

Climate Change and Security Challenges

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Will climate change contribute to conflicts in the future or is this already happening? Several researchers and practitioners alike are increasingly recognising the complex systemic risks of climate change and its impact on security. This brief is one of a series that explains the concept of integrated security, as it has been developed by an interdisciplinary team of scientists at FOI, the Swedish Defence Research Agency. The main question dealt with here is how should we deal with the challenges posed by climate change from an integrated security perspective?

Climate Change and Security

The latest assessment by the Intergovernmental Panel on Climate Change (IPCC) from 2014 affirms that the impact of climate change on human well-being, peace and security is going to worsen, especially for the poorest. Many of the people most affected live in fragile states. Such communities are suffering not only from persistent poverty, poor infrastructure, weak natural resource governance or unsustainable resource management, and lack of access to the world market, but also from other types of societal insecurity such as the fragility of state institutions, political instability, and the effects of recent armed conflict or the threat of approaching violence.

However, climate change is full of uncertainty, not only in terms of shortcomings in the data and modelling, and the insecurities of probabilities of future socio-economic, emission, mitigation and adaptation scenarios, but also in terms of methodological challenges on how to understand its impact. As with other highly politicised debates, such uncertainty tends to breed unease, which in turn could result in a discourse and policies that just mirror sensationalist academic and media headlines.

What is certain, however, is that the risks posed by climate change are systemic. For example, in the near future, environmental degradation and population and economic growth are expected to significantly increase pressure on resources and immensely influence the food–water–energy nexus. Increasingly, national security and intelligence assessments conducted by numerous governments have recognised the potential for this convergence of trends to contribute to security risks.

While much data exists on the potential impact of climate variability and extreme weather on states and security in the short run, less data exists on the long-term impact. The IPCC (2014) found that: *“Much of the current literature on human security and climate change is informed by contemporary relationships and observation and hence is limited in analyzing the*

human security implications of rapid or severe climate change.”

In fact the security risks of climate change may be the hardest of all climate risks to assess, because they involve the longest chains of causation or influence, and the most unpredictable factors. The risks of climate change are non-linear. While average conditions may change gradually, the risks can increase rapidly. On a high emissions pathway, the probability of critical thresholds being crossed will increase over time. Exploring the relationship between natural resources, environmental conditions, climate change and variability is certainly challenging but contextualisation is key.

Demonstrated Links

The IPCC Assessment Report 5 explores the relationship between climate change and selected dimensions of human security, including culture, migration and mobility, armed conflict, state integrity and geopolitical rivalry. *“Some of the factors that increase the risk of violent conflict within states are sensitive to climate change.”*

Explicit links between climate change and violent conflict is a rather new topic area although it draws on developed thinking in environmental security and other related academic fields. Different research approaches and perspectives all contribute to increase knowledge and awareness but can also be criticised as being too reductionist, simplistic or vague or missing out important issues.

An independent report for the G7 members lists seven compound climate-fragility risks that emerge when climate change interacts with other social, economic and environmental pressures, and these are in line with most published thinking. They are local resources competition; livelihood insecurity and migration; extreme weather events and disasters; volatile food prices and provision; transboundary water management; sea-level rise and coastal degradation; and unintended effects of climate policies. These compound risks are not isolated from each other. They interact in complex ways.



Thus available studies should be interpreted and used for policy and practice with attention to underlying perspective and approach. Complexity and context will always mark the interactions between climate change and security.

Ample Empirical Data

There exist ample empirical data and case studies on the security impact of climate change, climate variability and extreme weather. For instance, one strand of research argues that climate change has already been influencing dynamics associated with human, sub-national, national and international security. Such research findings however do not generally attempt to identify precise causal relationships, but instead consider how climate change may have altered probabilities and interacted with other factors to increase the risks.

One recent highly visible case study suggests that the ongoing conflict in Syria has elements that can be explained in relation to climate change. Scholars have argued that developments in Syria could be linked to a desiccation trend over the last few decades in the Middle East, North Africa and the Mediterranean—a region where climate change is thought to have played a significant role in this trend. Specifically, the extreme drought in Syria in 2007–2011 resulted in severe and widespread crop failure and loss of livestock. This contributed to a mass internal displacement of farmers and herders who lost their entire livelihood. Many then fled to urban areas, which in turn caused another stress on the livelihood of people in those areas. By 2011, around 1 million were extremely food-insecure, and 2–3 million had been driven into extreme poverty. While many other factors were important in driving the political unrest and conflict that followed, it is highly probable, some scholars say, that this widespread impoverishment and large-scale displacement did play a role.

Another case is the Arab Spring as an example of a complex temporal and spatial interaction between heatwaves, food price spikes, and civil unrest. In the summer of 2010, Russia suffered an extreme heatwave, believed to be correlated with climate change. Its wheat production was reduced by more than 30% and related droughts also affected wheat harvests in Ukraine and China. The top nine wheat-importing countries in the world, on a per capita basis, are all in the Middle East and North Africa. Libya, Jordan, Algeria, Tunisia, Yemen, Egypt and Iraq spend between 35% and 45% of their average household income on food. All seven experienced political protests resulting in civilian deaths in 2011. Although these countries are considered as fragile, food prices are recognised to have been one of the factors that led to the unrest. In Egypt,

although urban protests primarily focused on other social and economic concerns, bread protests occurred in rural areas across the country in parallel to the events in Tahrir Square, and may have broadened the appeal of the revolution to rural communities. In highly import-dependent countries such as Egypt, the price of wheat rose by 300% in late 2010 and early 2011. While climate change and extreme weather did not cause any of these events on its own they appear to have played a role in combining with other stresses.

What Are the Trajectories?

Climate change has the greatest impact on natural resource-dependent livelihoods. The resulting increase in competition over resources can lead to violent conflict. When combined with existing tensions, such stresses, in turn, could increase the likelihood of already existing sub-national insurgencies, ethnic clashes, urban unrest and the like surfacing. Similar risk trajectories can be extrapolated to water and habitable, grazing or agriculturally viable land.

High levels of unemployment, particularly among young men, and labour migration to urban areas, which have neither sufficient jobs nor infrastructure, are also widely agreed to be specific conflict drivers. Climate change and extreme weather could disproportionately affect the livelihoods of certain groups and then compound inequalities and fuel existing grievances. They could also degrade the livelihoods of the rural poor in remote and fragile areas with high levels of organised crime, making people more likely to engage in illegal activities.

A case in point is research findings suggesting that, in combination with other social, economic and political factors, drought in the Sahel can lead to disruption and changes to livelihoods which can increase the risk of conflict between livelihood groups. Similar evidence is observable across other contexts including in South Asia, Central Asia, and Latin America.

While many studies have considered the links between climate change and sub-national conflict, relatively few have taken on the question of climate-influenced interstate conflict. Those that have tended to focus primarily on transboundary water resources, drawing on a long history of interdependencies and disputes. In general, there is little support for the hypothesis of “water wars”—the idea that scarcity necessarily leads to increased armed warfare between states. Although it can actually lead to more cooperation, there is evidence that water scarcity and variability can increase political tensions between states sharing a common water resource, especially if their relations are poor due to other reasons. However, most of the existing body of research relates to the current climate. The variability, scarcities, and (in

some cases) surpluses induced by climate change in a warmer world are likely to be much greater than any recorded in modern history, and could act as major destabilising factors at a range well beyond the ambit of existing studies of past resource-conflict events. Land and water could become tactical assets and/or perceived to be of national protection concern. This would increase the risk of terrorism as well as military interventions.

Migration, conflicts and climate change

As resources become scarce and/or degraded the potential flows of “climate change refugees” are often brought up in popular discourse (frequently confused with migration). The logic mainly put forward is that greater scarcity of resources, loss of land due to a rise in sea level, and an increase in the frequency and intensity of extreme events lead resource-dependent people to migrate. Methodologically, it is very difficult, if not impossible, to isolate the different drivers and triggers of migration. Migration is a multi-causal phenomenon in which a range of factors are interrelated. There is, in fact, no conclusive evidence linking climate change-induced migration with conflict.

However, if climate-induced migration is put into context together with other factors, likely conflict scenarios could emerge. High degrees of climate change could increase the risks of state failure in countries that are economically underdeveloped, resource-stressed, or already unstable for other reasons. In South Asia, drought and flooding in Afghanistan and Pakistan, and incessant flooding and loss of land to the sea in Bangladesh, could put those countries’ governments under great stress, and precipitate large-scale migration into India. In India, this would combine with an internal population shift from rural to urban areas, further increasing demographic pressure in cities, many of the largest being coastal and increasingly vulnerable to flooding both from sea level rise and from more intense rainfall.

Despite the lack of evidence, the linkage between climate change and migration has been adopted by several high-profile individuals to illustrate the wider challenges linked to climate change and conflict. For example, UN Secretary-General Ban Ki-moon put a focus on environmentally-induced migration as a pathway for conflict during the July 2011 debate on climate change and security in the UN Security Council. This is mentioned as one example of the “securitisation” of climate change.

Although simple demonstrated links are lacking, climate change has the potential to contribute to stresses on individuals and societies that could lead to security risks under certain circumstances.

Climate Change – a Threat Multiplier

Climate change hinders the ability of governments to provide infrastructure, basic services and social safety nets, weakening the social contract, which leads to greater insecurity and unrest, especially in weak governance environments. It should be emphasised that even states that are otherwise stable may endure periods of fragility or harbour pockets of fragility. Climate change is thus commonly best understood as an trigger in places where some drivers of conflict already exist, putting additional strain on already stressed governments. Climate change is therefore often described as a “threat multiplier” as it will aggravate already fragile situations and may contribute to social upheaval and violent conflict.

Implications of the Security Discourse

Climate change and its impacts will affect socio-economic, urban and rural, ethnic and cultural groups differently, affecting the poor and marginalised worst. In places affected by fragility and conflict people face especially challenging obstacles to successful adaptation.

There are knowledge gaps in our understanding of how the climate–conflict–environment nexus relates to vulnerabilities. Understanding vulnerability is critical in fragile situations characterised by uncertainty and a constant state of fluctuation; and, beyond evaluating current vulnerability, what does future vulnerability look like? There is a risk that the human security needs of the most vulnerable could be undermined if a security approach is practised.

However, attaching a security label to climate change has had certain advantages. It gives the state or government power to mobilise political and financial resources to address it. What form that action should take is already being discussed in many forums, such as the annual UN climate negotiations. Bypassing these discussions to bring about enforceable action through the UN Security Council would leave many of the most climate-vulnerable countries, which are not members of the council, out of the decision-making process. Deciding action based on the engagement of a limited pool of security institutions risks sidelining or missing out issues such as adaptation, mitigation, development, economic growth, equity, justice and resilience, which do not generally figure as main priorities on the security agenda but which are integral to addressing climate change.

Climate change will probably exacerbate humanitarian crises over the coming decades. However, to what extent the international community will have the capability and willingness to respond to these crises in the future is uncertain. Multiple pressures could contribute to a shift towards nationalism, and away from values associated with human rights, democracy, and cooperative global governance. Thus

there could be a gradual shift from a human security emphasis to a focus on national or military security.

If we recognise the link between climate change and security then naturally both civil and military actors are stakeholders with responsibilities to act in order to prevent crises and conflicts. However, it is important to be aware of the implications this may have for policy and practice.

Tools to Address Climate Change and Conflict Risks

The compilation of “hotspot” and “coldspot” mappings (maps depicting different levels of vulnerability and the threat of climate-induced conflict), using a composite index of at-risk countries, is quite common. While useful on a generalised level, such mapping fails to represent the role of borders in conflicts, generalises entire regions in the same category or level of “threat risk”, and often fails to explain intermediary factors which affect the likelihood of armed or violent conflict, oversimplifying the complexity and the context.

Suggested ways to improve policy and practice on the climate–conflict linkages include incorporating climate change risk in multi-hazard risk assessments and analysis of peace and stability; and the application of conflict sensitivity and “Do No Harm” approaches to disasters and climate programming.

Evidence points to the need to adopt approaches that capture the interrelationship between risks, vulnerabilities and resilience, and to increase cooperation between humanitarian, civil and military actors.

However, most tools and approaches tend to focus within the comfort of their disciplinary boundaries. For example, thinking about disaster risk reduction and climate change adaptation is expanding to look at a range of risks, i.e. disaster- and climate-related, but rarely expands to include conflict. Joint risk assessment tools are widespread, but of sixty-six widely used tools relating to climate change, natural resources and conflict, only two explicitly address the three linked risks together. Climate risk assessment tools tend to be rooted in scenario-based approaches that follow a fairly linear progression from climate predictions to an impact to a set of consequences. This approach serves well in narrowly defined, model-based studies, but does little to help in understanding climate impact in difficult environments.

Finally, to support decision-making and practical considerations better, technical assessment could be connected to monitoring tools like Pleiades (satellite images), strategic, environmental impact and vulnerability assessments, etc. with conventional armed conflict analysis.

Further Reading

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This brief was written by an interdisciplinary team of scientists at FOI, the Swedish Defence Research Agency. It could be read as a stand-alone document but can also be read in the context of connected briefs on integrated security of which this particular topic is a cohesive part.

The project leader was Mikael Eriksson (Defence Analysis) and lead scientists included Annica Waleij (CBRN Defence and Security), Birgitta Liljedahl (CBRN Defence and Security), Louise Simonsson (CBRN Defence and Security), Christer Andersson (Defence and Security, Systems and Technology), Richard Langlais (Defence Analysis), Michael Tulldahl (Sensor and EW Systems) and Ulf Söderman (Sensor and EW Systems). Many other members of FOI provided support.

For further information on related activities of this project please consult www.foi.se.