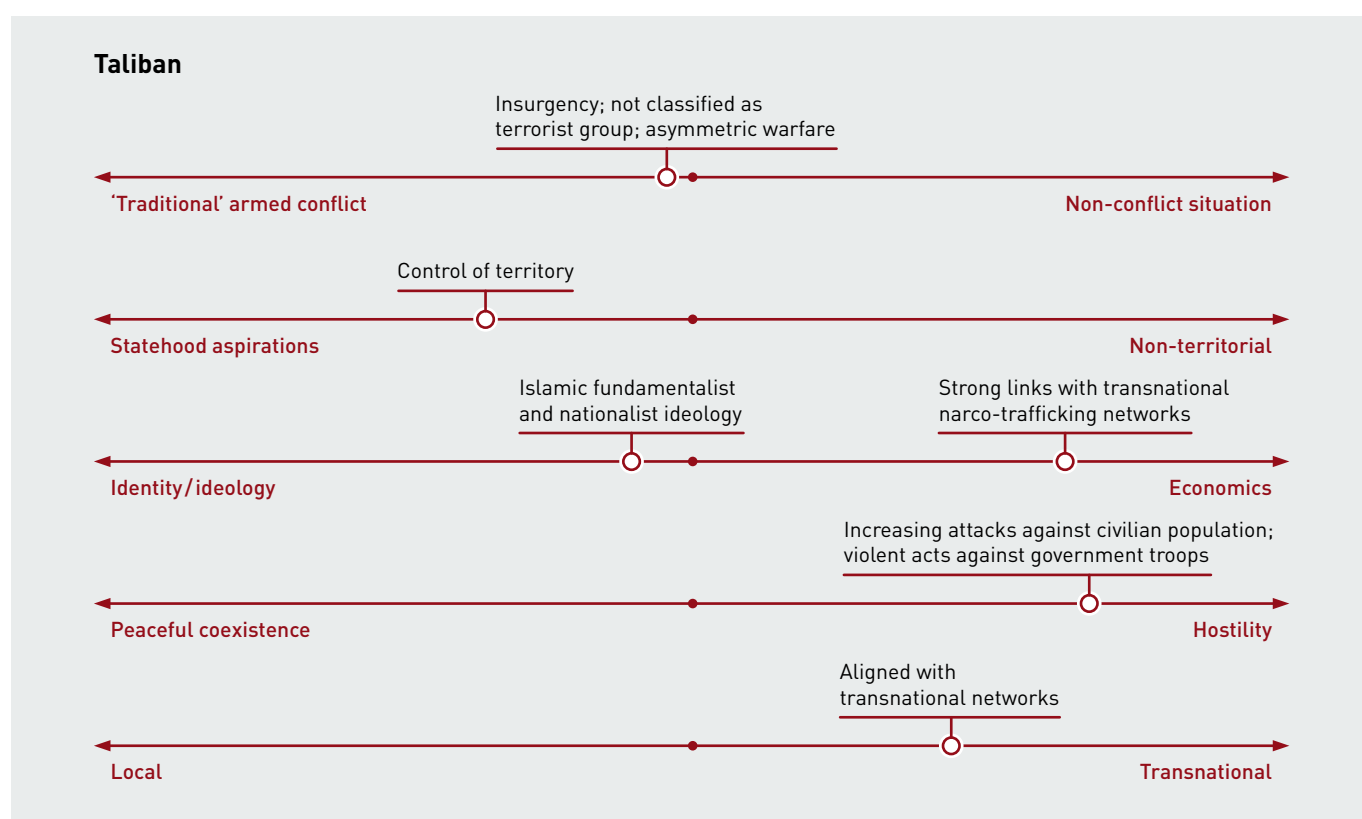
Since the installation of a transitional government at the end of 2001, Afghanistan's governance structures have significantly increased in size and capacity. However, the electoral process is still faulty and ethnic, sectarian, regional, and political divides remain strong between the major factions (*Katzman 2015*). Corruption, favouritism and nepotism are endemic throughout all levels of government, leaving Afghanistan at place 166 of 168 countries in Transparency International's Corruption Perception Index (*Transparency International 2015*). Public officials are underpaid and poorly skilled, adding to the government's low

capacities to deliver basic services and manage reconstruction efforts (Goodman and Sutton 2015). Drug trade and abuse as well as extremism run rampant across the country with severe impacts on state fragility and security (UNODC 2009).

Conflict history and actors

The conflict in Afghanistan is in fact a complex system of different sub-conflicts. These include the insurgency of armed opposition groups, including the Taliban, violence instigated by narco-trafficking groups and local conflicts over natural resources. The country is torn between major regional players such as Iran, Saudi Arabia, India and Pakistan, exerting their influence, leading to persistent insecurity from armed violence, terrorism, criminality, corruption and harassment (Barakat et al. 2008).

In 2001, a U.S.-led military coalition overthrew the Taliban regime that had controlled the country since 1998. Since then, armed groups of diverse backgrounds and motivations, including Taliban, the Haqqani network and Hezb-e-Islami, have launched insurgencies against the Western-backed government, the international military coalition and the Afghan national security forces. Insurgents like Hezb-e-Islami draw significant popular support from their nationalist orientation and struggle against foreign 'occupiers' like the U.S. (Robinson 2007). The Haqqani network is a Sunni Islamist militant organisation that finances acts of terrorism through transnational criminal activities. Economic motivations appear to increasingly outweigh its political-religious agenda as the network engages in drug trafficking, extortion, kidnapping and contraband smuggling (Rollins and Wyler 2013).



The withdrawal of most foreign troops by the end of 2014 went hand in hand with a resurgence of the Taliban insurgency, with substantial increases in violence and an expansion of Taliban territorial control (Bellal et al. 2011; CFR 2015). In addition, poppy-trafficking networks are greatly contributing to state weakness and protracted violence. While these actors are mostly driven by profit rather than ideology, they are increasingly collaborating with the Taliban and regional warlords to secure the safety of their trafficking routes. Unlike their protectors, however, most drug barons prefer to maintain “instability coupled with state weakness” (Barakat et al. 2008), enabling them to do their business, instead of installing a new government. Although violence stemming from insurgencies is claiming most lives in the Afghan conflict, disputes over natural resources like land and water were the most common source of violent conflict in 2008 with 53 percent of all cases (Brown and Blankenship 2013).

Illicit opium trade fostering instability

Since the 1990s, Afghanistan has continually been the world’s largest source of illicit opium and main supplier of heroin, with volumes increasing⁶. In 2014, the total area under opium poppy cultivation had tripled compared to 2002 levels (UNODC and Islamic Republic of Afghanistan Ministry of Counter Narcotics 2014). The industry around opium poppy was estimated to account for 15 percent of Afghanistan’s GDP in 2013 (IMF 2014) and was expected to grow even further with the withdrawal of Western troops. The production and export of opiates, mainly opium and heroin, nourishes a large shadow economy and international criminal syndicates, which reach deep into all levels of government. At the same time, the Taliban and other insurgent groups benefit through taxes they charge on produced opium and by opposing the eradication of illicit opium to secure the support of farmers in remote rural areas for their insurgency (Nordland and Ahmed 2013).

Afghanistan’s topography makes it notably difficult for the government to exercise effective control over the country’s entire territory, as its mountain ranges are ideal for providing shelter for insurgents and rebels. Moreover, inadequate border control and long inland borders that are difficult to control facilitate smuggling and trafficking of drugs, weapons and contraband (Barakat 2008). This also explains why the prevalence of opium cultivation is highest in the most insecure regions in the south and the west, bordering with Pakistan and Iran (UNODC and Islamic Republic of Afghanistan Ministry of Counter Narcotics 2014). Illicit revenues are strongly contributing to fragility and a weakening of state institutions through corruption.

Climate projections

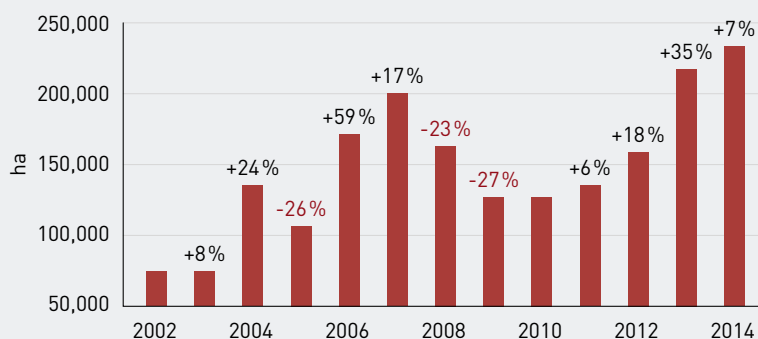
Drought-related climatic changes pose the most severe and most likely threat to Afghanistan. Since 1960, the mean annual temperature has already risen by 0.6°C, while the frequency of hot days has increased by 25 days per year (UNEP 2009). Mean annual temperatures are projected to increase by 1.4 to 4°C by the 2060s and 2 to 6.2°C by the 2090s (McSweeney et al. 2012). By 2030, more frequent and longer drought periods are projected to become the new normal, while intensified spring snow melt is likely to increase the incidence of floods. Desertification is advancing in Afghanistan’s north, west and south, exposing soils to erosion and leaving the country more vulnerable to flooding and landslides (Savage et al. 2009). Climatic changes are aggravated by uncontrolled water extraction rates and deforestation of at least 30 percent of forest cover over the past two decades (UN News Centre 2005; UNEP 2009a).

Afghanistan’s agriculture relies heavily on unpredictable rainfall and snow. However, over the last few years, rainfall has decreased at a rate of 2 percent per decade, and increased soil evaporation and reduced river flows from premature snow melt also reduce agricultural productivity and the range of crops (Savage et al. 2009). In addition, natural disasters like flash floods, landslides, drought and extreme heat or freezing are expected to become much more frequent in the future (UNEP 2010).

⁶With the exception of the year 2001 when the Taliban successfully banned opium cultivation, leading to a 95 percent decrease in production (UNODC 2003).

Dimensions of conflict in Afghanistan

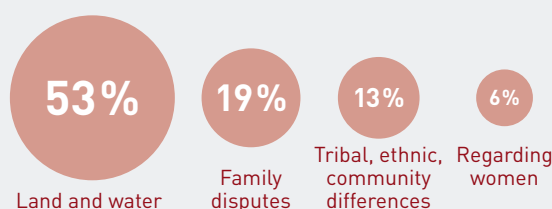
Opium cultivation Afghanistan (ha)



Source: UNODC 2014

Local resource conflicts

Most common sources of local disputes (2008):



Source: Waldman 2014

Taliban insurgency



CLIMATE-FRAGILITY RISKS

1) Land degradation and natural resource conflicts

Roughly 45 percent of Afghanistan's land is covered by rangelands, a main source of livelihood for the country's pastoralists and settled cattle breeders (*Brown and Blankenship 2013*). However, soil erosion induced by over-use of grazing lands and climate change, along with large-scale illegal logging for timber smuggling (a major source of income for the Taliban) are degrading large parts of grazing lands. Degradation and rapid population growth are increasing competition for land, which in turn feeds into long-standing ethnic conflicts between nomadic Pashtun pastoralists (Kuchi) and sedentary Hazara for access to pastures (*Brown and Blankenship 2013*).

According to experts, the conflict between the two groups is also driven by the Taliban, who provide arms to the Kuchi and use the conflict to win land from the foreign occupants and the national military and to secure trading routes for contraband goods. Moreover, illicit networks are increasingly trying to use the Kuchi for smuggling drugs and weapons through the country, exacerbating the already tense security situation (*ACCORD 2013*).

2) Scarcity and illicit livelihoods

In Afghanistan, the agricultural sector contributes up to 28 percent of GDP, employs roughly 60 percent and underpins the livelihoods of 85 percent of the population (*World Bank 2016a*). However, only 12 percent of the total land is arable, and agriculture is mostly rain-fed, leaving it highly dependent on and vulnerable to erratic rainfall and winter snows in the Hindu Kush mountains. Given the importance of agriculture in the country's economy, economic growth is closely related with agricultural productivity and thus equally volatile.



Poppy farming in Afghanistan.

Water resources are inequitably distributed across Afghanistan. While the country has substantial sources of irrigation, water often does not reach the regions where it is needed most and irrigation systems have an efficiency rate of only 25 percent (*Savage et al. 2009*). Only 15-30 percent of Afghanistan's water resources are effectively managed and utilized. Irrigation capacity is underdeveloped, water storage capacity is extremely low with losses of up to 66 percent, and traditional water management systems have been eroded by decades of violent conflict (*Brown and Blankenship 2013*). Many farmers therefore depend on rain-fed agriculture, which is less productive and much more vulnerable to water-related climatic shocks like droughts (*CPHD 2011*). In 2008, well-below normal rainfall and winter snow caused drought conditions with severe losses of rain-fed wheat of more than 40 percent (*USDA 2008; CPHD 2011*).

Reduced water availability and poor irrigation systems make the production of Afghanistan's major staple crops increasingly unreliable and threaten the livelihoods of many farmers. Water scarcity and livelihood insecurity drive farmers to engage in illicit poppy production instead of or in addition to alternative, more water-intensive crops such as wheat or almonds. With low levels of education, soaring unemployment and lacking access to markets, many farmers see illicit poppy cultivation as the only or most viable coping strategy (*Gonzalez Palau 2012*). In addition, crop failure from drought not only reduces the available food but also diminishes households' cash income, driving them into an opium-based cash economy to purchase more food (*Christoplos 2004*). Programmes to eradicate opium and support alternative crop cultivation have proven to be barely effective so far (*IRIN News 2016*).

Conflict and insecurity are also adversely affecting agricultural output. Threats of violence prevent farmers from accessing their fields and cut them off from markets, drive them to abandon their fields altogether. Extortion by warlords and local militia deprives farmers of large parts of their produce and income. Opium, in contrast, has high levels of productivity, is less water-intensive and is directly collected from farms by middle men from drug networks. Narco-traffickers thus offer easy access to capital in times of insecurity, making opium cultivation an attractive coping mechanism (*Christoplos 2004*).

Reduced livelihood opportunities from drought can also make young people more vulnerable to recruitment by armed groups: during Afghanistan's 2006/07 drought, many young men in Balkh province opted to join the Taliban or other insurgent groups to diversify their livelihoods (*Heijmans et al. 2009*). NSAGs also support and protect farmers cultivating opium (*Nordland 2013*). In this way, they have been able to recruit and gain more support among impoverished farmers, helping them to popularize their anti-government movement (*Gould and Pate 2016*).

3) Transboundary water conflicts and armed insurgency

During the past few decades, Afghanistan has had repeated disputes over access to transboundary water resources with neighbouring Iran and Pakistan. Afghanistan is an upstream riparian country with four major rivers that are mainly fed by mountain streams, three of which flow to Pakistan, Iran and Turkmenistan (Kabul Indus, Helmand and Harirod-Murghab). Regional cooperation is lacking and control of water sources has been used as an instrument of political provocation in the past: In 1998, the Taliban government blocked the Kajaki Dam in Helmand province, cutting off flows of the Helmand River, with devastating effects for farmers in Iran's southeast (*Pearce 2006*).

Afghanistan has been unable to make effective use of most of its water resources, as water infrastructure and storage capacity are in extremely poor conditions. In recent years, Afghan farmers have diverted larger water flows for irrigation and new dams are being built with international donor support, with the result that less and less water is reaching the Iranian border (*Al-Monitor 2013*). Climate change-related recurrent droughts and reduced river flow from earlier snow melt will likely increase pressure on scarce water resources.

NSAGs, particularly the Taliban, are increasingly making use of the deep-seated regional tensions for their own strategic interests. Despite former animosities with the Iranian government, allegations were raised in 2009 and 2011 that Taliban had been trained and paid by Iran to sabotage dam projects in Afghanistan (*Deghan et al. 2014; TIME 2012*). According to a report published by the Environmental Law Institute and UNEP in 2014, Iran has adopted a paradoxical strategy of cooperation and destabilization in Afghanistan. On the one hand, it supports the development of efficient water use and transport systems and, on the other, it backs Taliban insurgent groups and direct actions against water diversions. Perceived threats to its own water supply and security could lead Iran to engage even more in the destabilization of the region via the Taliban in the future (*Deghan et al. 2014*).

4) Rapid-onset disasters and instability

Afghanistan is exposed to a variety of natural hazards. It was the country second most affected by extreme weather events in 2014 and the 12th most affected over the past 20 years (*Germanwatch 2016*). In 2014, severe landslides caused by heavy rainfall and floods in the north of the country resulted in several hundred casualties and even higher numbers of displaced families whose homes had been destroyed. As glacier melt in Afghanistan's Hindu Kush mountains accelerates with climate change, rapid-onset disasters like flash floods, flooding and landslides are expected to increase (*Kaltenborn et al. 2010*).

Disaster preparedness is extremely low, as the country lacks effective early warning systems, and community resilience has been eroded by decades of conflict. The government lacks effective capacity and financial as well as human resources to respond to disasters, and relief efforts are impaired by the tense security situation. In areas controlled or contested by insurgents, the distribution of food and other relief supplies is substantially impaired by security concerns (*IRIN News 2015*).

Disasters disproportionately affect the poor. As poverty and unemployment are among the mayor drivers of conflict in Afghanistan, inadequate and unequal disaster management can create a fertile ground for popular discontent or even violence (*Government of Afghanistan 2011*). Poor disaster risk management by the central government contributes to eroding its legitimacy, which is exploited by NSAGs that take over

state functions to win support or legitimize actions against the government. NSAGs also often use emergency relief as a means of gaining the support of local communities (*ICRC 2011*).

In 2015, attacks by armed groups on food aid vehicles of the World Food Programme led to a temporary suspension of food distribution, leaving the people in Badakhshan who were affected by a severe earthquake even more vulnerable to future shocks. Armed insurgent groups secure financial resources and supply themselves with basic goods through attacks on and looting of humanitarian convoys. As levels of violence increased throughout 2015, NGOs struggled to recruit staff, with negative effects on the humanitarian situation (*Kuwait TimesReliefweb 2015*).

CONCLUSION

Afghanistan is already plagued by an alarming mixture of fragility, violent conflict, chronic underdevelopment, and severe environmental degradation. As foreign troops are withdrawing, the country is struggling with a resurgence of attacks from the Taliban and other insurgent groups, and the production of illicit opium is flourishing. In addition, conflicts surrounding the country's natural resources, especially land and water, contribute to the deteriorating security situation. As climate change intensifies, current trends of drought, water scarcity, natural disasters and environmental degradation will increase and exacerbate the compound climate-fragility risks they entail: climate change, environmental degradation, violent conflict and instability feed into and are outcomes of the downward spiral of fragility.

Advancing desertification is likely to increase the incidence of violent clashes between nomads and pastoralists over access to pastures, compounding fragility and enabling drug trafficking networks and insurgent groups to increase their influence. Moreover, without a sufficient water supply, food security in Afghanistan is at substantial risk. The availability of water per capita is projected to decline by 50 percent by 2040. Rising temperatures, increasing evapotranspiration and lower levels of rainfall, and weak infrastructure and water management systems will threaten the livelihoods of millions of rural Afghans, making them more vulnerable to illicit livelihoods and recruitment by armed groups. Without reliable access to irrigation for water-intensive crops like wheat, the more drought-resistant opium poppy may become even more attractive as an alternative livelihood. As NSAGs like narco-traffickers profit from instability they violently oppose opium eradication efforts and alternative livelihood development, keeping farmers trapped in a vicious cycle of food insecurity and violence. As climate change worsens conditions for rural farmers, support for NSAGs is likely to increase as they enable farmers to access markets, provide capital for investment and thereby support economic development.

With increasing disaster frequency and intensity, the government's poor response capacities are likely to negatively reflect upon its legitimacy and give non-state armed actors opportunities to fill the void of lacking government control for their own benefit. Rapid-onset disasters like floods will put additional stress on already strained rural livelihoods and are likely to contribute to increasing rural to urban migration.

4.4 CLIMATE CHANGE, URBAN VIOLENCE AND ORGANISED CRIME IN GUATEMALA

Guatemala is among the world's most violent countries, although it is not formally in a state of conflict or war. Decades of civil war in the region have left a legacy of violence and large numbers of demobilized and unemployed individuals, providing fertile grounds for organised criminality (*Renwick 2016*). The country is plagued by severe security issues, and the proliferation of NSAGs is putting the state under increasing pressure (*Bertelsmann Stiftung 2014*). Low levels of rural development, environmental degradation and reliance on climate-sensitive crops make people vulnerable to the impacts of climate change, pushing them towards illicit activities and contributing to migration to the cities, where they are exposed to gang violence and recruitment by criminal groups. At the same time, Guatemala is one of the ten countries most affected by extreme weather events worldwide (*Kreft et al. 2015*), putting additional strain on the state's ability to cope with protracted violence and crime.

CONTEXTUAL ANALYSIS

Socio-economic and political context

Guatemala is the most populous state in Central America and a multi-ethnic country with roughly 40 percent indigenous inhabitants from 23 ethnicities. In spite of being ranked as a lower middle income country, more than half of the population lives below the poverty line. Massive inequality between urban and rural areas, and indigenous and non-indigenous populations are central fault lines in Guatemalan society (*UNDP 2009*).

Since the end of a 36-year long civil war in 1996, Guatemala has made significant progress in its transition from decades of autocratic rule towards a stable democracy and economy. However, democratic institutions are still fragile, and a political culture of impunity coupled with organised crime and corruption are hampering political and socio-economic development (*Taft-Morales 2014*).

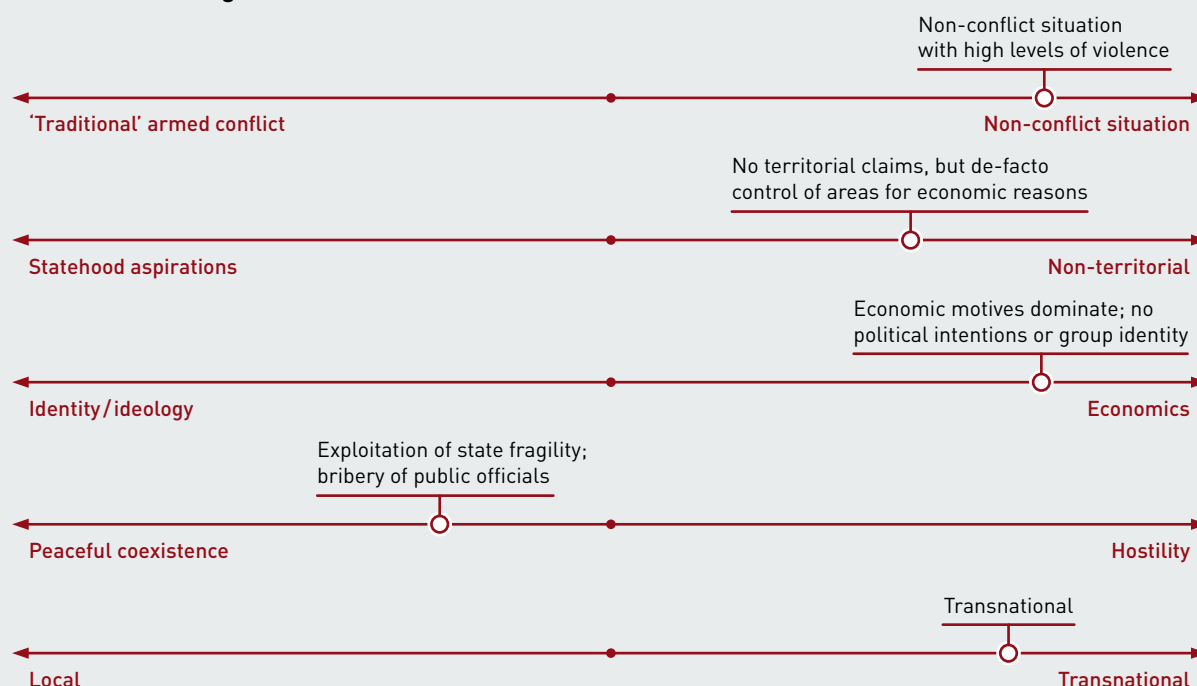
Drugs, organised crime and gang violence

Guatemala has the world's fifth highest homicide rate, one of the highest femicide rates and is plagued by protracted gang violence, making it the second most dangerous country for children under 19 (*UNICEF 2014*). These high levels of violence are a regional phenomenon with Central America's "Northern Triangle", including Honduras, El Salvador and Guatemala, being the most dangerous and lethal region worldwide outside of warzones. Violence and crime in Guatemala are driven by an increase in narco-trafficking activity, a heavily armed population, and a system of entrenched impunity (*OSAC 2014*). Weak state institutions with little effective control over remote rural areas and the country's geographic location in the middle of the smuggling route from drug-producing South American states to drug-consuming North America have exposed Guatemala to drug trafficking networks and money laundering (*ICG 2014; Council on Hemispheric Affairs 2011*).

Gangs and criminal networks

Violence and crime in Guatemala are mainly driven by two types of NSAGs. Transnational criminal organisations like the Mexican "Zetas" network are responsible for large-scale drug trafficking, human smuggling and contraband transport. Their main goals are accumulating revenue and maintaining impunity. They have gained substantial control over police and military forces, and their activities are often facilitated by bribery of public officials. Police forces are small, inexperienced, under-funded and perceived as highly corrupt. More than 75 percent of the population have little or no trust in the country's security forces (*Donadio 2013*) and involvements of police officers in drug-related crimes are frequent (*Freedom House 2011a, 2012a, 2013, 2014a, 2015b*). There are two types of groups involved in organised

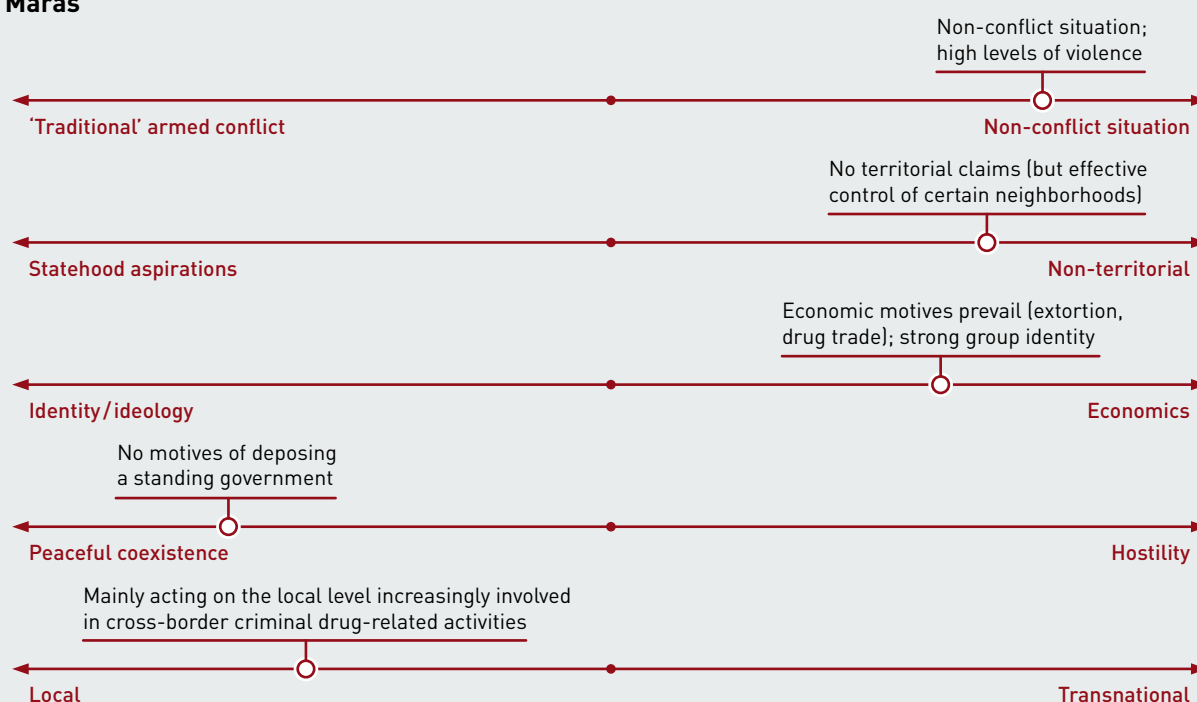
Transnational drug networks



crime: Territorial groups concentrate on maintaining control over a specific territory and tax all illicit activities therein, often providing services and security in areas neglected or not fully controlled by the state. Trafficking groups focus on moving contraband across borders (UNODC 2012).

Although they are not involved in a traditional armed conflict, transnational criminal networks contribute to chronic insecurity and high levels of armed violence, with an estimated 45 percent of homicides connected to drug trafficking (Insight Crime 2015). Homicide rates in Central America's drug-trafficking hotspots are more than double those in low-intensity areas (World Bank 2011b).

The second kind of NSAG are gangs, so-called pandillas. These gangs are mainly an urban phenomenon and one key driver of urban violence: 68 percent of all homicides in Guatemala take place in urban settings with more than 50,000 inhabitants, and Guatemala City's homicide rate is almost three times the national average (UNODC 2013). Approximately 48 percent of crime in the capital is attributed to gangs, which effectively have control over many communities and are closely aligned with society. Pandillas are notorious for extortion, kidnapping and robberies, and continue to grow due to entrenched poverty, marginalization, lack of education, rapid urbanization and a culture of violence (Dudley 2011). The attractiveness of the gang lifestyle is another important motivation for joining pandillas (Bruneau 2014). Transnational youth street gangs such as the Mara Salvatrucha and Calle 18, referred to as maras, are also increasingly involved in cross-border criminal drug-related activities (Carlson and Gallagher 2015). While maras are not systematically linked with organised crime, the imprisonment of large numbers of gang members have brought them in contact with organised crime groups and thereby unintentionally strengthened criminal networks and links between the groups (Bruneau 2014).

Maras**Climate projections**

Given its geographical position in an earthquake and hurricane zone, Guatemala's exposure to climate-related hazards is particularly high (*Lawrence 2011*). Rainfall events are projected to increase in intensity and the number of dry days with higher temperatures is expected to rise as well, elevating both the risk of droughts and floods (*World Bank 2011a*). At the same time, by 2020, overall rainfall levels are expected to decrease by up to 5.5 percent compared to 2010 (*Feakin and Depledge 2010*). Between 2007 and 2011, El Niño and La Niña climate cycles have increased in frequency, bringing years of unusually high or very low rainfall respectively. Guatemala heavily relies on agriculture for exports and food security, and the impact of climate change on yields like coffee and sugar cane could have severe economic and social effects (*World Bank 2011a*).

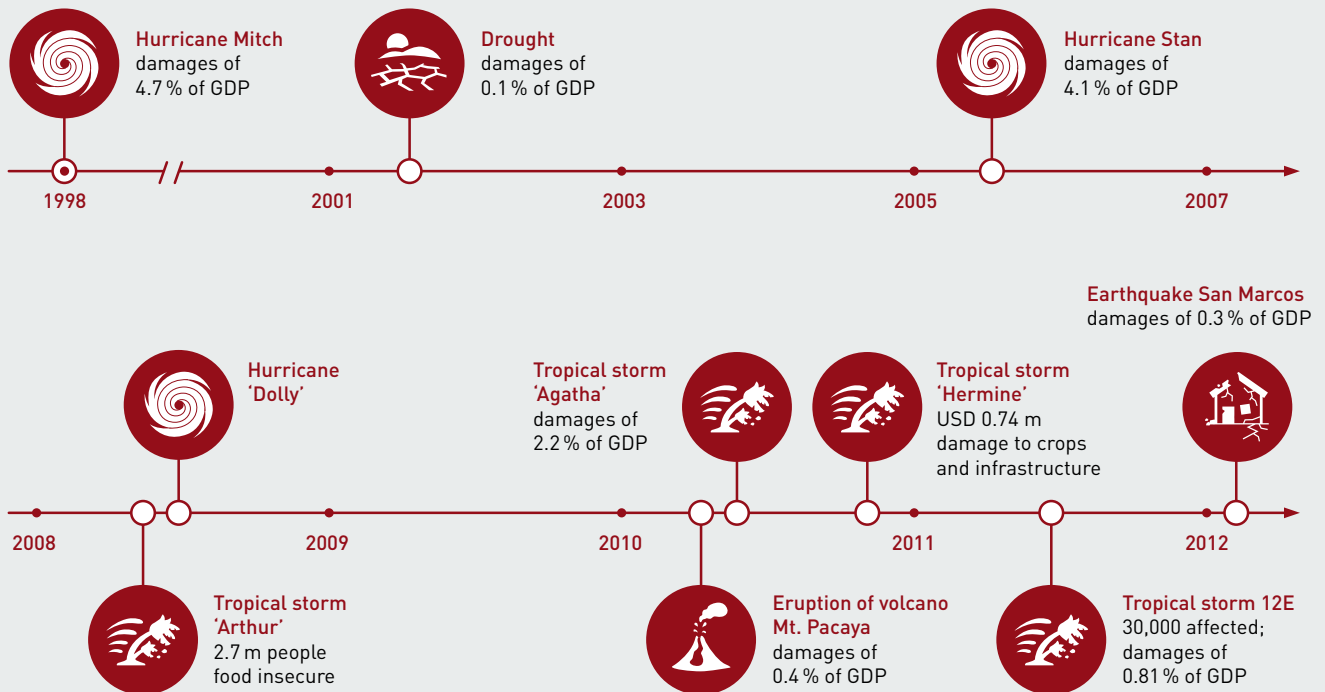
CLIMATE-FRAGILITY RISKS**1) Poor disaster responses and fragility**

Between 2008 and 2010, Guatemala was hit by a series of severe disasters with devastating effects on the country's economy and social development. A severe tropical storm with mudslides in 2008 was followed by prolonged drought caused by El Niño, heavily affecting Central America's Dry Corridor and leaving 2.7 million people food insecure in 2009 (*Berry-KochChannel Research/OCHA 2011*). In 2010, the country was hit hard by tropical storm 'Agatha' with torrential rains, floods and mudslides, coinciding with eruptions of the Pacaya volcano, together leaving almost 400,000 people in need of humanitarian assistance (*PAHO 2011*).

The 2010 disasters alone caused losses and damage of USD 1.02 billion, equalling one fourth of the country's annual state budget (*Government of Guatemala 2011; UNICEF 2010*) and representing 2.2 percent of the country's GDP (*CEPAL 2011*). The cyclone destroyed large parts of the country's infrastructure. Numerous bridges collapsed and highways were buried under landslides, disrupting access to cities and harbours for exporters of coffee and other cash crops (*NY Times 2010*).

Timeline: Loss and damage caused by disasters

Guatemala is significantly exposed to natural disasters. Between 1902 and 2005, 62 natural disasters hit the country and affected approximately six million people.



Source: World Bank 2011 © adelphi

Financial assistance for recovery and rebuilding fell short of demand, due in part to Guatemala's poor capacity for tax collection, with tax revenue amounting to just about 10 percent of GDP, complicating recovery efforts (*Wirtz 2011*). The Guatemalan government was criticized for being ill-prepared, slow and corrupt in responding with "emergency procurement of poor quality, over-priced food and medicine, and contracting of poorly-built bridges and roads" (*Danilo 2012*). Food worth USD 7.7 million, purchased to support the victims of Agatha, was embezzled by a government food aid programme for poor families that was administered by authorities in the Ministry of Agriculture and Food of the government of President Álvaro Colom. This nourished accusations of patronage and corruption and contributed to undermining the government's legitimacy (*Danilo 2012*).

Emergency food aid, infrastructure reconstruction and other areas of disaster response placed additional stress on the state's ability to fulfil its core functions, particularly in the field of security. Fiscal constraints also decreased the government's ability to implement climate-resilience and adaptation measures, making the country more vulnerable to future climate impacts (*Feakin and Depledge 2010*).

Filling the void left by the state, in parts of northern Guatemala, narco-traffickers managed to expand their illegal activities by establishing alternative state-like structures to provide basic services to the local population and gain their support (*Feakin and Depledge 2010*). This increasing privatization of state functions by non-state armed actors limits the space for non-violent actors and further erodes the state's legitimacy and monopoly on the use of force. In other cases, organised criminal groups used the restricted access to a region impaired by disasters, such as climate-related floods or landslides, to retreat to areas the government cannot reach (*Kurtenbach 2011*).

2) Violent crime, food and livelihood insecurity

Guatemala has a long history of food insecurity and malnutrition. According to the World Food Programme, on average 49.8 percent of all children under the age of 5 suffer from chronic malnutrition and underweight, with an even worse situation in rural and indigenous areas (*WFP*). Almost 15 percent of Guatemala's GDP and 30 percent of employment are generated by the agricultural sector, and there is a high level of subsistence farming (*CIA 2015a*).

The combination of droughts and flooding between 2008 and 2010 led to harvest losses of 80 percent, causing high levels of food insecurity and malnutrition (*UN-SPIDER*). High international food prices and reduced diaspora remittances due to the world economic crisis exacerbated the situation by decreasing the purchasing power of many affected people, leaving them unable to meet their nutritional needs. Moreover, almost 85,000 people lost their jobs in the aftermath of Agatha, adding stress to the already precarious situation of impoverished and food-insecure households (*Berry-Koch 2011*). Households had to cut back food expenditures by 10 percent and the number of children engaged in employment increased by almost 13 percent (*Baez et al. 2015*).

Livelihood insecurity contributed to increasing crime and insecurity, as farmers sought alternative incomes in drug-related livelihoods such as gangs and narco-trafficking networks. For example, farmers engaged in growing opium poppy, the basic raw material for the production of heroin, can increase their income almost twenty-fold (*Feakin and Depledge 2010*). Young people in Guatemala's remote rural areas, which are most heavily affected by food insecurity, are faced with particular difficulties in finding local employment. In addition, as chronic malnutrition retards the physical and cognitive development of children, many grow up to become disenfranchised youth with limited employment opportunities (*USAID 2011*), leaving them particularly vulnerable to the influence of transnational drug cartels and gang recruitment (*Jones and Podkul 2012*).

More generally, livelihood insecurity also results in large numbers of dissatisfied citizens, which increases the general risk of political instability, social conflict and violence in Guatemala (*Booth and Seligson 2009; Feakin and Depledge 2010*). The country's large disempowered youth population, coupled with the state's inability to provide basic security, respond to disasters, and engage in climate-resilience and economic development further elevates the "risk of some forms of social unrest or anti-state political violence increases" (*UNICEF and IISS 2015*).

3) Migration, climate change and conflict

Livelihood insecurity, food insecurity and lack of economic opportunities and state services also contribute to large-scale migration from rural areas to cities and neighbouring countries. In addition, disasters have led to internal displacement. According to a study by the Norwegian Refugee Council, floods, storms and droughts in Guatemala rendered an annual average of around 28,000 people homeless between 1970 and 2010 (*Lavell and Ginnetti 2013*). In 2010, 28,000 people were displaced by the floods following cyclone Agatha alone (*Yonetani 2012*). Guatemala's average annual number of disaster-related displaced people for the next ten years has been projected to amount to more than 91,000 (*Ginnetti 2015*).

Rural-urban migration is putting strain on the receiving urban areas. Many of these urban areas are largely dominated by youth street gangs ('pandillas' or 'maras') creating a culture of violence that puts young people at particular risk. Rapid urbanization in post-conflict societies that have failed to carry out structural rural reforms is highly likely to increase vulnerability of youth to engagement in illicit activities and recruitment by pandillas (*Dudouet 2015*). This resonates with the findings of an article that links high levels of urbanization stemming from migration of rural youth to the cities with youth criminality and increased vulnerability of youth to illicit activities (*Kunkeler and Peters 2011*).

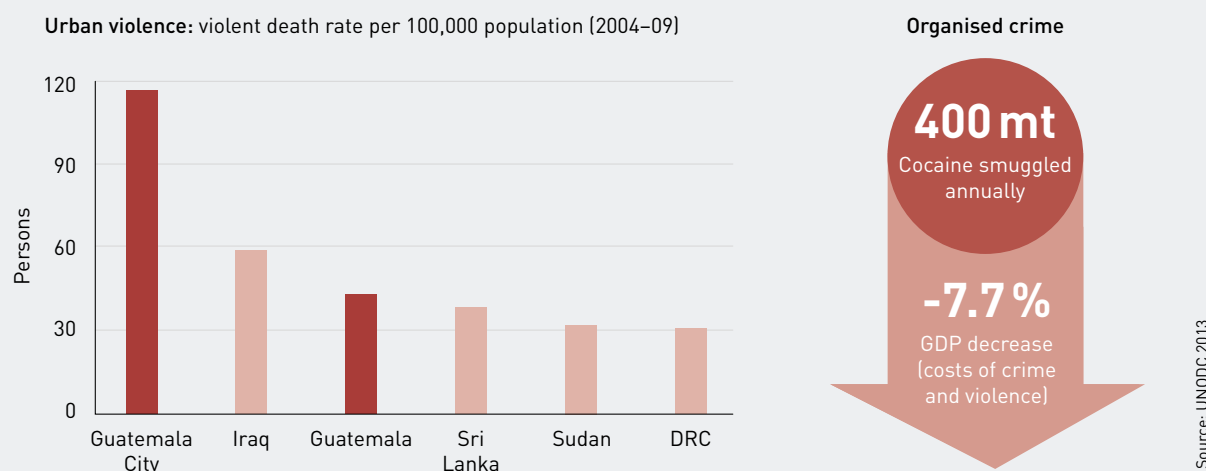


Combatting drug trafficking.

Livelihood insecurity and violence are main push factors for migration of mostly young Guatemalans to the United States. Trying to escape forced gang recruitment as well as food insecurity and hunger, as many as 17,000 unaccompanied minors from Guatemala were caught at the US-Mexican border in 2014 (*US Customs and Border Protection 2015*). Most of these children are deported back to their home country, where they are even more vulnerable to gang violence. A study found that a great majority of Guatemalans perceive deportees, who are often left with nothing upon return, to be contributing to social conflicts, particularly gang violence and theft (*FLACSO 2014*).

4) Organised crime and access to water sources

Guatemala is endowed with abundant, but unevenly distributed water resources. Although not considered a water-scarce country, unreliable rainfall, poor water distribution and poor maintenance and management systems are leading to water stress (*Feakin and Depledge 2010*). Near Guatemala's borders with Belize and Mexico, organised crime groups are increasingly using the transboundary Sarstoon, Usumacinta and Suchiate rivers for drug trafficking and have gained substantial territorial control over the areas, where state presence is low. As water resources become scarcer and other water sources dry up in the future, this may contribute to exacerbating scarcity, as local residents resort to sources controlled by local narco-traffickers, making water access more dangerous.



CONCLUSION

Guatemala is already under stress due to chronic poverty and food insecurity, rapid population growth, high exposure to natural disasters, a legacy of conflict, high levels of violence, criminal groups, and weak state institutions. As a result, the country is trapped in a vicious cycle of increasing violence and decreasing state legitimacy and authority that has opened up 'ungoverned spaces' to violent NSAGs. Climate-related changes can further exacerbate these dynamics. As climate change intensifies, fragility risks will increase on different levels:

Degraded natural resources and lands unfertile due to deforestation, land degradation and overexploitation of water are already putting livelihoods under pressure. The additional impact of climate change will make rural Guatemala in particular more and more food insecure, making the rural poor more likely to take up alternative illicit livelihood activities or cooperate with drug trafficking networks (*IOM et al. 2015*). Climate-related disasters are expected to internally displace more and more people in the future, putting strain on urban areas that are likely to exacerbate existing patterns of violence stemming from youth gangs and organised crime. Internal displacement increases young people's vulnerability to gang recruitment. Climate change will also very likely contribute to increasing cross-border migration to Mexico and the United States due to insecure livelihoods and high levels of violence.

Moreover, in an already fragile and conflict-affected situation, the government's inability and unwillingness to effectively and equitably respond to natural disasters can increase popular discontent and contribute to fragility (*Rüttinger et al. 2015*). In the face of transnational criminal activities, urban violence and protracted displacement, governance capacities are already stretched. High levels of corruption and its inability to respond to disasters have already undermined the state's legitimacy. Under the additional stress of climate change, the state's capacities and legitimacy might further decrease, opening more space for NSAGs to thrive and undermine the state further.

CLIMATE-INDUCED DISASTERS AND HUMAN TRAFFICKING IN BANGLADESH

Human trafficking within and across national borders is the fastest growing international crime. ‘Modern slavery’ constitutes the second largest source of income for organised crime (*Belser 2005*) and, according to the International Labour Organization, almost 21 million individuals are victims of forced labour world-wide (ILO) – nearly twice as many as in 2005 (12.3 million). In recent years, human trafficking and new forms of slavery have increasingly been linked to climate-induced disasters, as in the case of Bangladesh (*Nellemann et al. 2011*). In Bangladesh, a rise in cases of slavery and human trafficking could be observed in the aftermath of disasters, and NGO representatives stress that the “link between climate change and slavery could not be more clear” (*Conaway 2013*).

Bangladesh is a frontline state for the impacts of climate change and is among the 20 states most affected by a combination of high levels of fragility, disaster risk, poverty, and climate change vulnerability (*Harris et al. 2013*). Bangladesh has a very high population density, and around 25 percent of the population live in rural coastal areas. At the same time, its geographic location and low-lying land, with 60 percent of the country at less than 5 metres above sea level, make the coastlines extremely vulnerable to storm surges, erosion, salinization of soils and aquifers, and even complete inundation (*Rüttinger et al. 2015*). As a result, Bangladesh frequently experiences large-scale disasters, internal displacement and high levels of loss and damage (*IDMC 2015a*). This impacts human development and livelihoods negatively. After cyclone Aila hit the country in 2009, per capita income in coastal communities dropped by one third, and the poverty rate increased from 41 to 63 percent within two years (*Hallegatte et al. 2016*).

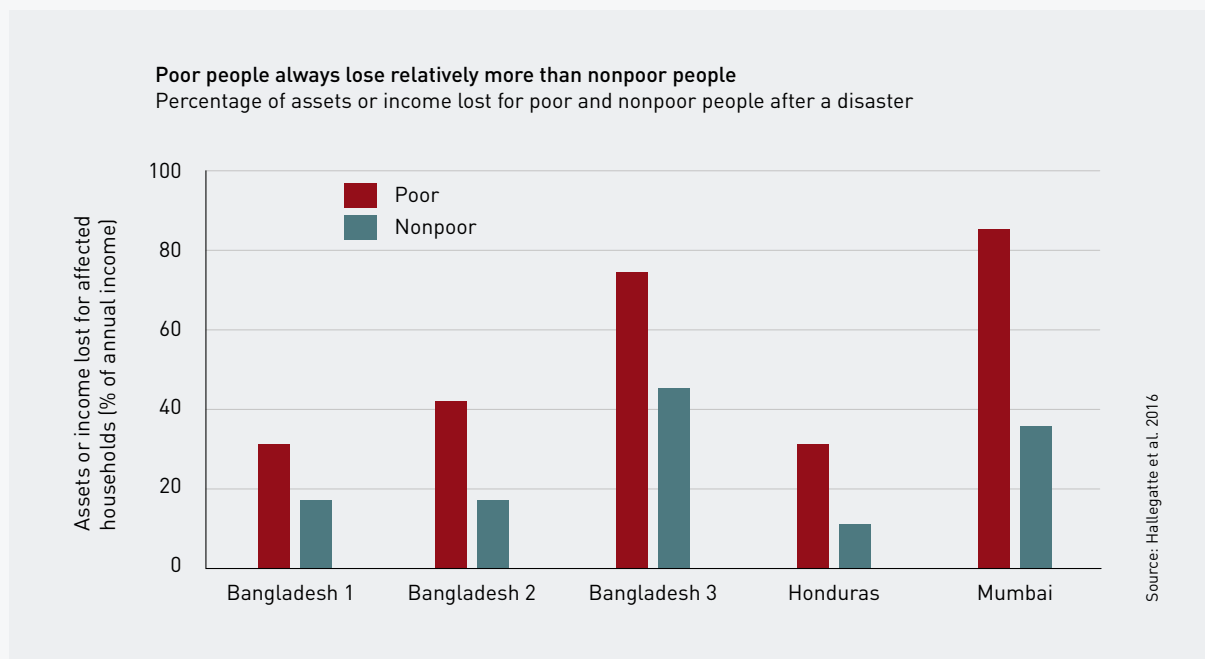
Note 2

WHAT IS HUMAN TRAFFICKING?

According to Article 3, paragraph (a) of the Protocol to Prevent, Suppress and Punish Trafficking in Persons, human trafficking refers to

“recruitment, transportation, transfer, harbouring or receipt of persons” [act], by means of the “threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person” [means], for the purpose of exploitation [purpose].

Exploitation includes prostitution, sexual exploitation, forced labour, slavery, servitude or organs removal (*UNODC n.d.*).



Disasters and human trafficking and modern slavery are mainly related in two ways:

First, disasters and poverty are mutually reinforcing. Together, they increase vulnerability to a wide range of shocks and risks, including human trafficking. Poverty and disaster-induced physical, social and economic insecurity are considered major drivers of human trafficking: In Bangladesh, poor people are often more exposed to hazards, as they settle in disaster-prone areas, lose a relatively larger amount of assets, and have less resources available to recover from climatic shocks (Hallegatte et al. 2016). Traffickers specifically exploit the vulnerability of impoverished communities, internally displaced people in particular, and convince parents to entrust their children to them. False promises of education, employment, or safety result in exploitation for prostitution, forced labour, or illegal adoption (UNHCR 2010).

Not only are children vulnerable, but also adults with limited resources and employment opportunities, and a desperate wish to escape the poverty trap. They are more likely to be more easily lured by fraudulent job offers and false illusions of better life prospects (Nellemann et al. 2011). While those who have the financial means often try to migrate through legal channels, poverty is seen as a major driver for Bangladeshi women to turn to smugglers and traffickers (Rabby 2015). Disaster-induced displacement may also force families into crowded transitional housing situations, such as relief shelters or amenable lodging, that increase frustrations and violence, making “insecure disaster regions [...] potential areas for human trafficking” (Nellemann et al. 2011).

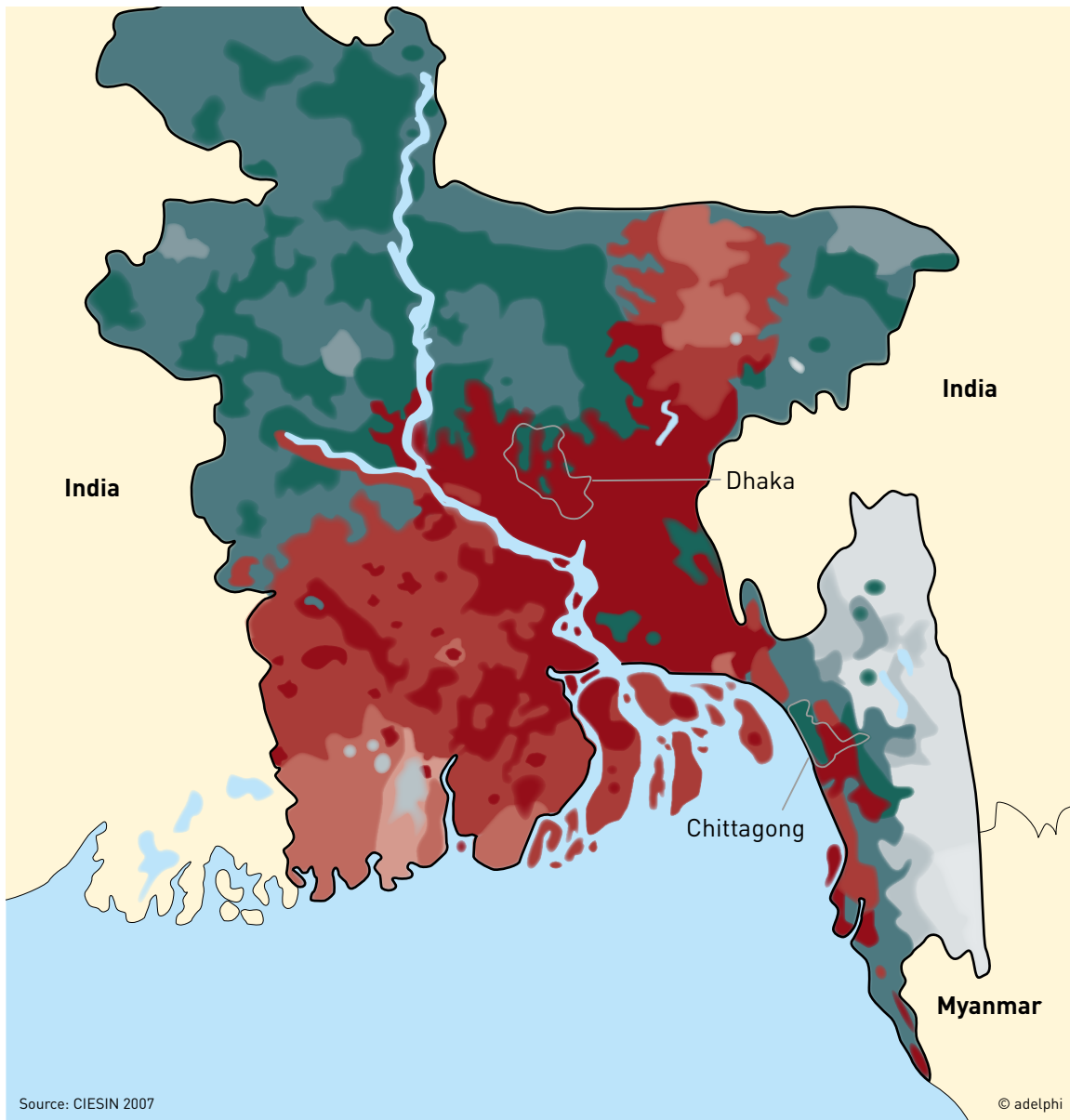


Bangladeshi women in a training centre for traditional handicrafts.

Second, disasters can create conditions of chaos in which local safety nets and protective patterns are disrupted, and social control and family support structures are eroded. This especially puts women and children separated from their families at risk of exploitation, abduction, slavery, prostitution, and gender-based violence (*BIPSS 2011*). Bangladesh high levels of abductions and incidents of abductions reportedly increased during and after disasters such as floods (*Save the Children 2006*). In 2013, cyclone Mahasen alone displaced 1.1 million people, while floods displaced more than 325,000 in 2014 (*IDMC 2015*).

Women and girls under the age of 18 are disproportionately affected by trafficking and slavery in times of disasters. In many societies, social norms, roles and power dynamics related to gender increase women's vulnerability to disasters, as they have lower levels of education and skills, less access to resources and lower levels of mobility. 70 to 80 percent of individuals exposed to international trafficking are female, half of whom are girls (*Nellemann et al. 2011*).

In a global perspective, environmental migration is likely to increase in the future. Migration is never a mono-causal phenomenon but is driven by multiple factors, including political, social, demographic, economic and security issues; global environmental change will add to the pressures. Between 2008 and 2015, more than 200 million people were internally displaced by disasters (*IOM and PIK 2016*). Slow and rapid-onset disasters are already impacting people's decisions to migrate. In cases of slow-onset disasters such as droughts or sea-level rise, people may choose to migrate voluntarily as a coping strategy and a way to diversify traditional agriculture-based livelihoods (*Ober 2014*). Rapid-onset disasters such as flash floods, cyclones or storm surges, however, tend to force people to migrate, leaving them less time to prepare and thus more vulnerable to risks like human trafficking (*Refugee Studies Centre 2015*).



Population Density within and outside of a 10 meter low elevation coastal zone (LECZ), year 2000

Persons per km ²	<25	25-100	100-250	250-500	500-1,000	>1,000
within LECZ						
outside LECZ						
largest urban areas						

V. CLIMATE CHANGE, FRAGILITY AND CONFLICT – WHAT IMPLICATIONS FOR NSAGS?

As the climate is changing, so too are the conditions within which NSAGs operate. Climate change contributes to creating an environment in which NSAGs can thrive and opens spaces that facilitate the pursuit of their strategies.

There are two main mechanisms by which climate change facilitates the rise and growth of NSAGs:

1. Climate change increasingly contributes to fragility, in the analysed cases mainly by contributing to conflicts surrounding natural resources and livelihood insecurity. NSAGs proliferate and can operate more easily in these fragile and conflict-affected environments where the state has little to no authority ('ungoverned space') and is lacking legitimacy. Sometimes, NSAGs also try to fill the gap left by the state by providing basic services in order to gain legitimacy and secure trust and support among the local population.
2. Climate change has increasingly negative impacts on livelihoods in many countries and regions, e.g. through food insecurity or water/land scarcities. This makes the affected population groups more vulnerable not only to deteriorating negative climate impacts but also to recruitment from NSAGs. These groups can offer alternative livelihoods and economic incentives and/or respond to political and socio-economic grievances.

Another interesting finding is the way NSAGs leverage the fragile environments arising from compound climate-fragility risks:

3. NSAGs use natural resources as a weapon of war. The case studies show that in resource-scarce and fragile environments, NSAGs can use natural resources such as water as a weapon of war, or inhibit access to natural resources. This in turn further compounds and exacerbates climate-induced resource scarcities. This dynamic might become exacerbated as climate change increases the scarcity of natural resources in certain regions of the world: the scarcer resources become, the more power goes to those who control them.

The following table illustrates where these three trends can be found and how they play out in the four case studies:

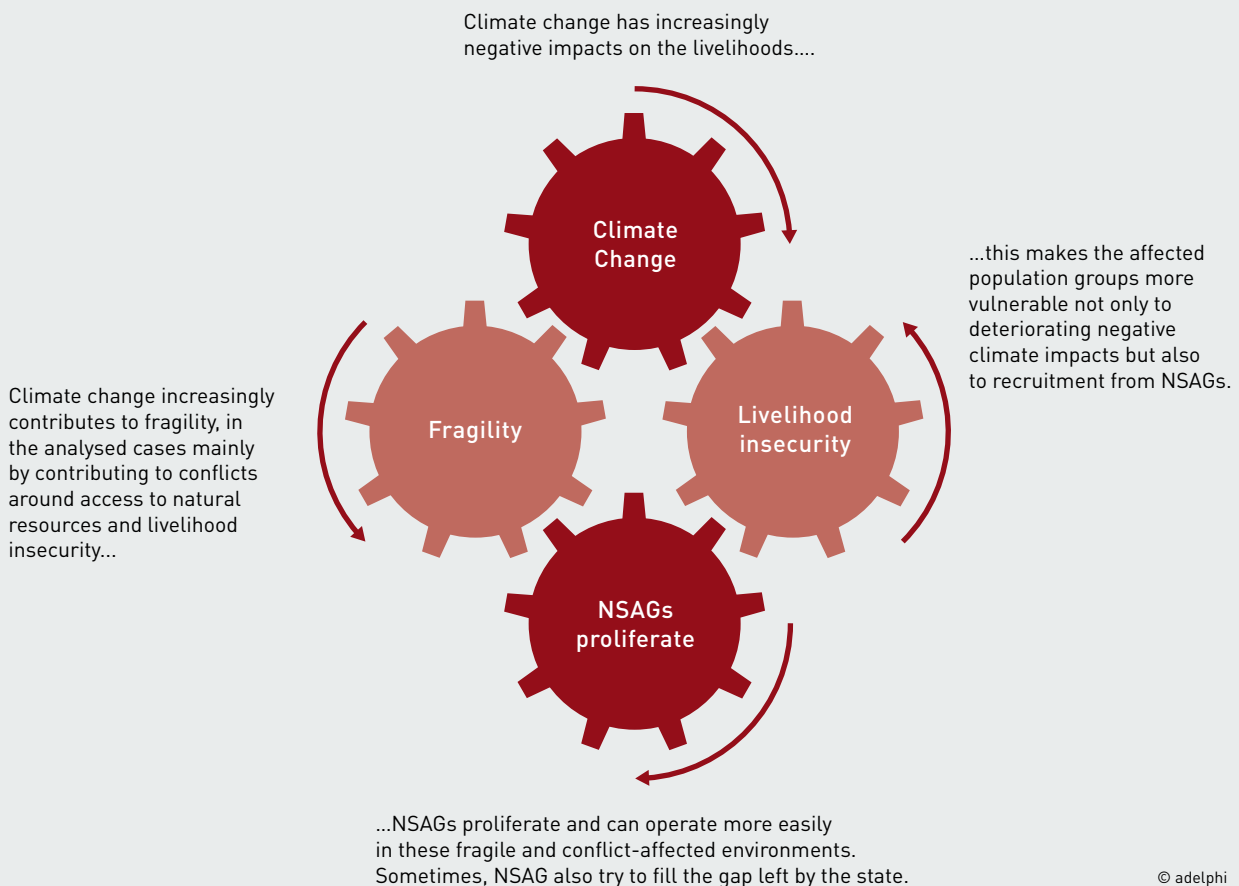
	How climate change facilitates the rise of NSAGs		How NSAGs leverage this fragile environment
	1. Increasing fragility helps NSAGs to proliferate	2. Livelihood insecurity makes people vulnerable to recruitment and illicit activities	3. NSAGs use natural resources as a weapon
Lake Chad: Climate change, livelihood insecurity and Boko Haram around Lake Chad	Dwindling resources from a receding Lake Chad, also caused by climate change, fuel conflicts about land and water between different user groups, creating fragility, and facilitating the rise of Boko Haram.	The shrinking of Lake Chad is eroding the livelihoods of many people, providing a fertile ground for recruitment for Boko Haram that offers economic incentives and perspectives to disenfranchised youth. Grievances and lack of opportunities also make people more likely to engage in illicit activities.	The Nigerian military accuses Boko Haram of poisoning water sources and using them as a weapon, further compounding climate-induced water scarcities.
Syria: Climate change, drought and the 'Islamic State'	Drought exacerbated by climate change contributed to mass internal displacement of rural populations in Syria, which in turn compounded with other pressures and contributed to the instability that preceded the current conflict.	Climate change and conflict are eroding the livelihoods of many Syrians. ISIS recruits from disenfranchised populations and offers services, employment, perspectives, institutions and protection that the state is not able to provide.	ISIS used control over dams to cause hardship in water-scarce areas, harm their enemies and leverage the redirection of the flows to expand territorial control.
Afghanistan: Climate change, violent conflict and illicit livelihoods	Climate-change induced land degradation fuels conflicts over land use between Kuchi and Hazara, contributing to instability that helps Taliban and illicit networks to flourish.	Climate-induced water scarcity erodes rural livelihoods and contributes to drive farmers into poppy cultivation, which is closely linked to transnational organised crime.	Sources accuse the Taliban of controlling dams and sabotaging dam projects in Iran to deliberately cut off water supply to neighbouring countries. Poor disaster risk management erodes the government's legitimacy. NSAGs exploit this and take over state functions such as disaster relief to win support of local communities or legitimize actions against the government.
Guatemala: Climate change, urban violence and organised crime	Disasters (partly climate-induced) and poor disaster response undermine the state's capacities and legitimacy and create pockets of fragility that are exploited by narco-trafficking networks to expand their illicit activities. Disaster-induced displacement to urban areas is increasing strain on urban areas likely exacerbating existing patterns of violence, and increases young people's vulnerability to gang recruitment.	Climate change adversely affects rural livelihoods dependent on agriculture, increasing food insecurity and making people more vulnerable to engagement in illicit economic activities as coping strategies. Rural-urban migration and rapid urbanization are highly likely to increase vulnerability of youth to engagement in illicit activities and recruitment by NSAG.	Drug traffickers control parts of rivers for the transport of contraband and drugs, which could exacerbate water scarcity for local residents, as access to these water resources is not safe anymore.

Looking at the interplay between climate change, fragility and NSAGs, there is a risk that the feedback loops and complex interactions create vicious cycles of increasing climate impacts, vulnerability, violence, conflict and fragility. As the negative impacts of climate change increase and contribute to fragility, this benefits NSAGs, which leads to further destabilization and fragility, and increases vulnerability to the negative impacts of climate change. These dynamics can be further exacerbated by using increasingly scarce natural resources as a weapon.

In general, climate change will increasingly challenge the ability of fragile states to deliver services and provide stability. Extreme climate events, in particular, can put strain on the social fabric and the relationship between governments and population. While government responsiveness in the face of disasters can strengthen the social contract, poor and slow responses are likely to weaken it, contributing to further instability and feeding into the downward spiral of fragility, violence and vulnerability.

However, it is also important to emphasize that climate change is just one among many drivers of fragility and conflict. Climate change acts as a threat multiplier and compounds other risks. Other important drivers of fragility include ineffective responses by state security forces, a lack of traditional conflict resolution mechanisms, a lack of government legitimacy, marginalization, religion, identity, and endemic corruption.

The interplay between climate change, fragility, and non-state armed groups



VI. POLICY IMPLICATIONS AND RECOMMENDATIONS

Foreign policy makers must play an active role in breaking the vicious cycle of increasing climate impacts, vulnerability, violence, conflict and fragility and help to prevent climate change contributing to providing an environment in which NSAGs can thrive and opening spaces that facilitate the pursuit of their strategies. However, action has to be based on a thorough understanding of the hybrid and complex nature of NSAGs and it needs to address the root causes of the rise and growth of NSAGs.

In order to effectively address the systemic and complex risks that emerge at the intersection of fragility and conflict, G7 foreign policy makers have been calling for increases in the resilience of states and societies. This call is based on a broad understanding of resilience. The goal is to create resilient states and societies that are able to “absorb [a broad range of] shocks and transform [...] challenges through the political process, while maintaining political or social stability and preventing violence” (*Rüttinger et al. 2015*). In order to achieve this goal and address the root causes of the rise and growth of NSAGs, cross-sectoral and integrated interventions are needed. All dimensions of the problem, economic, social, political, and environmental, have to be addressed.

Three sectors stand out in terms of their ability and need for integration to better address the challenges that NSAGs pose in a changing climate: climate change adaptation, development and humanitarian aid, and peacebuilding and conflict prevention. Under the common umbrella of a resilience agenda, different aspects of long and short-term risk management could be brought together. The following chapter outlines five action areas that could serve as a starting point to increase resilience against and address the challenges arising from NSAGs in a changing climate.

6.1 ENSURING CLIMATE AND CONFLICT SENSITIVITY

At present, like many peacebuilding activities, interventions and strategies to counter violent extremism largely do not take climate change into account. This risks creating new challenges in the future, making interventions more prone to failure, and failing to realize synergies and co-benefits. For example, UNDP has started to implement the initiative “Preventing and Responding to Violent Extremism in Africa”, which aims at combating violent extremism by improving livelihood security, building judiciary capacity and rule of law, and enhancing community resilience (*UNDP 2016*). The initiative does not, however, refer to environmental degradation or climate risks at any point.

A climate-sensitive approach to peacebuilding that takes the potential impacts of climate change into consideration has the potential to achieve more sustainable development results. Particularly in fragile and conflict-affected areas, peacebuilding strategies are usually the first entry point for external support and development. As such, they often include climate-sensitive areas or sectors including employment, livelihood strategies for ex-combatants, disputes over natural resources and human health (*Crawford et al. 2015*). Experience and research have been emerging that underline these links and the significant synergies that could be achieved by linking peacebuilding and climate change adaptation. For example, the experiences of Mercy Corps in Ethiopia have shown that local households in communities targeted by peacebuilding processes were better able to cope with the impacts of extreme drought than non-target communities (*MercyCorps 2012*).

Similar challenges in terms of lacking integration exist in regards to climate change adaptation. Too often, climate change adaptation activities in fragile and conflict-affected contexts don’t take conflict and fragility risks into account. They often lack conflict-sensitivity (*Ruettinger et al 2015*). It will be key to ensure conflict-sensitivity and factor in the conflict potential of adaptation projects.



Strengthening fisheries and sustainable aquaculture is one of many ways to prevent conflict in times of climate change.

6.2 STRENGTHENING GOVERNANCE AND LOCAL INSTITUTIONS

The role of governance is a major determinant of whether climate change increases the risk that NSAGs might pose. All the case studies above illustrate how, in various ways, inadequate provision of public goods, inequitable access to basic services, natural resources and rights such as secure land tenure present risks associated with the rise and growth of NSAGs. Understanding and addressing these governance deficits from a climate change perspective is therefore a fundamental component of policy in this area.

Strengthening local institutions: Communities that lack institutions, economic stability and civil society will be most at risk of political instability in the face of more frequent and severe climate impacts on livelihoods. Well-designed adaptation to climate change can contribute to building the political legitimacy of (post-) conflict authorities, a critical ingredient for successful peacebuilding. Efforts which support institution building and foster good governance within formal and customary institutions can also enable peaceful adaptation to climate change (*Salehyan 2008, Unruh 2012*). Creating a safe space for civil society to thrive is also important to this end.

Natural resource management: The mismanagement of natural resources played an important role in contributing to undermining livelihoods and increasing fragility in many of the case studies. In the face of a changing climate, making natural resource management climate-sensitive will be key to addressing future risks. At the same time, there is a large body of experience in and knowledge about using natural resource management for peacebuilding. Activities can include, for example, technical and financial support for environmental monitoring, the support of more efficient water management systems for agriculture, and the development of micro hydropower systems to improve livelihoods and reduce vulnerability to volatile electricity supply. Peacebuilding components can focus on strengthening traditional conflict management mechanisms to deal with competing resource claims or strengthening local institutions and the relationship between local and national institutions.

Infrastructure: The quality of public services and goods, particularly of road networks and access to water, impacts the capacity of local communities to cope with climate risks and can therefore play an important role in addressing climate-fragility risks relating to NSAGs. Poor infrastructure can fuel resentment against public authorities and increase the risk of local resource conflicts. Adaptation programmes should therefore not neglect remote rural areas and focus on developing infrastructure to facilitate access to markets for populations affected by climatic events. Access to markets can be important for livelihood diversification, as people can obtain additional agricultural inputs, access veterinary services, or sell weakened animals before they die (*Detges 2016*).

6.3 SUSTAINABLE LIVELIHOODS

Across the case studies and different types of NSAGs examined in this report, addressing livelihood insecurity and the creation of alternative sources of livelihoods appears to be critical in increasing resilience both to recruitment by extremist groups and to climate risks. Changes to the livelihood security of sectors that are directly impacted by climate change such as agriculture, pastoralism, forestry and fisheries, in combination with pre-existing contextual challenges, can reduce the opportunity cost of joining NSAGs. The goal is to integrate peacebuilding, adaptation and development activities to improve sustainable livelihoods. While it might sound overly ambitious to try to integrate these activities and achieve peacebuilding, adaptation and development goals at the same time, they often overlap considerably in the field of livelihoods.

Agriculture: The agricultural sector is among the most vulnerable to climate risks and it often provides employment and livelihoods to large parts of the population in developing countries. In order to adapt to changing climatic conditions, agricultural practices can be shifted towards less water-intensive and more drought-resilient crops. In Syria, for example, water mismanagement and misguided subsidies for water intensive crops proved very harmful for already strained water systems. In general, the goal is to make agricultural systems more climate resilient and still allow for economic development. This includes, for example, that governments need to find a good balance between promoting cash crops and ensuring food security in sustainable ways.

While water remains a scarce resource, prudent management and increased efficiency and sustainability of irrigation systems can mitigate climate risks and the impacts of drought. Moreover, social safety nets and climate risk insurance programmes are needed to cushion the risk of crop loss. However, it is important to note that these are preventive measures – in cases like Syria with ongoing violent conflict, urgent humanitarian needs and priorities must be addressed alongside efforts to manage long-term water security.

Fisheries and aquaculture: Livelihoods dependent on small and medium-scale fisheries increasingly face climatic shocks, such as cyclones, floods, sea-level rise, droughts, and temperature and rainfall fluctuations. These climate impacts negatively influence the economic returns from fishing by affecting the ecosystems that fishing depends upon, fish availability and distribution, and by disrupting fishing operations. The most vulnerable to these risks are most often the poorest – small-scale fishers or day labourers – who have limited assets and networks to enable them to diversify their livelihood options (*Vivekananda et al. 2014*). There is increasing evidence that links the global upward trend in illegal fishing and piracy to climate change-related declines in fishing revenue (*Hyde 2016*). As fisheries support the livelihoods of over half a billion people globally (*FAO, 2010*), policy initiatives to address the risks to livelihoods associated with the sector are a necessary component in curbing the trend towards criminality as a coping mechanism.

Forestry: Approximately 1.6 billion people at least partially sustain their livelihood needs from forests (FAO 2011). Since forests have competing and overlapping values for commercial, subsistence and cultural uses, they are often at the centre of conflicts, posing a significant risk to adaptation and peace. The enormous value of these functional ecosystems is increasingly becoming apparent to key political and economic actors – as well as to NSAGs. The high value along with lack of clear and codified rights to and oversight of forest land and resources mean that sales and taxation of forest resources such as tropical timber and charcoal have become the currency of many NSAGs, particularly in East, Central and West Africa. The annual trade in illegal logging is conservatively estimated to be USD 100bn and is proven to fund local mafia, Islamist extremists and rebel movements, including Somalia's Al-Qaeda linked terror group, al-Shabaab, which now relies on charcoal as its primary financial source (Nellemann *et al.* 2014).

At the global policy level, there is an urgent need to address the scale, destinations and routes of the charcoal and illegal timber trade in a more systematic fashion – akin to that which has been used in addressing arms, human and drug trafficking. Initiatives like REDD+ and the EU's Forest Law Enforcement, Governance and Trade (FLEGT) involve efforts to safeguard forests and to address climate change – but to genuinely move towards addressing the scale of the challenge of illegal timber and charcoal extraction, greater efforts are required in institution building, transparency and transboundary cooperation in target countries.

Youth bulge and livelihood security of youth populations: In some cases, climate change in conjunction with pre-existing high unemployment and large youth populations can mean that there are fewer employment opportunities all round. A lack of viable alternative livelihoods, particularly for rural youth and young men, can compound grievances and inequality and increase the risk of tensions igniting (Urdal 2008). In some fragile contexts where formal employment options are scarce, some youth may be drawn into joining armed groups or other illegal activities such as drug trafficking, piracy or poaching (Feakin and Depledge 2010a). Policy responses should take account of demographics and gender (including men and boys, as well as women and girls) when considering climate resilient livelihood strategies. It is also important to underscore the need to take account of climate change risks when considering youth livelihood schemes as part of post-conflict reconstruction and rehabilitation programming – such that post-conflict youth are not retrained in non-climate proof livelihoods that render them unemployed within a few years.

Migration: Temporary migration and long-term migration can help to reduce the risks of recruitment into NSAGs, but can also create new risks. Where alternative jobs in situ are limited, migration can help to reduce competition for jobs and the risk of conflict, but only if there are livelihood opportunities available to migrants in the receiving areas. Furthermore, some people may be unable to migrate because they are trapped by environmental risks, conflict or lack of resources. These 'trapped populations' may be pushed towards illegal or unsafe livelihoods or exploitative migration options such as criminality and trafficking (Black *et al.* 2011). Policy relating to migration – especially rural to urban migration within countries – must consider the livelihood implications of migration on incomers and hosts and look to manage possible tensions peacefully. This means going beyond cash-for-work programmes, skills training or labour creation schemes for migrants. Efforts to foster host-migrant relations, with initiatives that allow for shared and equitable access to resources, lines of communication and information sharing between hosts and migrants, and the redirection of development or climate change resources to migrant destination areas would all contribute towards building trust and relationships between hosts and migrant communities, which could reduce hostilities and the risks of illegal activities and criminality.

6.4 DISASTER RISK REDUCTION

The relationship between fragility and disasters is often mutually reinforcing, particularly when disasters overwhelm governments and undermine their legitimacy. NSAGs often use these weaknesses and fill the gaps left by the state. At the same time, disasters and crises can also be used as an opportunity to increase resilience and not only rebuild better but also to increase legitimacy and even build peace. However, examples such as the disaster response in Aceh to the tsunami in 2004 show that building legitimacy and peace must be central components and goals in recovery activities and they must be underpinned by an overall peace plan and the willingness of the government to engage differently. The example of Aceh also illustrates that the international community and, in particular, foreign policy makers can play an important role in these efforts by providing external support (*Ruettinger et al. 2015*).

Learning from these examples, governments should be supported in using disasters and crises as opportunities to build peace and increase the resilience of affected populations. Importantly, in times of crisis governments need to ensure adequate, fair and timely provision of resources to prevent NSAGs from substituting state services to gain support and/or to create new grievances. This includes the provision of services such as access to clean water, food aid and medical care. Disaster risk reduction should be inclusive in decision-making and foster integrity (combat corruption) to prevent the alienation of communities from the state.

Foreign policy can also support states in identifying and anticipating risks by strengthening early warning systems. Moreover, effective public financial management should be supported to ensure timely, transparent and fair distribution of resources in case of disasters and to strengthen the legitimacy of governments. Generally, it is also important to make sure that enough money is spent on reducing risks and on preventative measures. While there is a lively scientific debate on how much money could be saved by investing in prevention, most disaster risk reduction activities have a positive benefit-cost ratio, meaning that they save money in terms of costs avoided for disaster response or in damages (*Shreve and Kelman 2014*).

Furthermore, disaster risk reduction must be gender-sensitive to protect women and girls, men and boys from human trafficking, modern slavery, exploitation and forced prostitution. Disaster-prone countries need emergency regulations such as increased border controls in the aftermath of disasters to prevent criminal groups from taking advantage of chaotic conditions. Governments and civil society should cooperate to raise awareness and educate targeted groups about the risks of exploitation and human trafficking in times of disasters. Better regional cooperation on organised crime and border control can contribute to the prevention of smuggling and human trafficking. In addition, enhanced access to micro insurance can reduce vulnerability to climate risks by cushioning the negative impacts of loss and damage from natural disasters.

6.5 BUILDING MORE RESILIENT CITIES

Many of the challenges and risks surrounding NSAGs converge in cities. For example, the case study of Guatemala underlines how livelihood insecurity, inequality, rural-urban migration, climate change, disasters, crime and fragility are also urban challenges. Rapid urbanization and unregulated urban growth often go hand in hand with weak governance, poverty, inequality and marginalization. How cities manage these increasing pressures will be crucial to addressing the rise of NSAGs. Or, as Nancy Stetson, U.S. Special Representative for Habitat III and for Global Food Security, argued: “Poorly managed cities are breeding grounds for crime, poor governance, corruption, violent extremism and inequality” (*Department of State 2016*).

At the same time, cities are often the centre of economic activity and can be drivers of sustainable and inclusive development. Resilient cities are at the heart of resilient states and societies. However, while recent years have seen the emergence of numerous initiatives that promote or invest in resilience at the city level (e.g. Rockefeller Foundation, C40 Cities Climate Leadership Group (C40), Ford Foundation etc.), surprisingly few focus on fragility and conflict or seek to understand how to create urban resilience in fragile and conflict-affected countries. In addition, existing mechanisms for aid, relief, and security are often concentrated at the national level and traditionally focus on rural contexts (*de Boer 2015*). It is important that these initiatives and the whole range of interventions including climate change adaptation, disaster risk reduction, humanitarian aid, peacebuilding and conflict prevention should put a stronger focus on cities affected by fragility and conflict. This should involve not only better mechanisms for engaging with municipal authorities, but also with the array of informal governance institutions and mechanisms which oversee areas such as informal settlements, where formal governance structures often have limited or no access.

While urban security and anti-crime policies are needed to address the rise of NSAGs, they are not enough. The complex interplay of climate change and other different drivers of fragility that can allow NSAGs to thrive has to be addressed more holistically. For example, to address livelihood insecurity and foster inclusive economic development, connecting the urban poor and those on the periphery of cities to the urban economy, its institutions, governance systems and services, will be key (*Mosel et al. 2016*).

Furthermore, action at the city level has to take into account the specific urban and sub-urban context. Activities need to be adapted to account for the specific characteristics of densely populated urban environments, such as the diversity of the population and the presence of a variety of existing state and non-state actors and formal and informal urban governance mechanisms that need to be engaged with. In terms of integrated approaches, some cities already have valuable lessons to share. For instance, the city of Medellín – once one of the most fragile and dangerous cities of the world – has successfully increased urban resilience by combining measures of expanding public transport to connect formerly neglected areas with the rest of the city, and reinstalling social services in these areas (*Schreiber and Carius 2016*).

Interventions in cities can build upon the growing power and agency of city networks and partnerships. In recent years, the number of international city associations has grown rapidly and most cities with over 1 million inhabitants are now members in these international networks, which allow cities to exchange experiences and learn from each other.

VII. CONCLUSIONS

This report shows that the complex risks arising from climate change, fragility and conflict can contribute to the emergence and growth of NSAGs. It does not imply that there is a direct link between climate change and NSAG-related violence and conflict. However, it argues that large-scale environmental and climatic change contribute to creating an environment in which NSAGs can thrive and open spaces that facilitate the pursuit of their strategies.

In the political realm, there is a tendency to frame NSAGs primarily in the context of the war on terrorism (*Grävingholt et al. 2007*). However, the case studies have shown that these actors are much more complex and diverse. States are increasingly confronted with NSAGs that blur the lines between intra- and inter-state war, between traditional and non-traditional conflict settings, between ideological, political and economic interests, and between armed conflict and crime. Climate change, in combination with other pressures and stressors, creates a specific context that is conducive to the rise and growth of NSAGs. The resulting security implications in contexts of fragility and conflict are becoming an increasing concern for foreign policy. Foreign policy makers therefore need to better understand how climate change acts as a threat multiplier and reinforces drivers of insecurity, particularly via NSAGs. They also need to understand the different ways and dynamics in which these risks play out in various contexts.



Introducing sand dam technology to Damba village in South Kordofan, Sudan.

Broadening the perspective and understanding the hybrid and complex nature of NSAGs, the motivations that drive them and the context in which they thrive is indispensable for adequately responding to the security challenges they pose. A broader perspective will help to better address the root causes of the rise and growth of NSAGs: While economic, social and political factors remain important, the environmental dimension of fragility and conflict cannot be separated from the other three dimensions. An overly narrow perspective on NSAGs and the misuse of the concept of 'violent extremism' "risks downplaying other sources of fragility, delegitimizing political grievances and stigmatizing communities as potential extremists" (*Crisis Group 2016*).

Based on this broad understanding, foreign policy makers can help to address the challenges of NSAGs in a changing climate by supporting the building of more resilient states and societies. The key will be to more effectively link climate change adaptation, development and humanitarian aid with peacebuilding and conflict prevention. The five action areas outlined in this report could serve as a starting point.

1. Ensuring climate and conflict-sensitivity of interventions will be key to making sure that interventions are less prone to failure, and able to realize synergies and co-benefits. At present, like many peacebuilding activities, interventions and strategies to counter violent extremism largely do not take climate change into account.
2. Promoting good governance and strengthening local institutions may not traditionally fall under climate change adaptation programming, but such activities are priorities in reducing the risk that climate change presents to the rise and growth of NSAGs, as well as being a core component of adaptation and peacebuilding writ large.
3. Creating sustainable livelihoods is both important to adapting to climate change and to preventing the rise and growth of NSAGs. Peacebuilding, climate change adaptation and development impacts could be achieved by focusing on climate-sensitive sectors such as agriculture and fisheries, and taking specific account of the risks and opportunities associated with youth bulges and migration.
4. Improving disaster risk reduction can help to break the mutually reinforcing relationship between fragility and disasters and prevent NSAGs using the weakness of the state. If underpinned by a plan and political will, disasters and crises can also be used as an opportunity to increase resilience and not only to rebuild better but also to increase legitimacy and even build peace.
5. Climate change and other risks and challenges including NSAGs often converge in cities. Resilient cities are at the heart of resilient states and societies. It is important that the whole range of interventions including climate change adaptation, disaster risk reduction, humanitarian aid, peacebuilding and conflict prevention put a stronger focus on cities affected by fragility and conflict.

Broad and integrated approaches, however, are not a goal in themselves. They are processes that need to engage people and their problems (Mosel et al. 2016). Although there is a great potential for co-benefits and synergies, integration also often brings with it trade-offs and the need for negotiating competing interests and goals - a challenge foreign policy makers are well equipped to address.

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