Action on Climate and Security Risks

Review of Progress 2017

adelphi

THE CENTER FOR CLIMATE AND SECURITY

sipri

Janani Vivekananda

Clingendael

Netherlands Institute of International Relations

Planetary Security
INITIATIVE

Action on Climate and Security Risks

Review of Progress 2017

Lead author: Janani Vivekananda (adelphi)

Co-authors: Shiloh Fetzek (Center for Climate and Security), Malin Mobjörk (Sipri), Amiera Sawas (Sipri) and Susanne Wolfmaier (adelphi)

December 2017

December 2017

About the authors

Janani Vivekananda is Senior Advisor on Peacebuilding and Climate Change at adelphi.

Shiloh Fetzek is Senior Fellow for International Affairs at the Center for Climate and Security.

Malin Mobjörk is Senior Researcher and Head of SIPRI's Climate Change and Risk Project.

Amiera Sawas is Researcher in the Climate Change and Risk Project.

Susanne Wolfmaier is a Research Analyst at adelphi specialising on climate change, peace and security.

Acknowledgements: With thanks to Dan Smith, Director of SIPRI for his insights and advice, and to Tammo Bakker and Carolina Sarzana of the Clingendael Institute for their diligent editorial support. This report is the responsibility of the authors and does not necessarily reflect the views of any of the donors.

Follow us on social media
@PlanSecu
The Planetary Security Initiative
The Planetary Security Initiative

Email: psi@clingendael.org
Website: www.planetarysecurityinitiative.org

Contents

Executive summary

This report looks at progress made on policy and practical responses to climate-security risks for 2016-2017. Using the independent G7 commissioned report *A New Climate for Peace* as a basis, and building on last year's report, *Towards A Global Resilience Agenda*, this year's report sets out the key achievements, pitfalls and new challenges facing the foreign policy community working to reduce climate-fragility risks.

2017 saw ongoing and worsening political conflict and humanitarian crises. At the same time, we have witnessed a year of climate extremes. Devastating hurricanes, floods and tropical storms buffeted the Caribbean, North America and South Asia, whilst drought and desertification push thousands more towards extreme hunger in the Sahel and the Middle East. Arctic ice is at its thinnest level ever and a vast iceberg, twice the size of Luxembourg, broke off an ice shelf on the Antarctic Peninsula.

As climate extremes and conflicts are increasing, so too are geopolitical and socio-economic extremes. The world is currently and simultaneously facing high levels of uncertainty around the fragile new world order, the highest levels of displaced people in decades, and a peak in global hunger - affecting 11 per cent of the world's population. These trends all affect each other, and are projected to worsen.

The global political and economic context has been a major stumbling block for political progress on tackling climate and security risks. The global economy has still yet to recover from the 2008 crash. And efforts to put economic recalibration onto an environmentally sustainable track have been hindered by a shift to nationalist populism across Europe and the US, Brexit, the Trump administration and the rise of right-wing parties such as Alternative für Deutschland in Germany have made it difficult for political leaders and officials to push this agenda.

Nevertheless, there has been political progress and opportunities. Positive developments in the climate and security space in the past year include steps taken towards new and deeper partnerships for resilience, for example, between the EU and China, across 14 US states following Trump's threatened withdrawal from the Paris Agreement, and between municipal authorities around the world through alliances such as the C40 Cities Climate Leadership Group. There has also been greater acknowledgement of climate-fragility risks in national and global fora, policies and strategies, for example in the EU's Global Resilience Strategy, UN Security Council Resolution 2349 on Lake Chad, and the Australian Senate Inquiry into climate and security. Various global frameworks such as the Sustainable Development Goals, the New Urban Agenda - the global agreement for promoting sustainable urban development, and the Global Compact

for Migration - the first ever global level agreement on migration and displacement are now being implemented, presenting opportunities for promoting long-term and sustainable solutions to the root causes of climate-security risks. And there have been steps to operationalise action to address climate-fragility risks, for example, the G7 and partner states are supporting a comprehensive risk assessment of Lake Chad. But these practical steps towards implementation - which are few and far between – need to be scaled up, driven deeper and multiplied to have lasting impact.

Against this context, our review of progress presents a mixed bag. US President Trump's decision to withdraw from the Paris agreement has not yet been nearly as damaging as commentators had feared. Yet other steps which appeared positive, such as the UNSC Resolution on Lake Chad including an entire, unprecedented paragraph on the role of climate change on the crisis, failed to live up to expectations, with the ensuing Report by UN Secretary General Guterres failing to make any reference to climate change at all. Added to this are new issues which remain largely unaddressed in policy and practice and require further attention, such as the implications of climate change on urban security, the risks to security of transitions to low carbon energy, and the links between climate change and radicalisation.

These circumstances present three key tests for addressing climate-fragility risks:

1. Shifting dynamics in international cooperation and leadership opens new space to address climate-security risks at the international level through new mechanisms and within new alliances.
2. More people than ever before are at risk. Urgent and growing humanitarian needs underscore the critical importance of better preventative action, even as most resources continue to be channelled into dealing with crises *ex post*.
3. As efforts to operationalise commitments under global frameworks such as Agenda 2030 roll out, the need for enhanced cooperation and coordination between policies, actors and their actions under various frameworks becomes more apparent than ever - if they are ever to effectively address climate-security risks.

But on balance, the policy progress, emerging partnerships and tentative steps towards action on building resilience to climate-security risks offer more grounds for optimism than for pessimism.

Notwithstanding this cautious optimism, the urgent challenge to move from analysis to action on addressing climate-fragility risks remains. To this end, we set out three, cumulative steps to help catalyse the much needed transition from analysis to action to build global resilience:

1. **Partner for resilience:** The complex nature of climate-fragility risks requires many actors – international and regional institutions, civil society, and the private sector – to work more closely together. An institutional home for climate change and security within the UN system would provide much needed a locus for leadership, cooperation and joint-action. Greater cooperation between the G20 Development Working Group and G7 Climate Fragility Working Groups would also enable better coordination and stronger global leadership on the issue.

2. **Prioritise prevention:** This means a move towards a new funding and programming paradigm which puts prevention first. Steps would include:
   - Moving from post-crisis response, with prevention focused on only the most immediate risks, to early and urgent action to directly tackle and manage the full range of risks that could lead to climate related conflict.
   - Strengthening national institutions' capacity to focus on prevention, enhancing governance legitimacy and expanding the scope of and calibre of government actions.
   - Combining short and long-term approaches. Shorter-term results increase the buy-in for investment in sustained and strategic approaches to prevention.

3. **Move from analysis to action**: Successfully addressing climate-related security challenges requires knowledge sharing, partnerships, and getting out of separate silos. It requires the emergence of a new community of practice, a road-map to consolidate, strengthen and catalyse action to address climate-fragility risks, and a joint commitment towards a set of shared goals. To advance this goal, the Planetary Security Consortium have set out an Agenda for Action in The Hague Declaration. It contains practical commitments governments, institutions and organisations can take on specific thematic and geographic areas. The Hague Declaration is an example of the kind of efforts required to move from analysis to action, by contextualising the recommendations of the G7 commissioned report *A New Climate for Peace* in specific regions and sectors.

1 Introduction

This report looks at progress made on policy developments and practical responses to climate-fragility risks for 2016-2017. Taking the 2015 report *A New Climate for Peace* as its starting, and building on last year's progress report, *Towards A Global Resilience Agenda,* this report sets out the key achievements, setbacks and new challenges in international policy on climate-fragility risks. The report also sets out recommendations and some priority areas for action.

On the whole, progress on the recommendations and action areas set out in *A New Climate for Peace* has been limited, in large part due to a tumultuous year of climatic and political extremes. Progress has been made, but largely on policy and rhetoric, less so on implementation. However, on balance, the policy progress, emerging partnerships and tentative steps towards action on building resilience to climate and security risks offer more grounds for optimism than for pessimism.

Indeed, this year saw an historic peace agreement signed in Colombia and a UN agreement on a draft treaty to ban nuclear weapons. However the year also saw escalating crises, fractures in leadership and in institutions. Fighting continued unabated in Syria, Iraq, Yemen and Libya, tensions between Israel and Palestine flared up and violence has been renewed, and the blockade of Qatar and the inter-power rivalry between Iran and Saudi Arabia also put tension on stability in the Middle East. The human rights and violence situation in the Ukraine, Venezuela, Nigeria, South Sudan and Afghanistan have worsened. So too have relations between the Democratic People's Republic of Korea (DPRK) and the rest of the world as the DPRK pushes forward with the development and testing of ballistic missiles and the ratcheting up of rhetoric and threats between the White House and Pyongyang.

At the same time, we have witnessed a year of climate extremes. Hurricanes, floods and tropical storms have buffeted the Caribbean, North America and South Asia, whilst drought and desertification push thousands more towards extreme hunger in the Sahel. Arctic ice is at its thinnest level ever and a vast piece of the Antarctic ice shelf broke off.

The global political and economic context has been a major stumbling block for political progress. The global economy has still yet to recover from the 2008 crash. And efforts to put economic recalibration onto an environmentally sustainable track have been hampered by a shift to nationalist populism across Europe and the US.

Nevertheless, there have been political progress and -opportunities. On entering into office, the new UN Secretary General Antonio Guterres pledged to make 2017 the "Year of Peace", setting out an agenda for conflict prevention and sustaining peace, and stating that 'prevention is not merely *a* priority, but *the* priority'.[1] And despite the indications from President Trump of a US withdrawal, the Paris Agreement on Climate Change is set to go on. It will be implemented, and indeed this year has seen a ground swell of activism and sub-national support for the goals set by Paris. Progress is also being made by the private sector, for example in the field of renewable energy and within the car industry, and there are some glimmers of hope that what was considered alternative energy is becoming mainstream energy.

Notwithstanding these steps, the challenge to move from analysis to action remains an urgent priority. This is true in the conflict and in the climate arena, and certainly in the arena where both meet, particularly in addressing climate-related security risks to development and humanitarian programmes.

This report is structured in four sections. It begins with a review of the current climate change, security and geopolitical context, highlighting the key trends and occurrences of 2017 (Chapter 1). Next comes an analysis of the main climate-fragility risks of the year, based on the risk analysis approach set out in *A New Climate for Peace* (Chapter 2). Chapter 3 gives an overview of the most pertinent policy processes and developments of 2017 and takes stock of progress made towards achieving a global resilience agenda. Finally, the last section offers some summary conclusions and recommendations.

1.1 Climate trends, challenges and perspectives

2017 was the year of climate extremes. The multiple, extreme and protracted weather events experienced around the world have had profound consequences for people's lives, livelihoods, peace and security. At the same time, there has been a surge in compelling research studies about climate change and its impacts. Despite some resistance to climate-security risks by a small set of political players and academics, overwhelmingly across policy, practise, research and the public, the case for acknowledging climate-fragility risks is more compelling than ever.

1 UN News Centre. 2017. 'Bonn: Financing for low-carbon, climate-resilient future takes center stage at UN climate conference' http://www.un.org/apps/news/story.asp?NewsID=55899#.Wdx_U9WCypo (accessed November 2017); and United Nations Secretary General. 2017. 'Remarks to the Security Council Open Debate on "Maintenance of International Peace and Security: Conflict Prevention and Sustaining Peace". https://www.un.org/sg/en/content/sg/speeches/2017-01-10/secretary-generals-remarks-maintenance-international-peace-and (accessed November 2017)

In 2017 NASA's State of the Climate report informed us that 2016 was the hottest year on record, with C02 levels exceeding 400 parts per million for the first time in over 800,000 years. In 2016 several other climate change related records were broken, including global averages for sea surface temperature, lower atmospheric temperature and sea levels. Academics argued that such records, which have been consistently broken since 2014, would be extremely unlikely without anthropogenic human activity.[2]

Sea level rise is a particular concern, with new research showing that it is happening at a faster rate than previously thought – 50% faster than in 1993, in fact.[3] The annual rate of sea level rise has increased since 1993 – from 2.2 millimetres per year to 3.3 millimetres in 2014. According to Chen et al (2017)[4] a thaw in Greenland's ice sheets as well as the melting of other glaciers has accelerated this rise which is expected to continue in future. Shephard et al (2017) concur that all the Polar Regions except for East Antarctica are losing ice.[5] This sets the world on course for up to 76cm of sea level rise by the end of the century, which would have massive impacts for the security of Small Island Developing States (SIDS) and coastal megacities.

Research also highlighted the increasing unpredictability of weather patterns including rainfall, drought, wind and tropical storms.[6] The latter parts of 2017 saw almost back-to-back extreme weather events including Hurricanes Irma, Harvey and Maria in August and September in North America and the Caribbean. Hurricanes are not necessarily *driven* by climate change, and these were forecasted to occur.[7] However, scientists point out the likelihood that Harvey, Irma and Maria were exacerbated by climate change.[8] They also warn that such hurricanes will become more intense in future, in part due to the warming of the ocean and atmosphere.[9]

2 Mann, M.E., et al. 2017. 'Record temperature streak bears anthropogenic fingerprint', *Geophys.Res. Lett.*, 44, 7936–7944

3 Chen, X., et al. 2017. 'The increasing rate of global mean sea-level riseduring 1993–2014'. *Nature Climate Change.,* 492-497

4 Ibid 2

5 Shepherd, G.E. et al. 2017. 'On the consistency of seismically imaged lower mantle slabs'. *Nature Scientific Reports*, 7, Article number: 10976

6 Wang, R., et al. 2017. 'Biophysical and hydrological effects of future climate change including trends in CO2, in the St. Joseph River watershed, Eastern Corn Belt'. *Agricultural Water Management,* 180, 280-296

7 Greshko, M. 2017. 'Why This Hurricane Season Has Been So Catastrophic'. *National Geographic.* https://news.nationalgeographic.com/2017/09/hurricane-irma-harvey-season-climate-change-weather/ (accessed November 2017)

8 Lopez, G. 2017. 'How global warming likely made Harvey much worse, explained by a climatologist'. *Vox.* https://www.vox.com/science-and-health/2017/8/28/16214268/houston-floods-harvey-global-warming (accessed November 2017)

9 Emanuel, K. 2017. 'Will global warming make hurricane forecasting more difficult?'. *Bulletin of the American Meteorological Society,* 98(3), 495-501

Even more severe impacts (in terms of human lives lost) occurred in the South Asian monsoon season. In late August, extreme levels of precipitation led to floods in Pakistan, Bangladesh, Nepal and India. This affected at least 45 million people, a large proportion of which were displaced from their homes.[10] Despite monsoons being an annual occurrence, this year's rainfall was extreme. Combined with little or no flood early warning systems, destruction was widespread.[11] Over 1 million homes in India and Nepal were damaged, critical infrastructure such as schools, hospitals and transport were destroyed, and a devastating 1300 lives were lost, an estimated 30-40% of which were children.[12] In Southern China's Jiangxi province, floods in July led to an approximate 430 million USD in damages and economic losses.[13]

Heavy rainfall is set to increase by at least 20% across South Asia before 2050, and more intense and extreme weather storms predicted to become the 'new normal' for the Caribbean and North America.[14] Climate change is already reversing development gains in the affected countries, many of which are located in the most vulnerable regions of the world. In order to strengthen the resilience of the population, we cannot exclusively rely on the implementation of the Paris Agreement, which at best will have long term benefits. Better disaster prevention and an integrated approach towards climate change adaptation and disaster risk reduction is necessary now.

1.2 Current conflicts

In 2017, the world was "facing the largest humanitarian crisis since the creation of the UN" according to UN Emergency Relief Coordinator Stephen O'Brien[15], in large part due to conflict. In Yemen, about two-thirds of the population (more than 18 million

10 UNICEF. 2017. '16 million children affected by massive flooding in South Asia, with millions more at risk ', https://www.unicef.org/media/media_100719.html (accessed November 2017)

11 Raj, S., and Gettleman, J. 2017. 'They Thought the Monsoons Were Calm. Then Came the Deadly Floods'. The New York Times. https://www.nytimes.com/2017/09/07/world/asia/bihar-india-monsoon-floods.html (accessed November 2017)

12 Ibid 10

13 Xinhua. 2017. 'China starts emergency flood response in Guangxi'. http://news.xinhuanet.com/english/2017-07/03/c_136414286.htm (accessed November 2017)

14 See: Pacific Standard. 2017. 'How climate change contributed to massive floods in South Asia'. https://psmag.com/environment/how-climate-change-contributed-to-massive-floods-in-south-asia (accessed Oktober 2017) and: Climate Home. 2017. 'UN secretary general links hurricane devastation to climate change'. http://www.climatechangenews.com/2017/09/19/un-general-assembly-leaders-link-hurricane-devastation-climate-change/ (accessed Oktober 2017)

15 UN News Centre. 2017. 'UN aid chief urges global action as starvation, famine loom for 20 million across four countries'. http://www.un.org/apps/news/story.asp?NewsID=56339#.WaPqnMZpzYA (accessed August 2017).

people) were in need of humanitarian assistance, including seven million facing severe food shortages. In mid-2016 South Sudan experienced a new outbreak of fighting, leading to the deaths of over 300 people while 40,000 were displaced. In addition, South Sudan's economy suffered from the highest inflation rate in the world. This resulted in an enormous deterioration of living conditions. In early 2017 a famine was declared in parts of South Sudan, with up to 100,000 people affected.[16] While famine eased later, the number of people facing severe food shortages in the country rose from 4.9 million in early 2017 to six million in summer 2017.[17]

Due to the conflict linked to Boko Haram, along with other factors, almost five million people in north-east Nigeria and 8.5 million people in the Lake Chad basin region are at risk of severe food insecurity.[18] The food crisis is currently "Africa's largest humanitarian emergency".[19] The high number of displacement and casualties among the population, destruction of economic infrastructure, and a decrease in trade led to an enormous decline in food production.

After six years of war, Syria is still experiencing conflict, instability and one of the worst humanitarian crises in the world. While reliable statistics on the war's casualties are unavailable, one estimate is that over 450,000[20] people have been killed, 6.3 million are internally displaced, and 13.5 million people are in need of assistance in Syria.[21] Involvement of foreign actors in the conflict has significantly increased over the last years. Several rounds of peace talks could not reach a lasting ceasefire.[22]

In Iraq, fighting between government forces and the Islamic State (ISIS) intensified throughout 2016 and 2017, leading to over 9000 casualties. Attacks claimed by ISIS killed

16 Mercy Corps. 2017. 'Quick Facts: What you need to know about the South Sudan Crisis'. https://www.mercycorps.org/articles/south-sudan/quick-facts-what-you-need-know-about-south-sudan-crisis (accessed August 2017)

17 UN News Centre. 2017. ' As South Sudan famine ebbs, UN warns millions still face 'extreme hunger on the edge of a cliff'. http://www.un.org/apps/news/story.asp?NewsID=57029#.WaP2x8ZpzYA (accessed August 2017).

18 International Crisis Group. 2017. 'Instruments of Pain (IV): The Food Crisis in North East Nigeria'. https://www.crisisgroup.org/africa/west-africa/nigeria/b126-instruments-pain-iv-food-crisis-north-east-nigeria (accessed August 2017).

19 Ibid 18

20 Reuters. 2017. 'Syrian war monitor says 465,000 killed in six years of fighting'. http://www.reuters.com/article/us-mideast-crisis-syria-casualties-idUSKBN16K1Q1 (accessed November 2017)

21 UNHCR. 2017. 'Syria Emergency'. http://www.unhcr.org/syria-emergency.html (accessed November 2017)

22 Geneva Academy. 2017. 'The War Report. Armed Conflicts in 2016'. https://www.geneva-academy.ch/joomlatools-files/docman-files/The%20War%20Report%202016.pdf (accessed August 2017), p. 33-41.

more than 200 people in over a dozen suicide and car bombings.[23] Iraqi forces with the support of a US-led coalition have taken back several cities held by ISIS, including Iraq's second city Mosul. In October, the US-supported Syrian Democratic Forces also regained the control of al-Raqqa, the Syrian city that ISIS appointed to be the capital city of its Caliphate. Although large-scale fighting in reclaimed areas is over, the security threats for civilians are even more diverse – including hunger, disease and sexual violence.[24]

Hostilities between Taliban and government forces continued in Afghanistan in 2016 with no significant progress with regard to the peace process. According to the UN, 2016 saw a "record number" of almost 11,500 civilian casualties in Afghanistan.[25] Besides Taliban insurgency, Islamic State affiliated groups assumed responsibility for several severe attacks.[26] This overall deteriorating security situation continued in 2017, resulting in various serious attacks.

In Myanmar, inter-communal violence and human rights violations by Myanmar's security forces against the Muslim Rohingya minority have caused increased refugee flows to neighbouring countries in 2017.[27] In August, the most recent peak of violence erupted in Myanmar's Rakhine state, resulting in approximately 480,000 additional Rohingya refugees moving to already climate-stressed Bangladesh.[28] In an address to the UN Security Council UN Secretary-General António Guterres called the Rohingya crisis "the world's fastest developing refugee emergency" providing a "breeding ground" for radicalization.[29]

23 Human Rights Watch. 2017. 'Iraq. Events of 2016'. https://www.hrw.org/world-report/2017/country-chapters/iraq (accessed August 2017)

24 UN OCHA. 2017. 'Humanitarian Bulletin Iraq, July 2017', http://www.uniraq.org/index.php?option=com_k2&view=itemlist&layout=category&task=category&id=161&Itemid=626&lang=en&limitstart=6 (accessed August 2017).

25 UNAMA. 2017. Afghanistan. 'Protection of Civilians in Armed Conflict. Annual Report 2016, February 2017', https://unama.unmissions.org/sites/default/files/protection_of_civilians_in_armed_conflict_annual_report_8feb_2016.pdf (accessed August 2017)

26 Human Rights Watch. 2017. 'World Report 2017. Afghanistan. Events of 2016'. https://www.hrw.org/world-report/2017/country-chapters/afghanistan (accessed August 2017).

27 European Commission. 2017. 'The Rohinga Crisis, ECHO Factsheet'. *European Civil Protection and Humanitarian Aid Operations*. http://ec.europa.eu/echo/files/aid/countries/factsheets/rohingya_en.pdf (accessed November 2017)

28 Reuters. 2017. 'Number of new refugees from Myanmar in Bangladesh up to 480,000 – agencies' https://www.reuters.com/article/us-myanmar-rohingya-refugees/number-of-new-refugees-from-myanmar-in-bangladesh-up-to-480000-agencies-idUSKCN1C11KE?il=0 (accessed November 2017)

29 United Nations Secretary-General. 2017. 'Remarks at open debate of the Security Council on Myanmar'. https://www.un.org/sg/en/content/sg/speeches/2017-09-28/sgs-myanmar-remarks-security-council (accessed November 2017)

In sum, 2017 saw a continuation of the longer global trend – since 2010 – of an increase in number and intensity of post-Cold War conflicts. Many of these conflicts take place in areas profoundly affected by climate change. And indeed, taking account of climate-related risks to conflict will be a critical challenge for stabilisation, peacebuilding and post-conflict reconstruction efforts.

1.3 Refugees and displacement

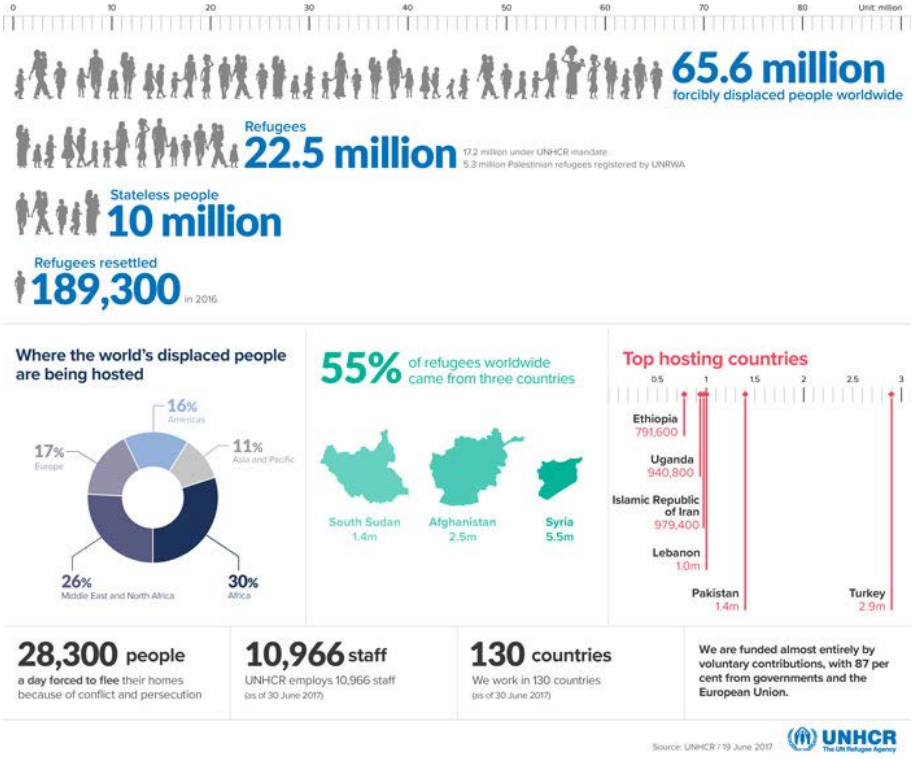
The UNHCR reports that 2016 saw the highest level of displacement on record with 65.6 million people uprooted worldwide.[30] According to the Internal Displacement Monitoring Centre, 31.1 million were new displacements caused by conflict, violence and disasters.[31] Syrians are still the biggest group of internally displaced persons and refugees (12 million), followed by Colombians (7.7 million) and Afghans (4.7 million). Iraqis are the fourth largest group of refugees and IDPs (4.2 million). The fastest growing displacement occurred in South Sudan, with a total of about 3.3 million South Sudanese who have fled during 2016. Developing or middle-income countries received 84 per cent of refugees and one third of refugees were hosted by a least developed country.[32]

There were 24.2 million new displacements by disasters in 2016. As in previous years, South and East Asia were the regions most affected by disaster displacement. While China, India and the Philippines have the highest absolute numbers, small island states suffer disproportionately once population size is taken into account. Weather-related hazards, in particular storms, brought on the majority of all new disaster displacements in 2016.

30 For figures see: UNHCR. 2017. 'Figures at a Glance'. http://www.unhcr.org/figures-at-a-glance.html (accessed August 2017)

31 Internal Displacement Monitoring Centre. 2017. 'On the GRID: Internal displacement in 2016'. http://www.internal-displacement.org/global-report/grid2017/ (accessed November 2017)

32 UNHCR. 2017. 'Forced displacement worldwide at its highest in decades'. http://www.unhcr.org/news/stories/2017/6/5941561f4/forced-displacement-worldwide-its-highest-decades.html (accessed 31.08.2017). (accessed November 2017); For figures see: UN Iraq. 2017. http://www.uniraq.org/index.php?option=com_k2&view=itemlist&layout=category&task=category&id=161&Itemid=626&lang=en&limitstart=6; Reliefweb. 2017. 'Iraq Humanitarian Snapshot'. http://reliefweb.int/report/iraq/iraq-humanitarian-snapshot-30-june-2017; UNHCR. 2017. 'South Sudan situation'. http://data.unhcr.org/SouthSudan/regional.php#_ga=2.238672067.295566066.1504165265-80718903.1493805225; UNHCR. 2017. 'Syria Regional Refugee Response' http://data.unhcr.org/syrianrefugees/regional.php#_ga=2.210292950.295566066.1504165265-80718903.1493805225; UNHCR Afghanistan. 2017. http://reporting.unhcr.org/node/4505#_ga=2.9033206.295566066.1504165265-80718903.1493805225



While migration is influenced by many political, social, economic and environmental factors, the main drivers of displacement include conflicts, environmental stress and natural disasters. The current and future impacts of climate change – most visibly, sudden onset disasters such as Hurricanes Harvey, Irma and Maria, but also slow burning impacts like the droughts in Nigeria, Yemen and South Sudan, will only continue to shape the numbers and patterns of human mobility. Whether or not it can be managed without violence will be shaped by the policies in place to support those that feel they need to move, and their hosts.

1.4 Geopolitical context

1.4.1 The United States, Paris and new international climate dynamics

On 1 June 2017, US President Trump stated that the United States planned to officially withdraw from the Paris climate agreement by 2020. Whilst the move sparked a sharp backlash from the rest of the world, it seems unlikely to be a major setback for

international efforts to minimise dangerous climate change. Despite the ceremony around the announcement, the US federal government's position on the Paris Agreement remains ambiguous, with Secretary of State Tillerson stating that [President Trump is] considering staying in the Paris agreement to fight climate change "under the right conditions."[33] In light of the shifts in US engagement with the UNFCCC process, it is worth noting the new dynamics emerging nationally and globally.

What seems most clear is that while the U.S. Administration will not likely advance domestic actions to reduce greenhouse gas emissions, other actors, including the US Congress and political leaders at the state level, are taking some steps forward on climate change. In response to the United States federal government's decision to withdraw from the Paris Agreement, a bi-partisan coalition of 14 states called The United States Climate Alliance was formed, led by Governor of New York Andrew Cuomo, Governor of Washington Jay Inslee and Governor of California Jerry Brown. Alliance members have committed to supporting the Paris agreement, and are pursuing state-level climate action to make progress toward its goals. Within the US Congress, a bipartisan majority in the U.S. House of Representatives affirmed climate change as a "direct threat to the national security of the United States" in recent legislation, and called for a study on the matter from the Department of Defense (2018 National Defense Authorization Act).[34] This movement illustrates a trend of growing bi-partisan support for addressing climate change risks. As of September 2017, for example, states that are part of the United States Climate Alliance were on track to meet their share of the U.S. pledge under the Paris accord, thanks in part to local mandates on renewable energy and electric vehicles.[35] In short, recent dramatic shifts in U.S. national climate policy may not be sufficient to overcome the political, governmental and economic inertia on the issue built across U.S. administrations over the last two decades.

There is also cause for some optimism at the global level. In what is emerging as a significant shift in climate geopolitics, key developing countries appear determined to continue steps to curb carbon emissions, despite a shift in leadership from the United States. That is true not just of China, the world's top emitter, and India, by most accounts the fourth-largest emitter, but also of fast-growing nations in Latin America and Africa. These countries' main environmental motives may not be to fight climate change, but

33 Peker, E. 2017. 'Trump Administration Seeks to Avoid Withdrawal From Paris Climate Accord'. *The Wall Street Journal* https://www.wsj.com/articles/trump-administration-wont-withdraw-from-paris-climate-deal-1505593922 (accessed November 2017)

34 Werrell, C., and Femia F. 2017. 'Extraordinary Congressional Bipartisanship on Climate and Security'. *The Center for Climate and Security.* https://climateandsecurity.org/2017/07/14/extraordinary-bipartisan-showing-on-climate-and-security/. (accessed November 2017)

35 U.S. Climate Alliance. 2017. 'U.S. Climate Alliance Annual Report: Alliance States Take the Lead'. https://www.usclimatealliance.org/reports (accessed November 2017)

rather to clean up dirty air and add domestic jobs in burgeoning low-carbon industries. Achieving those ends would indirectly help constrain carbon emissions. There is also ample room for additional global leadership on advancing investments in climate adaptation.

Whilst a US pull-out from Paris may reflect a broader shift in the US role in the world, the Paris Agreement is likely to survive. That said, it is clear that the Nationally Determined Contributions are not in themselves enough to achieve the 2°C goal, let alone the "well below 2°C" aspirations of the Paris Agreement. Much depends on efforts to increase ambition within the Paris process, and with Washington playing a less active role, generating the political will, technological innovation and economic discipline to step up the world's response to climate change is likely to prove more challenging.

Indications of new and serious partnerships are also emerging. China and the EU declared an alliance with the aim of taking a leading role in tackling climate change, as was documented in the "Elements for a new EU strategy on China", adopted by the EU Council in 2016.[36] After failed previous attempts at better cooperation, this new agenda has been bolstered by China's leadership of the G20. At their 19th Bilateral Summit in early June[37], the parties discussed how to work together to "speed up the implementation of the Paris agreement wherever possible"[38], through climate finance, evidence based decarbonisation pathways and joint action in support of carbon markets. It must be emphasised that the Paris Agreement is only one element of a broader international governance architecture that must be strengthened to make sure countries are better prepared for climate risks. As such, other forums like the G7, the United Nations Security Council, and regional institutions, should play a larger role in buffering changes in international climate leadership, and continuing to support actions to address climate risks at the sub-national scale in ways that are resilient to domestic political change.

36 European Commission. 2016. 'Joint Communication to the European Parliament and Council, Elements for a New EU Strategy on China'. http://eeas.europa.eu/archives/docs/china/docs/joint_communication_to_the_european_parliament_and_the_council_-_elements_for_a_new_eu_strategy_on_china.pdf (accessed November 2017)

37 Council of the European Union. 2017. 'EU-China Summit, 01-02/06/2017'. http://www.consilium.europa.eu/en/meetings/international-summit/2017/06/01-02/ (accessed November 2017)

38 Weigel, M. and Demissie, A. (2017). 'A New Climate Trilateralism? Opportunities for Cooperation Between the EU, China and African Countries on Addressing Climate Change'. German Development Institute. https://www.die-gdi.de/uploads/media/DP_8.2017.pdf (accessed November 2017)

1.4.2 Security community 'state of play' on addressing climate risks

According to the American Security Project's Global Security Defense Index on Climate Change, most national security, defence and intelligence communities acknowledge the security dimensions of climate change.[39] Some are actively implementing policies to build their resilience to the effects of climate change, both in terms of infrastructure and the global operating environment. Many militaries have programs on defence adaptation to maintain and enhance their capabilities in operating environments shaped by climate change; one aspect of this is diversifying their energy portfolios and transitioning away from dependence on fossil fuels, undertaken in part in response to the risks of transporting fuel in-theatre.

The security establishments of small island states and nations and territories with significant low-lying coastal zones, such as in the Marshall Islands and Bangladesh, are acutely aware of climate change risks to national security – in some instances, existential risks. Aspects of climate security may be incorporated into other planning areas such as Disaster Risk Reduction, particularly in Asia-Pacific, and water security, particularly in Africa and the Middle East.

Otherwise, the degree to which other defence establishments are implementing plans to address climate change-related risks in a way that is commensurate with the threat is not wholly clear as such a comprehensive survey has not been conducted. It seems that attention to the issue varies considerably between the security communities of different countries and regions, and between successive elected governments within countries.

Nevertheless, the ongoing mix of intensifying natural disasters and humanitarian crises seem to be depoliticising the issue, raising appreciation of how climate change impacts may shape the security environment in coming decades. In the United States, this depoliticised concern has manifested with senior defence leaders under the Trump Administration, including Secretary of Defense James Mattis and four other defence leaders,[40] continuing to publicly raise concerns about climate change, and a bipartisan majority in the U.S. House of Representatives that affirmed climate change as a "direct threat to the national security of the United States" in recent legislation (2018 National

39 American Security Project. 2014. 'The Global Security Defense Index on Climate Change'. https://www.americansecurityproject.org/climate-energy-and-security/climate-change/gsdicc/ (accessed November 2017)

40 The Center for Climate and Security. 2017. 'Military Times : Pentagon Still Preparing for Global Warming'. https://climateandsecurity.org/2017/09/13/military-times-pentagon-still-preparing-for-global-warming/ (accessed November 2017)

Defense Authorization Act).[41] Major U.S. defence policy initiatives continue to be implemented, including the 2016 Department of Defense Directive on Climate Change Adaptation and Resilience[42], and the Climate Change Adaptation Roadmap.[43]

Elsewhere, such as in Australia, France, the Netherlands and NATO, the concern about climate risks to security has grown over the past few years, as evidenced by a number of relevant statements and meetings. For instance the Dutch Chief of Defence General Middendorp expressed his concern over climate change as a threat to peace at the second Planetary Security conference in The Hague in December 2016.

That said, concerns primarily revolve around infrastructure and a potentially increased tempo and scale of military operations in response to natural disasters. While there is widespread recognition among militaries of the increased demand for humanitarian assistance and disaster response that near-term climate change-related impacts may drive, many national security communities, including those most likely to be affected by the fragility and instability risks of climate change, typically have not incorporated the more diffuse, longer-term "strategic" dimensions of climate change impacts into their planning. Further, knowledge and appreciation of how climate change might interact with other traditional priorities of security establishments (such as nuclear threats and terrorism) remains low.

For example, in some disaster-prone areas of Asia-Pacific, an increase in frequency and intensity of extreme weather events are seen as a priority for military equipment and capabilities, but there is little acknowledgment from the defence and intelligence communities, at least in the public domain, of how issues such as migrating fish stocks, or sea level rise impacts on maritime boundary delimitations, might fall within their purview. Efforts are underway to incorporate climate-security curricula into defence sector education, including in Australia, the United States and Pakistan. This may be a fruitful path to raising awareness amongst the next generation of military leaders, as well as with partner nations who participate in joint training and education activities.

Ultimately, as observable climate change impacts manifest, this issue gains attention amongst security establishments. On the international stage, leadership in advancing

41 The Center for Climate and Security. 2017. 'Extraordinary Congressional Bipartisanship on Climate and Security'. https://climateandsecurity.org/2017/07/14/extraordinary-bipartisan-showing-on-climate-and-security/ (accessed November 2017)

42 Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. 2016. 'DOD DIRECTIVE 4715.21. CLIMATE CHANGE ADAPTATION AND RESILIENCE'. http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/471521p.pdf (accessed November 2017)

43 US Department of Defense. 2014. '2014 Climate Change Adaptation Roadmap'. https://www.scribd.com/doc/242845848/Read-DoD-report-2014-Climate-Change-Adaptation-Roadmap (accessed November 2017)

resources and planning for addressing the security dimensions of climate change has ebbed and flowed between countries, subject to changing political and economic circumstances and priorities. This suggests that climate change concerns have not yet been widely or deeply institutionalized within security establishments, with the exception of a few nations that either have a wide regional or global reach, or whose existence/ stability is clearly threatened by climate change.

2 Climate change and fragility – areas of risk and response in 2017 and beyond

In 2015, the G7 commissioned report *A New Climate for Peace* set out seven compound climate-fragility risk clusters: 1) Local resource competition, 2) Livelihood insecurity and migration, 3) extreme weather events and disasters, 4) Volatile food prices and provision, 5) transboundary water management, 6) sea level rise and coastal degradation and 7) unintended consequences of climate action. Major concerns are emerging around each of these seven compound climate-fragility risks. This chapter does not provide a comprehensive review of each risk cluster, but focuses on the most pertinent trends and events that affected climate-fragility risks in 2017. These trends are: i) the increase in world hunger; ii) migration; and iii) extreme events and disasters. Below we set out knowledge gains in these areas and progress on adequate responses.

2.1 Volatile food prices and provision: risks of chokepoints and breadbasket failures

The UN's first ever global assessment on food security and nutrition found that world hunger was on the rise, driven by climate change and conflict.[44] After steadily declining for over a decade, hunger levels are up, affecting 11 percent of the global population, that is, 815 million people, up from 777 million in 2015. Some of the highest proportions of food-insecure and malnourished children in the world are now concentrated in conflict zones. Many of these regions are also adversely affected by climate change. For example, famine struck in parts of South Sudan for several months in early 2017, and there are strong indications that that it could reoccur there as well as appear in other conflict-affected places, namely northeast Nigeria, Somalia and Yemen. But even in regions that are more peaceful, droughts or floods linked in part to the El Niño weather phenomenon, as well as the global economic slowdown, have also seen food security and nutrition deteriorate. Furthermore, the interaction of prolonged drought, ongoing conflict and governance issues has led to a critical situation by which food security issues are not only leading to severe malnutrition and famine, but are contributing to migration and communal and border conflicts over natural resource

44 Food and Agriculture Organization of the United Nations. 'The State of Food Security and Nutrition in the World 2017'. http://www.fao.org/state-of-food-security-nutrition/en/ (accessed November 2017)

access.[45] In fact, across the world, and especially in Africa, drylands are under extreme pressure due to a combination of factors that are disrupting livelihoods, intensifying conflicts and decreasing resilience.[46]

The scientific evidence reliably shows that increasing temperature, the stronger El Nino effect in 2015 and 2016 and reduction in groundwater resources are major drivers of food insecurity. There is clear evidence that climate change is reducing crop quality and yield[47], which "ultimately depend on a dynamic balance of appropriate biophysical resources, including soil quality, water availability, sunlight, CO2, temperature suitability, and, in some cases, pollinator abundance".[48] Krimley et al (2017), modelled on current climate scenarios, observe the shortening of the growing and cultivation periods of winter wheat and spring barley. They found the harvest of winter wheat could move up to 21 days earlier, affecting potential yield. According to Zhao et al (2017), without effective mitigation measures, "each degree-Celsius increase in global mean temperature would, on average, reduce global yields of wheat by 6.0%, rice by 3.2%, maize by 7.4%, and soybean by 3.1%".[49] In real time, food prices are being affected – a drought in Kenya led to severe price increases, with the main staple food, maize flour, rising by 31%.[50] The drought became a major issue in the Kenyan presidential elections of August 2017 – an example of how food security issues at the local level, can scale up to a national discussion.[51]

45 UN Office for the Coordination of Humanitarian Affairs. 2017. 'Horn of Africa: Humanitarian Impacts of Drought – Issue 9 (10 Aug 2017)'. http://reliefweb.int/report/somalia/horn-africa-humanitarian-impacts-drought-issue-9-10-aug-2017 (accessed November 2017)

46 Huang, J. et al. 2016. 'Accelerated dryland expansion under climate change'. *Nature Climate Change*, 6, 166–171

47 Food Security Information Network. 2017. 'Global Report on Food Crises 2017'. http://www.fao.org/3/a-br323e.pdf (accessed November 2017); and Myers, S.S. et al. 2017. 'Climate Change and Global Food Systems: Potential Impacts on Food Security and Undernutrition'. *Annual Review of Public Health,* 38, 259-277. http://www.annualreviews.org/doi/full/10.1146/annurev-publhealth-031816-044356 (accessed November 2017)

48 Myers, S.S., et al. 2017. 'Climate Change and Global Food Systems: Potential Impacts on Food Security and Undernutrition'. *Annual Review of Public Health,* 38, 259-277. http://www.annualreviews.org/doi/full/10.1146/annurev-publhealth-031816-044356 (accessed November 2017)

49 Zhao, C., et al. 2017. 'Temperature increase reduces global yields of major crops in four independent estimates'. *Proceedings of the National Academy of Sciences of the United States of America,* 114(35), 9326-9331

50 Okiror, S. 2017. 'Drought takes centre stage in Kenya's election campaign as food prices rise'. *The Guardian.* https://www.theguardian.com/global-development/2017/jun/02/drought-centre-stage-kenya-election-campaign-food-prices-rise (accessed November 2017)

51 Ibid 50

Looking at the US and China (which account for 60% of maize production), the probability of multiple breadbasket failures where climate impacts affect production in both regions simultaneously, is increasing by 6% per decade, predominantly due to water stress.[52] Researchers warn that "*adaptation plans and policies based solely on observed events from the recent past may considerably under-estimate the true risk of climate-related maize shocks in these regions*", and call for a similar analysis of all key crops. Evidence from elsewhere, including Malaysia[53], Portugal[54], India[55] and the Euro-Mediterranean region,[56] indicates similar risks. Looking to Asia, the Asian Development Bank warns of rapidly emerging risks in South Asia, including around food agricultural yields. Per capita calorie availability is on the decline across all South Asian countries and the costs of food imports are likely to increase substantially – making food insecurity a major risk.[57] This is likely to have compound effects in Asian cities, where half of Asia's populations are likely to reside by 2050, according to rural-urban migration trends.[58] In the current era, in many of Asia's cities, municipal and regional governments are not prepared, or even considering how to ensure food supply chain security in the face of a changing climate.

These sectoral risks are important in the bigger picture of climate-fragility risks. Studies show that food insecurity, particularly relating to food provision and price volatility can be strong drivers of discontent.[59] The FAO referred to the risks of such discontent from a gendered perspective with its report on 'Food security, sustaining peace and

52 Kent, C., et al. 2017. 'Using climate model simulations to assess the current climate risk to maize production'. *Environmental Research Letters*. 12(5). Accessed through: http://iopscience.iop.org/article/10.1088/1748-9326/aa6cb9/meta (accessed November 2017)

53 Alam, M.M. et al. 2017. 'The Impacts of Agricultural Supports for Climate Change Adaptation: Farm Level Assessment Study on Paddy Farmers'. *American Journal of Environmental Sciences*, 7(2), 178-182

54 Yang, C., et al. (2017). Assessment of irrigated maize yield response to climate change scenarios in Portugal. *Agricultural Water Management*, 184, 178-190

55 Isaac, R. K., and Isaac, M. 2017. 'Vulnerability of Indian Agriculture to Climate Change: A Study of the Himalayan Region State'. *World Academy of Science, Engineering and Technology, International Journal of Biological, Biomolecular, Agricultural, Food and Biotechnological Engineering*, 11(3), 224-230.

56 Toreti, A., et al. 2017. 'Climate change impacts on crop yield in the Euro-Mediterranean region'. In *EGU General Assembly Conference Abstracts,* 19

57 Report of the Asian Development Bank. (2017, July)."A Region at Risk: the Human Dimension of Climate Change in Asia and the Pacific". Accessed on November 2017 from: https://www.adb.org/sites/default/files/publication/325251/region-risk-climate-change.pdf

58 Chatterjee, R., et al. 2016. 'Urban Food Security in Asia: A Growing Threat'. *Urban Disasters and Resilience in Asia*, 161-178

59 Hendrix, C.S., and Brinkman, H. 2013. 'Food Insecurity and Conflict Dynamics: Causal Linkages and Complex Feedbacks'. *Stability: International Journal of Security and Development,* 2(2:26), 1-18

gender equality', released in September 2017.[60] They noted that reducing food insecurity, especially in states affected by conflict or the legacy of conflict, would have some impact towards reducing incentives for males to join armed groups. Furthermore, despite a lagging evidence base, the FAO suggests that there could be an important relationship between ensuring food security and gender equality.[61]

The impact of compound climate risks on food security is duly, albeit slowly, becoming a major global concern, although adequate policy and practical responses are still thin on the ground. This year there has been acknowledgement of the relationship between food security issues and security issues such as protests and recruitment to insurgent groups, and there a more conflict preventative, risk based approach is emerging.[62]

In 2017, Chatham House identified 14 trade 'chokepoints' – critical junctures on transport routes through which exceptional volumes of trade pass – that are critical to food security.[63] The authors emphasise that climate and weather hazards are increasingly disruptive to these critical chokepoints, making the trade of key food commodities vulnerable. "*Climate change is increasing the threat of disruption by acting as a hazard multiplier across all three categories of chokepoint risk. It will increase the frequency and severity of extreme weather, leading to more regular closures of chokepoints and greater wear and tear on infrastructure. Rising sea levels will threaten the integrity of port operations and coastal storage infrastructure, and will increase their vulnerability*".[64]

In terms of adequate responses, the first step is sufficient action on global climate change, particularly adaptation. In the absence of this, the FAO point to a worsening food security outlook for 2018, especially in Ethiopia, Kenya and Sudan (who are at risk of famine), but also with intensifying food insecurity related to El Nino effects in Mozambique, Zimbabwe, Madagascar and Somalia. In the immediate short-term, responses need to take account of the highly contextual and globally interconnected nature of climate-related risks agriculture and food security. This calls for more locally grounded research that can provide specific, contextual information to inform adaptation policies, strategies, and measures. This must go beyond just technical fixes such as the

60 Food and Agriculture Organization of the United Nations. 2017. 'Food security, sustaining peace and gender equality: conceptual framework and future directions'. http://www.fao.org/3/a-i7610e.pdf (accessed November 2017)

61 Ibid 60

62 USAID. 2016. 'Conflict Sensitivity in Food Security Programming'. https://www.usaid.gov/sites/default/files/documents/1866/Conflict-Sensitivity-in-Food-Security-Programming.pdf (accessed November 2017)

63 Chatham House. 2017. 'Chokepoints and Vulnerabilities in Global Food Trade'. https://www.chathamhouse.org/about/structure/eer-department/vulnerabilities-and-choke-points-global-food-trade-project (accessed November 2017)

64 Ibid 63

development of new crop varieties, and must aim to address the different risk factors which interact to undermine people's resilience in specific contexts.[65]

2.2 New insights on livelihood security and migration

2016 saw a plethora of resources that have strengthened global understanding about the relationships between livelihood security and migration. Human mobility in response to changing environments has been a feature throughout history; seasonal migration is a key livelihood strategy across South Asia, the Middle East, Africa and other regions. However, what is becoming more prevalent is an increase in duration of circular migration patterns and in the need to migrate permanently and to new places, due in part to the impacts of a warming climate.

The World Food Programme (WFP) released a report which discussed the marked rise in international migration in recent years, pointing out that nine out of ten international refugees move to a low or middle income country.[66] Working with migrants from 10 countries, now settled across the Middle East and southern Europe, the WFP determined, that "countries with the highest level of food insecurity, coupled with armed conflict, have the highest outward migration of refugees".[67] While not using the language of climate change, the report does emphasise environmental degradation as a structural factor for livelihood insecurity and migration.

A report commissioned by Greenpeace emphasised that the climate change and migration linkage is an underestimated global disaster, with an average of 25.4 million people displaced every year as a consequence of rapid and slow-onset natural disasters.[68] However, due to the complex climate and migration nexus – mediated in different ways by governance, political and societal issues – there has been insufficient research and policy response to date. The Greenpeace report emphasises that migration, and the accompanying employment opportunities, can in fact present opportunities for host societies and countries, but there must be much more focussed attention to promote more coordinated and pragmatic migration that does not drive

65 Sonwa, D. J., et al. 2017. 'Drivers of climate risk in African agriculture'. *Climate and Development*, 9(5), 383-398.

66 United Nations World Food Programme. 2017. 'At the Root of Exodus: Food security, conflict and international migration'. https://reliefweb.int/sites/reliefweb.int/files/resources/wfp291884.pdf (accessed November 2017)

67 Ibid 66

68 Greenpeace. 2017. 'Climate Change, Migration, and Displacement The Underestimated Disaster'. https://www.greenpeace.de/sites/www.greenpeace.de/files/20170524-greenpeace-studie-climate-change-migration-displacement-engl.pdf (accessed November 2017)

people towards higher-risk areas such as coastal megacities and river deltas and where livelihoods are already at risk, as are the current trends.

The Wilson Center also drew attention to the linkages between water security, food security and migration in Central America[69], where Guatemala, Honduras and El Salvador have been particularly affected. Honduras, for example is one of the world's most vulnerable countries to climate change[70] and is also home to around 174,000 Internally Displaced Persons.[71] The 2017 study of Epicentres from the Center for Climate and Security outlined the negative implications of these climate impacts on the coffee crop – the most profitable export crop in the region and one of the main sources of employment and income – contributing to the livelihoods of 25 million farmers.[72] The study illustrates how climate change's impact on coffee production could drive broader social and security risks, and disrupt the intricate and fragile relationship between coffee farming and economic, social, political and regional security. These impacts are already unfolding. And in a region which has faced political instability, violence and fragile governance for decades, the added pressure of climate change impacts are exacerbating the push factors for people to move, predominantly from rural areas to already stressed urban areas. The International Organisation for Migration (IOM) calls for more work to increase resilience to the impacts of climate change in order to prevent what they emphasise is 'forced migration' in the Central American region.[73]

Considering eighty percent of African citizens depend on agriculture for their livelihoods; the impacts of climate change on livelihoods have been severe. Drylands are especially affected by climate change, for example the Lake Chad Basin Region, crossing Cameroon, Niger, Nigeria and Chad and the Omo-Turkana basin region, crossing northern Kenya, Southern Ethiopia and South Sudan. In South Sudan, a 2-3 Celsius

69 Wilson Center. 2017. 'Water, Food Security, and Migration in Central America'. https://www.wilsoncenter.org/event/water-food-security-and-migration-central-america (accessed November 2017)

70 Kreft, S., et al. 2013. 'Global climate risk index 2015: Who suffers most from extreme weather events'. *Weather-related loss events in*.

71 United Nations High Commissioner for Refugees. 2017. 'Northern Triangle of Central America Situation Factsheet'. http://www.refworld.org/country,,UNHCR,,HND,,58aae2bb4,0.html (accessed November 2017)

72 Fetzek, S. 2017. 'Climate, Coffee and Security', in : *Epicenters of Climate and Security : The New Geostrategic Landscape of the Anthropocene*, ed. Werrell, C. E. and Femia, F., The Center for Climate and Security, 91-99, https://climateandsecurity.files.wordpress.com/2017/06/11_the-coffee-belt.pdf (accessed November 2017)

73 Organización Internacional para las Migraciones para Centroamérica, Norteamérica y el Caribe. 2017. 'Plan Estratégico Trinacional para Guatemala, Honduras y El Salvador. Triángulo Norte 2017-2021. Marco Operacional para Situaciones de Crisis Migratoria'. https://www.iom.int/sites/default/files/our_work/DOE/MCOF/Plan%20Estrategico%20MCOF%20-Guatemala%20Honduras%20Y%20El%20Salvador.pdf (accessed November 2017)

temperature increase has exacerbated drought, and food and livelihood insecurity.[74] The combination of drought and development projects are driving an impending catastrophe for five million people as they eliminate 'last resort' grazing lands for livestock, flood recession agriculture and fishing habitats.[75] As a result there is a rapid increase in human mobility and displacement on both sides of the border, heightening grievances against the state, famine and communal conflicts.[76] These conflicts have manifested in gendered ways, where women and men have become primary targets of different forms of violence.[77]

In late 2016 the Wilson Center released a report on policy lessons that can be learned by cases such as Darfur and Syria where there has been a complex interlinkage between climate change, migration and security.[78] Crucially, they noted, that considering that the majority of internal displacement occurs within borders or to neighbouring countries – there is a need for renewed efforts to strengthen local and regional institutions. This includes customary institutions which may not be 'formally' recognised by states but are key to the way people in societies interact with each other. Furthermore they observed that focusing on people's access to livelihoods, rights to basic resources and environmental peacebuilding could be key tools.

All reports noted a lack of sufficient data on migration, but the existing data yields fairly consistent findings: that combined with governance gaps, and/or conflict, climate

74 UN Development Programme. 2017. 'Climate Change, Food Insecurity and Resilient Livelihoods in South Sudan', https://reliefweb.int/report/south-sudan/climate-change-food-insecurity-and-resilient-livelihoods-south-sudan (accessed November 2017). And : Omondi, P. and Vhurumuku, E. 2014. 'Climate risk and food security in South Sudan : Analysis of climate impacts on food security and livelihoods', World Food Programme, Nairobi, https://docs.wfp.org/api/documents/WFP-0000013228/download/ (accessed November 2017)

75 Carr, C. J. 2016. 'Components of Catastrophe: Social and Environmental Consequences of Omo River Basin Development', in: *River Basin Development and Human Rights in Eastern Africa — A Policy Crossroads,* Springer, Cham, 75-84, https://link.springer.com/chapter/10.1007/978-3-319-50469-8_5/fulltext.html (accessed November 2017)

76 Human Rights Watch. 2017. 'Kenya: Rift Valley Violence Threatens Voting', https://www.hrw.org/news/2017/07/11/kenya-rift-valley-violence-threatens-voting-0 (accessed November 2017). And: Human Rights Watch. 2017. 'Ethiopia: Dams, Plantations a Threat to Kenyans', https://www.hrw.org/news/2017/02/14/ethiopia-dams-plantations-threat-kenyans (accessed November 2017)

77 UN OCHA. 2017. 'Kenya. Key Figures', https://www.unocha.org/legacy/southern-and-eastern-africa/country-profiles/kenya (accessed November 2017). See also: International Rescue Committee. 2017. 'Kenya: women and girls forced to engage in sex to survive near-famine', https://www.rescue.org/press-release/kenya-women-and-girls-forced-engage-sex-survive-near-famine (accessed November 2017)

78 Null, S., and Risi, L. H. 2016. *Navigating Complexity: Climate, Migration, and Conflict in a Changing World,* Woodrow Wilson International Center for Scholars, https://www.wilsoncenter.org/sites/default/files/ecsp_navigating_complexity_web_0.pdf (accessed November 2017)

change is exacerbating livelihood vulnerabilities which leave citizens with the only rational decision: to migrate.

2.3 Extreme weather events and disasters – risks to urban stability

The global community is poorly prepared for a rapid increase in climate change-related natural disasters which are affecting cities. A 2016 report by GFDRR estimates that assets worth $158tn – double the total annual output of the global economy – would be in jeopardy by 2050 without preventative action.[79] Though cities offer many advantages for many individuals, urbanisation often exacerbates and highlights inequalities through the proximity of rich and poor. This, in turn, is all too often a factor leading to instability and conflict. Climate impacts can make these inequalities even more apparent, fuelling grievances further.

Yet while research on climate change and urban violence are independently strong, few efforts have been made to understand the linkages between them, and less still has been made to address these linkages through any practical measures. To date, there is little thinking or analysis around whether, where and how climate change adaptation and urban violence intersect and interact. Why are the potential connections between climate change adaptation and urban violence important to understand? First, to ensure that adaptation efforts do not inadvertently increase the risk of urban violence. And second, where possible, so that these efforts can be designed to reduce the risk.

There is growing awareness of the need for humanitarian programming in urban settings which specifically takes account of urban risks and dynamics. For example, this year saw the first ever update of the 20 year old humanitarian guidelines, 'The Sphere Handbook', to take account of the specific requirements of urban crises.[80] However, there is still a lack of climate and conflict foresight being utilised in urban planning and infrastructure planning, especially in rapidly urbanising areas. For example, the New Urban Agenda provides no substantive guide on how to address urban violence and conflict.

79 Global Facility for Disaster Reduction and Recovery. 2016. 'The making of a riskier future: How our decisions are shaping future disaster risk'. https://www.gfdrr.org/sites/default/files/publication/Riskier%20Future.pdf (accessed November 2017)

80 Sitko, P. 2017. Commentary 'Humanitarian response is getting a major urban overhaul', *Citiscope*, http://citiscope.org/commentary/2017/05/humanitarian-response-getting-major-urban-overhaul (accessed November 2017)

Across the global South in particular, rapid urbanisation, both planned and unplanned, is largely failing to account for the risks and impacts of a warming climate[81] and conflict risks.[82] According to Greenpeace, in 2015, eight of the ten countries with the highest number of persons displaced by natural disasters were in Asia, with the highest absolute numbers in India, China, and the Philippines. A large proportion of these migrants are displaced to cities, rather than camps, although exact figures are hard to establish. Through displacement, as well regular migration and as population growth, Africa and Asia are set to be home to 80% of the world's urban growth in the next 30 years.[83] Cities are growing at such a rate that municipal governments are unable to keep up in terms of provision of basic rights and services like water, energy and housing. Consequently, the risks of climate change are not in the forefront of policymakers' minds, especially when they are working with, both, restricted budgets and Nationally Determined Contributions (NDCs) which were created by federal government agencies with insufficient understanding of municipal needs and challenges.

Although the current global frameworks offer some real opportunities to promote resilience, the Sustainable Development Goals (SDGs), the Sendai Framework for Action, New Urban Agenda and the UN Peacebuilding Commission's Sustaining Peace Agenda all have gaps when it comes to addressing this nexus of climate change, cities and fragility. The gaps in the global frameworks illustrate that global and national efforts to address climate and disaster risks must be transposed to the urban scale. There was consensus at the 2016 World Humanitarian Summit on the need for greater localisation. This will require a transformation of the way in which the UN system and many donor agencies operate – for example recognising the role of urban authorities (which remain absent in many agreements) and building local urban capacity. It will also need greater contextual knowledge of city actors – mayors, urban dwellers, municipalities and urban conflict dynamics – as well as engaging them in the implementation of global processes.

There have been some promising signals of a shift in global governance and examples of urban leadership on climate adaptation. The Asian Cities Climate Change Resilience Network, funded by the Rockefeller Foundation, has been supporting municipal and non-governmental actors in mapping and monitoring climate change risks, to develop

81 Adenle, A. A., et al. 2017. 'Managing Climate Change Risks in Africa - A Global Perspective', *Ecological Economics*, 141, November, 190-201, http://www.sciencedirect.com/science/article/pii/S0921800916309119 (accessed November 2017).

82 Kahn, M. E., 2017. 'Will Climate Change Cause Enormous Social Costs for Poor Asian Cities ?', *Asian Development Review*, 34 (2), September, 229-248, http://www.mitpressjournals.org/doi/full/10.1162/adev_a_00101 (accessed November 2017)

83 United Nations. 2014. 'World's population increasingly urban with more than half living in urban areas', https://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html (accessed November 2017)

municipal resilience strategies and to better communicate to support the NDCs.[84] Also supported by the Rockefeller Foundation, the 100 Resilient Cities initiative continues to support cities develop a Resilience Strategy and establish a Chief Resilience Officer in 100 cities to help build resilience to physical, social and economic challenges. However, these initiatives, and other similar municipal resilience building efforts[85] still lack explicit recognition of conflict and climate-fragility risks. And ultimately, these initiatives are small, compared to the larger scale trends of urban expansion which advances without due consideration of climate change, and the continuing dearth of attention to and financing for disaster preparedness and prevention at the municipal level. More needs to be done to support local and municipal governments to imagine and then plan for more climate and conflict resilient urban spaces.

84 Asian Cities Climate Change Resilience Network, https://www.acccrn.net/ (accessed November 2017)

85 For example C40 http://www.c40.org, the Cities Alliance, http://www.citiesalliance.org/

3 Policy processes and developments

3.1 Interests and actions of global actors on climate-fragility

Over the past year, China has demonstrated a narrative shift with regards to the links between climate change, security and conflict.[86] China has traditionally framed the security dimensions from a developmental perspective, where it recognises climate change as a non-traditional security issue which can impact human security and risk communal conflicts.[87] For example, China's third Climate Change Assessment report, highlights the risk of increasing impacts on food and water security of its citizens, but that transboundary and international security threats of climate change are "mainly latent".[88] However, Zhou notes that China is gradually demonstrating a shift in thinking.[89] At the Arria-formula UNSC debate in November 2016, on water, peace and security, Ambassador Liu Jieyi stated that the problem of water "is not only a developmental issue, it has a bearing on peace and security".[90] Further, similar language was used in the June 2017 UNSC session on preventative diplomacy and transboundary waters. China is also taking steps towards action: by becoming the world's largest investors in renewable energy[91], increasing foreign direct investments in the technologies by 60% since 2015.

The notion of Russia's environmental security has been discussed at the strategic policy level, and in April 2017, President Putin approved the first Environmental Security

86 Zhou, J. 2017. 'National Climate Security Policies of the United Nations Security Council's Permanent Member States'. *SIPRI*

87 Bo, Y. 2016. 'Securitization and Chinese Climate Change Policy'. *Chinese Political Science Review*, 1(1), March, 94-112

88 Zhao, S. 2015. Research Memo 'China Publishes Its "Third National Assessment Report on Climate Change"', *China Perspectives*, http://globalsummitryproject.com.s197331.gridserver.com/chinaperspectives/research-memos/china-publishes-its-third-national-assessment-report-on-climate-change/ (accessed November 2017)

89 Ibid 86

90 UN Security Council. 2016. 'UNSC Meeting 7818' on water, peace and security, 22 November, S/PV.7818, http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/spv_7818.pdf (accessed November 2017)

91 Jaeger, J., et al. 2017. Blog Post 'China is Leaving the U.S. Behind on Clean Energy Investment', *World Resources Institute*, http://www.wri.org/blog/2017/01/china-leaving-us-behind-clean-energy-investment (accessed November 2017)

Strategy since 2002. The Executive Order defines environmental security 'as an essential component of national security', with climate change as one of four long term threats to the Russian federation and the planet.[92] Yet in contrast to China, Russia has resisted any reference to the peace and security implications of climate change in UNSC debates, stating that "our delegation has earlier repeatedly expressed doubts about the advisability of involving the Security Council in various issues… including natural resources which, in and of themselves are neutral in nature".[93] Interestingly however in the country's 'Food Security Doctrine', the government does pay heed to the potential impacts of climate change *vis-à-vis* global food security. Alongside this, Putin has voiced ambitions to become "the world's largest producer of food", which implies an awareness of the power Russia could continue to accumulate as a major food exporter in a climate of increasing concern around global food insecurity.[94]

Australia has made significant steps in 2017. A new report – 'Disaster Alley' – stated "Australia's political, bureaucratic and corporate leaders are abrogating their fiduciary responsibilities to safeguard the people and their future well-being. They are ill-prepared for the real risks of climate change at home and in the region".[95] The Senate passed a motion for an inquiry into the threats and long-term risks posed by climate change to national and international security.[96] Just two months later, former Defence Force Chief, Admiral Barrie, informed the inquiry in the strongest possible terms, that "*We know that of seven continents Australia is likely to be the continent most affected a changing climate….urgent action is needed to head off the potentially disastrous consequences of failing to take decisive action to deal with the earth environment, if the unacceptable probability is that the legacy we will leave to our children, and their children, is their*

92 Official Internet Resources of the President of Russia. Presidential Executive Office. 2017. 'Environmental Security Strategy approved', http://en.kremlin.ru/acts/news/54339 (accessed November 2017). See Zhou, Ibid 86

93 UN Security Council. 2016. 'UNSC Meeting 7818' on water, peace and security, 22 November, S/PV.7818, http://www.strategicforesight.com/conference_pdf/98374Official%20Record-UNSC%20debate.pdf (accessed November 2017)

94 Decree and the text of the Food Security Doctrine of the Russian Federation. http://en.kremlin.ru/catalog/glossary/37 (accessed November 2017). See Zhou, Ibid 86

95 Dunlop, I., and Spratt, D. 2017. *Disaster Alley. Climate Change Conflict & Risk.* Breakthrough – National Centre for Climate Restoration, Melbourne, Australia, https://uploads.guim.co.uk/2017/06/20/ACFrOgDkCYAvFeJ9d4YxhOlZiOHNkTOnWbkhlY_dX8kI_O3ChbGcEmWsbUNrOnJUwE4SNWFvzB7RM6w4GsF0pDwdnREIip-k5J-03TQc0Op4FWrsNcZpjXAuy7NNJ_Y=.pdf (accessed November 2017)

96 Parliament of Australia. 2017. 'Implications of climate change for Australia's national security', http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/Nationalsecurity (accessed November 2017)

extinction.".[97] Other scientists in the inquiry criticised Australia for a lack of political leadership on a critical security matter, and called on the government to out in place a taskforce to act fast.[98]

3.2 Action on Lake Chad: G7 and UN

The Lake Chad Basin is facing one of the world's largest current humanitarian crisis with approximately 10.7 million people in need of immediate assistance. While the current crisis was triggered by violence linked to the Boko Haram extremist group, the situation has deep roots in longstanding developmental challenges, namely decades of political marginalisation of the communities around Lake Chad. In addition, the region also faces significant environmental stresses, including prolonged drought.

The security challenges resulting from local resource conflicts, large-scale violence from terrorist groups, and migration are particularly strong where economic opportunities are limited and the state's authority and legitimacy are weak – nurturing a vicious cycle of fragility and armed violence. As insurgencies from Boko Haram have increasingly spread from Nigeria to Cameroon, Niger and Chad, the already fragile security situation in the region has become more strained. The impacts of climate change on state and societies around Lake Chad will further exacerbate these pressures.

Given this tense situation the international community, donors and national governments have started a number of initiatives during the last months targeted at increasing resilience and addressing climate-fragility risks in the region.

In February 2017 Norway hosted the Oslo Humanitarian Summit on Nigeria and Lake Chad region, together with Nigeria, Germany and the UN. The aim of the summit was to mobilise greater international involvement and increased funding for humanitarian efforts to prevent the situation from deteriorating further. Donors pledged US$672million of the US$1.6billion humanitarian assistance required. US$ 458 million has already been committed for the humanitarian response in Nigeria and the Lake Chad Region for 2017. The outcomes of the Summit include an agreement by donors to address medium- and long-term development needs and identify durable solutions for the affected people, to

97 Barrie, C. 2017. 'Submission to the Senate Inquiry into Implications of climate change for Australia's national security', https://uploads.guim.co.uk/2017/08/10/Sub_38_Honorary_Professor_Chris_Barrie.pdf (accessed November 2017)

98 Doherty, B., and Slezak, M. 2017. 'Australia faces potentially disastrous consequences of climate change, inquiry told', *The Guardian*, 10 August, https://www.theguardian.com/environment/2017/aug/11/australia-potentially-disastrous-consequences-of-climate-change-inquiry-told (accessed November 2017)

avoid escalating the crisis further. The need to consult on a wider range of preventive and stabilisation measures to enable development was also flagged.

Following a mission to the region in January 2017, the UN Security Council adopted a resolution on security in Lake Chad in March. The resolution includes a strong reference to climate-security risks and calls for adequate risk assessments and management strategies.[99] The resolution also called for a report by the UN Secretary General on the situation in the Lake Chad Basin. The report, published in September 2017 underscores the overwhelming scale of the crisis, and the need for urgent and immediate humanitarian responses.[100] But unlike the findings of the UNSC mission and its resolution, which clearly and strongly set out climate change as a significant driver of risk, the SG's report on Lake Chad fails to make any reference to climate dimensions of the crisis at all. It also does not go as far as thinking about a long-term solution to the crisis, focusing instead on humanitarian responses.

Building on these developments and following-up on the recommendations of the G7 commissioned report A New Climate For Peace, a G7 commissioned integrated risk assessment of the Lake Chad region is currently underway, with German, French and Dutch support.

The objective of the assessment, which will draw substantially from the knowledge of local partners, is to identify linked risks and resilience dimensions as well as substantive policy recommendations for foreign policy makers on entry points for engagement in the region, and effective modes of dialogue with the responsible governments in this region. The main output will be a G7 commissioned assessment report on the Lake Chad region that gives recommendations on what kind of activities could be implemented and how existing policies, strategies and initiatives could be improved. Climate-fragility profiles for policy makers and implementing agencies are another envisaged result of the assessment, formulated to provide a brief overview of the context and serving as grounding for the main climate-fragility assessment. In addition, as part of the assessment, targeted policy briefs will be drafted, providing tailored policy recommendations for specific donors or implementing agencies. The overall process of the risk assessment will draw substantially on the knowledge of local partners, and conduct substantive dialogues and consultations in the region and beyond.

99 UN. 2017. 'Security Council Strongly Condemns Terrorist Attacks, Other Violations in lade Chad Basin Region, Unanimously Adopting Resolution 2349 (2017)', https://www.un.org/press/en/2017/sc12773.doc.htm (accessed November 2017)

100 UN Security Council. 2017. 'Report of the Secretary-General on the situation in the Lake Chad Basin region (S/2017/764)', https://reliefweb.int/report/nigeria/report-secretary-general-situation-lake-chad-basin-region-s2017764 (accessed November 2017)

3.3 UN Security Council progress on climate security

During the last year, the UN Security Council has continued to debate the adverse effects of climate change. This has included the debate on "Water, peace and security" in November 2016 chaired by Senegal[101] and the Arria-formula meeting on "Security Implications of Climate Change: Sea Level Rise" in April 2017 organised by Ukraine. The debate on "Water, peace and security" was followed by a briefing on "Preventive diplomacy and transboundary water management" in June 2017.[102]

Despite a growing concern about climate change as a "threat multiplier" to international peace and security, until UN Resolution 2349 on Lake Chad, March 2017, these debates had not yet influenced any resolutions adopted. The resolution on the Lake Chad is a significant step towards acknowledging that the impact of climate change has a place in the prevention agenda that Secretary-General Guterres has been pushing since taking office. It also signals scope for a more proactive role for the UN Security Council, which not only involves responding to adverse effects of climate change, but also in mitigating these risks, as also illustrated by the Security Council Presidential Statement taken in August 2017 regarding the famine in Africa.[103]

Resolution 2349's call for adequate risk assessment and risk management builds upon the Presidential Statement made in 2011. This statement highlighted that conflict analysis and contextual information on the possible security implications of climate change is important to the Security Council and that the Secretary-General should "ensure that his reporting to the Council contains such contextual information."[104] Currently, this capacity is missing in the UN system.[105] This lack of capacity was most recently noted by several experts after the Secretary General's presented his report on Lake Chad in

101 UN Security Council. 2016. 'UNSC Meeting 7818' on water, peace and security, 22 November, S/PV.7818, http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/spv_7818.pdf (accessed November 2017)

102 What's in Blue. Insights on the work of the UN Security Council. 2017. 'Briefing on Preventive Diplomacy and Transboundary Waters', http://www.whatsinblue.org/2017/06/briefing-on-preventive-diplomacy-and-transboundary-waters.php (accessed November 2017).

103 United Nations. 2017. 'Security Council Presidential Statement Urges Greater Humanitarian Access to Famine-Threatened Yemen, South Sudan, Somalia, Nigeria'. https://www.un.org/press/en/2017/sc12946.doc.htm (accessed November 2017)

104 UN Security Council. 2011. 'Statement by the President of the Security Council', 20 July, S/PRST/2011/15, 2, http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/CC%20SPRST%202011%205.pdf (accessed November 2017)

105 Born, C. 2017. 'A resolution for a peaceful climate: opportunities for the UN Security Council'. *Stockholm International Peace Research Institute (SIPRI)*. https://www.sipri.org/sites/default/files/Resolution-for-peaceful-climate.pdf (accessed November 2017)

September 2017.[106] This reinforces the proposition made by Sweden, in its capacity of being an elected member in the UN Security Council 2017-2018, on the establishment of a small unit in the SG office that can provide adequate information to the SG and to his reporting to the UNSC. In a similar vein, in September 2017, the then Dutch Foreign Minister Bert Koenders proposed a designated UN special envoy for climate and security.[107] These propositions correspond to the long-standing request from the SIDS-countries for the Security Council to develop a more proactive approach. Importantly, the establishment of such a unit does not diminish the role of other UN bodies' responsibilities for addressing adverse effects of climate change. Instead, it illustrates that the UN-system takes the adverse effects of climate change seriously and looks to evolve into an organisation fit to face current challenges as well as those that lie ahead.

3.4 EU global resilience strategy

The joint communication "A strategic approach to resilience in the EU's external action" was presented to the European Parliament and the Council in June 2017. The EU's global resilience strategy is a follow-up to the EU global strategy which was launched one year earlier and identifies strengthening state and societal resilience as central to addressing current global challenges.

This focus on resilience shows a significant shift in the EU's management of risks and impacts of shocks and pressures in its external policy - the need to move away from crisis containment to a more structural, long-term, but flexible approach that is better risk-informed and less instrument-driven. The aim is to combine political dialogue, sectoral policy dialogue, technical and financial assistance in an effective way.

The aim of the Resilience Strategy is to identify how a strategic approach to resilience can increase the impact of EU external action, as well as strengthening resilience *within* the Union. The strategy explicitly stresses the interlinkage between climate change, natural disasters and environmental degradation as well as their impact on the resilience of communities. The document also claims that the EU's future external policy will

106 Krampe, F. 2017. Comment 'The unfolding humanitarian crisis around Lake Chad : UN report falls short of naming environmental dimensions'. *Stockholm International Peace Research Institute (SIPRI)*. https://www.sipri.org/commentary/expert-comment/2017/unfolding-humanitarian-crisis-around-lake-chad-un-report-falls-short-naming-environmental-dimensions (accessed November 2017). And: Carius, A. 2017. 'Lake Chad Basin : One long climate catastrophe', *Al Jazeera*. http://www.aljazeera.com/indepth/opinion/lake-chad-basin-long-climate-catastrophe-170923075220951.html (accessed November 2017)

107 Government of the Netherlands. 2017. 'Koenders requests UN support for reconstruction of St Maarten', https://www.government.nl/latest/news/2017/09/18/koenders-requests-un-support-for-reconstruction-of-st-maarten (accessed November 2017)

reinforce the political outreach on the issue through the G7 working group on Climate and Fragility and the Green Diplomacy Network.

Other noteworthy aspects of the strategy are the recommended integrated approach to resilience dimension, the importance given to promoting resilience to climate change, and the sustainable management of natural resources.

However, implementation of the strategy is facing a number of operational challenges. The proposed change in policy set out in the strategy requires a rethink of the EU's risk analysis, design of programmes and assessment methods. The resilience strategy suggests four basic building-blocks to incorporate a resilience approach systematically into the EU's external action:

1. Improving and sharing analysis of risk at country and regional level so as to better inform strategy, political dialogue and programming of assistance;
2. Instituting a more dynamic monitoring of external pressures, and working with the EU Council to ensure a more timely political and diplomatic response;
3. Integrating the resilience approach in EU programming and financing of external action;
4. Developing international policy and practice on resilience.

According to the strategy, the EU will reinforce its political outreach, for example through the Green Diplomacy Network and the G7 working group on Climate and Fragility. This is both positive and pragmatic and provides the opportunity to put the issue higher on the political agenda. Whilst the focus of the EU's 2016 Global Strategy on resilience faced some scepticism due to the perceived ambiguity and amorphous nature of the concept[108], the 2017 Resilience Strategy has been broadly welcomed, with the concept of resilience seen as an opportunity for approaches which focus on and strengthen local capacities.

3.5 Global compact on migration and refugees

In September 2017, Heads of State and Government came together to discuss, for the first time at the global level within the UN General Assembly, issues related to migration and refugees. This sent an important political message that migration and refugee matters have become major issues in the international agenda.

108 For example, see : Wagner, W., and Anholt, R. 2016. 'Resilience as the EU Global Strategy's new leitmotif: pragmatic, problematic or promising?', *Contemporary Security Policy*, 37 (3), 414-430, http://www.tandfonline.com/doi/full/10.1080/13523260.2016.1228034 (accessed November 2017)

In adopting the New York Declaration for Refugees and Migrants, the 193 UN Member States recognized the need for a comprehensive approach to human mobility and enhanced cooperation at the global level and committed to (*inter alia)*:

- Integrate migrants – addressing their needs and capacities as well as those of receiving communities – in humanitarian and development assistance frameworks and planning;
- Develop, through a state-led process, non-binding principles and voluntary guidelines on the treatment of migrants in vulnerable situations; and
- Strengthen global governance of migration, including by bringing IOM into the UN family and through the development of a global compact for safe, orderly and regular migration

This is good news, but there are major gaps from the climate-security perspective. The Global Compact makes no reference to internally displaced peoples, nor does it look forward to the risks presented by climate change and natural disasters. To achieve the goals of the Global Compact, implementation efforts need to recognise climate change related insecurity as a contributory factor to and consequence of migration, as well as the implications of these risks on the contributions of migrants to sustainable development. In short, climate-fragility risks must feature in strategies to address the root causes as well as sustainable management strategies for migration.

3.6 COP 23 Fiji/Bonn

The Fijian presidency of the 2017 annual UN Climate Summit, COP 23, showed leadership in advancing global dialogues on the risks of climate change – particularly for SIDS. There are however several key issues and concerns surrounding COP 23. The most discussed concern is – will countries continue to build ambition collectively since the United States has pulled out?

In the run up to COP 23, the UN Framework Convention on Climate Change's Executive Secretary, Patricia Espinoza, has made key interventions, through articles and speeches, on the linkages between climate change and security. She emphasised in her speech to the Munich Security Conference that in order to set a path towards global stability, "Key to getting on this path is framing climate change as a security story".[109] At the time of writing it is yet to be seen to what extent the concerns around climate-fragility risks will be discussed at the 2017 COP but there are no explicit discussions scheduled on the official agenda.

109 Espinosa, P. 2017. 'Address at Munich Security Conference', http://newsroom.unfccc.int/unfccc-newsroom/munich-security-conference/ (accessed November 2017)

3.7 G20 Summit Development Working Group on climate change

The twelfth G20 Summit took place in Hamburg, 7–8 July 2017, under the German Presidency's slogan of 'shaping an interconnected world'. For the first time, the Summit put a geographic focus on Africa, driven by the food security and migration 'crisis' in north and east Africa.[110] G20 members outlined sustainable development and achieving the SDGs as their guiding principles, and mandated a working group to advance action on this.

The Development Working Group of the G20 is now mandated to act as a forum for sustainable development dialogue between G20 members, low income and developing countries, development stakeholders (including non-governmental) and G20 engagement groups. The Development Working Group released the 'Hamburg Update', the Annual Progress Report on G20 Development Commitments in July 2017.[111] One section explicitly focusses on 'the environmental dimension: combatting climate change'. It stresses the G20's responsibility for addressing climate change, as they are responsible for up 75% of global emissions. The report underscores the need to support climate finance – particularly climate finance that is nationally appropriate and demand-led. However the report notes a significant action gap in this area – which has led to the launching of a new 'Sustainability Working Group'. They commend the OECD's new Centre on Green Finance and Investment, set up to 'help catalyse and support the transition to a green, low-emissions, and climate-resilient economy'. Furthermore a Green Investment Financing Forum is scheduled on October 10-11 2017.

Another area of key concern for the G20's Development Working Group in 2017 has been rural livelihoods, especially in Africa and in regions affected by fragility and climate change impacts. It commissioned a study on 'Rural Youth Employment' by the World Bank and IFAD, published in July 2017.[112] It found that there was need to stimulate demand from national governments for, "investment in complementary infrastructure; raise agricultural productivity growth and climate resilience to stimulate demand for non-farm goods and services". Secondly it emphasised that "climate change and the effects of climate shocks are dampening the prospects for future productivity growth.

110 Hallink, C. 2017. 'The G20's Governance of Africa-Related Issues, 2008-2016', http://www.g20.utoronto.ca/analysis/g20-africa-2008-2016v2.pdf (accessed November 2017)

111 Federal Ministry for Economic Cooperation and Development of Germany. 2017. 'Development policy-related results of the G20 Summit', http://www.bmz.de/en/service/feature/g20/home/index.html (accessed November 2017)

112 Townsend, R., et al. 2017. *Rural Youth Employment, Input Document for the G20 - Development Working Group.* World Bank, International Fund for Agricultural Development (IFAD), http://www.bmz.de/de/zentrales_downloadarchiv/g20/Rural_Youth_Employment_-_WB-IFAD-Synthesis_Study_DWG.pdf (accessed November 2017)

Importantly the report noted the importance of ensuring livelihood security for 'high-risk' individuals and groups in fragile, conflict-affected and post-conflict settings – especially men and youth.

3.8 Global Platform on Disaster Risk Reduction and Cancun Declaration – pathway for implementation

In May 2017, the first Global Platform for Disaster Risk Reduction (DRR) was held after the adoption of the Sendai Framework in 2015. The Global Platform for DRR is the main forum at the global level for strategic advice, coordination and partnership, and reviews the implementation of the international instrument on DRR including the Sendai framework. As such, the Global Platform is an important forum for receiving insights on the state-of-art of what progress that has been achieved. One fact already acknowledged in the adoption process of the Sendai Framework was that despite the link between pre-existing fragility and vulnerability and natural disaster impacts most funding is spent on emergency response. Only a very small part of disaster aid is spent to strengthen resilience in fragile settings. The UN conference in Sendai in 2015 was never able to make any strong progress on how to address this distressing reality. At the Global Platform for DRR in Cancun a few sessions were specifically focusing on vulnerabilities in fragile settings and how early warning and preventive actions can be enabled in these settings. In the Chair's summary from the Global Platform, it was however noted that operations and maintenance budgets still remain insufficient and unreliable for these countries.[113]

At the Global Platform for DRR, a Leader's Forum was also held on 24 May 2017 bringing together high-level politicians, officials from intergovernmental organisations, parliamentarians, local government officials, business and civil society representatives. The Leader's Forum focused on ensuring resilience and formed the basis for "The Cancun High-Level Communiqué".[114] The Communiqué emphasised the impacts from small-scale, slow-onset and recurring disasters on infrastructure, housing, livelihoods, ecosystems and economy, as well as the poor suffer disproportionally from natural and man-made disasters. The Communiqué presents commitments in which "Building

113 Global Platform for Disaster Risk Reduction. 2017. 'Chair's Summary : From Commitment to Action', 26 May 2017, §32, http://www.preventionweb.net/files/53989_chairssummaryofthe2017globalplatfor.pdf (accessed November 2017)

114 Global Platform for Disaster Risk Reduction. 2017. 'Leader's Forum for Disaster Risk Reduction: The Cancun High-Level Communiqué', 24 May 2017, http://www.preventionweb.net/files/53439_thecancunhighlevelcommuniquof24may2.pdf (accessed November 2017)

Back Better" and "building better from the start" are key.[115] However, no actions or commitments targeted the strengthening of the capacity and resilience in specific fragile and vulnerable settings. Overall, the communiqué echoes the inability of the Sendai Framework to deliver on strengthening resilience in countries and settings that are characterised by a combination of high exposure to disaster risk and weak institutional capacity.

3.9 Australia climate security dialogues

The security implications of climate change to Australia this year have been significant. Geographically, it is in one of the most climate-vulnerable regions of the world. In anticipation of these growing risks, recent developments in Australia have put the security dimensions of climate change more firmly onto the Parliamentary and Department of Defence agenda. On 14 June 2017, the Australian Senate's Foreign Affairs, Defence and Trade References Committee opened an inquiry into the implications of climate change for Australia's national security. This included a call for written submissions which received 54 entries, including from Planetary Security Initiative consortium members, and by international military and national security leaders. The submissions included a wealth of experience and expertise from the respective nations, as well as recommendations for how Australia could better prepare for climate risks to national security.[116] While the submissions are targeted towards Australia, they are a useful resource for any nation looking to improve their resilience to climate-security risks. The submission process will be followed by a series of hearings, with a final committee report scheduled to be produced by 4 December 2017.

The call for written submissions prompted Australian government departments and agencies to consider the issue from their institutional perspectives and how the climate-security nexus pertains to their remit. In the 2000s, along with countries including the United Kingdom, United States and others, Australia's Office of National Assessments developed policy documents and assessments of the threats climate

115 Global Platform for Disaster Risk Reduction. 2017. 'Leader's Forum for Disaster Risk Reduction: The Cancun High-Level Communiqué', 24 May 2017, §14, http://www.preventionweb.net/files/53439_thecancunhighlevelcommuniquof24may2.pdf (accessed November 2017)

116 Parliament of Australia, Senate Standing Committees on Foreign Affairs, Defence and Trade. 2017. 'Implications of Climate Change for Australia's National Security', Submissions received by the Committee, http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/Nationalsecurity/Submissions (accessed August 2017)

change poses to national security.[117] The Senate inquiry process is therefore building on an existing domestic and international foundation for better preparing for climate risks to national security.

The Australian Senate inquiry has been complemented by a robust discussion facilitated by civil society groups, both domestically and internationally.[118] These discussions have highlighted where Australia stands, relative to Europe and North America, in terms of being prepared for these high-probability, high-impact risks. The Australian Defence Force has also continued attending and contributing to civil-society discourse through its climate engagement team within the Vice Chief of Defence Force Group. The Australian Public Service Secretaries also set up a group examining climate change.

The discussions have looked at increasing fragility and instability risks in the region, and how climate change may generate more and new types of complex emergencies that blend frequent and/or prolonged natural disasters, humanitarian crises, progressively weakened state capacities, insecurity and armed violence. They also examined threats to Australian Defence Force installations related to sea level rise and drought, and how ADF capacity may be strained as climate change generates multiple disasters of sufficient magnitude in geographically separate locations: cyclones in the South Pacific, floods in Queensland and bushfires and drought in the south-east and west – what the military call the risk of 'simultaneity'.

The Senate inquiry process is an important step in reaffirming concern about the security implications of climate change among Australia's political leaders. The policy outcomes and impact of the inquiry will depend in part on its success in broadening that concern within the Australian Parliament, which may in turn support senior leadership

117 See: The Center for Climate and Security. The Climate Security 101 Project. 2017. 'The Climate Security Chronology', https://climatesecurity101.org/chronology/, (accessed November 2017). And: Thomas, M. D. 2017. *The Securitization of Climate Change: Australian and United States' Military Responses (2003 - 2013)*, Springer, http://www.springer.com/gp/book/9783319496573 (accessed November 2017). Separate to these, the ADF has hosted a number of security dialogues in 2011 and 2013

118 In recent months, EU Climate Diplomacy Week and Breakthrough National Centre for Climate Restoration's series of dialogues and publication, 'Disaster Alley: Climate change, conflict & risk', June 2017, https://www.breakthroughonline.org.au/disasteralley (accessed November 2017)
Previously, 2015 think tank reports by the Centre for Policy Development (CPD), 'The Longest Conflict: Australia's climate security challenge', https://cpd.org.au/wp-content/uploads/2015/06/Climate-Change-and-Security-Paper-FINAL.pdf (accessed November 2017), and the Climate Council 'Be Prepared: Climate change, security and Australia's Defence Force', https://www.climatecouncil.org.au/uploads/fa8b3c7d4c6477720434d6d10897af18.pdf (accessed November 2017), were important, particularly in the lead up to the 2016 Defence White Paper. This was the first inclusion of climate change as a security issue by a conservative government. The Climate Council also hosted a climate security conference in 2015 at the Australian Defence Force Academy

within the Department of Defence and other departments and agencies to incorporate climate into their risk management policies and practices. More widespread recognition of the security dimensions and risks Australia faces could fix climate change within the country's security architecture, particularly in the lead-up to the next Federal election in 2019. This in turn could influence the approach taken by other actors in the region toward managing climate-security risks.

3.10 Inclusion of climate risks at international security fora

Climate change has been appearing regularly in discussions at international security fora such as the Munich Security Conference, Asia Security Summit (Shangri-La Dialogue), Halifax International Security Forum and others, as well as in meetings of regional security bodies such as ASEAN and NATO. While it has been rare in recent years for climate change to not be raised in some form at these events, either during speeches or as part of panels on or related to the topic, the nature of the discussions thus far have not been commensurate with this high-probability, high-impact security threat. The discussions have also not fully accounted for how climate change interacts with other pressing international security priorities. In order to enable security planners and institutions to appropriately calibrate their responses, a frank discussion is needed about how climate change is reshaping the geostrategic landscape, and how prepared (or not) states are for managing these risks.

For example, climate change has risen up the agenda of the Munich Security Conference since 2014, the first year that climate change itself, rather than other forms of environmental degradation or stress, was on the agenda.[119] In 2016, the Ewald von Kleist peace award was given to then-UNFCCC Executive Secretary Christiana Figueres and former French minister of Foreign Affairs and COP 21 president Laurent Fabius, who framed the Paris climate agreement as a peace agreement. While the sessions this year[120] and last,[121] were described as "climate security" much of the discussion was about climate as an "environmental" issue and centred on development issues and the

119 Munich Security Conference 2014, Breakout Session "Energy and Climate Security", 1 February 2014, https://www.securityconference.de/en/media-library/munich-security-conference-2014/video/breakout-session-energy-and-climate-security/ (accessed November 2017)

120 Munich Security Conference 2017. Panel Discussion 'Climate Security: Good COP, Bad Cops', 18 February 2017, https://www.securityconference.de/en/media-library/munich-security-conference-2017/video/panel-discussion-climate-security-good-cop-bad-cops/ (accessed November 2017)

121 Munich Security Conference 2016. Panel Discussion 'Climate and Energy Security: Is the Heat Still on?', 13 February 2016, https://www.securityconference.de/en/media-library/munich-security-conference-2016/video/panel-discussion-climate-and-energy-security-is-the-heat-still-on/ (accessed November 2017)

importance of fulfilling commitments to the Paris agreement, rather than incorporating climate change into a broader security context.

The Halifax International Security Fora have included climate risks in their agenda in some form since their first event in 2009, including a panel last year on Climate Security, Energy Security and the Politics of Slow Moving Threats.[122] Climate change is often recognized as a security issue at the Shangri-La Dialogue, but has been included on the Summit agenda primarily as a matter of humanitarian assistance and disaster response. Moving security communities, particularly in Asia-Pacific, beyond a disaster framing of the security dimensions of climate change, toward appreciating the geostrategic and fragility risks they face, is essential to preparing, anticipating and managing these threats.

These gatherings are important in shaping the international security discourse – both what is on the agenda and how it is discussed. They like to look at both the long term trends and the immediate crises. Climate risks are going to get sharper and therefore discussions of the associated security ramifications are imperative in order to get ahead of the curve and not always be responding to impacts after the fact. These international conferences are an important place to discuss climate risk as this ensures the relevance of their discussions and helps to lay the groundwork for substantively addressing this driver of risk.

122 Halifax International Security Forum 2016. 'Climate Security, Energy Security and the Politics of Slow Moving Threats', 20 November 2016, https://youtu.be/ZFLCM1Z7fd0 (accessed November 2017)

Conclusions and recommendations

This report provides a review of current climate-security risks and progress on responses to these risks. It picks up from the report produced for the Planetary Security Conference 2016, *Towards A Global Resilience Agenda*, and builds on the analysis and recommendations set out in the 2015 G7 commissioned report *A New Climate for Peace.*

The scan of the 2017 horizon shows that climate fragility risks persist and are worsening. The world is facing more climatic extremes, a greater number of increasingly internationalised conflicts, the highest levels of hunger and displacement since World War Two, and an increasingly volatile geopolitical landscape.

A review of progress presents a mixed bag but, on balance, offers more grounds for optimism than for pessimism. There have been positive steps towards new and deeper partnerships for resilience, for example, between the EU and China, across 14 US states following Trump's threatened withdrawal from the Paris Agreement, and between municipal authorities around the world. There has been greater acknowledgement of climate-fragility risks in national and global fora, policies and strategies, for example in the EU's Global Resilience Strategy, UNSC Resolution 2349 on Lake Chad, and the Australian Senate Inquiry into climate and security. There have also been steps to operationalise action to address climate-fragility risks, for example, the G7 and partner states are supporting a comprehensive risk assessment of Lake Chad. But these practical steps towards implementation - which are few and far between - should be scaled up and multiplied.

2017 marks a decade since the policy and practitioner community began to seriously look at climate change as a security risk. Whilst continued research, dialogue and policy gains are important and must continue, this ten year anniversary is an apt moment to resolutely pivot from continued discussion, analysis, and supportive statements, towards action. We set out three, cumulative steps to help catalyse the much needed transition from analysis to action to build global resilience:

1. Partner for Resilience
2. Prioritise Prevention
3. Move from Analysis to Action: 6 priorities

Partner for resilience: support cooperation and coherent action across different scales

The complex nature of climate-fragility risks requires many actors – international and regional institutions, civil society, and the private sector – to work more closely together. We are seeing encouraging strides in this direction. However, for both these initiatives, and others like it, the proof will be in evidence of coherent, coordinated and cooperative implementation on the ground, across different scales.

An institutional home for climate change and security within the UN system would provide a locus for cooperation and joint-action. It would provide the much needed focal point for provision of analysis and advice on climate-fragility risks and coordination of funding and activities to move these nascent partnerships towards effect implementation.

Greater cooperation between the G20 Development Working Group and G7 Climate Fragility Working Groups, for example, through regular briefings, meetings or agreement of a shared agenda, would also enable better coordination and stronger global leadership on the issue. It would also represent a way, as recommended in *A New Climate for Peace*, of the G7 broadening its range of cooperation on this agenda.

Prioritise prevention: in funding and programming

The importance of sustainable and inclusive development as a means for prevention of conflict is clear. Grievances around exclusion from access to power, opportunity and security create fertile ground for conflict.[123] The same grievances also render communities vulnerable to climate and disaster risks.[124] We have heard time and again that prevention is cheaper than cure so it is not just a moral imperative, but a question of sound business sense to invest more in prevention.[125]

123 The World Bank. 2017. 'United Nations and World Bank leaders call for stronger international efforts to prevent violent conflict'. http://www.worldbank.org/en/news/press-release/2017/09/21/united-nations-and-world-bank-leaders-call-for-stronger-international-efforts-to-prevent-violent-conflict?CID=FCV_TT_Dev4Peace_EN_EXT (accessed November 2017)

124 Vivekananda, J., et al. 2014. 'Climate resilience in fragile and conflict-affected societies : concepts and approaches', *Development in Practice*, 24 (4), 487-501, http://www.tandfonline.com/doi/abs/10.1080/09614524.2014.909384?journalCode=cdip20 (accessed November 2017)

125 See for example : United Nations and World Bank. 2017. *Pathways for Peace : Inclusive Approaches to Preventing Violent Conflict,* 2, 4 and 5, https://openknowledge.worldbank.org/bitstream/handle/10986/28337/211162mm.pdf?sequence=2&isAllowed=y (accessed November 2017)

This means a move towards a new funding and programming paradigm which puts prevention first. Steps would include:

- Moving from post-crisis response, with prevention focused on only the most immediate risks, to early and urgent action to directly tackle and manage the full range of risks that could lead to climate related conflict.
- Strengthening leadership so that prevention enhances governance legitimacy and expands the scope of and calibre of government actions.
- Partnerships at all levels to identify risks and develop solutions so that action is people-centred, rather than top-down and technocrat driven.
- Adopting integrated solutions which increase resilience to multiple forms of risk, with effective prevention tools often in the hands of actors for whom conflict or climate risk is not a primary focus.
- Combining short and long-term approaches as shorter-term results increase the buy-in to sustained and strategic approaches to prevention
- More agile approaches that adapt in the face of changing risks and opportunities.

Move from analysis to action: the Hague Declaration's 6 point Agenda for Action

It goes without saying that successfully addressing climate-related security challenges requires knowledge sharing, partnerships, and getting out of separate silos. It requires, in short, the emergence of a new community of practice. In preparation for the 2017 Planetary Security Conference, the Dutch government spearheaded a set of practical commitments in the Hague Declaration. Acknowledging that challenges are both global and local, the Hague Declaration provides a road-map to consolidate and strengthen a new community and spur the momentum to address climate-fragility risks. It doesn't attempt at comprehensive global coverage, rather it builds upon and seeks to contextualise the recommendations of the G7 commissioned report *A New Climate for Peace* in specific regions and themes prioritised by the Dutch Ministry of Foreign Affairs. The Agenda for Action supports concrete steps to advance six action areas:

1. Creating an Institutional Home for Climate Security
2. Coordinating Migration and Climate Change Responses
3. Promoting Urban Resilience
4. Supporting Joint Risk Assessment in Lake Chad
5. Strengthening Climate Sensitive Development in Mali
6. Supporting Sustainable Water Strategies in Iraq