CLIMATE CHANGE – CONFLICT NEXUS

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ABOUT THE ILLUSTRATOR

BENJAMIN BAHARANYI is an artist. His artistic approach is rooted in a deep appreciation of nature and its interaction with humanity. His art focuses primarily on trees, a living metaphor for current environmental challenges. Through detailed depictions of roots, bark, and leaves, Benjamin illustrates the essential symbiosis between humans and nature. His works question deforestation, encourage reforestation, and celebrate trees as a source of life.

CLIMATE CHANGE – CONFLICT NEXUS

Mathijs van Leeuwen[1]

A widely held narrative among policymakers and the media suggests that climate change depletes resources, intensifies competition over land and water, and drives migration, ultimately straining resources and sparking conflicts elsewhere. However, the academic debate on whether and how climate change contributes to violent conflict remains unsettled. This contribution explores evolving perspectives in this discussion, particularly the argument that climate change does not directly cause violent conflict but rather interacts with other conflict-driving factors, such as state capacity and contested resource and climate governance. It also examines the political implications of framing conflicts as climate-driven and the broader impact of instability on climate resilience.

Concept

Environmental, political and social scientists have extensively explored the climate change – conflict nexus in a quantitative way. A majority of studies find a positive correlation between climate change and the risk of violent conflict (Hsiang et al., 2013; Sakaguchi et al., 2017).

Nonetheless, the evidence is still inconclusive as to which particular climate change factors—be it temperature fluctuations, altered precipitation patterns, or extreme weather events—are responsible for this relationship (Hendrix & Salehyan, 2012;

1 This text has been edited for language and clarity using OpenAI's ChatGPT. All original ideas, research, and interpretations are the sole contributions of the authors.

Raleigh & Kniveton, 2012; Hsiang et al., 2013; Burke et al., 2015). Correlations appear to be highly context-dependent, and causality remains complex (Schaar, 2018). For example, while extreme weather events may lead to violence in some communities, they do not necessarily have the same effect elsewhere (Ide, 2017). There is ongoing debate about the role and significance of different causal pathways, including agricultural decline, heightened resource competition, and migration (see Xie et al., 2024).

Moreover, the relationship between climate change and conflict varies depending on the type of conflict and violence considered. There is no evidence that climate change directly causes interstate conflict (Adger et al., 2014, p. 772). While some studies link climate change to violence between communities, evidence for its association with civil war remains limited (Sakaguchi et al., 2017). In addition, climate change impacts can lead to disputes and competition over resources, but these disputes do not necessarily escalate into violence. Finally, climate-related migration may increase resource pressure in some areas while alleviating it in others.

As a result of this, some scholars are sceptic about all forms of suggested causality between climate change and conflict. Buhaug (2010), for example, states that (long-term) climate change cannot account for (short-term) variations in civil war risks in Sub-Saharan Africa; and adds that the primary causes of civil war are not environmental but political. Other authors acknowledge the possibility of a connection between climate change and conflict likeliness; but they underscore the limited significance of climate-factors in comparison to other variables. Experts consulted for a review in *Nature* (Mach et al., 2019) for example argue that low socioeconomic development and state capacity are far more significant in explaining conflicts than climate change.

In summary, the academic consensus is increasingly moving toward the view that there is no direct causal link between climate change and violent conflict (Adger et al., 2014). Instead,

many scholars now regard climate change as a *threat amplifier* or *multiplier*, meaning it influences and exacerbates existing conflict risks rather than directly causing violence. Climate change interacts with factors such as socioeconomic development, state capacity, and inequality, shaping their impact on conflict dynamics. For example, while climate change can undermine livelihoods and heighten competition over resources, these pressures only become destabilizing in the absence of effective conflict-resolution institutions (Schaar, 2018).

Many scholars now regard climate change as a *threat amplifier or multiplier*, meaning it influences and exacerbates existing conflict risks rather than directly causing violence.

This perspective aligns with a political economy/ecology approach to natural resources and conflict. From this viewpoint, access to, distribution, and use of natural resources—and, by extension, scarcity and competition—are shaped by historical power dynamics and political decisions (Peluso & Watts, 2001; Turner, 2004). A political economy/ecology lens situates the impacts of climate change within broader patterns of social and economic differentiation, exclusion, and conflict.

To illustrate this point, consider the case of Syria. Some researchers have identified climate change-induced drought and the subsequent migration of struggling farmers to cities as key drivers of the country's civil war (Gleick, 2014). However, scholars adopting a political economy perspective emphasize that water scarcity was primarily a consequence of the government's long-term policies promoting water-intensive agriculture and the overexploitation of groundwater (Barnes, 2009; De Châtel, 2014). While the resulting agricultural crisis did contribute to the outbreak of civil war, it had begun long before the drought (Selby et al., 2017).

A political economy/ecology perspective also highlights the uneven distribution of resilience and vulnerability to climate

change across socio-economic and spatial levels. Climate change disproportionately affects the poorest populations—particularly those who depend on agriculture for their livelihoods, engage in rain-fed farming, or practice pastoralism. Moreover, the most marginalized and economically disadvantaged people often reside in the most hazard-prone environments. By exacerbating existing social and economic inequalities (Islam & Winkel, 2017), climate change may indirectly heighten the risk of conflict.

While climate change itself can influence conflict, governance responses to climate change may also contribute to tensions (Ide, 2020; Schaar, 2018). Climate policies and interventions can disproportionately benefit certain communities over others (Salehyan, 2008). In Syria, for example, Sunni farming communities felt further marginalized when drought assistance was primarily directed toward Alawite groups (Shahi & Vachkova, 2018). Similarly, the expansion of biofuel plantations or wind farms can lead to land grabbing, displacement and marginalisation of original land users.

Certain actors may deliberately frame environmental challenges and conflicts as being driven by climate change, even when the connection remains contested.

Climate governance also involves the management of substantial financial resources, creating opportunities for corruption. Nepotism and patronage in resource distribution can significantly shape climate policy implementation (Kweyu et al., 2023), while issues such as limited stakeholder participation, and a lack of transparency and accountability, further complicate effective governance (Njuguna et al., 2022). As a result, skewed climate governance dynamics can erode government's legitimacy while a lack of government commitment to helping citizens build resilience against climate change may undermine public trust (ICRC, 2020).

Beyond material and institutional dimensions, the link between climate change and conflict can also be shaped through

discourse. Certain actors may deliberately frame environmental challenges and conflicts as being driven by climate change, even when the connection remains contested. This framing can have significant political implications. In the case of Syria, for example, the government and development organizations often portrayed water scarcity as the country's primary development challenge, downplaying the role of political oppression and mismanagement of water resources (Barnes, 2009; De Châtel, 2014). As a result, little attention was given to addressing these deeper governance issues.

While much attention is given to how climate change might drive conflict, it is equally important to consider how conflict, in turn, deepens vulnerability to climate impacts.

In this context, several scholars have highlighted the *securitization* of climate change—the framing of climate change as a grave threat to international security (see de Almagro Iniesta, this series). It is often depicted as a driver of societal collapse and mass migration from Africa to Europe (Korf, 2011). This narrative can serve to justify extraordinary measures, such as sweeping policy reforms with minimal public input or the militarization of migration control.

Moreover, some scholars point to the neo-colonial undertones in prevailing interpretations of the climate change–conflict link. Resource scarcity in the Global South is frequently assumed to lead inevitably to ethnic competition or even a descent into violent chaos, reinforcing the notion that external intervention is both necessary and justified (Korf, 2011).

While much attention is given to how climate change might drive conflict, it is equally important to consider how conflict, in turn, deepens vulnerability to climate impacts. This inverse relationship—though less frequently emphasized—is well established: societies affected by violent conflict and political instability are significantly less resilient to climate change (Schaar,

2018; ICRC, 2020).Insecurity limits communities' ability to coordinate efforts to prepare for and adapt to climate change. In conflict-affected settings, state institutions not only lack the capacity to address climate challenges but often prioritize more immediate concerns over climate action.

These vulnerabilities are particularly acute when climate impacts exacerbate local resource competition—especially in settings where formal and informal conflict resolution mechanisms are already weakened (Hunsberger et al., 2017). For example, tensions between pastoralists and cultivators due to climate-related migration are more likely to escalate in the absence of strong and inclusive governance institutions (ICRC, 2020). Additionally, climate change hinders post-conflict recovery by undermining sustainable food production and livelihoods (ICRC, 2020).

Finally, some scholars propose that climate change may not only exacerbate conflict but could also serve as a catalyst for peace (Dresse et al., 2019). The argument is that efforts to strengthen climate resilience and address resource-related disputes through local institutions could have broader, stabilizing effects. Such initiatives may help rebuild cooperative relationships, reinforce collective institutions, and foster shared identities across communal divides. For example, De Juan and Hänze (2021) found that exposure to drought in East Africa correlated with increased social trust both within and between ethnic groups. Similarly, inter-community dialogue has been shown to help prevent drought-related tensions from escalating into violence (Von Soest, 2020). In theory, effective climate governance could also enhance state legitimacy by demonstrating inclusiveness and a tangible commitment to citizens' well-being.

Case

How can these controversies be illustrated through a case study? Let us take a closer look at the Sahel region. In media coverage and reports from international organizations such as the United Nation Environment Programme and the World Food Programme, a strong link is often drawn between farmer-herder conflicts in the Sahel and the effects of global warming. The 2003 conflict in Darfur has even been described as *the first climate change conflict*. The prevailing assumption is that climate change leads to drier conditions and more erratic rainfall, depleting agricultural land and reducing food production. Competition between farmers and herders over arable land intensifies, sometimes escalating into inter-community violence (e.g. Silander, 2021). However, the precise role of climate change in these conflicts remains a subject of ongoing debate.

Indeed, climate change has already had, and will continue to have, significant impacts on food production in the Sahel. Projections indicate temperature increases of between 2,0 and 4,3 degrees Celsius by 2080, along with more frequent temperature extremes (Tomalka et al., 2021). While the region experienced severe droughts in the 1980s, subsequent decades have seen increased rainfall, leading to a greener Sahel. However, future trends suggest greater variability—more precipitation overall, yet also more frequent extremes of both drought and heavy rainfall. Soil moisture is expected to decline, while evapotranspiration rates will rise (NUPI, 2021). To adapt, farmers will need to make large-scale transitions to different crop types (Tomalka et al., 2021). These shifts are likely to exacerbate food and nutrient insecurity, deepening poverty across the region (Laderach et al., 2021).

However, the extent to which changing climate conditions contribute to disputes between farmers and herders remains uncertain. Some studies express scepticism, attributing farmer-herder conflicts primarily to historical and political factors rather than to resource scarcity induced by climate change. For example,

one literature review notes that while many studies observe an increase in conflicts between farmers and herders, they often cite causes such as "weak and exclusive governance, land issues, poor relations between groups, and ethnic bias" (Nassef et al., 2023) as the primary drivers.

Similarly, Benjaminsen et alii noticed how the frequency of land-use conflicts between herders and cultivators in Mali correlates less with rainfall patterns and more with general socio-political conflict trends. They noted an increase in land-use conflicts following the political reform process in 1991-1992, with a subsequent decrease. Interestingly, years with higher rainfall saw more, rather than fewer, conflicts (Benjaminsen et al., 2012; Turner, 2004). Turner also highlighted that while many conflicts between pastoralists and herders in Niger and Mali may appear resource-based, they often revolve around other issues such as family disagreements, community disputes, or the manipulation of resources by elites for local political advantage (Turner, 2004).

Likewise, scholars have refuted the portrayal of Darfur as the first climate-change conflict (e.g. Korf, 2011; Sunga, 2011). They have explained that the violence in Darfur occurred within the context of an insurrection, sparked by rebels who were dissatisfied with the government's neglect of the region and its systematic discrimination against the non-Arab population. In response, the government armed and supported Arab militias, known as Janjaweed, to quell the uprising. These militias terrorized civilians and obstructed humanitarian aid. The widespread proliferation of small arms in the region further escalated the deadliness of the violence.

Rather than being driven by climate-induced scarcity, the key dynamic in farmer-pastoralist conflicts often involves pastoralist marginalization and problematic relations with the state. In Mali, for example, conflicts between farmers and herders unfold against a backdrop of longstanding state policies and laws that favour farmers and marginalize pastoralists (Benjaminsen, 2016;

Turner, 2004). Marginalisation of pastoralists was a key factor in sparking the Tuareg rebellions and subsequent civil wars in the 1990s and in 2012. Government policies have facilitated the large-scale expansion of agricultural lands for rice cultivation, encroaching on pastoralist resources and obstructing their free movement. These policies also promoted sedentary livestock keeping and devalued traditional pastoralist practices (Benjaminsen et al., 2012). The weakening of state services following democratization and decentralization processes in the early 1990s further exacerbated conflicts, creating opportunities for opportunistic resource use by both farmers and herders. Corruption and rent-seeking behaviour among government officials deepened distrust in the government and led to increased reliance on violence to resolve land-use disputes (Benjaminsen et al., 2012).

Recent literature also highlights the indirect effects of climate change on violence and conflict in the Sahel. It considers climate change as a compounding factor that exacerbates the deterioration of pastoralist livelihoods, weakens economic and social systems, and increases susceptibility to jihadism (e.g. Fulton & Nickels, 2017). The likelihood of violence and conflict is then understood to depend on the strength of institutions and levels of resilience, including measures like *climate-smart* agriculture and insurances (Laderach et al., 2021). Likewise, some scholars notice an indirect role of climate change-related drought in the Darfur conflict. While climate change may have strained intercommunity relationships, the core issue was institutional: the state's abolishment of traditional authorities obstructed local conflict resolution mechanisms.

Contrary to the ongoing debate on climate change as a driver of violence in the Sahel, there is stronger evidence that politics and violent conflict increase vulnerability to climate change. Research has highlighted how conflicts and state policies undermine pastoralist livelihoods. Although pastoralist production systems have the capacity to adapt to climate variability, policies aimed at settling pastoralists instead hinder this resilience.

Across Africa, pastoralism faces significant challenges due to the monetization of land and the increasing integration of pastoralist production systems into the national economy (Nyariki & Amwata, 2019). Additional pressures include large-scale land acquisitions and elite involvement in pastoralist conflicts (e.g. Okumu et al., 2017).

Finally, in the Sahel, there is an ongoing debate regarding the extent to which the securitization of climate issues plays a role (see de Almagro Iniesta, this issue). Despite mixed evidence, prominent stakeholders like the Intergovernmental Panel on Climate Change have labelled climate change as a critical factor in explaining contemporary phenomena in the Sahel—such as food shortages, migration, and armed insurrection. Benjaminsen notes that current discourses on climate change and desertification in the Sahel echo narratives that were already propagated by French colonizers at the beginning of the 20th century. These narratives blamed local populations for increasing land degradation and desertification, thereby justifying state intervention (Benjaminsen, 2016). Framing ongoing dynamics with deep historical roots in terms of *a climate crisis* might allow international organizations to legitimize agrarian reform agendas that ignore political complexities and marginalize pastoralists.

Rather than a cause of conflict, climate change interacts with other conflict risks in the Sahel, notably a long tradition of pastoralist marginalization.

The experiences from the Sahel bring out the need for better understanding the nexus between climate change and conflict. Climate change can undermine food production and increase competition over already scarce resources. But rather than a cause of conflict, climate change interacts with other conflict risks in the Sahel, notably a long tradition of pastoralist marginalization.

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