

Climate and conflict: What does the evidence show?



SKD Learning Notes bring lessons learned through the interaction of data, operations and evidence, and benefit from the advice of the Knowledge Unit.

Background

The climate-conflict nexus is of great importance today and in the context of the 27th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC). Despite contributing less to climate change historically, developing countries are disproportionately affected by the negative impacts of climate change. The Sahel and Middle East and North Africa (MENA) regions are some of the worst affected by the twin challenges of climate change and conflict. Thus, it is fitting and important that COP27, through its focus on adaptation, also examines the linkages between climate and conflict.

This Learning Note provides an overview of the evidence on the climate-conflict nexus, the role of climate finance in mitigating climate and conflict risks, and some policy recommendations to address the vulnerabilities caused by both climate and conflict.

Evidence on the climate-conflict nexus

Literature examining the climate-conflict nexus has burgeoned since the publication of the Fourth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) and the recognition of climate change as a security issue at the United Nations Security Council, both in 2007.

A seminal paper on climate change and armed conflict in sub-Saharan Africa published by Burke et al. (2009) concluded that a 1°C increase in temperature led to a 4.5 per cent increase in civil war in the same year, due to a climate change-induced decline in agricultural yield aggravating socio-economic factors [1]. Additionally, from meta-analyses of 55 studies of conflicts, Burke et al. (2015) found that adverse changes in both temperature and precipitation indirectly increased the risk of violence and conflict at both the intergroup and the interpersonal scale, and that changes in contemporaneous temperature had a larger effect than the cumulative effect of rainfall.

[1] Burke, M.B., Miguel, E., Satyanath, S., Dykema, J.A. and Lobell, D.B. 2009. Warming increases the risk of civil war in Africa. PNAS 106(49): 20670-20674.

However, a study by Buhaug (2010) asserts that climate change is not to blame for African civil wars, concluding that temperature change is a poor predictor of risk of civil war. It adds that other predictors, such as the ethnopolitical context or economic development, display more significant and substantive effects on the risk of civil war. The reason for such diverging outcomes can be attributed to several factors, which are shown in box 1.

Box 1. Reasons for diverging outcomes in quantitative analyses on the climate-conflict nexus

- **Conceptualization and operationalization of climate and conflict.** There are subtle differences in how researchers define and measure climate change and conflict.
- **Lack of consensus on what constitutes a conflict.** There are minor differences in defining the nature and stage of the conflict, the threshold of intensity and the actors involved.
- **It can be hard to quantify certain variables.** For instance, it is possible to measure the rise in local temperature over time, but it is hard to quantify the perception of this change by local inhabitants.
- **Spatial and temporal factors.** Local variations in resource availability or changes in climate can be substantial for a large country such as India [2]. With greater access to data, researchers have also started considering subnational units as the unit of analysis.

Despite differing conclusions in literature as to the link between climate change and conflict, the IPCC (2022) stated recently with high confidence that there is a growing body of evidence linking increased temperatures and drought to conflict risk in Africa, and specifically that “agriculturally dependent and politically excluded groups are especially vulnerable to drought-associated conflict risk” [2].

The panel emphasizes that “climate variability and extremes are associated with more prolonged conflict through food price spikes, food and water insecurity, loss of income and loss of livelihoods”. It shows that there is more evidence concerning low-intensity violence globally than international armed conflict, concluding that “there is insufficient evidence at present to attribute armed conflict to human induced climate change” [3].

The IPCC also noted that, although climate change can act as a threat multiplier to increase the frequency and intensity of existing conflicts, other socio-economic, governance and political factors play a more decisive role in triggering conflict than climate on its own. Nonetheless, when climate is combined with land tenure issues, weather-sensitive economic activities, weak institutions and fragile governance, poverty and inequality, its influence on conflict is exacerbated.

Without suitable climate adaptation techniques, changes in temperature and precipitation can affect water levels and depress agricultural production, thereby affecting local employment and leading to an increase in food prices [4]. This can particularly harm agrarian societies that are heavily reliant on scarce natural resources.

[2] IPCC. 2022a. Climate Change 2022: Impacts, Adaptation and Vulnerability. Full Report. Geneva: Intergovernmental Panel on Climate Change, p. 1292.

[3] IPCC. 2022b. Climate Change 2022: Impacts, Adaptation and Vulnerability. Summary for Policymakers. Geneva: Intergovernmental Panel on Climate Change, p.53.

[4] Brück, T., Habibi, N., Martin-Shields, C., Sneyers, A., Stojetz, W., and van Weezel, S. 2016. The relationship between food security and violent conflict. Berlin: International Security and Development Center.

Does climate finance help to reduce the likelihood of conflict?

Climate finance can be defined as funds drawn from public, private or alternative sources to tackle climate change and its impacts at the local, national or transnational level. “Climate finance is needed both to mitigate the emissions causing climate change and to help communities and economies adapt to the changes that are not inevitable” [5]. There is a growing call to include ‘loss and damage’ as the third pillar of climate finance [6]. Loss and damages are the impacts of climate change that are not avoided by mitigation, adaptation and other measures such as disaster risk management [7].

There is a lack of literature examining the role of climate-related investments in mitigating the likelihood of conflict in developing countries. This can partially be attributed to data or methodological constraints involved in examining this relationship. In terms of data challenges, the total extent of private climate finance is not known. There is also a lack of access to monitoring and evaluation data or post-programme impact assessments [8]. In terms of methodological challenges, the true extent of climate finance in mitigating conflict cannot be gauged as the avoided losses may be invisible and realized in the distant future [9].

The evaluation report of the Global Environment Facility presents three ways in which climate interventions can interact with conflict: (1) the intervention can be negatively affected by conflict and fragility; (2) the intervention can inadvertently worsen conflict and fragility; and (3) the intervention may help address the drivers, dynamics and impact of conflict and build peace [10].

Research by Reda and Wong (2021) shows that the more fragile a country is, the less climate finance it receives. The study analysed climate finance of the four climate change “vertical funds” – the Adaptation Fund, the Climate Investment Funds, the Global Environment Facility and the Green Climate Fund – between 2014 and May 2021 and found the following:

- *Only one of the top 15 recipients of the funds in the combined group of fragile and extremely fragile States was extremely fragile: the Democratic Republic of the Congo.*
- *When measuring funding per capita, extremely fragile States averaged US\$2.1 per person, compared to US\$10.8 per person in fragile States and US\$161.7 per person for non-fragile States (including the Small Island Developing States).*

Thus, the most vulnerable communities affected by the twin challenges of climate change and conflict are often not the beneficiaries of climate finance. This also goes to illustrate that climate finance can not only affect the conflict situation, but the volume of climate finance is affected by the conflict situation in the beneficiary country.

Way Forward

It is evident that there is growing consensus that climate change is a contributor to the likelihood of conflict, acting as a threat multiplier.

As seen, however, climate finance often fails to reach the most vulnerable communities that are being impacted by both climate change and conflict. Climate finance, thus, can be better targeted at fragile and conflict-affected countries.

[5] IFAD. 2021. Why climate finance matters: Your questions answered. IFAD, 29 October. <https://www.ifad.org/en/web/latest/-/why-climate-finance-matters-your-questions-answered>

[6] Bhandari, P., Warszawski, N. and Thangata, C. 2022. The Current State of Play on Financing Loss and Damage. World Resources Institute, 3 June

[7] Heinrich Böll Stiftung. n.d. Unpacking finance for Loss and Damage. Washington, D.C.: Heinrich Böll Stiftung.

[8] Cao, Y., Alcayna, T., Quevedo, A. and Jarvie, J. 2021. Exploring the conflict blind spots in climate adaptation finance. London

[9] World Bank. 2019. The World Bank Group Action Plan on Climate Change Adaptation and Resilience. Washington, D.C.: World Bank.

[10] GEF. 2020. Evaluation of GEF Support in Fragile and Conflict-Affected Situations.

The following are some policy recommendations to address the twin vulnerabilities caused by climate and conflict:

- Multilateral organizations can invest in capacity-building in fragile and extremely fragile States so that they can access climate finance. There are several administrative and technical barriers for fragile States to overcome to access climate finance. For instance, countries in the midst of conflict are often lacking the institutional and technical capacity to complete the detailed and complex paperwork to access these funds.
- There is a need to integrate conflict analysis into climate finance projects. Additionally, it is important to ensure that development work in conflict-affected areas is climate-proof to achieve sustainable peace. There is a risk of maladaptation when the local political or security dynamics are overlooked.
- It is important to carefully assess the local political or social relations and make efforts to involve the local population in planning and executing the investments or interventions, to ensure that no further harm is done.
- There is a lack of relevant conflict data and post-programme impact assessments in the research field. Multilateral organizations could contribute to the solution of data deficiency by using Geographic Information System (GIS) methods to assess the impact of climate investments and their effectiveness in preventing the likelihood of conflict.



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