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Climate Diplomacy

Climate change and security

THE HANDBOOK

Climate Diplomacy

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Climate change and security

THE HANDBOOK

CONTENTS

Climate change is one of the greatest threats we face. If we do not act now, the results will be catastrophic.

As things stand, however, we are on course for a much warmer world. Greenhouse gas emissions have already increased temperatures and are drying up water sources, raising sea levels, and threatening lives and livelihoods around the world. Extreme weather events – intense rain, dangerous storms, prolonged droughts, deadly heat waves, and uncontrollable wildfires – are becoming more frequent and more severe.

These changes converge with other global pressures – including population growth, uncontrolled urbanisation, increased demand for resources, uneven economic development and inequalities, and environmental degradation – to exacerbate global security challenges and intensify instability in fragile societies. By spurring violence or undermining peace processes, these changes can leave communities poorer and less resilient. Although we can already observe such impacts, pressures from climate change are bound to increase, because the ultimate effects of carbon emissions on ecosystems take decades to materialize. These impacts will thus continue to grow for a considerable time - even after net carbon emissions have fallen to zero.

Climate change poses particular risks to fragile countries already beset by conflict. Climate impacts can accelerate political instability, food insecurity, economic weakness and the large-scale movement of people. In the worst cases, climate changes could overwhelm states and societies and push them past the tipping point into a maelstrom of increasing violence, instability, and conflict.

In order to achieve the goals set out in the Paris Agreement and limit global warming to well below 2°C – preferably less than 1.5°C – we need ambitious, collective global leadership that facilitates deep cuts in greenhouse gas emissions. We must halve emissions by 2030, but the world is still far from this trajectory, and emissions have not yet peaked. At the same time, all countries need to adapt to a changing environment and find ways to cope with climate risks in the future.

This manual is a compilation of introductory texts and the most relevant reports in the field of climate change and security. It answers questions such as:

- What are the indisputable climate facts?
- Why is climate security important?
- What is the risk of inaction?
- Do water wars exist?
- How are climate and migration interlinked?
- How can we identify climate hotspots?
- Should the UN Security Council be involved in climate change?
- How do we maintain peace in a warming climate?

It also features some interactive tools to help you understand the manifold findings on the subject and potential solutions.

Anthropocene

There is a broad consensus among scientists that we are currently living in a geological epoch called the **'Anthropocene'**, in which the Earth system is strongly driven by human activities and impacts, one of them being climate change.

Tipping points

Discussions about climate change often centre on concerns that the Earth system would cross **'tipping points'**, or critical thresholds (e.g. greenhouse gas and temperature levels) beyond which the Earth system continues to change in a self-perpetuating, often unstoppable manner.

Hothouse Earth

Beyond these tipping points, the Earth system may be headed to a **'Hothouse Earth'** trajectory, which essentially means that the Earth system becomes locked into a rapid pathway towards hotter conditions propelled by bio-geo-physical feedbacks that are hard to reverse, steer or slow down.[1]

Recommended

- Earth League and Future Earth 2018: 10 Must-Knows on Climate Change. Available at *https://adelph.it/10mustknows*.
- Future Earth and the Earth League 2019: 10 New Insights in Climate Science. Available at *https://adelph.it/10climsci*.

Background

- IPCC 2014: Latest IPCC Assessment Report – Summary for Policy Makers. Available at *https://adelph.it/IPCCAR5SPM*.

- What are the main climate impacts in your region (on physical systems, biological systems and human systems)?

- Why does it make a difference if we reach 1.5 or 2 degrees of global warming?

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1 Steffen, Will; Johan Rockström, Katherine Richardson, Timothy M. Lenton, Carl Folke, Diana Liverman, Colin P. Summerhayes, Anthony D. Barnosky, Sarah E. Cornell, Michel Crucifix, Jonathan F. Donges, Ingo Fetzer, Steven J. Lade, Marten Scheffer, Ricarda Winkelmann, and Hans Joachim Schellnhuber 2018. Trajectories of the Earth System in the Anthropocene. In: Proceedings of the National Academy of Sciences 115(33), pp. 8252–8259.

CLIMATE CHANGE AND CONFLICT – THE STATE OF SCIENCE

Climate change is increasingly recognised as a key factor in global insecurity and conflict. The link between climate change and conflict is indirect, non-linear and multi-dimensional, which makes it difficult to measure the extent to which climate factors trigger or influence conflict. There are, however, several examples that demonstrate the different ways that environment and conflict intersect. Factors like political instability, food insecurity, economic vulnerability, and large-scale migration often drive conflict – and these drivers themselves are affected by the impacts of climate change.

Whereas the exact nature of the links between climate change and conflict continues to be debated in academia (see box below and readings), the most important question for policy-makers is not whether climate change causes conflict but **how it affects all stages of the conflict cycle**. Reports from around the world show that climate can compound the effects of the more immediate drivers of instability, including poverty, lack of freedom and weak institutions.

Definition

Drivers of conflict

The term '**drivers of conflict**' refers to the underlying issues that can drive or contribute to conflict. These include not only visible signs of conflict, but also 'proximate causes' (shorter-term factors that can contribute to conflict, such as the availability of firearms, high unemployment, etc.) and 'structural causes' (the underlying structural and cultural drivers of violence, such as narratives of clan superiority or competition for scarce resources, that are woven into the fabric of society).[1]

'But isn't the scientific evidence contested?'

Many studies show that climate change can be a risk multiplier – that it can aggravate existing tensions. What is more, numerous regional or country-based UN political missions and programmes report that risks from environmental stresses are indeed affecting peace and development on the ground. In response, implementing agencies, such as UNDP, UNEP and UN peace operations in the Sahel and other areas, are already actively seeking ways to address the climate-related security risks they encounter at field level.

In academia, the question of climate change's significance for conflict continues to be vigorously debated. Behind the discussion over causality is often the argument that governance factors are more important than environmental factors in causing conflict. While the question of the relative significance of different causal factors is perfectly legitimate and academically interesting, environmental degradation and weak (natural resource) governance are in fact often hard to fully disentangle in fragile situations. Moreover, on the response side, which is critical for policy-making, there is broad agreement that improving (natural resource) governance is critical in fragile situations.

Researchers investigating climate-conflict linkages agree that the effect of climate change on conflict is neither linear nor direct. Rather, it is mediated by social, economic and institutional factors and is often characterised by 'tipping points'. The effect depends on the specific context.

'In short, the discussion is no longer about whether or not the climate influences conflict, but about when and how it does so.' [2]

Remaining uncertainties and knowledge gaps do not justify inaction. A security policy that demands perfect certainty before initiating precautionary measures amounts to wishful thinking and is unlikely to succeed. The precautionary principle implies taking action before adverse impacts manifest themselves, as long as the risk is plausible and the action does no harm. Waiting for stronger evidence that climate change aggravates conflict would reduce the response options, leave us with higher risks and less time to deal with them, and potentially protract existing conflict.

'Climate change creates major stress, especially in fragile situations where governments have limited means to help their population to adapt. [...] [Thus,] addressing climate change remains at the core of early conflict prevention strategies'.

World Bank 2018: Pathways for Peace Report[3]

Readings

Recommended

- WWF 2017: Sustainability, Stability, Security — Why it is vital for global security and stability to tackle climate change and invest in sustainability. Available at *https://adelph.it/WWF2017*. (read: Introduction + Chapter 1, pages 10–21)
- Mosello, Beatrice (adelphi); Lukas Rüttinger (adelphi) and Liesa Sauerhammer 2019: The Climate Change-Conflict Connection – The Current State of Knowledge. Available at *https://adelph.it/stateofknowledgeClimate-Conflict*.
- Scheffran, Jürgen; Peter Michael Link and Janpeter Schilling 2019: Climate and Conflict in Africa. In: Oxford Research Encyclopedia of Climate Science. Available at *https://adelph.it/Scheffranetal2019*. (Access requires subscription or purchase.

Background

- World Economic Forum 2020: The Global Risks Report 2020, 15th Edition. Geneva, Switzerland: World Economic Forum. Available at *https://adelph.it/WEFrisk2020*. (read: Global Risks 2020: An Unsettled World, pages 8–15)
- IPCC 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team; Rajendra K. Pachauri and Leo Meyer (eds.)]. Geneva, Switzerland: IPCC. Available at *https://adelph.it/IPCCAR-5SYR*. (read: Chapter 2.3: Future Risks and impacts caused by a changing climate, pages 64–73)
- Devon, Ryan 2019: Stanford-led study investigates how much climate change affects the risk of armed conflict. Available at *https://adelph.it/Devon2019*.
- Peace Science Digest 2019: Rethinking the Climate-Conflict Relationship. In: Hiller, Patrick; Molly Wallace, Kristin Henderson and David Prater (eds.): Peace Science Digest Vol. 3 Special Issue: Climate Change, Security and Conflict, pp: 12–15. Available at *https://adelph.it/PSD2019*.

Reflect

- Under which circumstances is climate change more likely to contribute to conflict?

- Some countries express concern about the securitization of climate change. What are the pros and cons of looking at climate impacts through a security lens?

1   adelphi, UN Environment and the European Union 2019: Addressing climate-fragility risks – Linking peacebuilding, climate change adaptation and sustainable livelihoods. Toolbox. Retrieved 28.11.2019 from *https://adelph.it/UNEPToolbox*.
2   Salehyan, Idean 2014: Climate change and conflict: Making sense of disparate findings. In: Political Geography 43, pp. 1–5. Retrieved 05.02.2020 from *https://adelph.it/salehyan2014*.
3   World Bank 2018: Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict. Washington, D.C.: World Bank. Retrieved 28.11.2019 from *https://adelph.it/wb2018*.

Chapter 3

CLIMATE FRAGILITY RISKS – THE GLOBAL PERSPECTIVE

Climate change is a global threat to security in the 21st century. We must act now to limit future risks to the planet we share and the peace we seek. Achieving a robust international agreement to reduce emissions is of paramount importance. Yet the relentless momentum of change means that, despite future emissions reductions, the physical impacts from anthropogenic climate change are already visible and will continue for decades to come.

Climate change is a '**threat multiplier**': it will aggravate fragile situations and may contribute to social upheaval and even violent conflict. When the impacts of climate change interact with other problems that fragile societies are already facing, compound risks emerge that can overburden weak states. This combination can overburden them. The consequences of fragility may prevent those that are most vulnerable to climate change from adapting successfully to it, thus trapping them in a vicious cycle. Even seemingly stable states can be pushed towards fragility if the pressure is high enough or the shock is too great.

What are the risks of inaction?

Climate change **interacts with existing dynamic drivers of conflict** such as poverty, inequality and marginalisation. Any efforts to promote sustainable peace that aim to address the root causes of conflict will not be durable if they fail to acknowledge this interaction, thus limiting responses to the risks of yesterday rather than those of tomorrow.

For this reason, ignoring climate change-related security risks in stabilisation efforts can inadvertently increase risks rather than reduce them. For example, in the Lake Chad region, military stabilisation efforts have overlooked climate risks, which have increased people's climate vulnerability and grievances towards the state. In turn, this has created a governance vacuum which armed groups (e. g. Islamic State in West Africa Province) have filled by providing climate-sensitive livelihoods. In other words, overlooking climate risks in the Lake Chad region has undermined stabilisation efforts, ceded power to armed groups, and locked the region into a conflict trap.

Overlooking climate risks in the Lake Chad region has undermined stabilisation efforts

Omitting future climate change impacts in peace negotiations (for example, when allocating climate-sensitive natural resources such as water and arable land between conflicting parties) can mean that peace-making and political settlements may not hold when environmental conditions change.

UN Photo/Ian Steele

Fragility

'**Fragility**' is the inability of a state to fulfil its responsibilities as a sovereign entity, including a lack of legitimacy, authority, and capacity to provide basic services and protect its citizens.[1] The 'Fragile States Index', produced by the think tank Fund for Peace, assesses states' vulnerability to conflict or collapse, and provides a list of fragile states based on a number of attributes.

Resilience

'**Resilience**' is the ability of individuals, communities, and states to absorb and recover from shocks and disturbances, while positively adapting to long-term changes and transforming core structures and institutions to prepare for the future.[1]

Definitions

Recommended

- Rüttinger, Lukas; Dan Smith, Gerald Stang, Dennis Tänzler and Janani Vivekananda 2015: A New Climate for Peace: Taking Action on Climate and Fragility Risks. Available at *https://adelph.it/nc4p*. (read: pages 5–72)

Background

- OECD 2018: States of Fragility 2018. Available at *https://adelph.it/oecd2018*. (read: Chapter 1.11: Trend Eleven: Climate change is compounding risks in fragile contexts, pages 59–63)
- Detges, Adrien 2017: Climate and Conflict: Reviewing the Statistical Evidence. A Summary for Policy-Makers. Available at *https://adelph.it/detges2017*.
- Adams, Courtland; Tobias Ide, Jon Barnett and Adrien Detges 2018: Sampling bias in climate-conflict research. In: Nature Climate Change 8:3, pp: 200–203.

- How are the seven climate-fragility risks intertwined?
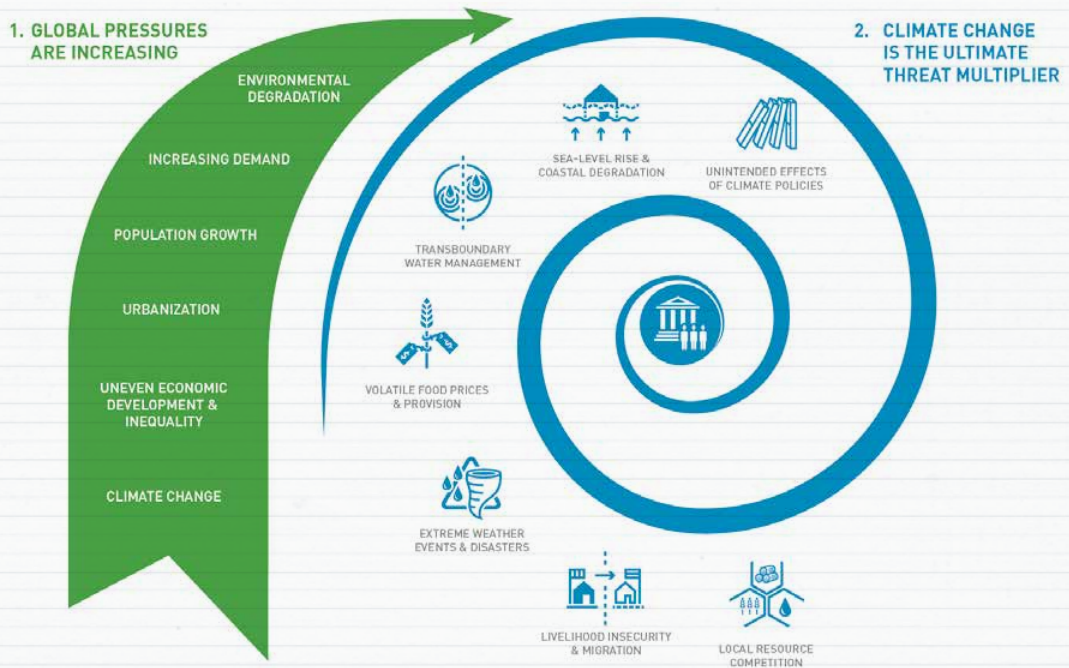
Source: Rüttinger et al. 2015

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1 Rüttinger, Lukas; Dan Smith, Gerald Stang, Dennis Tänzler and Janani Vivekananda 2015: A New Climate for Peace: Taking Action on Climate and Fragility Risks. Retrieved 08.12.2019 from: *https://adelph.it/nc4p*.

Chapter 4

IMPACT AREAS

A. *Water*
B. *Food and land*
C. *Migration and displacement*
D. *Energy and Minerals*

E. *Cities*
F. *Governance*
G. *Climate change, civil unrest and terrorism*

JUNTAWONSUP-UNEP/Still Pictures

As illustrated in the figure below, climate-related hazards interact with the vulnerability and exposure of human and natural systems. Changes in both the climate system and socioeconomic processes influence such hazards, exposure and vulnerability.

This chapter is an introduction to climate change impacts on different sectors and emerging security issues.

Illustration from the IPCC's core concepts of the Working Group II in the 5th Assessment Report (WGII AR5)
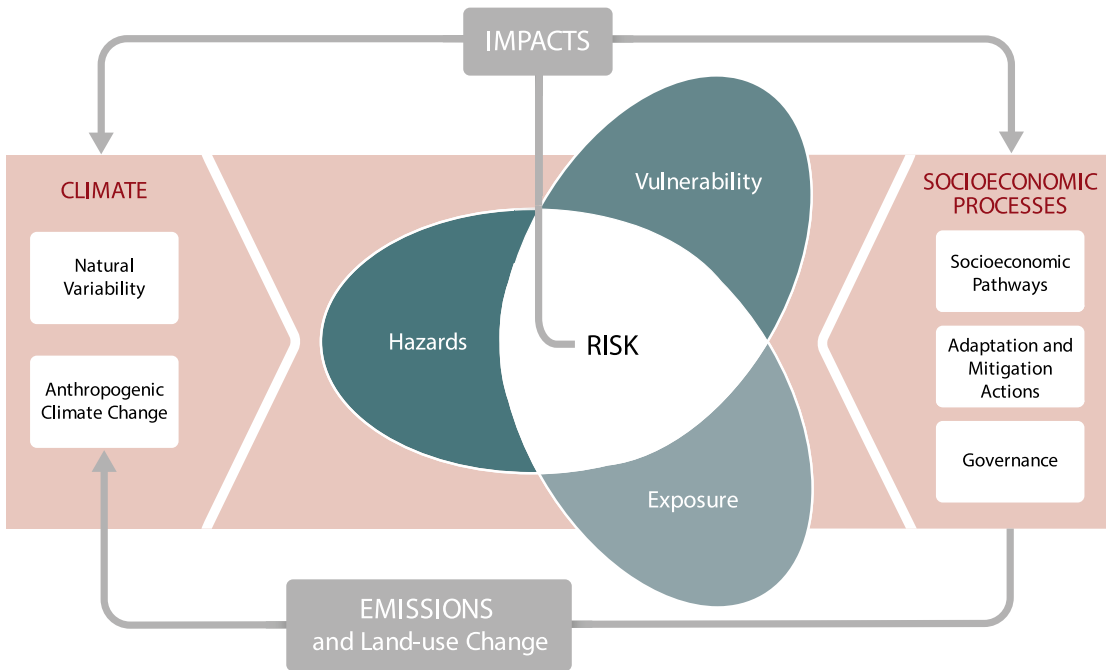
Risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems. Changes in both the climate system (left) and socioeconomic processes including adaptation and mitigation (right) are drivers of hazards, exposure, and vulnerability. Source: IPCC 2014. Retrieved 12.12.2019 from *https://www.ipcc.ch/report/ar5/wg2/summary-for-policymakers/*.

A

UN Photo/Olivier Chassot

Impact areas

WATER

Do water wars exist?
What are the benefits of water diplomacy?

Water is indispensable: we need it to live. Water is also essential for the environment and economy. Less than one percent of the Earth's water supply is fresh water that is available for human use, and it is unevenly distributed. Households, agriculture, industry, electricity, and the Earth's ecosystems all need an adequate quantity and acceptable quality of water – and they need it at the right time.

For thousands of years, people have competed with each other and with nature itself for the Earth's scarce water resources. If these competing interests are not reconciled, competition for water can cause disputes and even violent conflicts. In fact, the word 'rival' is derived from 'rivalis', the Latin word for those who use the same stream as a source of water.

Water flows, whether in rivers or underground. Therefore, the impacts of water use and water

Climate change disrupts the water cycle and increases natural hazards

pollution can spread to distant places and across national borders. For instance, the construction of upstream dams often fuels conflict among downstream users. In this way, conflicts over water use can arise not only at a local level, but also between regions and countries.

Climate change will strongly impact the water cycle. Decreasing rainfall and higher temperatures will reduce water supplies in many arid regions with rapidly growing populations and increasing demand for water. Moreover, climate change is expected to increase the frequency and severity of extreme events like droughts and floods. It can also degrade water quality – for example, as sea levels rise, saltwater could intrude into coastal aquifers, or toxins could concentrate in drying rivers.

More than 280 river basins worldwide are shared by two or more countries, which often leads to dis-

putes between upstream and downstream countries. Climate change will increase the pressure on scarce water supplies in many basins. Yet, despite the alarmism sometimes embraced by politicians and the media, these disputes are not likely to lead to '**water wars**'.

Of the almost 2,000 incidents that took place in transboundary basins between 1990 and 2008, approximately twice as many events were cooperative rather than conflictual.[1] Conflict can become dangerous when external events overwhelm institutional coping mechanisms, especially in regions that lack resilient institutions for resolving conflicts.

Can water be a pathway to peace?

Cooperatively managing shared water resources offers significant opportunities for all water users, especially in basins where water sources cross national boundaries. Water quality, hydropower production, irrigation and farming, flood control, navigation, and environmental services can be managed more efficiently at the basin level than within national boundaries. For example, upstream hydropower dams can help control downstream floods, improve downstream navigation, and increase the potential for downstream hydropower by stabilising water flows – and could also offer downstream countries cheap electricity imports. The alternative – building dams downstream – is often not feasible or less productive.

Collaborative water management can also help overcome distrust and create bonds between hostile groups. In the Orange-Senqu River Basin, for example, the Lesotho Highlands Water Project creates benefits for both upstream Lesotho and downstream South Africa. A series of tunnels and dams has increased water supply to the water-scarce economic centre of Gauteng in South Africa. At the same time, the project generates important revenues and electricity for Lesotho, which is relatively poorer and resource-scarce.

Sudan: Water harvesting

Over the last half century, the Darfur region of Sudan has experienced rapid population growth, periodic drought and a cycle of conflict that has displaced millions from their villages. Many of these people now live in Internally Displaced Person camps near towns, putting pressure on the region's already strained natural environment.

Since competition over resources has contributed to conflict in the first place, worsening the natural environment so many depend on is neither sustainable nor supportive of recovery and peace.

In an effort to address this, UN Environment and partners, North Darfur State Government and Practical Action Sudan, show how effective and inclusive natural resource management can improve livelihoods and achieve peaceful relationships.

The Wadi El Ku Catchment Management Project is funded by the European Union.

ACCESS *https://adelph.it/sdnwaterharvesting*

Watch

The Nile River: Conflict and cooperation in a contested basin

The Nile Basin has given birth to some of the world's richest civilisations, and its history epitomises the critical role water plays in conflict and cooperation. Over the past few decades, violent conflict has led to countless casualties from brutal civil wars in basin countries, including (South) Sudan, Ethiopia, Uganda, Rwanda, Burundi, and the Democratic Republic of the Congo. Neighbouring countries accused each other of supporting rebel groups and even engaged in proxy wars.

Today, while tensions have eased and most of the basin countries view the Nile as a focal point for cooperation, upstream development is altering the river's traditional balance of power. Claiming rights to most of the Nile's water, downstream Egypt was the dominant force in the last century. But as upstream countries experience economic growth and political consolidation, the rise of international infrastructure financing has allowed them to launch ambitious water infrastructure projects to meet their growing demands for energy and food. Egypt opposes these changes – not only because it depends on the river far more than any other basin nation. Accepting upstream control over water flows also challenges Egypt's power and requires the country to recognise its dependence on others.

The Nile Basin Initiative has strengthened cooperation on the Nile's water resources

The Nile Basin Initiative, which was founded by nine of the ten basin countries in 1999, and with backing from major donor institutions, has strengthened cooperation on the Nile. However, it has not achieved consensus: in 2007, negotiations came to a standstill, unable to resolve conflicts of interest between downstream Egypt and upstream countries, particularly Ethiopia. Mid-stream Sudan, traditionally allied with Egypt for cultural and contractual reasons, has tried to defuse the conflict. But these efforts are hampered by Egyptian fears that Sudan is realigning with upstream countries, further undermining Egypt's position.

In 2015, trilateral negotiations between Egypt, Ethiopia, and Sudan over Ethiopia's construction of the Grand Ethiopian Renaissance Dam led to a framework agreement that many observers hoped would gradually prepare the ground for a broader agreement uniting all of the basin countries. However, as of 2020, that result still seemed far from certain.[2]

Find out more with ECC Factbook: *http://bit.ly/NileWaterDisp.*

The eleven riparian states of the River Nile

© adelphi
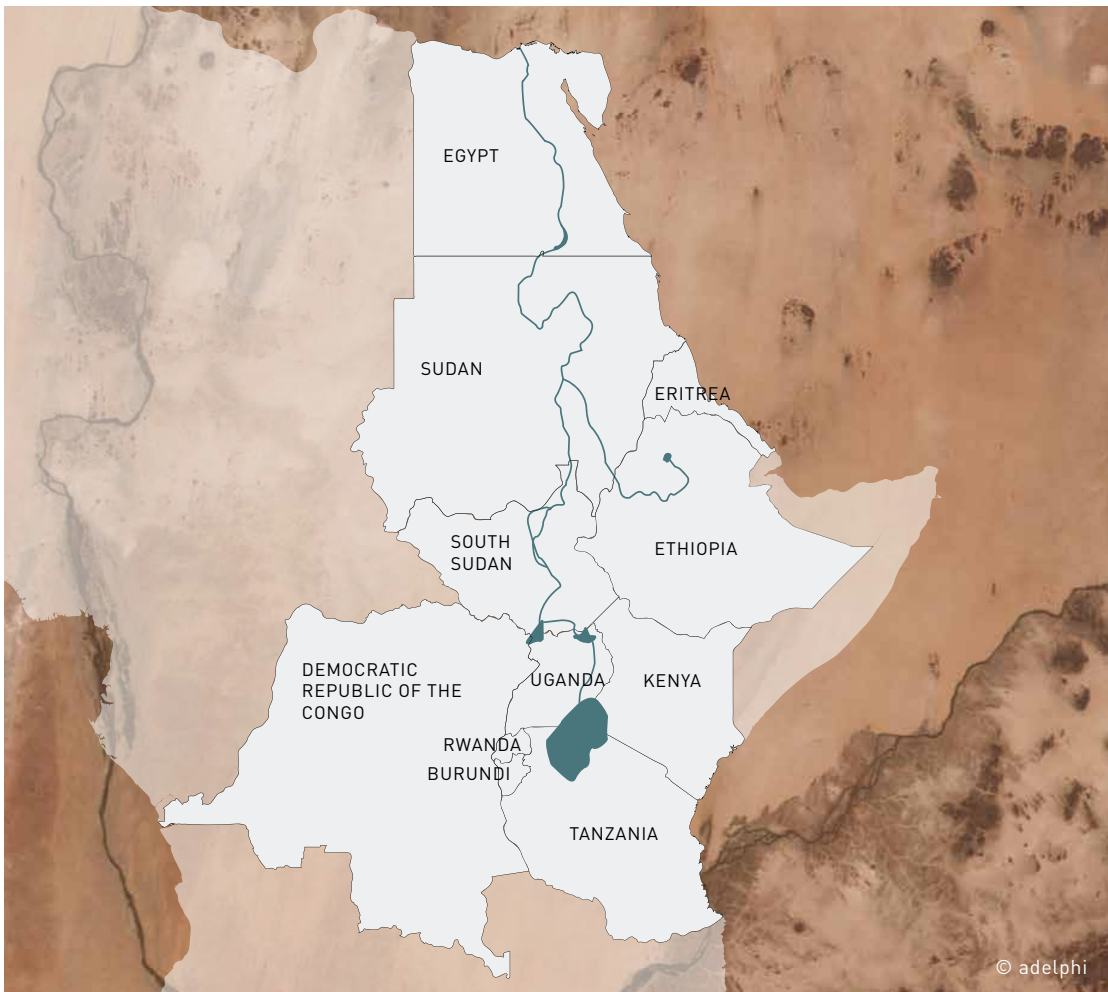
Riparian states

'**Riparian states**' are countries that are situated along the same river and share the river's water and other services.

Upstream & downstream

'**Upstream**' states are those that are located close to the source of the river, whereas '**downstream**' states are those located closer to the river mouth, and are normally affected by activities from upstream states. For example, if an upstream state builds a major reservoir, less water from that river might be available for downstream states, or at different times.

Definition

Readings

Recommended

- Ligtvoet, Willem; Arno Bouwman, Joost Knoop, Sophie de Bruin, Kersten Nabielek, Hiddo Huitzing, Jan Janse, Jelle van Minnen, David Gernaat, Peter van Puijenbroek, Jan de Ruiter and Hans Visser 2018: The Geography of Future Water Challenges. Available at *https://adelph.it/ligtvoetetal2018*. (read: pages 18–43)
- Peace Science Digest 2019: From Water Scarcity to Conflict or Cooperation. In: Hiller, Patrick; Molly Wallace, Kristin Henderson and David Prater (eds.): Peace Science Digest Vol. 3 Special Issue: Climate Change, Security and Conflict, pp: 20–23. Available at *https://adelph.it/PSD2019*.
- Pohl, Benjamin (2018): SDG 6 — Water. In: Carius, Alexander; Daria Ivleva, Benjamin Pohl, Lukas Rüttinger, Stella Schaller, Dennis Tänzler and Janani Vivekananda: Annex: A foreign policy perspective on the SDGs. Berlin: adelphi, pp. 1–4. Available at *https://adelph.it/sdgannex2018*.

Background

- NATO 2017: Food and water security in the Middle East and North Africa. Available at *https://adelph.it/nato2017*.
- Pohl, Benjamin; Annika Kramer, William Hull, Sabine Blumstein, Iskandar Abdullaev, Jusipbek Kazbekov, Tais Reznikova, Ekaterina Strikeleva, Eduard Interweiss and Stefan Görlitz 2017: Rethinking Water in Central Asia – The costs of inaction and benefits of water cooperation. Available at *https://adelph.it/pohletal2017*.

Reflect

- How is climate change affecting water availability in your region?
- What are good practices of transboundary water management? Which mutual benefits can result from cooperation?

- Explore the Factbook case study: Water conflict and cooperation between India and Pakistan. *http://bit.ly/IndusRiver*

1 Pohl, Benjamin; Alexander Carius, Ken Conca, Geoffrey D. Dabelko, Annika Kramer, David Michel, Susanne Schmeier, Ashok Swain and Aaron Wolf 2014: The Rise of Hydro-Diplomacy – Strengthening foreign policy for transboundary waters. Retrieved 14.12.2019 from: *https://adelph.it/pohletal2014*.
2 ECC Factbook: Dispute over Water in the Nile Basin. Retrieved 14.12.2019 from: *https://adelph.it/NileBasin*.

B

Adli Wahid/Unsplash.com

Impact areas

FOOD AND LAND

What are the links between climate change, agriculture and peace?

UN Photo/JC McIlwaine

More than 820 million people – 11 percent of the world's population – are hungry.[1] Although this is less than in the 1970s, food security is still a tremendous challenge. The World Health Organisation blames conflict and climate-related shocks for recent spikes in **malnutrition and food insecurity**.

If current consumption trends and trends in food loss and waste continue, we will need to dedicate even more natural resources to satisfy demand as the world population grows. The global rise of the urban middle-income class is shifting dietary preferences towards more meat and dairy products, which are particularly resource-intensive.[2]

While intensive and extensive agricultural practices accelerate climate change, climate-related impacts reduce yields and make massive crop losses more and more common. Other detrimental ways in which modern agriculture interacts with climate include:

- The global food system accounts for about 21–37% of total greenhouse gas emissions,[3] thus contributing to climate change, which, in turn, stresses agriculture's most important inputs, land and water.
- Agriculture, both commercial and subsistence, is the most important driver of deforestation in developing regions.[4] This does not only fuel climate change but also threatens biodiversity and ecosystems crucial to food security.
- Agriculture degrades the land it uses: a recent IPCC report attributes global soil degradation and loss of natural resources during the second half of the 20th century to intensive agriculture.[3]
- Some 70 percent of all fresh surface and groundwater we remove is used for irrigation, most of which is unsustainable. Furthermore, the over-pumping of aquifers is causing groundwater tables to fall precipitously in many areas.[5]

Another great challenge is **access to food**: most people are hungry not because there is not enough food, but because they do not have the physical or economic means to procure food. When addressing food security, governments and international institutions tend to put emphasis on the need to increase food production and availability, citing prospected population growth, as well as increasing food demand and consumption. However, availability is only one of the four pillars of food security; access to food, adequate food utilization and long-term stability are just as important.

When food production does not consider the other dimensions, it can even be harmful by making food physically distant or unaffordable, negatively affecting food variety and nutrient availability in food and soil, and depleting resources needed for future food production.

Food insecurity and environmental degradation are a challenge to **health and livelihoods**. They can destabilise communities, drive displacement, and undermine governments – and thus are a looming threat to national, regional, and global stability. The fundamental importance of food security for human welfare, coupled with the inher-

ent connections between climate change and food availability and prices, make global food governance an important topic for **diplomacy**. Fostering healthy global interdependencies in the food sector can help develop and maintain sustainability standards, reduce food losses at the production level and close regional supply gaps, concurrently addressing food security and reducing agriculture's climate footprint. Subsistence farming is still the main source of livelihood for hundreds of millions of people. These are among the most vulnerable to climate change, especially where farming depends on precipitation.

In brief, although the precise causal mechanisms of how climate change impacts food security vary and are sometimes contested, they constitute plausible risks for peace and stability.

Climate change, food, land access and gender

Climate change can exacerbate gender inequalities, because its rippling effects have greater impact on those sections of the population that are more dependent on natural resources and that have less capacity to adapt. Food and land are subjects where gender-differentiated impacts on climate change become particularly clear:

- **Agriculture:** In many countries, women provide most of the labour force in small-scale farming. Women are more reliant on agricultural crops, wood and forest resources. Increased crop failure will increase the workload of women, who are often responsible for household food provision. At the same time, women benefit less from credit to agriculture, and are less represented in decision-making processes.
- **Unequal property rights:** Only 15% of agricultural landowners in Sub-Sahara Arica are women and about 12% in Southern Asia and Southeastern Asia. Their limited access to agricultural productive resources makes them even more vulnerable to climate impacts.
- **Fuel and water:** Fuel and water shortages will force women to spend more time on fuelwood and water collection.
- **Violence:** The risks of violence against women increase during conflict, some of which are fuelled by climate change's impacts on natural resources.

Empowering women, especially in the agricultural sector, is not only a means for 'righting a wrong', but also key to abating and adapting to climate change. This is because gender inequality (and social inequality generally) slows down development. Women are vital in increasing agricultural production, building climate resilience in communities, and sharing and managing natural resources efficiently and equitably.

How climate change endangers food security
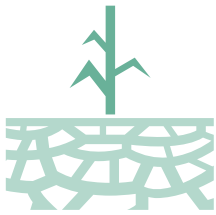
LOCAL SHOCKS

threaten people that rely on subsistence agriculture. In Somalia, 60 percent of the population depends on livestock, which provides 40 percent of the country's GDP. During the 2011 drought in East Africa, many pastoralists lost their animals. At the same time, local conflicts blocked international food aid. The subsequent famine killed nearly 260,000 people.

SUPPLY-SIDE SHOCKS

can drive up global prices. Slow-onset changes in temperature and rainfall patterns, as well as extreme weather such as droughts or floods, can reduce global food supplies and affect market dynamics. When Russia banned grain exports following the devastating drought and widespread wildfires in 2010, food prices spiked in importing countries such as Egypt and Pakistan.

DEMAND-SIDE SHOCKS

can limit people's purchasing power. The impacts of climate change, including extreme weather, can stress or even destroy livelihoods and thus reduce people's access to money. In the wake of 2012's Typhoon Bopha, more than 80 percent of the people on the Philippine island of Mindanao were forced to borrow money to buy food.
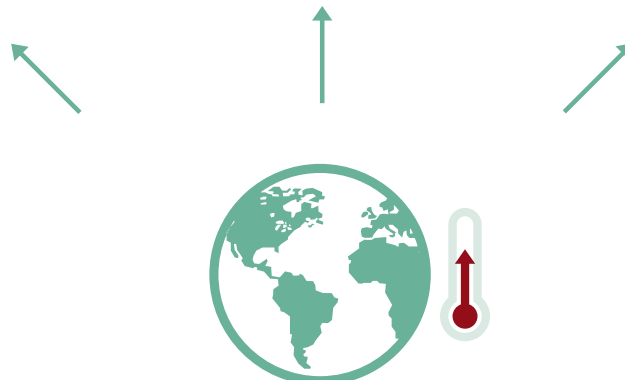
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How to ensure food security in times of climate change?

Watch

In this video, experts discuss the role climate change plays as a multiplier of security risks. It addresses the following questions: What can be done to secure lives and livelihoods in times of unprecedented global warming? What are activities that should be supported by global governance for curtailing climate-related risks to peace? ACCESS *http://bit.ly/FoodSecurCC*

Egypt: Food price shocks in 2010/11

In 2010, south-western Russia was struck by its most severe drought in 130 years, leading to heat waves and fires that destroyed grain harvests.[6] To control domestic prices, the Russian government banned exports, which caused global grain prices to spike.[7] Consequently, the price hikes spurred protests in countries that depend on cereal imports, disrupting political regimes across the Middle East and Northern Africa.

In Egypt, a combination of import dependence, poverty, and long-standing socio-economic and political discontent formed a perfect storm. Egypt is the world's largest wheat importer, producing only 60 percent of its national grain consumption demand. When the 2010 drought struck Russia, the country was Egypt's most important supplier of grain.[8]

Soaring food prices had devastating effects on Egyptian households

Soaring food prices – increasing almost 20 percent in a single year – had devastating effects on Egyptian households, which spend up to 50 percent of their income on food on average.[9] The government spent 8 percent of its GDP on subsidies for basic food items up to the period of 2010–2011,[8] but even this enormous expenditure could not alleviate bread shortages. Due to mismanagement and corruption, the subsidies failed to help the poorest people and prompted a brisk black market trade. The shortages ignited deep-rooted discontent with the Egyptian government and, during the Arab Spring of early 2011, millions of Egyptians took to the streets to voice their frustration and call for bread, freedom, and social justice.

The critical importance of land, forests and biodiversity

Deforestation and unsustainable land management (addressed under SDG 15) undermine millions of livelihoods and contribute to resource-related disputes and social grievances. Over the last 60 years, 40–60 percent of internal armed conflicts in Africa have been linked to natural resources, and inefficient land tenure systems compound these pressures.[10]

As land degradation and desertification advances, partly due to a changing climate, food insecurity and competition for the remaining fertile land increase. When forests stop providing food, fibre, fuelwood, shelter, and habitat for wildlife, rural livelihoods fall under pressure. And when corrupt elites prevent efforts to manage resources better and share the benefits of the land and the forest equally, social and political conflicts loom.

In Sudan, Somalia or the Lake Chad Basin, where nomads clash with sedentary farmers, these processes exacerbate a situation that is already in conflict and chaotic, which in turn undermines international efforts to de-radicalize communities and combat **terrorism**. Non-state armed groups are likely to exploit the changing access to and availability of natural resources. Decreasing land and soil productivity may also become one of the drivers of **environmental migration**, both voluntary and forced. People may migrate in quest of a more liveable and less vulnerable environment, or move as a reaction to risks and tensions posed by conflicts resulting from resource scarcities.

Forests and biological diversity[11]

Forests deliver a range of benefits to humans ('**ecosystem services**'). They support the freshwater cycle, infiltrate soils, and increase the overall resilience of landscapes and communities. They also offer habitat to biodiversity, which in turn provides essential benefits for human well-being. Conserving, managing and restoring forests and their services are not only necessary to capture CO_2, but will maintain – and, in some cases, reinstate – livelihoods and biodiversity, and help in preventing and strengthening the foundation of a socially and economically stable society.

Biodiversity conservation can be a means to build peaceful and resilient societies

Biological diversity also provides essential ecosystem services for human well-being, and influences societies' ability to alleviate poverty, ensure food security and more generally, withstand shocks and respond to various disturbances. Combatting the alarming trend of biodiversity loss and broadening the participation in decision-making processes for biodiversity conservation can, therefore, be a means to build peaceful and resilient societies. In addition, illegally sourced and traded wildlife products are often used by radical organizations as a source of income and indirectly endanger security.

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Reflect

- Which are the major chokepoints that are critical to the international food trade? How will climate change impact important trade routes?
- Which regions are likely to exhibit increasing populations and at the same time reductions in crop yield due to climate-related stresses?

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C

Impact areas

MIGRATION AND DISPLACEMENT

What are the factors influencing migration and forced displacement and what is the role of climate change?

Throughout history, people have moved to secure their lives and livelihoods. However, migration is not just a survival strategy; it can also **offer a path to more economic prosperity and greater political freedom**.

People migrate to escape persecution or conflict, to seek a better life, or to be closer to family. Environmental changes – like drought or floods – have also always played a role in decisions to leave home. But as human activities degrade the planet's resources and accelerate climate change, these factors are becoming increasingly significant and reshaping migration patterns.

Extreme weather events already displace more people each year than all the world's conflicts combined.[1] The impacts of climate change undermine livelihoods, driving some to seek a living elsewhere. Once in their new homes, they may be able to help those they left behind by sending money, goods, and skills. But not everyone can or wants to migrate. Some are deeply attached to their homeland. Others do not need to leave because they have the resources to cope with the environmental challenges. And sometimes people who would like to move are trapped due to physical or financial limitations.

The links between climate change, migration and conflict are complex. Migration has multiple drivers, and this makes it difficult to accurately define, identify and count **'climate migrants'**. Most climate- or environment-related migration is likely to be internal, temporary and gradual. Climate impacts may also limit migration by undermining livelihoods and therefore the capital that people require to move, leading them to become trapped in vulnerable areas. In addition, populations may relocate towards as well as away from high-risk zones, e.g. from drought-hit rural areas to floodplains in urban areas. Such movements create climate-fragility risks mainly through their interaction with livelihood security and uncontrolled and badly managed urbanisation.

Illustration on environmental change and the drivers of migration
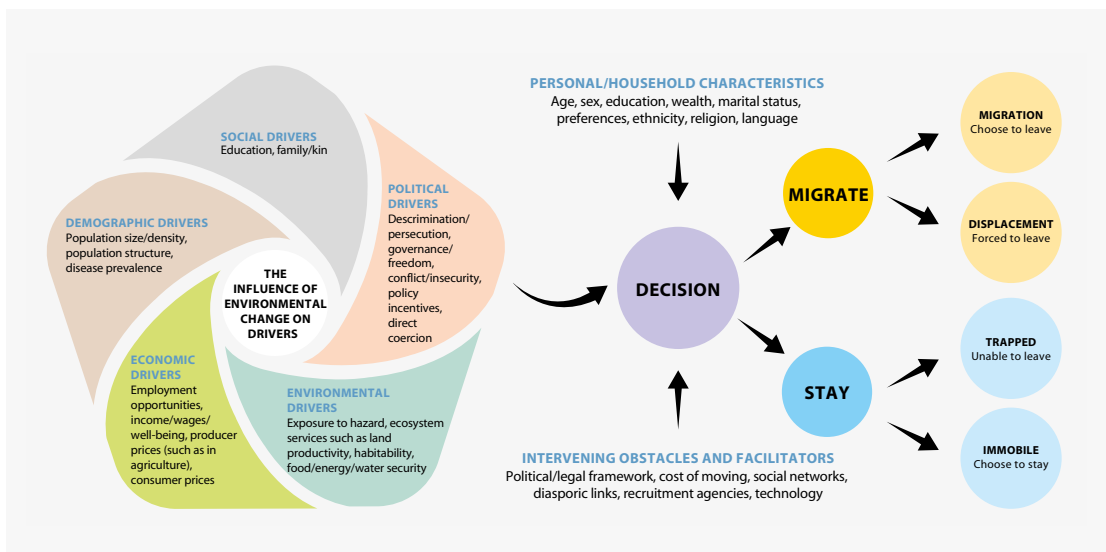
The decision to migrate or stay is largely driven by a range of drivers. Global environmental change further influences the complex interactions of these drivers and can lead to different outcomes in decision making. Source: adapted from the conceptual framework of the drivers of migration and the influence of environmental change; adopted by the UK Government's Foresight Project. Source: UNEP 2017: Frontiers 2017 Emerging Issues of Environmental Concern. United Nations Environment Programme: Nairobi, p. 75. Retrieved 30.01.2020 from *https://wedocs.unep.org/bitstream/handle/20.500.11822/22255/Frontiers_2017_EN.pdf?sequence=1&isAllowed=y*.

Examples from around the world

Horn of Africa: Seeking new paths as resources shrink

Around 20 million pastoralists live in the arid and semi-arid areas of Kenya, Somalia, Ethiopia, and Uganda, where they raise and sell livestock. For thousands of years, pastoralists and their herds have moved seasonally in search of more abundant water and grazing land[2] .

However, Africa's colonial rulers placed restrictions on pastoralists' nomadic way of life, establishing national borders that cut through customary pastoralist areas. Today, conflicts, crime, and terrorist groups in the region have made it even harder to move freely. At the same time, pastoralists are often marginalised and subject to discrimination, further limiting the places where their livestock can graze.

Climate change is forcing many pastoralists to sell their livestock and flee their homes

Climate change is multiplying these challenges. During three years of consecutive drought (2014–2016), traditional migration patterns were useless, as water and cattle fodder diminished drastically across the region, forcing many pastoralists to sell their livestock. To avoid hunger and destitution, some fled the drought-stricken areas for refugee camps, including one of the world's largest in Dadaab, northern Kenya. Others who lacked alternatives turned to criminal and sometimes violent livelihoods, such as banditry and cattle rustling, spurring new conflicts and displacing even more people.

Fiji: Planning to leave home

Island nations and coastal regions around the world are already suffering from the effects of climate change. In Fiji, rising sea levels and storm-driven flooding are submerging the land and endangering livelihoods. In response, the government is relocating whole communities further inland or to other islands.

In 2014 the first village to relocate – Vunidogoloa, on the coast of Fiji's Vanua Levu island – moved two kilometres inland when other adaptation measures, such as placing houses on stilts or building seawalls, proved futile. The villagers were reluctant to leave their homes, due to their strong personal and spiritual connections to Vunidogoloa.

The process, which included moving the village's cemetery, was emotionally and economically challenging, as well as very lengthy – plans to resettle Vunidogoloa date back to 1956. Given the challenges faced by this one small community, relocating the populations of entire islands or high-risk areas of coastal megacities will be a staggering task.[3]

Bangladesh: Sinking shores, but no escape?

One of the world's most populous countries, Bangladesh is highly vulnerable to the impacts of climate change, particularly cyclones and floods. Rising sea levels threaten the low-lying country, a quarter of which is less than a metre above sea level.[4]

Bangladesh's rural poor have been hit especially hard. As disasters become more frequent and severe, saltwater intrusion and droughts degrade their land and fresh water, causing crops to fail and water supplies to run short. Under these harsh conditions, many poor farmers are moving to the country's big cities in search of new jobs and a better life.

Bangladesh's rural poor have been hit especially hard and consequently farmers were moving to the country's big cities

As a result, the population of the country's capital Dhaka – one of the world's fastest growing megacities – almost doubled from 10.3 million inhabitants in 2000 to 18.2 million in 2016. Dhaka has not handled its rapid growth well: about 40 percent of its residents live in slums without proper housing or sufficient sanitation. Fleeing the impacts of climate change, these new city-dwellers end up in living situations that are just as precarious as the homes they left behind.

Definitions

Slow-onset degradation

The slow onset effects of climate change, such as sea-level rise, rising temperatures in the ocean and changing rainfall patterns, are contributing to the long-term degradation and transformation of both land and water environments. Even at current levels of global warming, many parts of the world are experiencing more extended and severe heatwaves, droughts and flooding, accelerated coastal erosion, increased saltwater intrusion, freshwater scarcity, reductions in soil fertility and desertification, coral bleaching and marine ecosystem degradation, as well as changes to a variety of other ecosystems.

Sudden-onset degradation

Acute natural hazards, such as storms, tropical cyclones, hurricanes, wildfires, floods and landslides, are likely to become more intense and frequent as climate change progresses. Rising sea surface temperatures increase the likelihood and power of cyclones and hurricanes, and changes in rainfall patterns can lead to floods and landslides.

Internally displaced persons (IDP)

The International Organization for Migration (IOM) defines IDPs as 'persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.'[5]

UN Photo/Tobin Jones

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Reflect

- Why is it too simplistic to claim there is a straightforward causal relationship between climate change, migration and violent conflict?

- What are the factors leading to a migration decision? Which of them are influenced by climate change and how?

D

Impact areas

ENERGY AND MINERALS

What are security implications of the green energy transition? What is the role of extractive minerals in conflict?

Throughout recent history, governments have competed with each other to secure oil and gas. Energy trading relationships have shaped international cooperation and foreign and security policies. Since many of the world's oil and gas reserves are located in fragile or politically unstable places, reducing their use could also create **geopolitical risks**.

To avoid dangerous climate change, we need to leave in the ground one third of our crude oil supplies, half of our natural gas, and more than 80 percent of our coal.[1] Changing the market for fossil fuels could stall development in exporting countries, and perhaps destabilise them. Within many of these countries, the benefits of fossil fuel extraction are not distributed evenly. Most people have no access to either the energy resources or the profits from them – and if they do, it is often only after the country's elite takes most of the revenues.

We have to keep 80% of our fossil-fuel reserves underground.

In industrialised countries, large investors like pension funds and insurance companies could lose money due to their fossil fuel exposure, endangering social and economic systems. Nations, corporations, and financial markets need to plan now to mitigate the risks posed by the energy transition away from fossil fuels to all countries.

Extractive resources

To achieve the goal of the Paris Agreement, virtually all countries around the world have to **remove carbon** and other GHGs from their energy systems and broader economies. This will affect patterns in resource demand in the future, which presents a significant risk for certain countries and an opportunity for others. For example, oil-exporting economies will have to deal with stranded assets while mineral-exporting countries might benefit from a green transition.

Another area where conflict risks need to be mitigated is the mushrooming **extraction of raw materials**. Natural resource extraction through mining, drilling and logging tripled between 1970 and 2010.[2] Increased global demand has spurred exploitation in Asia, Latin America, and the Pacific, boosting exports of primary commodities. Natural resources are distributed unequally across the globe – and so is their consumption. Most resources are extracted where consumption is low. The material footprint of North America – 32.7 tonnes per capita in 2017 – dwarfs the footprint of the rest of the world. Africa's footprint is the smallest: just over 3 tonnes per capita.[3]

Large extractive projects significantly change their environment – usually for the worse – and can trigger or exacerbate conflicts. Discord and discontent can be spurred by competition over land use and water supplies, by pollution and environmental degradation, or by the displacement of communities. Often, the money and other benefits from these projects are not distributed equitably, and for workers the conditions can be harsh and often dangerous. For example, the raw materials tin, tantalum, tungsten, and gold – all used in smart technology such as computers and smartphones – are mined in the Democratic Republic of the Congo, where government forces, neighbouring countries, and several militia groups fight for dominance. Both state and non-state armed groups use these minerals to fund conflicts, including the Second Congo War (1998–2003). Some governments and international organisations have designated these elements as 'conflict minerals', but their efforts to regulate or reduce the trade have had only limited success.

Both the **increased extraction of minerals** and other resources as well as **shifting global demand patterns** therefore have wide-ranging consequences, including pollution, social disputes, and even conflict.

Energy transition & Decarbonisation

The '**energy transition**' is the pathway of transforming the energy sector from fossil fuel-based to zero carbon. This '**decarbonisation**' or reduction in energy-related CO_2 emissions involves increasing the use of renewable energy sources such as hydropower, solar and wind, as well as improving energy efficiency measures. Information technology, smart technology, policy frameworks and market instruments can help enable this transition.[4]

Definitions

'Resources' vs. 'reserves'

There is often confusion between the terms resources and reserves, which are sometimes used interchangeably. Resources are defined as natural concentrations of minerals or bodies of rock that are, or may become, of potential economic interest. On the other hand, reserves are parts of a resource which has been fully evaluated and considered commercially viable for extraction. In some cases, the term reserves is further restricted to resources with legal access and valid permission for extraction.[5]

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E

Impact areas

CITIES

Why are cities particularly at risk from climate change and conflict?

Climate change risks can be particularly pronounced in cities. This is because global pressures, such as rising inequality, population growth, and migration often converge in cities and interact with climate and environmental change. The impacts of climate change are already disproportionately felt in cities: more than 80% of annual global climate change adaptation costs, in fact, arise there.[1] Climate change impacts such as flooding, sea level rise, storm surges and water scarcity are expected to further increase in urban areas in the coming decades.[2] These climate impacts are likely to be compounded by existing vulnerabilities in urban areas, where low-income populations often live in poor quality accommodation on marginal land.

More than 54 percent of the world's population already lives in cities. It is projected that by 2050 close to 7 billion people will live in urban areas.[3] **Fast urbanization and unregulated urban growth** can increase the pressure. Urban population growth will predominantly occur in low and middle-income countries across the global South in particular – many of which are fragile or conflict-affected states and which are vulnerable to the impacts of climate change. When climate change impacts go hand in hand with weak governance, poverty, inequality and marginalization, the ability of cities to manage increasing pressures further decreases.

City fragility is much more widely distributed than anticipated. It is not a 'steady state' but occurs due to an aggregation of risks and stresses that can result in extreme vulnerability and instability. Several factors can have a destabilizing effect on cities, including the level of inequality, unemployment, crime, pollution, rapid urban population growth, conflict events, and natural hazards.[4]

The concentration of population, infrastructure, economic activity, services, etc. means that the impact of climate change and environmental degradation is often exacerbated in cities. Where vulnerability, economic and political relevance, and global pressures converge, fragile cities can pose a threat to the stability of entire countries.[5]

The fact that more people in developing and fragile or conflict affected states will be living in urban areas and that these areas will be facing more frequent and severe disaster risks has significant implications for sustainable development, peace, and climate change policies. Stronger empha-

sis on the linkages between urban development, urban climate change adaptation and fragility in international cooperation policy is urgent and necessary to ensure they are factored into urban development processes.

Climate change vulnerability and population growth in cities
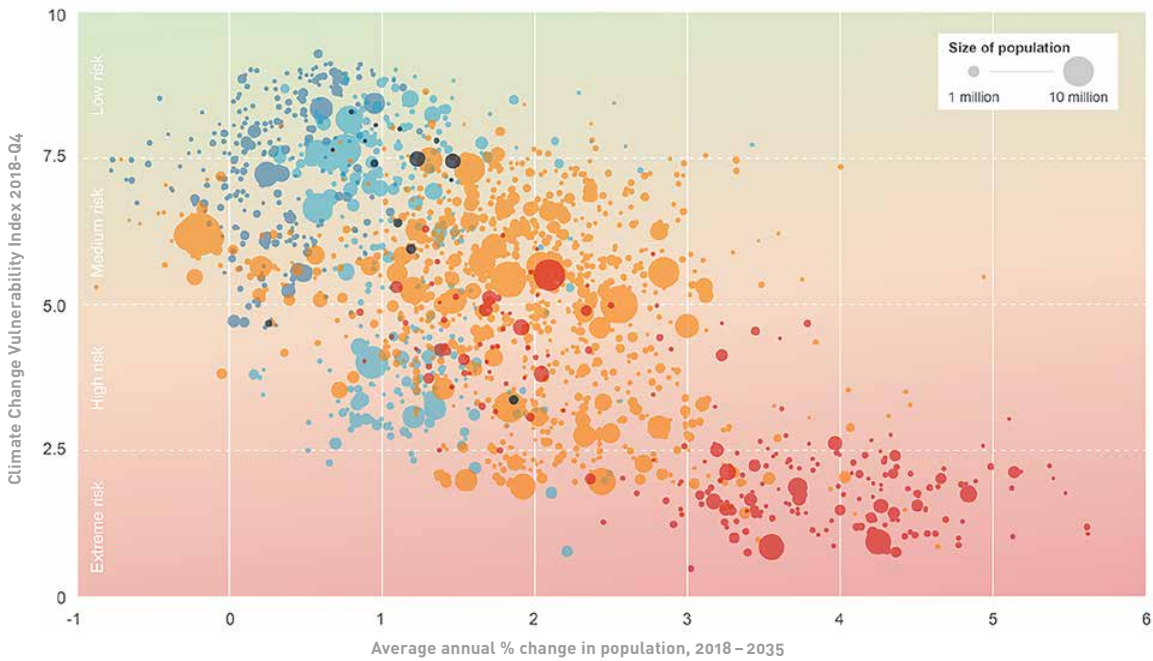
Source: Verisk Maplecroft 2018: 84% of world's fastest growing cities face 'extreme' climate change risks. Retrieved 04.02.2020 from: *https://adelph.it/veriskmaplecroft2018*.

High urbanization and extreme weather: a dire mix for the Caribbean – interview with Amilcar Kraudie

Small island developing states (SIDS) in the Caribbean already struggle to cope with rampant population growth in urban centres, and the scarcity of living spaces and resources that comes with it. In this interview, Amilcar Kraudie, Emergency Manager for Latin America at Christian Aid, stresses

that climate change has been aggravating the already violent pattern of natural disasters, making them even more severe and destructive, threatening the region's security and development efforts.

ACCESS *https://adelph.it/CaribSIDSclim*

Watch

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UN Photo/Harandane Dicko

F

Impact areas

GOVERNANCE

What is the role of governance before, during and after climate impacts?

Climate change affects the availability of, access to and management of natural resources. The extent to which institutions can equitably govern and peacefully manage disputes that arise due to these climate-related changes is critical for mediating the risk of localised violence. This is especially so in resource-dependent economies in fragile and conflict-affected states. Many climate-vulnerable countries face the challenges of **poor governance and socio-political instability**, while climate change as a conflict driver puts additional strain on already stressed governments.[1]

Functioning governance structures – formal or informal – are essential to cope with climate pressures across different sectors, from fresh water supply to agriculture, and from land use and planning to health services. These governance structures determine the conditions of how government and state institutions are able to cope with the impacts of climate change and connected risks. It is more likely that climate change increases the risk of instability or conflict if the state cannot guarantee core functions, such as rule-of-law and public order, social welfare, inclusivity, and basic public services (e. g. infrastructure, health, and education), or the monopoly on the use of force.[1]

Climate change impacts socio-economic, ethnic and cultural groups differently, **affecting the poor and marginalised worst**. In fragile states, there is little or no social safety net to ease the effects of failing to adapt to climate change. Another

characteristic of fragile states with weak governance structures is that the political and economic elite is organised so that it has privileged access to economic and political opportunity while the poor lack a voice and an accessible institutional framework for handling and settling conflicts and disputes. Consequently, the poor and marginalised suffer the most if failures of governance lead to failures in adaptation to climate change.

In this way, state fragility, poverty and a propensity to violent conflict form a vicious circle, full of negative feedback loops, each feeding on the other. Climate change further exacerbates this vi-

cious cycle. Therefore, guaranteeing inclusivity is a **key government function** in times of climate change in order to ensure good governance and institutions that simultaneously build resilience to climate change, violent conflict and poverty (see illustration). This requires a move away from inflexible structures grounded in sectoral 'silos', and the maximisation of the participation of civil society and in particular of marginalised groups. Taking on such an inclusive and broad approach also opens up opportunities to pursue general goals of sustainable development, for example gender equality. [2]

Linkages between governance, violent conflict and resilience
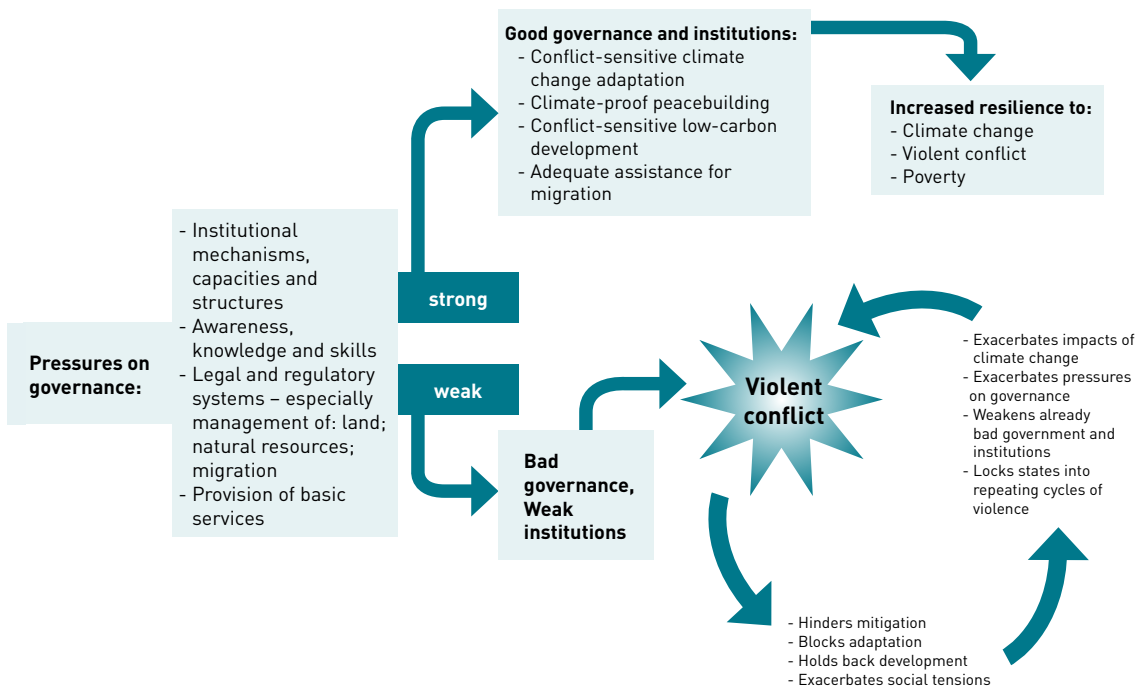
Source: Smith and Vivekananda 2009, p. 10. Weak governance can fuel negative feedback loops between violent conflict, poverty and climate change risks.

Readings

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- Peters, Katie and Janani Vivekananda 2014: Topic Guide: Conflict, Climate and Environment. Available at *https://adelph.it/peters-vivekananda2014*. (read pages 13–16)
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Background

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1   Peters, Katie and Janani Vivekananda 2014: Topic Guide: Conflict, Climate and Environment. Retrieved 23.01.2020 from: *https://adelph.it/petersvivekananda2014*.
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The interplay between climate change, fragility, and non-state armed groups

Climate change has increasingly negative impacts on the livelihoods....

Climate Change

Fragility

Livelihood insecurity

NSAGs proliferate

Climate change increasingly contributes to fragility, in the analysed cases mainly by contributing to conflicts around access to natural resources and livelihood insecurity...

...this makes the affected population groups more vulnerable not only to deteriorating negative climate impacts but also to recruitment from NSAGs.

...NSAGs proliferate and can operate more easily in these fragile and conflict-affected environments. Sometimes, NSAG also try to fill the gap left by the state.

Source: Nett and Rüttinger 2016, p. 48
© Foto: Envato Elements, photobalance

Impact areas

CLIMATE CHANGE, CIVIL UNREST AND TERRORISM

Climate change is increasingly contributing to civil unrest and fragility, often by fuelling conflicts surrounding natural resources and livelihood insecurity. Countries and regions affected by climate change, e. g. through food insecurity or water and land scarcities, are more vulnerable not only to negative climate impacts but also to recruitment by **non-state armed groups (NSAGs)**. NSAGs proliferate and can operate more easily in fragile and conflict-affected environments where the state has little to no authority and is lacking legitimacy. Sometimes, NSAGs fill the gap left by the state by providing basic services in order to gain trust and support among the local population.

They often offer alternative livelihoods, food, protection of crops, or economic incentives and thereby respond to people's climate-related and security challenges, which in some cases remain unaddressed by the state.

In fragile regions where natural resources are scarce, the control over access to natural resources such as water or fuel can be used as a weapon of war. This is a tactic increasingly used by NSAGs, thereby further compounding and exacerbating resource scarcities. The scarcer resources become due to impacts of climate change, the more power those who control them possess.

Non-state armed groups (NSAG)

Non-state armed groups (NSAG) are broadly defined as groups that challenge the state's monopoly of power and its capacity to control violence throughout its territory,[1,2] 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.

Climate change and terrorist groups – explaining the links

The rise of non-state armed groups and terrorism poses new challenges for national, regional and international security. As the climate is changing, so too are the conditions in which these groups operate. This video sheds light on ongoing discussions and latest research revolving around climate change, non-state armed groups and terrorism.
ACCESS: *http://bit.ly/CCterroris*

ECC Factbook Case: Poor water provision drives Taliban recruitment

Political neglect, ideology and economic hardship drive recruitment for the Taliban insurgency in Afghanistan. As rural communities depend heavily on water for their livelihoods, pressures on resources due to over extraction, deficient infrastructures, and mismanagement, but also to climate changes, are likely to contribute to the conditions that facilitate recruitment by the Taliban.

ACCESS: *https://adelph.it/watertalibanAFG*

How climate change plays into the hands of NSAG in Afghanistan[3]

For the past four decades, Afghanistan has suffered from the devastating impacts of constant armed conflict. Many Afghans are highly vulnerable to the impacts of climate change due to their exposure to droughts, floods and other natural disasters, as well as their reliance on climate-sensitive livelihoods such as rain-fed agriculture and pastoralism. Conflicts have increased Afghanistan's vulnerability to climate change, the impacts of which may, in turn, help to create the conditions for continued violence.

A permanent state of conflict has resulted in tens of thousands of civilian casualties and heavy losses for state security forces. Currently, significant parts of the country are contested or controlled by the Taliban and other opposition groups. Mistrust, violence and division between ethnic groups as well as deep rural-urban divides impede governance.

Given the many drivers of conflict that are already at work in Afghanistan, it is important not to overstate a causal link between climate change and conflict. Nevertheless, there are a range of climate-linked sources of potential fragility that policy-makers in Afghanistan and the international community should, at the very least, be aware of:

- Climate shocks and climate 'headwinds' could worsen poverty, weaken governance and contribute to instability.
- More frequent droughts could boost the drug economy.
- Scarcer water and arable land could increase community-level and inter-ethnic conflict.
- International tensions over transboundary water resources could undermine attempts to stabilise the country.
- Afghanistan's rich deposits of minerals used in renewable energy technologies, such as lithium, could become a source of political controversy.

These threats are not inevitable. They can be addressed and averted if the right measures and policies are put in place. In addition to the evident need to improve water and land management and enhance food security (which are important regardless of the security implications of climate change in Afghanistan), there are a number of actions that would specifically address the security risks presented by climate change: investing in better monitoring systems to understand the complex impacts of climate change and providing more data that can inform responses; collaborating with neighbouring countries on cli-

mate-related challenges, particularly with regards to water; informing peace negotiations by expertise on the impacts of climate change and resource management; and considering climate security in UN interventions in Afghanistan to address the crisis more holistically.

Readings

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- Nett Katharina and Lukas Rüttinger 2016: Insurgency, Terrorism and Organised Crime. Analysing the Links Between Climate Change and Non-State Armed Groups. Berlin: adelphi. Available at *https://adelph.it/nettruettinger2016*. (read pages 3–7, pages 20–27 and pages 46–52)
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- Brown, Oliver 2019: Climate-Fragility Risk Brief Afghanistan. Risk Brief produced for the Climate Security Expert Network. Available at *http://bit.ly/RiskBriefAfghanistan*.
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Reflect

- Which are the mechanisms by which climate change facilitates the thriving of NSAG?

- What are the push and pull factors to join terrorist organisations and/or non-state armed groups?

1   Gravingholt, Jörn; Claudia Hofmann and Stephan Klingebiel 2007: Development cooperation and non-state armed groups. Studies/German Development Institute 29. Berlin: German Development Institute. Retrieved 05.02.2020 from *https://adelph.it/gravingholtetal2007*.
2   Small Arms Survey 2013: Everyday dangers: Non-conflict armed violence. Retrieved 01.09.2016 from *https://adelph.it/SAS2013*.
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THE LAKE CHAD CLIMATE-CONFLICT TRAP

Lake Chad is a geological miracle – a freshwater lake in Africa's otherwise arid Sahel region – and home to one of the world's largest humanitarian crises. By late 2017, more than seven million people were suffering from severe food insecurity and more than two million had been displaced by the region's intractable conflict, which is rooted in widespread inequality, decades of exclusion, and political marginalisation.

Climate change and environmental degradation are making it harder for the farmers, fishers, and livestock herders in this pre-dominantly rural population to make a living. The lake's water levels are fluctuating unpredictably, disrupting the availability of freshwater, grazing lands, fish stocks, and vegetation that residents depend upon. As different groups, such as herders and farmers, compete to secure these scarce natural resources, social tensions escalate and the risk of violent conflict increases.

Armed opposition groups such as Boko Haram and the Islamic State West Africa exacerbate these local conflicts, with devastating results. In their battle for control, these armed groups and state security forces destroy or seize productive assets and block access to essential resources, including the lake itself. In response, people fleeing the violence seek shelter in more peaceful areas, where they increase the competition for resources. Many of the displaced depend on humanitarian aid and live in camps that further fragment arable farmland. The Lake Chad Basin is in a downward spiral of lost livelihoods, climate vulnerability, and conflict.

People must be able to cope with these interlinked challenges – and development and humanitarian efforts must be as integrated as the problems they seek to solve. In the Lake Chad Basin, climate adaptation efforts must be conflict-sensitive, which could lead to some unexpected choices. For example, agricultural projects recognize that easy-to-store grains or crops are easily stolen by militant groups, and instead pivot to produce more perishable vegetables; or avoid planting maize varieties that could grow tall enough to provide hiding places for insurgents.

Watch

Climate change is a critical factor in Lake Chad crisis conflict trap – 'Shoring Up Stability' report

Lake Chad is caught in a conflict trap. It is experiencing one of the world's worst humanitarian emergencies with an estimated 10.7 million people in need of assistance. Now a new G7 mandated report from the Berlin based think tank adelphi shows, for the first time, how climate change is interacting with the conflict to compound the crisis and sets out how these challenges might be overcome.

ACCESS *https://adelph.it/LCVideo*

Version en français: Renforcer la stabilité – Le changement climatique et la fragilité dans la région du lac Tchad

Le lac Tchad est enlisé dans un conflit. À cause des affrontements entre les forces de sécurité nationales et des groupes d'opposition armés, notamment le groupe de 'l'État islamique en Afrique de l'Ouest' et 'Boko Haram', 10,7 millions de personnes se retrouvent dépendantes de l'aide humanitaire. Le changement climatique accentue ces problèmes. Un rapport identifie les principaux risques et propose des solutions pragmatiques pour renforcer la stabilité dans la région.

ACCESS *https://adelph.it/LCVideoFR*

The climate conflict trap
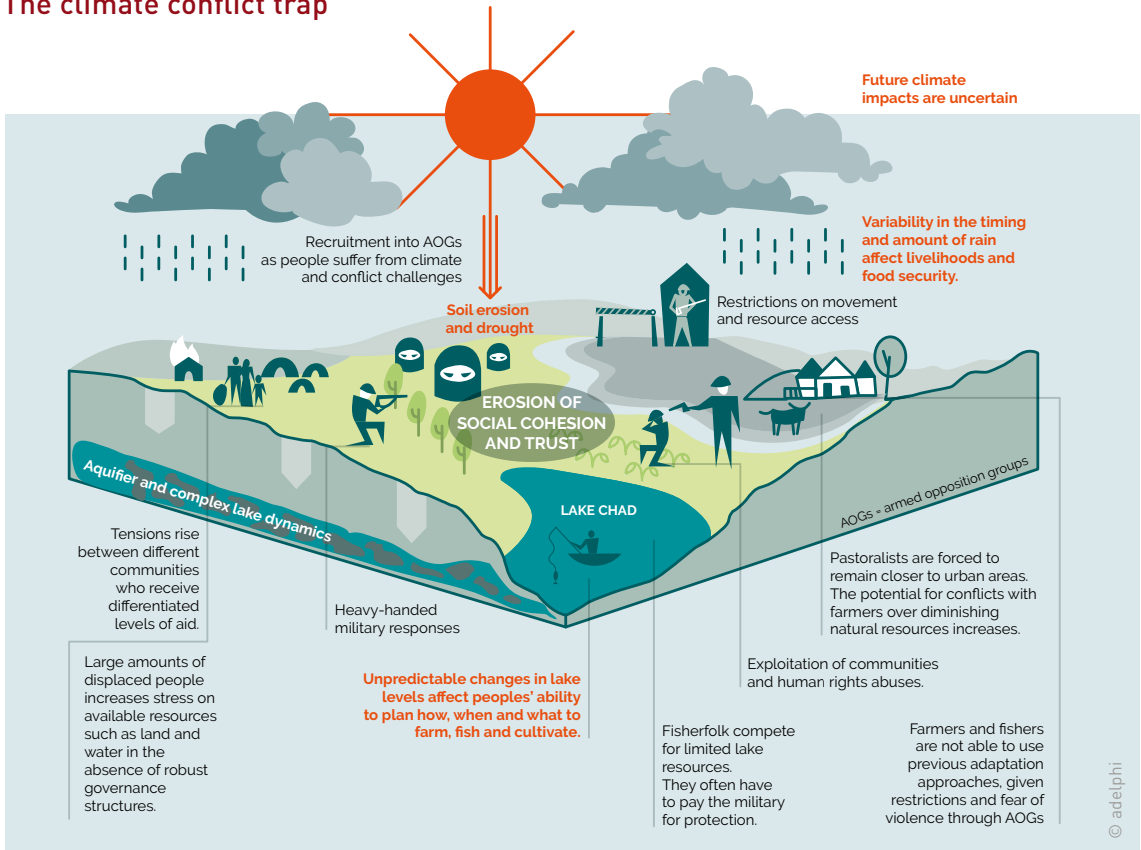
Climate change contributes to the drivers of conflict and conflict affects peoples' adaptation capacities. Source: Vivekananda et al. 2019, p. 44

- Vivekananda, Janani; Martin Wall, Florence Sylvestre and Chitra Nagarajan 2019: Shoring Up Stability. Addressing climate and fragility risks in the Lake Chad region: Available at *https://adelph.it/vivekanandaetal2019*.

- French version: Renforcer la stabilité. En luttant contre les risques du changement climatique et de la fragilité dans la région du lac Tchad. Available at *https://adelph.it/vivekanandaetal2019FR*.

Chapter 6

CLIMATE SECURITY AT THE UNITED NATIONS SECURITY COUNCIL

About the United Nations Security Council

Manuel Elías/UN Photo

The Security Council is one of the six main organs of the UN. Its primary responsibility is the maintenance of international peace and security. For that, the Council investigates disputes around the world and recommends methods to settle them peacefully, promoting friendly relations and cooperation among nations. In some cases, the Security Council can resort to imposing international sanctions or even authorise the use of force to maintain or restore international peace and security. It can establish peacekeeping operations, which work in post-conflict regions to enforce the terms of peace agreements and prevent new conflicts.

The primary responsibility of the Security Council is the maintenance of international peace and security

- Certain decisions of the Security Council are binding for all Member States to the UN. It is the UN's only body which can pass binding resolutions.
- The Security Council consists of ten **non-permanent members** and five **permanent members (P5)**:
  - The permanent members are China, France, Russia, the United Kingdom and the United States of America. They have been on the Council since it was set up in 1945 and can veto any substantive decisions or resolutions.
  - Five of the ten non-permanent members are elected annually by the UN General Assembly for a period of two years. Seats are distributed on a regional basis: five for African and Asian States; one for Eastern European States; two for the Latin American and Caribbean States; and two for Western European and other States.
- The **Security Council's presidency** rotates every month among its members. The presidency sets the agenda, presides over the meetings and can issue statements or notes.
- Decisions in the Council are taken by a majority vote of at least nine members, as long as none of the P5 vetoes the text.
- Many countries are calling for a reform of the UNSC to make it more representative, balanced and reflective of the geopolitical realities of the 21st century.

Responsibility for climate-related security risks falls to different institutions within the United Nations (UN) systems, with no single entity responsible for coordinating activities.

Through the **UN Framework Convention on Climate Change (UNFCCC)** and the Paris Climate Agreement, the world has made significant progress in building global institutions for addressing climate change. Yet it has made less progress in building frameworks for addressing the concurrent risks of social and political instability, insecurity and conflict that arise from the interaction of climate change and social, economic, demographic and political factors. Whereas these issues touch the mandates of many UN organs and agencies, the UN Charter assigns the UN Security Council (UNSC) a pre-eminent role with respect to safeguarding international peace and security. As climate change is becoming an increasingly stronger force in disrupting human, national and international security, the UNSC has faced rising demands to address these security risks.

How has the UN Security Council engaged with climate-related security risks so far?

The Security Council is increasingly recognising that international peace and security depend on a comprehensive engagement with the core drivers of conflict. These core drivers include economic, social and environmental issues, in particular grievances related to marginalisation and loss of livelihoods. Although there has not been a dedicated UNSC resolution on climate change per se, the Council's position has slowly evolved: it now acknowledges security risks related to climate change and calls for appropriate risk assessment and management in specific geographic contexts:

- In **April 2007, the Security Council first discussed** the links between energy, climate, and security under the Presidency of the United Kingdom of Great Britain and Northern Ireland (*S/PV.5663*).
- Two years later, in June **2009**, the UN General Assembly passed **resolution** *A/RES/63/281*, proposed by several small island states, which asked the UN Secretary-General to produce a comprehensive report on climate change and its possible security implications.
- Published in September 2009, the **report** (*A/64/350*) highlighted climate change as a threat multiplier with the potential to exacerbate existing threats to international peace and security.
- In July **2011**, the **German** presidency of the Security Council took the initiative to consolidate the topic within the UN framework by calling an **open debate** on the impact of climate change on the maintenance of international peace and security. The main objectives of this open debate were to strengthen the profile of climate change on the foreign policy agenda, and form and strengthen international alliances to drive the necessary processes to address the issue.
- In the context of this debate, the Council agreed on a **presidential statement** (*S/PRST/2011/15*), in which it recognises that 'the possible adverse effects of climate change may, in the long run, aggravate certain existing threats to international peace and security', and calls for conflict analysis and contextual information.
- In 2013, 2015 and 2017, the United Kingdom, Pakistan, Spain, Malaysia and Italy hosted **Arria**

formula debates on the security implications of rising temperatures. In 2018, the Netherlands initiated a **UNSC briefing** on climate-fragility risks in the Lake Chad region.

- Another UNSC debate then took place in July 2018 under the **Swedish Security Council presidency**, reflecting on the progress of and further needs for the Council to more effectively assess and address security risks related to climate change.

- In January **2019**, the **Dominican Republic** initiated an open debate on the impacts of climate-related disasters on international peace and security, which saw an unprecedented number of Member States take the floor, many at the ministerial level.

UNSC resolutions on specific regions

The efforts outlined above have led to several UNSC resolutions on specific regions that emphasise the adverse effects of climate change and – more importantly – request the operationalisation of this issue through adequate risk assessments and risk management strategies. These references have entered into resolutions and presidential statements on:

- Lake Chad (*S/Res/2349*)
- West Africa and the Sahel (*S/PRST/2018/3*) (*S/PRST/2019/7*)
- Somalia (*S/Res/2408*)
- Mali (*S/Res/2423*)
- Darfur (*S/Res/2429*)
- Africa (*S/Res/2457*)

Initiatives to address climate-related risks

Although the impacts of climate-related events on security are widely known, concrete joint action in tackling climate-related security risks is only just starting to pick up momentum. Since the links between climate and security are global in nature, there is a need for an institution that systematically assesses climate-security risks or coordinates actions on these risks at the international level. At present, there are several initiatives dedicated to the assessment and coordination of climate-related security risks:

- **Group of Friends:** The formation of a Group of Friends (GoF) on climate security in New York, currently comprising some 50 UN Member States, illustrates the increasing support from governments around the world and their shared intention to take the climate-security agenda forward.

- **Climate Security Mechanism:** The Climate Security Mechanism (CSM) is a first step towards a more comprehensive UN response to climate-related security risks. It is located in the United Nations Department of Political and Peacebuilding Affairs (DPPA; formerly DPA) with staff from the UN Development Programme, the UN Environment Programme and DPPA. It collaborates with other practitioners from within and beyond the UN system. It has been tasked to strengthen the UN's capacity to address the linkages between climate change, peace and security.

- **Climate Security Expert Network:** An independent Climate Security Expert Network (CSEN) was established with support from Sweden and developed further by Germany. It has provided assessments of climate-related security risks and risk management strategies to help inform UN responses.

'Non-traditional' / 'non-conventional' security issues

'**Non-traditional**' or '**non-conventional**' **security issues** arise out of non-military sources, but challenge the survival and well-being of peoples and states, thus causing societal and political instability, which in turn threatens security.[1] Examples are transnational problems such as climate change, resources scarcity, natural disasters, and food shortages. Oftentimes, there are no institutions that can live up to the transboundary nature of such issues.

On the other hand, conventional security risks, also referred to as 'hard security' risks, refer to global or regional problems arising from intra- or inter-state conflicts and involving military force.

Since the early 1990s, the UNSC has taken a new approach to defining 'threats to peace' to include 'non-conventional' security risks as well, which opens the space to address climate change in security discussions.

Does the UNSC encroach on the UNFCCC's mandate by acting on climate risks?

- By acting on climate security risks, the Council does **not** encroach on other UN bodies' mandates. It lives up to its own mandate, as stipulated in Article 24 of the UN Charter, which gives the UNSC primary responsibility for the maintenance of international peace and security.
- The General Assembly has made it clear that it does not see UNSC action on climate-related security risks as infringing on the prerogatives of other UN bodies: In its resolution 63/281, adopted on 3 June 2009 without a vote, the General Assembly requested all relevant organs of the UN to 'intensify their efforts in considering and addressing climate change, including its possible security implications.' It also requested the Secretary-General to submit a comprehensive report to the Assembly on this issue. In response, in 2009 the Secretary-General in his report A/64/350 emphasised the 'threat multiplier' effects of climate change on international peace and security. This clearly implies that these effects fall under the UNSC's mandate.

Meaningful progress can only be achieved if risks are addressed across the entire UN system

Readings

- UNSC Open Debate on climate-related security risks 25 January 2019. Available at *https://adelph.it/UNSC2019*.
- Shiferaw, Lidet Tadesse 2019: Securitisation without representation: Yet another reason why Africa needs a permanent seat on the UN Security Council. In: Mucchi, Virginia; Vera Mazzara, Jacquie Dias and Michelle Luijben (eds.): ecdpm Great Insights 8:4, The complex link between climate change and conflict, pp: 12–14. Available at *https://adelph.it/ecdpm2019*.

- Motzfeldt Kravik, Andreas 2018: The Security Council and Climate Change – Too Hot to Handle?'. EJIL-Talk!. Available at *https://adelph.it/motzfeldtkravik2018*.
- Conca, Ken; Joe Thwaites and Goueun Lee 2017: Climate Change and Global Security: What Role for the UN Security Council? Available at *https://adelph.it/concaetal2017*.

Reflect

- What are the UNSC's main constraints in dealing with climate risks?

- In what ways could the UNSC – within its mandate and given its constraints – respond to climate security challenges?

1   NTS-Asia 2019: About Non-Traditional security. Retrieved 31.01.2020 from *https://adelph.it/NTSasia2019* (originally sourced from: Caballero-Anthony, M. (ed.). 2016. An Introduction to Non-Traditional Security Studies – A Transnational Approach. Sage Publications, London.)

Chapter 7

SUSTAINING PEACE IN A WARMING CLIMATE

Clearly, ambitious greenhouse gas emission reductions — **mitigating climate change itself** — are indispensable for reducing climate change impacts. One priority internationally should thus be to implement agreements such as the Paris Agreement, enforce international and national regulations that protect the environment, and eventually transform the way we produce and consume goods and services. Countries with fewer resources to develop in a carbon-neutral way must be given special attention and support.

But as we are on track to breach many critical thresholds, even under ambitious scenarios, we do not only need to phase out fossil fuels ('decarbonise') but we also need to invest in **adaptation** and measures to secure stability in a warming climate. Without meaningful adaptation, climate impacts reinforce injustice, worsen already fragile security situations and can create new national and international security risks. This raises the question of how we can achieve and sustain peace and security when climate events are the 'new normal'.

This chapter looks into the different policy areas and approaches helping design adaptation, development and peacebuilding strategies, programmes and projects in a world of a changing climate.

Sustaining peace in a warming climate

In this video, international experts share insights on what they have learned through fieldwork and research. The connection between climate change and peacebuilding is becoming ever more evident, but conflict dynamics depend on specific regional contexts. Therefore, programmes need to address local drivers of conflict and climate change impacts jointly in order to cross sectoral lines and be more holistic.

ACCESS *http://bit.ly/ClimPeace*

- UN Peacebuilding Support Office 2017: Guidance Note: Sustaining Peace. Available at *https://adelph.it/UNpeacebuilding2017*.
- Rüttinger, Lukas; Dan Smith, Gerald Stang, Dennis Tänzler and Janani Vivekananda 2016: A New Climate for Peace: Taking Action on Climate and Fragility Risks. Executive Summary. Available at *https://adelph.it/nc4p*. (read pages xi-xiv)
- Steven, David; Rachel Locke and Lukas Rüttinger 2019. Beyond 16: The SDGs and the opportunity to build a more peaceful world. In: adelphi 2019: Driving Transformative Change: Foreign Affairs and the 2030 Agenda. Available at *https://adelph.it/stevenetal2019*.
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THE CLIMATE SECURITY COMMUNITY

The 'climate security community' comprises different policy areas, which are all doing their share to protect global stability and prosperity. In times of climate change, all of them will have to factor in the linkages between environmental change and conflict.

For the purpose of this handbook, we suggest three policy areas where climate security should be a direct concern — but of course the list of relevant policy fields could be longer. For this reason, we added cross-cutting, 'related' policy fields for which the implications and consequences of climate security threats are also relevant. The three policy areas are (1) climate policy, (2) peace and conflict prevention, and (3) humanitarian and development cooperation:

1. Climate policy

- **Mitigation:** Mitigation policies aim to implement measures to reduce greenhouse gases, which lead to climate change. These comprise policies to phase out fossil fuels, lower energy consumption and increase efficiency, restore and reforest land, prevent further damage to 'carbon sinks' such as forests and peatlands, support the expansion of renewable energy, and others. Mitigation policies are needed in all sectors (transport, agriculture, energy, housing, etc.). It is important that mitigation policies do not unintendedly undermine other sustainability targets.

- **Adaptation:** Adaptation means to adjust ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. Climate adaptation measures can range from changing agricultural systems, e. g. introducing drought-resistant crops and irrigation systems, to implementing flood prevention measures and facilitating migration into less-affected areas, or enhancing a system's overall capacities to deal with future climate impacts. Adaptation helps countries to anticipate the adverse effects of climate change and to take action to prevent, minimize, and respond to its potential impacts. When combined with comprehensive disaster risk management, it has the potential to avoid triggering or exacerbating future climate-related risks that may even threaten peace and stability. Strengthening countries' capacities to engage in climate change adaptation is key. The international climate policy process, coordinated through the UN Framework Convention on Climate Change (UNFCCC), has sought to establish an international adaptation architecture and emphasized the need to integrate adaptation into development planning. Adaptation is always *context-specific* and adaptation strategies can address one level or multiple levels such as local, regional and national. Climate adaptation can have significant co-benefits for the beneficiaries reaching far beyond reducing the damage. For instance, adaptation projects can: empower women and contribute to gender equality; generate economic benefits or employment; protect biodiversity; or foster food security.

2. Peace and conflict prevention

Peacebuilding and conflict prevention programmes in violence-affected and fragile contexts address the causes and effects of conflict by reducing tensions and creating an environment conducive to sustainable peace. Because access to, and the governance of natural resources play a significant role in driving fragility and conflict or otherwise, peacebuilding needs to be embedded into broader approaches that comprise livelihood security. Examples for this are the dialogue on the New Deal for Engagement in Fragile States and the g7+ initiative.

Related fields:

- **Traditional security and defence policy:** These are policies dealing with international security in the traditional sense, focusing on managing acute crises and relations between states and governments. Whereas climate change usually impacts on human security first, these may ultimately have consequences in the realm of traditional security policy.

3. Humanitarian and development cooperation

Development and humanitarian aid programmes and policies aim to help states and populations build their economic, governance, and social capacities and improve their resilience to shocks. Global processes – such as the **post-2015 development agenda** and its **17 Sustainable Development Goals**, and the **Sendai Framework** for disaster risk reduction – seek to increase both national ownership of development and the resilience of societies against sudden shocks and slow-onset disasters.

Related fields:

- **Disaster risk reduction policy:** Extreme weather events and disasters such as storms and typhoons, floods, droughts, or extreme heatwaves endanger and destroy people's lives, livelihoods, assets, health, and communities. Disasters can put additional stress on already stretched governance systems, decrease economic opportunities, reduce resources, and displace people. A lack of safety nets, preparedness, insurance mechanisms, and other methods to cope with the impacts of disasters can also fuel grievances, especially if government or international assistance is inadequate or inequitably distributed. In fragile and conflict-affected situations, disasters can undermine or override efforts to bolster resilience, increasing the severity of the disaster's impact. DRR is not merely a humanitarian approach to deal with risks, but other ministries often also recur to it to prepare for emergencies.

- **Diplomacy and foreign policy communities** fulfil the cross-cutting task of overseeing external relations and cooperation in all of the policy fields. A central task of foreign policy is to minimise systemic risks to prosperity, stability and security of states, and build international cooperation to achieve these goals. The discussion on how to tackle climate risks has repeatedly highlighted the role of diplomacy as the only policy area where working on the bigger picture is possible, across geographical, linguistic and cultural borders. Foreign policy actors also play a key role in taking leadership on climate security, increasing political will internationally as well as domestically, and in steering international action towards the adoption and implementation of resolutions and agreements. Foreign affairs actors can strengthen and shape the level of international cooperation needed to address global problems, through forums such as the UN, G20, G7 and EU. Just as importantly, they can help build relationships and enable cooperation on the ground.

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Integration: breaking the silos

So far, collaboration across policy fields remains limited and non-systematic. Risks tend to be addressed within sectoral silos. Yet, the evidence shows that climate change and conflict are linked, and scientific analyses call for integrated approaches.

Examples from the Lake Chad region, South Asia, or Mali show that the relation between climate change and fragility is by no means simple or unidirectional. Instead, a number of factors such as livelihood and food security, natural resource governance, state legitimacy and effectiveness, migration, social cohesion and marginalisation are decisive in shaping climate-fragility risks. Especially in conflict and fragility-affected countries, these risks can create negative feedback loops. Climate change increases conflict risks and makes peacebuilding more challenging – and the resulting fragility and conflict can make a society even more vulnerable to climate change.

This underlines the increasing need to **address climate change, fragility and conflict risks together**. The different sectors and policy areas must reflect the multidimensionality and interconnected nature of risks. **Integrating knowledge** from across adaptation, development, and peace-building sectors and making such analysis available to decision-makers is thus arguably the most important step to respond to risks. Existing activities in the fields of climate change adaptation, disaster risk reduction, humanitarian aid, peacebuilding and conflict prevention should also be extended to cities and take into account the specific urban context.

Based on best practices and learning from existing peacebuilding and climate change adaptation programmes, we were able to identify some general entry points for integrated and holistic programming – albeit it is important to note that each policy, programme or intervention needs to be designed in a context-specific way.

Existing programmes and research looking at how to address climate impacts in conflict-affected and fragile contexts points to several tools and entry points to consider:

1. What to do – promising entry points for future interventions include:
   - **Supporting sustainable livelihoods**
   - **Strengthening governance, inclusivity and local institutions**
   - **Better managing natural resources**
2. How to do it – promising instruments to better integrate climate change and security include:
   - **Using scenario and vulnerability analyses**
   - **Ensuring climate and conflict sensitivity**

Moreover, it is critical to support the **implementation of global frameworks** such as the 2030 Agenda, Paris Agreement and Sendai Framework and to leverage synergies across their goals and targets.

SUPPORTING SUSTAINABLE LIVELIHOODS

Sustainable livelihoods are the basis for human security and for coping with and recovering from stresses and shocks. Therefore, developing sustainable livelihoods especially for vulnerable and marginalised population groups can provide economic perspectives, help build social capital, and decrease the compounding pressures of climate change on degraded environments.

Evidence shows that interventions such as the rehabilitation of water sources and rangelands, or the introduction of alternative energy options for households can support livelihood security, thereby reducing the risk of competition and hence potential violence and conflict between and within communities. If they are sensitive to climate and conflict risks, sustainable livelihood projects can play critical roles in peacebuilding and climate-related development programmes by, for example, addressing the root causes of recruitment into armed groups.

However, it is important to remember that interventions to promote sustainable livelihoods generally need to be complemented with other activities aimed at fostering an enabling environment, for example, by creating market linkages and employment opportunities[1]. Indeed, resilience outcomes are best achieved through interventions that address vulnerabilities, risks and capacities across different sectors. In many cases, non-climate solutions – for example those that seek to improve education and job opportunities for the youth or establish markets and trade systems – can also be an effective way to enhance climate adaptation capacity.

- Crawford, Alec; Angie Dazé, Anne Hammill, Jo-Ellen Parry and Alicia Natalia Zamudio 2015: Promoting Climate-Resilient Peacebuilding in Fragile States. Winnipeg/Geneva: IISD. Available at *https://adelph.it/crawfordetal2015*.

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Readings

Arno Trümper/adelphi

STRENGTHENING GOVERNANCE, INCLUSIVITY AND LOCAL INSTITUTIONS

Existing governance structures greatly influence the ways in which climate change risks manifest and play out in specific contexts. Evidence from several contexts around the world shows that communities that lack the institutions, effective dispute resolution mechanisms, economic stability, civil voice and social capital to withstand severe climate impacts are exposed to a higher risk of political instability or conflict. Also, in addition to climate change impacts, livelihood vulnerability was found to be potentially linked to other factors, such as unequal land distribution, insecure land tenure, unsustainable resource management practices, poorly developed markets, existing trade barriers and inadequate infrastructure.[2] Therefore, it is important to understand the role of governance in planning and regulating development, ensuring access to land, providing infrastructure support to mitigate risks from sudden-onset disasters, and promoting livelihood diversification.[1,3]

Inclusive, legitimate and effective governance systems can improve the capacity of communities to manage, adapt to, and recover from shocks peacefully and build resilience against climate, conflict and fragility risks. Having the right institutions in place is essential to ensure that natural resources are well-managed, access is guaranteed on an equitable basis, and conflicts are prevented or effectively managed. Traditional authorities and local governments need to be involved as well, as they often play a role in conflict management and in ensuring basic service delivery at the local level. In many cases, interventions with a capacity-building focus will be needed, which need to be carefully designed and targeted.

For governance frameworks to contribute to peace and resilience outcomes, it is also important that they are inclusive, as exclusion and marginalization can be drivers of conflict. Strategies for cop-

ing with compound climate-fragility risks should target governance mechanisms, both formal and informal, enabling them to integrate marginalized groups – and especially women and youth – into their decision-making structures. Institutions and mechanisms that avoid marginalisation and support the effective and equitable management of natural resources can also contribute to increasing legitimacy and improving the often-damaged relationship between communities and the government. Supporting the creation of new institutions can also be a useful way to start redressing deep-rooted inequities. However, it is critical that these interventions are supported by adequate and continuous resources and capacities and embedded into formal and informal institutions at different levels. Otherwise, they risk increasing disconnectedness, overlaps and conflicts on resources, roles and responsibilities.

How peacebuilding programmes can be more inclusive – an example from Sudan

USAID's peacebuilding programme in the Mellit and Umm Keddada localities in North Darfur State, Sudan can serve as an example of inclusive programming.

Conflict resolution is about reaching consensual solutions and compromises. Traditional conflict resolution requires deep knowledge of the traditions (urf) verbally transmitted from one generation to the next. Historically, conflict resolution and management had been exclusively handled by tribal leaders and the Ajaweed (wealthy and well-respected elites). Knowledge of these traditions remains the monopoly of tribal leaders and the Ajaweed. This has led to feelings of exclusion and left many youth frustrated. The elders were accused of being politicized and manipulated by the government.

USAID's project created youth groups to increase youth participation and representation, of both boys and girls, in the peace committees. They were invited to voice concerns and ideas, and were the target of capacity-building and awareness-raising activities to facilitate their inclusion in both traditional and formal decision-making structures.

Youth groups were invited to voice concerns and to capacity-building and awareness-raising activities

Besides allowing for the transmission of knowledge and skills, the process paved the way toward the democratization and modernization of the traditional conflict management and resolution institution, which is particularly relevant to maintaining the legitimacy (and hence effectiveness) of these tribal native institutions.

Readings

- Smith, Dan and Janani Vivekananda 2007: A climate of conflict: The links between climate change, peace and war. London: International Alert. Available at *https://adelph.it/smithvivekananda2007*.
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UN Photo/Eskinder Debebe

UNMISS/JC McIlwaine

BETTER MANAGING NATURAL RESOURCES

Building peace means addressing the **root causes of tensions** and meeting the basic needs for life (water, food, shelter, and livelihoods), reintegrating former combatants into their communities, and strengthening governance. The sustainable management of natural resources such as land and water can be an effective way of strengthening the resilience of communities to climate change while at the same time being an entry point for peacebuilding, for example by rebuilding relationships and social capital between groups in conflict or strengthening conflict management mechanisms and capacities.

Sustainable natural resource management can increase the chances that these peacebuilding measures will succeed, and in this way help prevent conflict from returning. Improving the management of natural resources can provide opportunities for more effective and equitable governance overall.

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- Jensen, David and Steve Lonergan 2012: Part 5: Natural resources and post-conflict assessment, remediation, restoration and reconstruction: Lessons and emerging issues. In: Jensen, David and Steve Lonergan (eds.): Assessing and Restoring Natural Resources in Post-Conflict Peacebuilding. London: Earthscan. Available at *https://adelph.it/jensenlonergan2012.*

Readings

Middle East: Peacebuilding through water cooperation

For the communities on either side of the Israeli-Palestinian conflict, water scarcity, groundwater pollution, and solid waste management are critical challenges and shared burdens.

The 'Good Water Neighbours' project was established in 2001 by EcoPeace, a civil society organisation, to raise awareness about the water problems shared by Palestine, Jordan, and Israel. The project uses their mutual dependence on shared water basins, including the waters of the Jordan River, which forms the border between them, as a basis for developing dialogue and problem solving. The initiative has built trust among Jordanians, Palestinians, and Israelis at the community level and strengthened political will at the national and regional level.

In the midst of the deadlocked conflict in the Middle East, EcoPeace encourages citizens to discover their common responsibility for water and realise the need to join forces to promote regional water security. The organisation is now applying this concept in Bosnia Herzegovina, and has undertaken trainings for civil society groups in other Balkan countries and South Asia.[4]

Water management in Ethiopia

In Qadaduma, Ethiopia, the PEACE III project identified water scarcity and conflict over access to water resources as one of the key drivers of conflict between the Garre and Ajuran, two groups that had been in conflict across the Kenya-Ethiopia border. For this reason, the project supported the construction of a water pan that provides water to both groups and now supplies over 1,200 households. The project also initiated a process of joint management, which has improved the relations between the Garre and Ajuran.

Beyond improved relations and access to water resources, the water pan also had a number of unintended positive consequences. For example, new transportation and tea-making businesses have sprung up, the number of traders has increased, as has access to government-supported health care and education.

This is a good example of how project activities can move beyond peacebuilding toward increased opportunities to improve relations between communities, as well as improved livelihoods, thus reducing the risk of renewed conflict.[5]

E

USE SCENARIO AND VULNERABILITY ANALYSES

Assessing future climate impacts in and across countries and understanding how they will impact on the development and stability of societies is an increasingly important task for security, peacebuilding, humanitarian and development activities. Scientific data needs to be collected, interpreted and used in planning and strategy development.

Until now, many conflict assessment methodologies – which serve as foundation for security policies and peacebuilding — have not included consideration of the environment and climate change. In practice, peace and conflict assessments are often just a formality conducted by an external expert, with the results rarely informing strategies, planning, and implementation. However, many tools are available to assess climate change, natural resource availability and their interaction with conflict, for example scenario analyses and vulnerability analyses.

Scenario analyses looks at how climate risks may evolve and describes potential pathways under different conditions. Knowing a range of hypothetical but plausible future states makes it possible to develop strategic plans and take informed decisions.

Vulnerability assessments aim to identify and prioritize vulnerabilities to climate change in a country or region, in a sector, or for specific social groups. Climate adaptation options are often based on vulnerability data, which allow targeted and effective responses to increase adaptive capacities. Vulnerability assessments help understand vulnerabilities to natural disasters, food security, water shortage, fragility and conflict, poverty and livelihoods, among others.

- Chad Briggs 2017: Foresight Tools & Early Warning Systems: Vulnerability Assessments for Abrupt and Non-Linear Climate Risks. The Center for Climate and Security. Available at *https://adelph.it/briggs2017*.

- IPCC 2014: Summary for Policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Available at *https://adelph.it/ipcc2014AR5SPM*. (read pages 25–29 [Section C: Managing future risks and building resilience]).

Readings

ENSURE CONFLICT AND CLIMATE SENSITIVITY

Conflict sensitivity

Conflict sensitivity must be a critical component of any approach to ensure that the changes brought about do not inadvertently increase people's vulnerabilities and the risk of conflict. No policy intervention (e. g. policy/programme/project) is neutral; all have **unintended consequences**, positive or negative, direct or indirect. For example, the designation of a biodiversity protection area, while intended as a contribution to adaptation, could unintendedly result in a violent conflict if the government has to forcibly displace an indigenous group reliant on this land for their livelihoods. Therefore, it is important that conflict sensitivity be a critical component of any approach, in order to seek to anticipate and mitigate such negative consequences. But not only that: conflict-sensitivity can also help find opportunities to mitigate tensions and consolidate peace.

Climate sensitivity

Just as climate mitigation and adaptation programmes need to be conflict-sensitive, peacebuilding and security interventions need to be climate-sensitive. In general terms, assessing climate sensitivity **requires tracking trends in greenhouse gas emissions, the consequent and likely changes in climate, and its impact** on different regions and countries. Examples of impact are an increased likelihood of extreme weather events, slow-onset pressures such as droughts,

and seasonal changes such as altered timing of the monsoon. In countries experiencing situations of **fragility**, climate adaptation strategies may be important entry points for addressing climate-fragility risks, since they offer pathways for responding to stresses on critical natural resources. Therefore, adaptation strategies need to be linked to long-term peacebuilding efforts. Not including climate change data in conflict assessments is problematic insofar as there is robust evidence that most fragile and conflict-affected countries will be highly exposed to the impacts of climate change.

Conflict and climate sensitivity

Especially in fragile and conflict-affected contexts, it is important that a **climate assessment goes hand in hand with a conflict analysis**, focusing on the conflict profile, causes, dynamics, and key actors. One useful way to combine these assessments is through a 'climate-sensitive conflict analysis', or an in-depth assessment that considers not only the conflict itself, but also how climate change might impact conflict-relevant factors in the future. This involves adding a scenario-building exercise to a classic conflict analysis scenario to explore how climate change might alter the conflict situation in the future.[6]

Conflict and climate sensitivity should be maintained throughout the design, implementation and evaluation of integrated programs that attempt to **build peace and resilience at the same time**. This is because the interactions among them and with the context are multiple and complex, which increases the risk that the project can 'do harm' through unintended consequences.[7]

Conflict-sensitive disaster management

Disaster risk reduction and effective disaster management efforts can provide opportunities to improve resilience to climate-fragility risks and build peace. However, if poorly designed, these interventions can exacerbate tensions and increase the risk of conflict, e.g. if one community perceives the intervention as an attempt to simply shift the risks onto them. They need to be integrated with peacebuilding and climate change adaptation support, and implemented in a conflict- and climate-sensitive way.

The existing international architecture of disaster risk reduction is well developed. Supported by adequate and flexible human, natural, financial, and legal resources, its positive impacts could be further enhanced by linking existing structures more closely to comprehensive risk assessment and integrated strategies for development.

READ MORE *The Sendai Framework for Disaster Risk Reduction as a Tool for Conflict Prevention (http://bit.ly/SendaiFrame)*

Conflict-sensitive adaptation

Climate change increases the frequency and severity of natural disasters, and reduces access to and availability of resources. Adapting to climate change can minimize the resulting threats. At the same time, adaptation efforts can have adverse effects themselves if they aren't well planned. Considerations of peace and conflict are often absent in most adaptation programmes.

As adaptation resources and benefits are allocated by international donors, it is crucial to recognise that they have an impact on people's livelihoods, asset base and local power dynamics. There exists a risk that these efforts – although well-intended – may overburden the capacities of institutions, aggravate tensions and even trigger violence. At worst, this might lead to a situation where adaption measures themselves create the 'tipping point' for a fragile country to end up in a violent situation.

When developing a climate change adaptation project, programme or intervention in a conflict-affected or fragile context, it is therefore important to ensure to '**do no harm**' and identify opportunities for more sustainable and resilient outcomes. Making efforts to consider conflict dynamics throughout key policy stages – early warning and assessment, planning, financing, and implementation – will be a complex, though essential, endeavour.

Adapting to climate change has the potential to minimise threats if carefully planned

Early action to address future climate risk and to be prepared for coping with impacts is key not only because it ensures preparedness, but also because it **can save costs**. Often, the earlier risks are identified, the easier it is to plan and implement adaptation measures. Even more so if these measures are set in fragile environments and are to address peacebuilding and sustainable development at the same time.

Is adaptation political?

Yes. But adaptation is often treated as a primarily technical challenge. Its apolitical character is reflected in vulnerability assessments (the analytical instruments which are used to develop adaptation strategies). Although progress has been made, vulnerability assessments typically lack a discussion of the **socio-economic consequences of climate change and its impact on the political order and human security**. Information about a country's fragility and conflict history tend to be ignored. There is, however, evidence that climate change in combination with other factors – such as weak governance, scarcity of resources, strong population growth or ethical tensions among others –

might create new vulnerabilities and thus generate or exacerbate tension and conflict (see, for instance, Rüttinger et al. 2015)[8]. Climate change, for example, might trigger rural-urban migration and increase competition for increasingly scarce resources in cities.

Adaptation measures that ignore climate-related social consequences might be misguided in the sense that they could focus too much on technical and too little on socio-political aspects (e.g. upgrading infrastructure vs. strengthening governance and capacities to absorb rural-urban migration).

As highlighted above, adaptation measures raise political questions as well. Depending on how they are designed and implemented, they can also contribute to eroding social structures and inducing instability within and between states, especially in fragile contexts. Adaptation planning would therefore benefit from a greater consideration of the political implications.

Conflict sensitivity checklist[9]

Various tools and guidance documents have been developed to facilitate the design and implementation of adaptation programmes. One of them is the conflict-sensitivity checklist.

The questions below are relevant to the whole programming cycle — from the planning and initiation of a programme, to the implementation, monitoring and evaluation (M&E) and refinement. There is no right or wrong answer.

- Has a conflict analysis been conducted (at the local and/or national level)? Does it include an assessment of underlying conflict factors and power dynamics as well as a stakeholder analysis? How has the design of the project been informed by this analysis?
- Have you considered whether and, if so, how project activities could make conflict worse or spark conflict within or between communities? If so, how will these risks be managed and monitored?
- Have you considered how your project would respond if there was an increase in conflict within or close to the project sites?
- Have you identified specific challenges faced by men and women, young people, boys and girls?
- Have you identified any underlying values and attitudes relating to gender that may be responsible for driving gender inequalities? How might these affect your project and how might your project affect these values and attitudes?

- How have the project beneficiaries and partners been selected? Has this been informed by the conflict analysis (e. g. accounting for any divisions along ethnic or political lines)? Were clear criteria for participant selection developed with the local communities (including both direct beneficiaries and surrounding communities)?
- Are communities involved in decision-making and planning around the programme design, implementation and monitoring? What feedback and accountability mechanisms have been built into the programme implementation plans?
- Does your framework for monitoring and evaluation (M&E) reflect the ways in which the project interacts with conflict dynamics? Does it capture the effects that the project will have on conflict and the impacts that the conflict dynamics could have on the intervention?
- Do budgets include provisions for updating the conflict analysis and building the capacity of staff, partners or community members in conflict and gender sensitivity?

Readings

Recommended

- Mosello, Beatrice and Janani Vivekananda 2020: Pathways to peace: Addressing Conflict and Strengthening Stability in a Changing Climate: Lessons learned from Resilience and Peacebuilding Programs in the Horn of Africa. Technical report. Available at *https://adelph.it/mosellovivekananda2020*.
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SUPPORTING THE IMPLEMENTATION OF GLOBAL FRAMEWORKS

Global frameworks are crucial for enhancing resilience. They can serve as transmission mechanisms that create international norms and help citizens hold national governments accountable. However, their effectiveness depends on the commitment and action of national governments, civil society, businesses, and citizens.

In 2015, the international community established three major frameworks that will help build global resilience: the **2030 Agenda for Sustainable Development**, the **Paris Agreement**, and the **Sendai Framework for Disaster Risk Reduction**. These overlapping agendas complement and reinforce one another. Since they emerged from different political processes, we need to do more to maximise their synergies. Still, they constitute the beginning of a more orderly global architecture for sustainable development and resilience. Implementing the 2030 Agenda, Paris Agreement, and other global frameworks is a thus a very important contribution to peace.

Agenda 2030	Sendai Framework	Paris Agreement
What is it? The 2030 Agenda for Sustainable Development is a global framework for prosperity, equality, and peace adopted by the United Nations on 25 September 2015. The 17 Sustainable Development Goals established by the 2030 Agenda were prepared in a thorough and inclusive international negotiation process following the United Nations Conference on Sustainable Development in 2012 (or Rio+20 Summit) and replaced the Millennium Development Goals.	Droughts, floods, hurricanes and other disasters endanger lives and livelihoods. Climate change is making them more severe and more frequent. The Sendai Framework seeks to reduce the risks posed by both natural and man-made hazards. It was adopted at the Third UN World Conference on Disaster Risk Reduction in March 2015, building on its predecessor, the Hyogo Framework of Action.	The Paris Agreement establishes a global goal of limiting the world's temperature increase to well below 2°C or even 1.5°C. The landmark agreement was adopted at the UN climate conference (COP21) in December 2015.
What is its contribution to resilience? Development cannot be achieved without peace — and without sustainable development, peace will be fragile. The goals of the 2030 Agenda include peace, justice, and strong institutions. By improving people's ability to cope with crises and securing their long-term livelihoods, sustainable development can help decrease the risk of conflict. The 2030 Agenda is outstanding because it recognises that all dimensions of development are interconnected, and that protecting our planet is essential for equitable long-term development.	Disasters have the greatest impact on society's weakest groups. Disasters are not just bad luck; they are more severe where people are more exposed and more vulnerable. After a disaster, deteriorating living conditions and stressed governance structures provide fertile ground for political instability, human rights abuses, and conflict. To maintain stability, governments must prepare for extreme disasters, mitigate their impacts, and support swift and sustainable recovery. The Sendai Framework provides guidance to reduce disaster risks.	Climate change is a 'threat multiplier': its negative impacts on livelihoods, natural resources, and development progress can fuel conflict. Implementing the Paris Agreement will help reduce these risks by minimising these impacts and supporting communities as they adapt to changes that cannot be reversed. Climate projects can also help people cope with crises, strengthen community ties, and reduce local conflict.

Video documentary 'Adapting to a changing climate'

This 20-minute documentary highlights the growing recognition of the need for action to adapt to climate change around the world and introduces viewers to the topic of climate change adaptation by weaving inspiring stories of adaptation action together with interviews with experts.

The documentary was produced by the United Nations Climate Change secretariat on behalf of the UNFCCC's Adaptation Committee.

ACCESS *https://adelph.it/UNFCCCadaptingclimch (also available in other languages)*

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Chapter 8

KNOWLEDGE PLATFORMS & INITIATIVES

adelphi

adelphi is a leading independent think tank and public policy consultancy on climate, environment and development. The organization compiles regional and sectoral risk analyses for international organisations and governments, and is developing methods for use in conflict-sensitive programmes, methods which implementing organisations can use for the early recognition of confrontations resulting from climate change and to counteract potentially violent developments. It operates the largest information portal on this issue worldwide (climate diplomacy platform).

ACCESS *https://www.adelphi.de/en*

Center for Climate and Security

The *Center for Climate and Security* (CCS) explores and highlights the security risks of climate change at the sub-national, national, regional, and international levels and offers solutions for mitigating and adapting to those risks. The CCS is a non-partisan institute of the *Council on Strategic Risks*, with a distinguished Advisory Board of senior retired military leaders and security professionals; it facilitates policy development processes and dialogues, provides analysis, conducts research, and acts as a resource hub in the climate and security field.

ACCESS *https://climateandsecurity.org*

Climate Diplomacy Initiative

The Climate Diplomacy Initiative was launched by the German Federal Foreign Office in cooperation with adelphi and partners to leverage diplomacy in support of international action on climate change. The initiative has played a central role in catalysing international debates on climate diplomacy and security, developing key narratives, contributing to awareness-raising and capacity-building efforts, supporting policy-makers in moving from risk analysis to timely preventive action, and facilitating international and regional dialogues on this topic around the world. The *Climate Diplomacy Platform* provides a comprehensive collection of reports, policy briefs, articles, videos, and podcasts on these issues.

ACCESS *https://www.climate-diplomacy.org*

Climate Security Expert Network

The Climate Security Expert Network (CSEN) was set up to support the UN system in addressing climate-fragility risks. Specifically, it supports the Climate Security Mechanism, which was set up to strengthen the UN's institutional capacity to identify, prevent and manage climate-related security risks, and the Group of Friends on Climate and Security. The network consists of some 30 experts from around the globe.

ACCESS *https://www.climate-security-expert-network.org*

Planetary Security Initiative

The *Planetary Security Initiative* (PSI) has hosted four Planetary Security Conferences (PSC) which gathered representatives from governments, international organisations, think tanks, NGOs, academia, and the private sector from more than 70 countries. The conferences have successfully strengthened a community of practice around climate and security, bolstered knowledge, and forged an agenda for action. In 2017 the PSI launched *the Hague Declaration on Planetary Security* at the 3rd PSC to support concrete steps to advance action in six different areas connected to climate change and security. This *website* gives an overview of the six action areas and the progress that has been achieved so far by the international community in this respect.

ACCES *https://www.planetarysecurityinitiative.org*

SIPRI

As an independent international institute dedicated to research into conflict, armaments, arms control, and disarmament, the Stockholm International Peace Research Institute (*SIPRI*) provides data, analyses, and recommendations on global security. Part of SIPRI's research is dedicated to *climate change and risk* and looks into how climate-related security risks are interlinked and interact with different social, political, and economic processes. SIPRI also analyses how different policy organisations are responding to these risks and advises them on conflict-sensitive adaptation and mitigation strategies and international efforts for sustaining peace.

ACCESS *https://www.sipri.org*

Stockholm Climate Security Hub

The *Stockholm Climate Security Hub* brings together four research institutes: The Stockholm Environment Institute (SEI), Stockholm International Water Institute (SIWI), Stockholm International Peace Research Institute (SIPRI), and Stockholm Resilience Centre at Stockholm University (SRC). The hub was launched in response to Sweden's non-permanent membership to the UN Security Council from 2017–2018 with the aim to push climate security up on the international agenda.

ACCESS *https://www.climatesecurityhub.org*

Wilson Center Environmental Change and Security Program

For 25 years the *Environmental Change and Security Program* (ECSP) of the *Woodrow Wilson International Center for Scholars* (Wilson Center) has been actively pursuing the connections between the environment, health, population, development, conflict, and security. ECSP brings together scholars, policy-makers, media, and practitioners through events, research, publications, multimedia content, and their blog *New Security Beat*

ACCESS *https://www.wilsoncenter.org/program/environmental-change-and-security-program*