

Climate change, low-carbon transitions and security

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Headlines

- Climate change is a security ‘threat multiplier’ – especially in developing states and conflict zones.
- Responses to climate change – adaptation, mitigation and low-carbon development – may also trigger insecurity.
- Diverse stakeholders need to work together to promote low-carbon development which is sensitive to conflict. Low-carbon development faces the same challenges as traditional development but, due to the urgency of the climate and sustainable development agendas, these risks are being overlooked.
- Vulnerability i.e. the susceptibility to suffer damage from hazards or extremes and the ability to recover, is a concept that can unite research stakeholders across the natural sciences and humanities. Analysing vulnerability can lead to the development of a more practical, multi-disciplinary understanding of the relationship between climate change and insecurity. Taking vulnerability into account in low-carbon development planning and implementation can also promote peacebuilding.
- To promote conflict-sensitive low-carbon development, legal mechanisms and international norms designed to protect vulnerable citizens must do more to take account of local contexts and power dynamics which marginalise them.

Recommendations for government, private sector and development agencies:

- Engage in ongoing multi-lateral processes that aim to build government capacity on the relationship between climate and security, e.g. the G7 New Climate for Peace Initiative; the Planetary Security Initiative; and the promotion of an institutional home for Climate-Security at the United Nations by non-permanent member states.
- Support collaborations with researchers and civil society to understand how their work in low-carbon development can be more conflict-sensitive, embedding context assessments, vulnerability assessments and participatory approaches.

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Grantham Briefings analyse climate change and environmental research linked to work at Imperial, setting it in the context of national and international policy and the future research agenda. This paper and other publications are available from www.imperial.ac.uk/grantham/publications

Recommendations for researchers and civil society:

- Increase and broaden the research on security risks around climate change and low-carbon development (LCD) to regions beyond those that have recently suffered from conflict. Include under-studied regions in analysis, including those which are vulnerable or fragile but have not tipped into armed conflict.
- Be more proactive in crossing academic silos by applying for joint funds or projects which bring social scientists, natural scientists and data scientists into the same rooms to discuss and develop new research methodologies and agendas.
- Develop multi-disciplinary, grounded, research projects on the security impacts of LCD – producing outputs which are relevant to policymakers and practitioners. The need to map, engage and understand the wide range of stakeholders, vulnerabilities and power dynamics affected by potential adaptation and mitigation projects is especially salient.

Introduction

There has been powerful messaging around the links between climate and environmental change, and insecurity and conflict. Researchers, think tanks and security sector professionals have built consensus that climate change is a ‘threat multiplier’ for conflict¹. Yet policy and practice have been stifled, because of the uncertainty around how climate change will unfold, compounded by the lack of tools to plan for and respond to climate change. In addition, the evidence base claiming links between climate change and conflict is highly fragmented across the natural and social sciences and across different sectors. These factors make it challenging for professionals on the ground to understand the links between climate and conflict, and develop evidence-based responses that are both low-carbon and conflict-sensitive.

Statistical studies show positive relationships between changes in climate and conflict in parts of Africa² and Syria. Some noted that Syria’s longest, most extreme drought on record, followed by alleged mass rural-urban migration, preceded the outbreak of the Syrian civil war in 2011³ – although this is hotly contested⁴. Similarly, the intensification of the conflict in the Lake Chad Basin – which has reduced in size by over 90% in 50 years⁵ – has led to high profile discussions at the United Nations Security Council (UNSC) regarding the role of climate change in Africa’s most “staggering” humanitarian crisis, affecting over 10.7 million people⁶. As these crises continue to affect millions of people, we are repeatedly faced with the questions:

- How could our understanding of the conflict drivers have been better?

- What preventative policies would have supported greater peace and stability?
- Where else might climate change pose a threat to national, international and human security?

New methodologies are urgently needed to advance multidisciplinary knowledge generation and conflict-sensitive decision-making. While climate change and security are discussed with enthusiasm, insufficient interest is paid to how responses to climate change may relate to security. This is crucial, because the narrative around low-carbon development is overwhelmingly positivist. There is little disputing the benefits of LCD in terms of its emission reductions and development gains such as access to energy. However, there has been very little attention paid to what security risks may emerge in the processes and outcomes of low-carbon development – especially in developing and conflict-affected countries.

Climate change and security linkages: unifying the evidence

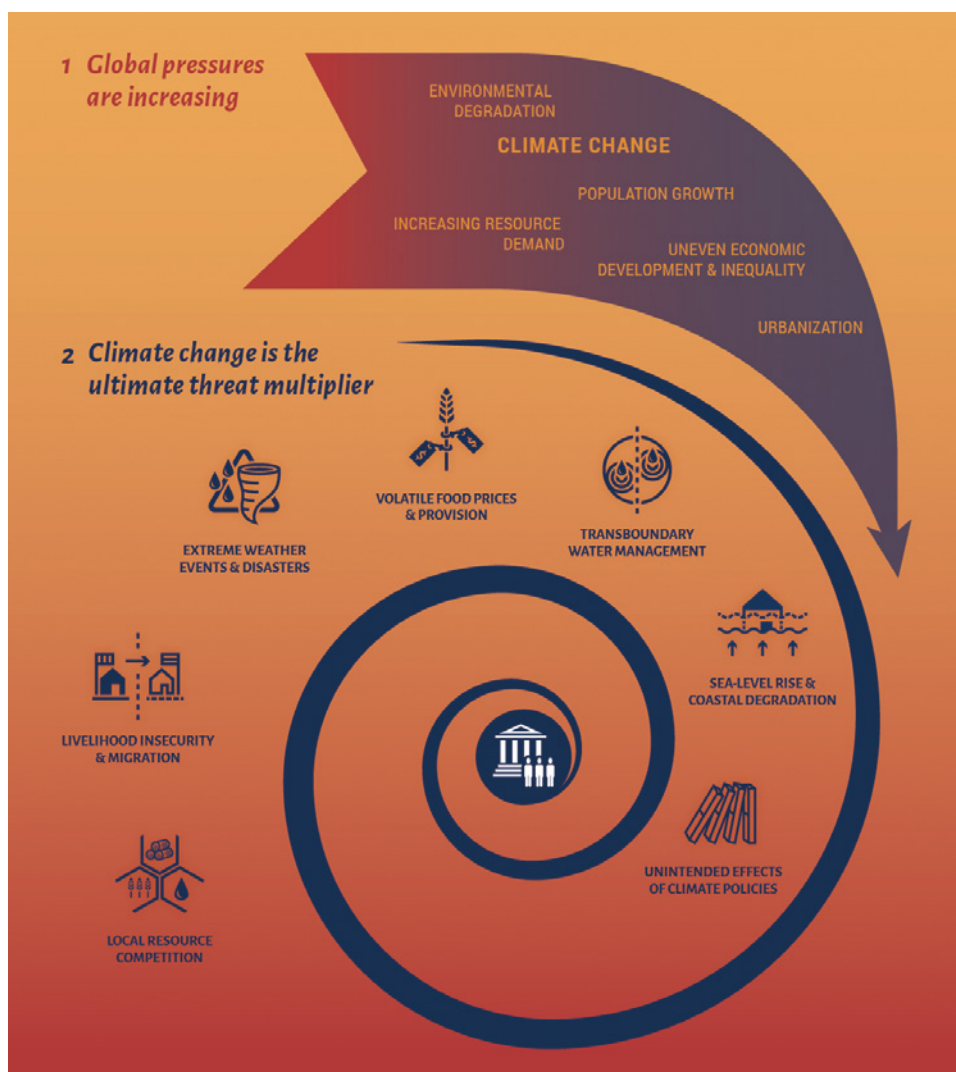
Although there is increasing consensus in the Global North that climate and environmental change are “already contributing to social upheaval and even violent conflict by making bad situations worse”⁷, policymakers have struggled to know how to react. In 2015, the G7 commissioned a report to promote greater awareness. The New Climate for Peace⁸ report outlines seven risk clusters where climate change issues interact with social, political and economic issues to lead to security risks at various scales (see Figure 1). These include:

- Local resource competition, e.g. the shrinking of the Lake Chad Basin has led local groups to compete for diminishing livelihood resources. At the same time, civil conflict has emerged in Nigeria - a country bordering Lake Chad – and this has spilled over into the Lake’s other bordering countries, Cameroon, Niger and Chad. Climate impacts on the lake have not only led to competition between civilians but have become a recruitment tool for armed groups;
- Livelihood insecurity and migration, e.g. civil war in Syria (see Box 1);
- Extreme weather events and disasters, e.g. extreme weather events not only disproportionately affect women and minority groups in terms of their human security, but can exacerbate existing grievances about political marginalisation. In countries experiencing weak governance or conflict, disasters can worsen the risk of conflict and increase the risk of further disasters;
- Volatile food prices and provision, e.g. climate change can affect prices of key foods, leading states that are dependent on imports to face food insecurity, sometimes leading to food riots which can trigger deeper crises in countries such as the Arab Spring in Tunisia and Egypt in 2011;

- Transboundary water management, e.g. many of the world’s crucial river and lake basins are located at national and sub-national boundaries. Hydrological developments by one party can put other parties who depend on the same source of water at risk, inflaming grievances. There are ongoing disputes and conflicts between both states and civil societies in the Nile and the Omo-Turkana Basins in sub-Saharan Africa over decisions to implement dams that reduce the flow of water downstream;
- Sea-level rise and coastal degradation, e.g. many of the world’s biggest cities are coastal, meaning they face significant threats from sea level rise. This threatens critical infrastructure and human security. Pressures are pronounced in Asian cities like Dhaka and Shanghai where millions of people are under threat by rising waters, which could lead to forced migration or even disaster fatalities; and

- The unintended effects of climate policies, e.g. pursuing adaptation and mitigation requires promoting economic changes and acquiring significant amounts of land for development. This can trigger or exacerbate grievances around land and livelihoods. There have been conflicts over wind, hydropower and solar projects in Pakistan, India, Peru, Tanzania and Kenya, which have disrupted progress or led to heightened levels of security in those areas.

These risk clusters provide a framework to think about different climate-fragility links, but policymakers and practitioners are struggling to know exactly how to act, especially as many of these risks are overlapping and cross different sectors. Too much emphasis has been placed on the division in the evidence base, instead of focussing on the needed for inter-disciplinary solutions¹⁰⁻¹⁵. A number of areas need to be reconciled, which include the difference between national and human security perspectives, and approaches to what constitutes evidence and types of data. These challenges are explained in Table 1 that draws on evidence from a variety of research These challenges are explained in Table 1 that draws on evidence from a variety of research¹⁶⁻²¹.



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Figure 1: Seven compound climate-fragility risks outlined in the G7-commissioned New Climate for Peace’ report⁹.

Table 1: Summary of differences between national and human security perspectives

Perspective	National security perspective	Human security perspective
Summary	Generally assumes an imminent risk of national and international security threats as a result of climate change.	Challenges the national security perspective as environmentally deterministic, based on an implicit assumption that climate change causes conflict. Argues it oversimplifies the relationship between climate change, environmental change and (in)security resulting in a discourse which promotes one-size-fits-all and/or poorly contextualised responses that have been proven to be unhelpful in promoting conflict-sensitive, sustainable development.
Key proponents	<ul style="list-style-type: none"> • Security analysts • Military professionals • Diplomats • Natural science researchers • Economists 	<ul style="list-style-type: none"> • Civil society organisations • Local and national government officials • Social science researchers • Humanities researchers • Activists
Approach to evidence	<p>Tends to promote macro-scale, long-term (statistical) studies – that link episodes of environmental or climate change to increases in conflict or insecurity, especially:</p> <ul style="list-style-type: none"> • Changes in temperature or precipitation²²⁻²⁴; • Food (in)security^{25,26}; • Climate- related migration or displacement²⁷; • Water security^{28,29} • Natural resource scarcity^{30,31}. <p>This narrative has been very effective in compelling policymakers to take the climate-security relationship seriously, especially those in ministries of foreign affairs, defence and national security.</p>	<p>Tends to focus in on historical, small or medium-scale case studies, which provide a significant amount of contextual detail but are criticised for failing to link to the wider national/regional context or show how such contextual climate-security links can scale up into larger scale threats.</p> <p>Argues that the large-scale data and mapping used by national security proponents makes considerations for region and local-specific policies challenging.</p> <p>Human security proponents also contend that there is poor attention to different scales and timelines in the evidence base³² and that hotspot maps tend to generalise large and entire regions, without focusing in on local risk areas^{33,34}.</p>

The national security approach, because of its ability to mobilise resources and political attention, has been more compelling in terms of convincing policymakers that something needs to be done on climate change and security. This is reflected in the fact that many high-profile risk assessments and national security strategies have prioritised climate change. For example, the World Economic Forum's Global Risks Report 2018³⁵, positions climate change related risks as three of the top five risks: extreme weather events; natural disasters and failure of climate change mitigation and adaptation. States have become more vocal on the security risks of climate change. This was exemplified in an Arria Formula Meeting of the United Nations Security Council on 14 December 2017.

However, the national security perspective often relies on quantitative and statistical evidence that attempts to produce correlations between climate change and conflict. Human security proponents emphasise that change occurs in a political and socio-economic context. So, despite its impact on policy, they tend to heavily critique the national security methods and

data on several points as outlined in Table 1³⁶⁻⁴⁶. Ultimately, they argue that the evidence lacks context and the resolution needed to understand how and why groups of people go into conflict. There are several challenges with relying on a national security perspective for understanding climate-related security risks. Firstly, the mechanisms for following such an approach – for example diplomacy, military capacity building and response, humanitarian assistance and disaster response (HADR) – do not address the root causes of several climate-related security risks. Furthermore, for national security mechanisms to become engaged, a minimum threshold of risk, violence or insecurity typically needs to be met. Slow-developing human security risks are therefore unaccounted for in this framework, for example livelihood and food insecurity through drought and desertification.

Encouraging all actors to think in a more multi-faceted way, bringing the human security and national security perspectives together, helps to address climate-related security risks in a less adversarial manner.

Box 1: When academic disputes hamper policymaking: Syria

The dispute about the causes of the Syrian Civil War has been continuously debated for almost as long as the war itself. From 2012-2015, a series of articles proposed that the transition of a stable Syria (albeit with substantial governance problems), to the uprising which sparked civil war could be explained by the following events:

- in the late 2000s, “likely the most severe drought in 900 years”³ affected the ‘Fertile Crescent’ area;
- this severely affected agricultural livelihoods and led to large-scale rural to urban migration;
- the presence of these migrants in cities exacerbated livelihood insecurities and associated tensions, and hence were a key contributory factor in the 2011 unrest, which signalled the onset of the war.

They argued that if analysts had just paid attention to the effects of climate change on farming, and the subsequent discontent of the migrants and host communities, the outbreak of war might have been avoided⁴⁷. This causal chain has been picked up by the media, and those from the national security perspective have repeatedly used this as the explanation for the Civil War⁴⁸.

Other analysts have fiercely refuted that interpretation. Randall *et al* (2017)⁴⁹ argued that the media and some analysts misrepresented arguments made by academics about climate change and the Syrian conflict. Selby *et al* (2017)⁵⁰ interrogate the evidence regarding:

- **the nature of the drought** – concluding that, while there was rainfall variability and a drought, “there is no evidence of progressive multi-decadal drying either in the Fertile Crescent region as a whole, or in northeast Syria”;

- **the drought led to “total crop failure”, driving “as many as 1.5 million” rural Syrians to cities** – concluding that “there is no meaningful foundation for a 1.5 let alone 2 million figure... the 1.5 million figure is completely out of line with Syrian government and UN estimates, and all other sources of which we are aware”;
- **the migrations were a key contributing factor to the unrest that began the civil war** – concluding that this is an assumption, not based on research into the causes of the uprising, which in fact started in a *rural* town, Daraa, “the evidence marshalled on the link between drought migration and civil war is extremely weak. More striking than this, is what their accounts omit: namely, any consideration of whether migrants from northeast Syria were significantly involved, whether as mobilisers, participants or targets, in the early demonstrations which spiralled into civil war”.

Selby *et al* (2017)⁵⁰ conclude that there is no good evidence “that global climate change-related drought in Syria was a contributory causal factor in the country’s civil war... the ‘threat multiplier’ discourse is neither cautious nor rigorous”.

While we agree with the need to be cautious and rigorous, the impasse in which academia and policymakers have found themselves is not pragmatic. Selby *et al* critique analysts for being heavy handed in framing the discourse around security issues and call for “cross-disciplinary expertise” in “analysing the socio-economic and political impacts of climate change”. We need tangible suggestions as to how this should be done and who should facilitate it. This is exemplary of the inability, to date, of these diverse research communities to unite to tackle the problem in a multi-disciplinary manner.

Bridging perspectives, scales, methodologies and findings

There is an urgent need to promote research that connects and reconciles security perspectives, scales and methodologies, in order to produce a useful and coherent evidence base. The purpose of this approach is to support evidence-based, conflict-sensitive, policy and practise.

A small number of systematic reviews reconcile perspectives by bringing together quantitative and qualitative evidence, e.g. Mobjork and Van Balen (2016)⁵¹. These reviews suggest that research and policy should focus on: creating livelihood resilience in the context of a changing climate and economy; governance of climate change adaptation at multiple scales; the role of formal and informal institutions; the capacity of institutions to manage adaptation; vulnerability assessments; and formal and informal conflict resolution mechanisms⁵²⁻⁵³.

A holistic approach – bringing in human security and national security perspectives and approaches – is aligned with the United Nation’s new Sustaining Peace Agenda, which calls for joint assessments, planning and programming across a range of stakeholders in development and security sectors, in order to effectively prevent “the outbreak, escalation, continuation and recurrence of conflict”⁵⁴.

Vulnerability – a unifying concept?

In line with this more holistic approach, researchers are gradually converging around the concept of vulnerability⁵⁵⁻⁶⁰. Vulnerability is defined as the susceptibility to suffer damage from environmental, political and socioeconomic hazards or extremes, and the ability to recover. Identity factors, like ethnicity, class, gender, age, socio-economic status and political affiliation are central to this understanding, because they mediate access to resources, which can reduce the exposure to damage and prolong recovery⁶¹⁻⁶⁷.

The relationship between vulnerability and insecurity can be described using a four-step narrative, as follows:

1. Environmental change most adversely affects vulnerable populations;
2. Vulnerable populations rely on precarious environments for their livelihoods and security;
3. Livelihoods and security are often related to social and economic marginalisation; and
4. Vulnerability is compounded by environmental change, creating impacts on the security of livelihoods, land, food, public health and access to resources.

Ultimately vulnerable people face a ‘double exposure’⁶⁸⁻⁷¹ in the face of climate and environmental change. The pressures and shocks of climate change can lead to conflict and violent outcomes, especially in terms of water security, food security, livelihoods and migratory flows⁷²⁻⁷⁶. There is increasing scope for quantitative methodologies – for understanding how exacerbated vulnerability may lead to insecurity – and linking hotspots or groups at risk of conflict to grounded qualitative work.

Mapping possible sources of conflict in low-carbon development

The authors conducted a literature review and interviewed a wide range of stakeholders – including the private sector, governments and non-governmental organisations – across Europe, Asia, the Middle East and North America. There was clear consensus on a need to better understand the conflict risks and peacebuilding opportunities of low-carbon transitions⁷⁷. Transitions and their adaptation and mitigation projects must be conflict-sensitive to prevent any negative unintended consequences. Despite a nascent literature, studies highlight some key conflict-risk scenarios related to such unintended consequences. These are mapped in Table 2.

Observations on research case studies for low-carbon energy development and the potential for conflict

When reviewing the literature to map sources of climate conflict, it is clear that this area is subject to over-representation of nations which have been subject to recent conflict. This is validated by a systematic review of the climate conflict research base⁹⁶. It finds that research has focused on more accessible English-speaking nations and conflict-affected states. There is a need to gain access to under-studied regions including those areas characterised by vulnerability to climate change or, more broadly, fragile states which have not yet tipped into conflict and consider variables related to human security and conflict-

risk in such contexts. This will allow better understanding of the relationships between a broader suite of variables related to security rather than focusing on the variables of climate change and violent conflict.

It is also salient that in the research base and case studies, mapping, engagement, and analysis should reach a broad range of stakeholders, to facilitate a greater unpicking of vulnerabilities and power-dynamics affected by potential adaptation and mitigation projects. Such nuanced but necessary analysis is poorly or inconsistently undertaken and is, in many cases, absent. We propose a move towards grounded research projects on low-carbon development in regions at risk of conflict, to understand the current processes, arising security dynamics and opportunities for peacebuilding.

Low-carbon transitions – opportunities to promote peacebuilding, economic development, participation and good governance

Broto and Bulkeley (2013)⁹⁷, argue that adaptation to climate change is a chance to address vulnerabilities and inequalities that are key to driving conflict, under-development and fragility. Successful LCD, can therefore promote resilience – against climate change and against conflict⁹⁸.

To do this, those working in development and in the private sector need to move beyond being technocratic to using participatory approaches. This requires exploring different timeframes and methods⁹⁹. The Environmental Peacebuilding initiative^a, and a small number of studies provide useful indications as to how this can be done. For example, Sawas and Anwar (2018)¹⁰⁰ found that a multi-national corporation was able to reverse the perceived negative impacts of its work in Pakistan. They did so by providing sustainable employment opportunities to indigenous people as well as engaging in a renewed, more locally appropriate, programme of corporate social responsibility (CSR) in response to concerns from displaced populations. This included supporting their acquisition of formal land tenure.

Conflict sensitive tools for low-carbon development

Ultimately, low-carbon transitions have social and technical elements, and are complex and cross-sectoral in nature. A range of social, political, technical and other factors must be understood and accounted for, in order to promote peace. Governments, development actors and the private sector – supported by researchers and civil society – should consider employing the following tools and approaches in planning and implementing low-carbon development:

a The focus is to incorporate natural resource management and livelihoods into peacebuilding activities and strategies to support development, humanitarian and security objectives. See www.environmentalpeacebuilding.org.

Table 2: Mapping of the literature linking low-carbon energy development and potential for conflict

Risk factor	Evidence and examples
Energy project becomes an objective in an existing conflict ⁷⁸	Conflicts which are motivated by economics and/or geopolitics such as the current tensions over the South China Sea and the impact on resource claims under the United Nations Convention of the Law at Sea (UNCLOS), 1982, this is also prevalent in the Middle East and North Africa Region, e.g. Libya.
Energy project is a means that is used in an existing conflict ⁷⁹	The exacerbation of existing land disputes as a result of biofuel farms in Kenya’s River Tana Delta.
Energy project is the cause of the conflict’s outbreak ⁸⁰	The conflict between Tajikistan and Uzbekistan over the Rogun Hydropower Plant, or conflict between farmers and the government over the Kot Addu Geothermal energy plant in Pakistan.
Experience of recent conflict ⁸¹	Risk is greater where countries have experienced a recent conflict, in fact, we know from a great deal of evidence that rates of conflicts restarting are very high and that development in post-conflict states can exacerbate or re-trigger tensions ⁸²⁻⁸⁴ .
Exacerbation of political and economic marginalisation ⁸⁵	<p>Risk of conflict is particularly pronounced where states have a low GDP per capita and high population growth, where unequal access to livelihoods, centralisation of power/autocratic regimes and resources may be exacerbated by LCD.</p> <p>States which currently rely on natural resources for economic development also pose significant risk in terms of peaceful LCD transitions. For example, Vandevveer (2013)⁸⁶ highlights that 18-20 oil rich states are run by non-democratic regimes.</p> <p>Adaptation and mitigation projects have triggered or exacerbated conflicts related to inequality and marginalisation. This is particularly prevalent when international private sector actors are implementing projects in developing and conflict-affected states, having tight timelines to conduct impact assessments they often rely on the information and legal frameworks provided by the state, for example biofuels⁸⁷ and hydropower projects^{88,89}.</p> <p>The evidence suggests that the major conflict risks related to LCD are at the sub-national level, in regions which face marginalisation by the state or resource competition between groups⁹⁰⁻⁹⁴.</p>
Renewable energy infrastructure will drive demand for minerals ⁹⁵	Renewable energy is set to trigger a growth in demand for minerals, like lithium. Half of the world’s lithium deposits are in Bolivia, a country characterised by social and political inequalities and a weak state which controls the mining sector.
<p>These sources and indicators of conflict are often compounded by the following factors:</p> <ul style="list-style-type: none"> • The broader governance environment, including citizen’s formal rights to land/property and the exploitation of local grievances by elites; • The resilience of social institutions to manage change; and • The reduction in vulnerability of affected populations, especially with regards land tenure, pastoral mobility patterns, migration and livelihoods. 	

Conflict-sensitive environmental and social impact assessments

Environmental and social impact assessments (ESIAs) are typically required by governments and donors in assessing the feasibility of a specific project. However, in certain developing countries, where environmental legislation is weak, this process may not be required or may be in its infancy.

ESIAs have been criticised for lacking transparency and depth, and for not effectively engaging with the most vulnerable stakeholders¹⁰¹. International Alert (2005)¹⁰² and Kapelus *et al* (2015)¹⁰³ called for ‘conflict-sensitive’ ESIAs, and although the low-carbon development agenda represents an opportunity to build this capacity, they are yet to be adapted at scale. These promote a process of engagement with local stakeholders, which facilitates ongoing participation in decision-making over the project and communal decision-making with competing groups.

Promotion of free, prior and informed consent (FPIC)

The UN Declaration of Rights for Indigenous Peoples (2007)¹⁰⁴, calls on governments and developers to, “obtain consent of indigenous peoples in cases of: the relocation of indigenous peoples from their lands or territories (Article 10)” and the “storage or disposal of hazardous materials on indigenous peoples’ lands or territories (Article 29)”. However, it is repeatedly reported that such FPIC is not being obtained in development projects that are displacing indigenous people or dispossessing them of their livelihoods. The majority of reports of grievances have been in mining and other extractive industries¹⁰⁵ and insufficient attention has been paid to the potential impacts of low-carbon development projects¹⁰⁶. Seeking FPIC can be a way to reduce the anxiety indigenous people associate with new development projects, and create new interfaces for trust-building and participation.

Support for citizens’ access to legislative measures

While many states have developed legislative measures to support citizens, the reality is a fractured access to those measures. For example, right to information (RTI) laws have been legislated in over 110 countries. These are supposed to give all citizens access to information about development projects and other use of government funds that are not deemed critical to national security. This transparency initiative aims to build trust between citizens and the state, and create checks and balances on the state’s activities. However, many states which have RTI laws are not living up to their requirements especially in low-carbon development projects. For example, in Pakistan, a range of Chinese-funded energy mega projects

(under the China-Pakistan Economic Corridor) led to citizens making RTI requests in 2016. However, many were rejected on the grounds that the information was pertinent to national security and so could not be shared. This led to unresolved grievances manifesting in a range of ways from public interest litigations, to anti-state activism and protests. Amendments were since made to the law through the Right of Access to Information Bill 2017, but it explicitly states that no information will be shared about, “the official record of armed forces, defence installations, defence and national security. Information regarding defence-related commercial and welfare activities can be accessed”. It remains to be seen how accessible information on low-carbon development projects will be.

Conclusions

The body of work summarised in this briefing note involved a survey of the literature and interviews with specialists, policy makers and practitioners working in the climate conflict sector to better understand the state of the evidence regarding the links between climate and conflict. The review has also assessed the implications of low-carbon development in emerging economies, and fragile and conflict-affected states (FCAS) as a mechanism that could provoke conflict. It has found that the literature is highly fragmented, across different disciplines, subject to sampling bias to clusters of nations which have recently been in conflict. It broadly falls into two perspectives – those posited around human security and those around national security. Although it is broadly agreed that climate change and the transition to the low-carbon economy in FCAS is a ‘threat multiplier’, the links to conflict are poorly understood. Different perspectives, scales and methodologies have implications on the capacity of policy makers to understand the problem. It is clear that low-carbon developments face the same challenges as traditional development. However, due to the urgent need for low-carbon development and the implementation of the Paris Agreement on emissions, and other climate related issues such as adaptation, development and energy access, as well as access to finance, the risks are being overlooked. The situation is well summarised by Sovacool¹⁰⁷:

“Social and political conflicts are inseparable from the process of climate adaptation – planned activities that entail altering infrastructure, institutions, or economic practices to respond the impacts of climate change. No matter how noble the intentions, or how well interventions are designed, adaptation projects will rarely escape underlying distributional aspects and power struggles. They can become a flashpoint for competing interests, generating their own sets of winners and losers.”

^b See work by International Alert and Adelphi, for example.

Recommendations

To government, private sector and development agencies:

i) Engage in ongoing multi-lateral processes that aim to build government capacity on climate-security links.

- Engage proactively in the ongoing processes that are building capacity to manage and mitigate climate-related security risks. For example, the G7 New Climate for Peace Initiative and Climate Fragility Working Group; the Planetary Security Initiative; promotion of an institutional home for Climate-Security at the United Nations by non-permanent member states. There is building momentum for better, more integrated assessment and response to climate-related security risks. Governments, the private sector and development actors can support this momentum by engaging in dialogue to ensure that ideas and decisions reflect the needs of a wide range of stakeholders.

ii) Support collaborations with researchers and civil society to understand how low-carbon development work can be more conflict-sensitive.

- Researchers and civil society have access to the information and networks of citizens needed to do conflict sensitive low-carbon development. Engage with academics and NGOs who are embedded in the region of the project, in order to explore how best to do a conflict-sensitive ESIA. This will allow government, the private sector and development actors to better understand the local, regional and context-specific issues by mapping, engagement and gaining empathy with a broader range of stakeholders. It will provide insights into vulnerabilities and the local and regional power dynamics affected by potential adaptation and mitigation projects (see also recommendation v below).
- Utilise participatory processes in consultations for the ESIA. Look to examples from traditional development and mining industries^b, to explore how this can be done in line with project timelines.
- Use vulnerabilities and capacity assessments in the ESIA to not only map the groups at risk of facing insecurity or grievances, but build capacity for the ESIA approach in countries.
- Work directly with practitioners and academics to develop a bespoke or general guidance on doing conflict-sensitive ESIA in a time-sensitive and sector-appropriate manner. Consider ways to engage multi-disciplinary research assessments of conflict risk in the planning processes of their work; by leaning towards research teams rather than short-term consultancies, which do not offer sufficient contextual analysis about conflict-risks related to the development.

To researchers and civil society:

iii) Broaden the research base for case studies to beyond nations which have recently suffered from conflict.

- A recent systematic review of the climate conflict research¹⁰⁸ base finds that there is sampling bias. Research has focused on more accessible English-speaking nations and those nations which have recently suffered from conflict. This is likely to lead to responses that are skewed to those places that are more prone to climate-induced conflict.
- There is a need to gain access to under-studied regions, including those fragile states which have not yet tipped into conflict, and consider variables beyond climate and conflict in such circumstances. This will allow better understanding of the relationships between a broader suite of variables related to security policy design, which might be better tailored to specific security contexts.

iv) Be more proactive in crossing academic silos.

- The debate about whether to understand climate-security risks from a human security or a national security perspective has been ongoing for more than 12 years, and there is still a strong disagreement in academia, such as the case of Syria. In a globalised world facing systemic, inter-connected risks, academics need to be more proactive in stepping out of their silos and engaging in multi-disciplinary analysis and problem solving.
- Academics need to use accessible language that reflects on ongoing policy processes.
- Academics and those in civil society should apply for joint funds or projects which bring social scientists, natural scientists, data scientists and applied researchers/practitioners into the same spaces to discuss and develop new research methodologies and agendas.

v) Engage more proactively and openly in multi-disciplinary, grounded, research projects on the security impacts of LCD.

- There is an urgent need to map, engage and understand the wide range of stakeholders, vulnerabilities and power dynamics affected by potential adaptation and mitigation projects. We propose a move towards grounded research projects on LCD in regions at risk of conflict to understand the current processes, arising security dynamics and opportunities for peacebuilding.
- This needs greater buy-in from government, private sector and NGO stakeholders by setting up new research funding calls which require both multi-disciplinary and inter-sectoral approaches, for example the Global Change Research Fund. These stakeholders are in a unique position to energise researchers to cross disciplinary settings and develop research that is useful for policy, rather than knowledge for the sake of knowledge, for which, considering the current conditions of climate change and risk, there is not time.

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