

Sahel



The Sahel region is highly exposed to climate change, but national and local factors mean that climate change will have differentiated impacts across the region. The region will gradually become hotter, with some areas experiencing increased, but erratic, rainfall. The immediate effects of these trends may include irregular seasons, droughts and floods. Interacting with social, economic and political factors, these could exacerbate existing vulnerabilities and increase the risk of violent conflict:

- Changing rainfall and seasonal patterns can sometimes fuel and compound violent conflict over limited or unevenly distributed resources. Women and girls are especially vulnerable. Across the Sahel, climate change may increase the risk of clashes between herders and farmers over access water and pastures.
- Rapid-onset disasters and long-term climate change may force people to temporarily or permanently move, sometimes joining people displaced by armed conflicts. Migration is an important adaptation strategy, but it can lead to conflict between host and migrant communities.
- Disasters and climate change erode resilience, increasing the vulnerability of communities to predation by armed groups and manipulation by elites. Some armed groups recruit from communities whose livelihoods are affected by factors including climate change; and local militias can escalate farmer–herder conflicts.

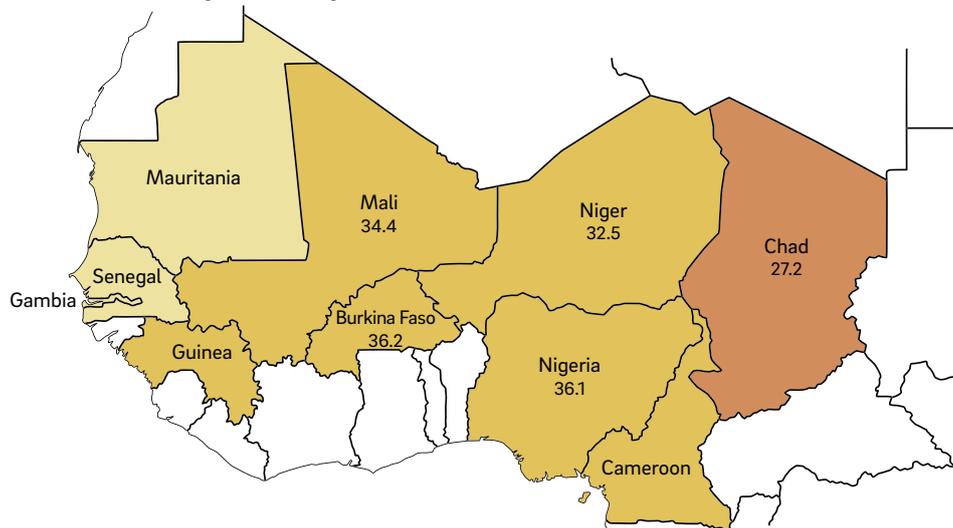
Preventive responses – including environmental peacebuilding – can strengthen the resilience of internally displaced persons (IDPs), local communities and state institutions to climate, peace and security risks. The inclusion of women and youth is especially important for shaping and delivering responses. Governments and civil society across the Sahel, together with regional and international partners, should integrate climate, peace and security risks in their analyses, programming and operations, to prevent climate-related disputes from escalating, and armed groups and other actors from manipulating tensions for their own purposes.

RECOMMENDED ACTIONS:

- ▶ Governments, civil society, regional organisations and international partners should support programmes that strengthen regional early warning and prevention mechanisms – such as those of the Economic Community of West African States (ECOWAS) and the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) – including through enhanced cooperation, information sharing, joint analyses, planning and actions on climate, peace and security risks.
- ▶ Governments, civil society, regional and international partners should give high priority to gender-differentiated data and analyses, in view of the impacts of climate change on women, girls and female-headed households. Understanding the differing impacts of climate change on men and women, boys and girls, is key to successful responses.
- ▶ Governments and their regional and international partners should adopt climate-sensitive responses to regional and sub-national conflicts by combining hard security (including tackling regional small arms transfers) with critical development needs, governance reforms and political dialogues that address conflict drivers – including those affected by climate change. Such action can be enhanced through engaging with civil society organisations in developing climate- and conflict-sensitive programming that addresses local needs.
- ▶ The United Nations Security Council (UNSC) should task the UN Office for West Africa and the Sahel (UNOWAS), and others acting under its authority, to enhance regional analysis, prevention and reporting on climate, peace and security risks in the Sahel, including the Lake Chad region. To support such efforts, the UNSC should authorise UNOWAS to coordinate a regional climate security expert group as a catalyst for joint analysis, planning and operational cooperation.

ND-GAIN Climate Vulnerability and Adaptation Readiness Indexes

Sahel region



The ND-GAIN Country Index uses climate vulnerability and adaptation readiness indicators to develop a score from 1 (most vulnerable) to 100 (least vulnerable)
 Source: ND GAIN (2020) ND-GAIN Country Index. <https://gain.nd.edu/our-work/country-index>

Climate Exposure: Trends and Projections

Extreme weather means that the Sahel is already highly exposed to droughts, flooding, rainfall variability and sandstorms. Long-term climate trends indicate a gradual increase in regional temperatures, but there is less clarity on long-term precipitation changes.

Temperature: Mean annual temperatures across the Sahel range from 22°C to 36°C.¹ Average temperatures increased by between 0.6°C and 0.8°C from 1970 to 2010, and long-term projections indicate further temperature increases of between 3°C and 6°C.²

Precipitation: Rainfall in the Sahel is highly variable, with an intense dry season from November to March and an irregular rainy season between May and October. Rainfall decreased overall throughout the 1900s, with extreme droughts in the 1970s and 1980s, but precipitation has since recovered, leading to more 'greening'.³ Regional data project more frequent droughts and extreme rainfall from May to July.⁴

Socio-ecological Vulnerabilities

The effects of climate change on societies and institutions can exacerbate vulnerabilities and increase the risk of conflict. Dependence on livestock and agriculture makes ca. 50 million people in the Sahel highly vulnerable to the impacts of climate change.⁵ In the Lake Chad region, 90 per cent of livelihoods rely on lake water and rainfall.⁶ There is evidence that economic development and degraded environmental conditions have increased north-south and rural-urban migration, especially in Burkina Faso, Mali and Niger.⁷ Resource availability, seasonal variability, droughts and floods are changing pastoral mobility patterns and heightening the risk of conflict between herders and farmers.

Precipitation Anomaly 1901–2017

Sahel region

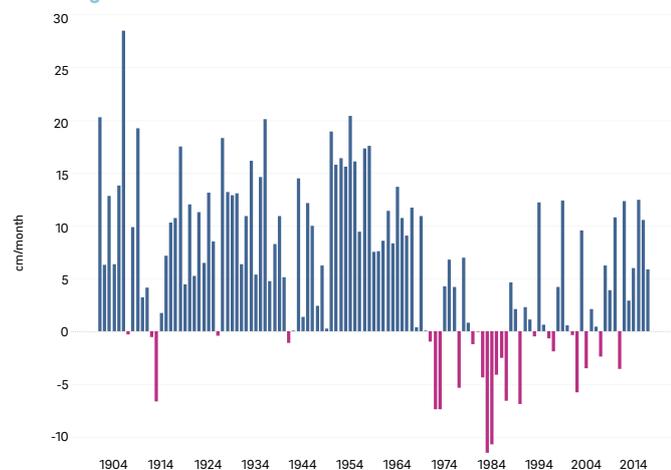


Figure 2. Averages are 0.1mm, so “-5” is -0.05cm precipitation anomaly with respect to 1980-2009. Data source: JISAO (University of Washington)

Competition over natural resources in the Sahel has increased the risk of communal conflicts – for example, between farming and herding communities in Nigeria, and between host communities and migrants or IDPs. Research in Burkina Faso finds that local mechanisms for dispute resolution are weakened by insecurity, reducing the possibility for peaceful settlements.⁸ Displacement due to conflict also places pressure on host communities – from 2019 to 2020, the number of displaced people in the Sahel grew from ca. 490 000 to 1.1 million, with almost 54 per cent of the region's IDPs in Burkina Faso.⁹

Climate-related Peace and Security Risks

Climate change and its social outcomes can impact peace and security. Although there is no direct causal relationship between climate and conflict, research has identified multiple pathways through which climate change interacts with political, social and environmental stresses to compound existing vulnerabilities and tensions.¹⁰ This can undermine development gains, as well as affecting the dynamics of ongoing violence and disrupting fragile peace processes. In turn, violent conflict and political instability undermine community resilience to the effects of climate change.¹¹

This Fact Sheet uses four pathways to navigate the complex relationship between climate, peace and security: (1) livelihood deterioration, (2) migration and mobility, (3) military and armed actors and (4) political and economic exploitation.¹²

Livelihood Deterioration

Hotter climatic conditions and irregular rainfall and seasonal patterns in the Sahel will disproportionately affect herders, farmers and fishers who rely on renewable natural resources. Agricultural employment varies in the Sahel, from 25 per cent in Burkina Faso to 75 per cent in Niger, with women making up 40 per cent of regional agricultural labour.¹³ Many women and girls are doubly exposed to the impacts of climate change because of factors like curtailed social mobility, restricted decision-making power and limited access to resources, including land and markets for generating income.¹⁴

Population growth, weak governance and instability can affect the outcomes of climate change on rural livelihoods in the Sahel. State absence or corruption can exacerbate local grievances and marginalisation, leaving affected communities with fewer livelihood options. In some peripheral areas, nomadic communities rely on trafficking (sometimes in weapons, people and drugs), to gain an income.¹⁵

There is strong evidence that livelihood and food insecurity interact with climate change to increase the risk of violence between farmers and herders over access to diminishing, or unevenly distributed, resources.¹⁶ Climate change is not the only factor that determines violence but understanding its potential effects on livelihood groups is essential, given the scale and impact of farmer-herder conflicts in the Sahel. For example, in 2018 farmer-herder conflicts in Nigeria, particularly prevalent in the Middle Belt zone, killed six times more civilians than the conflict with Boko Haram.¹⁷

Sahelian governments and regional and international organisations that seek to manage climate, peace and security risks – like the African Union (AU), ECOWAS, Economic Community of Central African States (ECCAS) and the

¹ USAID (2018) Climate Risk Profile West Africa. <https://tinyurl.com/43d8tfx3>

² Niang, I. et al. (2014). Africa. In P. Dube & N. Leary (eds), *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 1199–1265). Cambridge University Press. <https://tinyurl.com/4bex792v>

³ Niang et al., 2014; Hoegh-Guldberg, O. et al. (2018). Impacts of 1.5°C Global Warming on Natural and Human Systems. In J.A. Marengo, J. Pereira & B. Sherstkyov (eds), *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change*. <https://tinyurl.com/rrt4pp9c>

⁴ Niang et al., 2014; Hoegh-Guldberg, O. et al., 2018.

⁵ Tall, O. (2018, 16 Apr.). Herders vs Farmers: Resolving deadly conflict in the Sahel and West Africa. OECD Insights. <https://tinyurl.com/mwy5cs>

⁶ Vivekanada, J. & Born, C. (2018). Lake Chad Region: Climate-related Security Risk Assessment. <https://tinyurl.com/tkaj36rk>

⁷ USAID (2017). Climate Change Risk Profile: West Africa Sahel. <https://tinyurl.com/ye6pza3m>

⁸ Bisson, L. et al. (2021). Between Hope and Despair: Pastoralist adaptation in Burkina Faso. <https://tinyurl.com/n54thbdv>

⁹ UNHCR (n.d.) Situation Sahel Crisis. Coordination Platform for Forced Displacements in Sahel. <https://tinyurl.com/4xjaphzv>

¹⁰ Van Baalen, S. & Mobjörk, M. (2017). Climate Change and Violent Conflict in East Africa: Integrating Qualitative and Quantitative Research to Probe the Mechanisms. *International Studies Review* 20(4), pp. 547–575. <https://doi.org/10.1093/isr/vix043>

¹¹ Moran, A. et al. (2018) The Intersection of Global Fragility and Climate Risks. <https://tinyurl.com/sxts5nwu>; de Coning, C. & Krampe, F. (2020) Multilateral cooperation in the area of climate-related security and development risks in Africa (NUPI Report 4/2020). <https://tinyurl.com/22xyfsjp>

¹² Mobjörk, M. et al. (Nov. 2020). Pathways of Climate Insecurity: Guidance for Policy makers. <https://tinyurl.com/3fknkbec>

¹³ World Bank (2021). Employment in agriculture (% of total employment) (modeled ILO estimate) - Burkina Faso, Niger, Mali, Nigeria. World Bank Data. <https://tinyurl.com/4rdr8nyk>; McOmber, C. (2020) Women and Climate Change in the Sahel (OECD West African Papers No. 27). <https://tinyurl.com/58azusra>

¹⁴ Okpara, U. T. et al. (2015). Conflicts about water in Lake Chad: Are environmental, vulnerability and security issues linked? *Progress in Development Studies*, 15(4), pp. 308–325. <https://doi.org/10.1177/1464993415592738>; McOmber, 2020; Nagarajan, C. (2020). Climate-Fragility Risk Brief: Mali. <https://tinyurl.com/3efz3bcz>; de Coning & Krampe, 2020.

¹⁵ Hegazi, F., Krampe, F. & Seymour Smith, E. (forthcoming). Climate-related Security Risks and Peacebuilding in Mali; Lacher, W. (2012). *Organized Crime and Conflict in the Sahel-Sahara Region*. <https://tinyurl.com/7esf2zph>

¹⁶ Abroulaye, S. et al. (2015). Climate Change: A Driver of Crop Farmers. Agropastoralists Conflicts in Burkina Faso. *International Journal of Applied Science and Technology*, 5(3), pp. 92–104. <https://tinyurl.com/4aw6n5yy>; Cabot, C. (2017). Climate Change and Farmer-Herder Conflicts in West Africa. *Climate Change, Security Risks and Conflict Reduction in Africa*, pp. 11–44. Springer Berlin Heidelberg; SWAC/OECD. (2020). *Sahel and West Africa: food and nutrition situation 2020–21*. <https://tinyurl.com/3yeetrdn>

UN – should integrate information on climate, livelihood and food security into their early warning and response mechanisms, to enable better identification of events and trends that may affect regional stability and security. This can support closer cooperation across civil society, government and partners on peace and security, food security, agriculture, environmental management and disaster response, for early action to prevent violent conflict.

Migration and Mobility

Climate change can increase the frequency and severity of droughts and floods and exacerbate long-term environmental degradation; and both can force communities to migrate. The extent to which migration may increase the risk of conflict depends on various social, political and economic factors; for example, resource competition in the in-migration zone and encounters between ethnic or religious groups.¹⁸

Short-term, cyclical and long-term migration are all adaptation strategies that are used in the Sahel.¹⁹ Flooding in the Lake Chad displaced ca. 100 000 people along the active conflict zone of the Cameroon–Chad border in October 2019; and since the 1990s, 30 per cent of agriculture-dependent households from Burkina Faso's Sahelian zone have migrated, due to unproductive farming.²⁰ Changing seasonal conditions triggered by climate change and insecurity along transhumance routes lead herders to alter their traditional migration patterns, increasing the risk of clashes over access to water and pastures.²¹ The proliferation of small arms and changing livestock ownership in the Sahel have also increased the severity of violence.²² One study found that disputes between migrant Fulani pastoralists and host Yoruba farmers in southwest Nigeria increasingly became communal conflicts, pitting all migrants against all hosts.²³

Women and girls in the Sahel are particularly vulnerable to disasters and climate change because they are less mobile than men. Whereas male farmers often migrate to alternative sources of income when climate impacts reduce

agricultural productivity, women tend to stay behind in precarious situations.²⁴ Research in Burkina Faso found that short-term migration was the preferred adaptation strategy for agro-pastoralist households, but that women were less likely than men to travel for short periods.²⁵ Greater urban migration, especially among young men, can also accentuate the marginalisation of low-income urban migrants and increase the risk of urban instability.²⁶

To prevent migration-related conflicts, governments, regional and international partners should enhance early warning information sharing. This can augment existing efforts to integrate transhumance routes into the ECOWAS Early Warning and Response Network (ECOWARN), the Lake Chad Basin Commission's (LCBC) Regional Stabilisation Strategy, ECCAS Early Warning Mechanism of Central Africa (MARAC), and the AU Continental Early Warning System (CEWS). Early warning should inform early action, and governments and partners should work with civil society to enhance their respective capabilities to act on anticipatory analyses and initiate responses.

Internally Displaced Persons (IDPs)

Burkina Faso, Mali & Niger

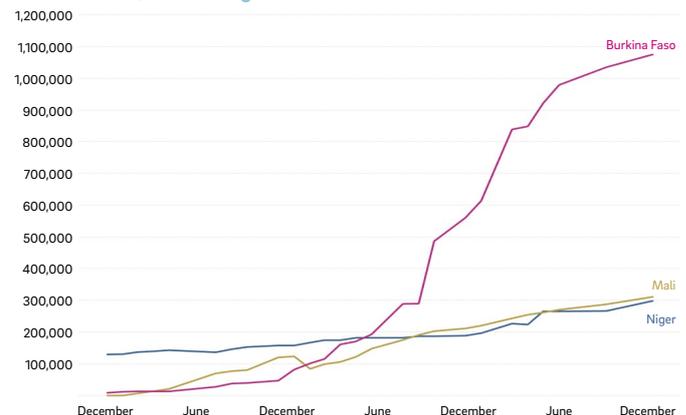


Figure 3. Monthly data ranging from December 2017 to December 2020. Data source: UNHCR & IOM DTM

Military and Armed Actors

Climate change can affect conflict dynamics, organised violence and armed groups in the Sahel. Despite a recent upward trend in community-level peace agreements (also involving jihadist groups), violent incidents and fatalities have continued.²⁷

There is evidence that climate change influences armed groups in their strategic decisions on recruitment and tactics in the Sahel. In central Mali, the Katiba Macina group has exploited issues that affect pastoralist groups and are exacerbated by climate change – like land rights and social equality for herders – to draw local support.²⁸ Jihadist groups have offered economic incentives and food to rural communities in exchange for loyalty and recruited heavily among marginalised pastoralist Fulani youth.²⁹

Local resource disputes can interact with broader conflict dynamics, making it difficult to resolve them through local dispute resolution mechanisms.³⁰ Farmer–herder conflicts in Mali have escalated into communal conflicts when farmers engage militias to remove herders from their land.³¹ There is also evidence that farmer–herder conflicts in northwest Nigeria have intersected with armed groups and criminal networks, escalating violence.³² Armed groups can exploit communal conflicts to gain legitimacy, by proffering security, judicial services and infrastructure for local needs.³³

Insecurity in the Sahel undermines local resilience to the impacts of climate change. Conflict particularly affects women and girls, who live with greater risk of sexual and gender-based violence, also impacting their access to services and livelihood and mobility options.³⁴ Around Lake Chad, conflict

¹⁷ Okoli, A.C. & Ogayi, C.O. (2018). Herdsmen militancy and humanitarian crisis in Nigeria: A theoretical briefing. *African Security Review*, 27(2), pp. 129–143. <https://doi.org/10.1080/10246029.2018.1499545>; ICG. (2018). Stopping Nigeria's Spiralling Farmer–Herder Violence (Africa Report No. 262). <https://tinyurl.com/ydc398nm>; ICG. (2020a). Violence in Nigeria's North West: Rolling Back the Mayhem (Africa Report No. 288). <https://tinyurl.com/vuzkt947>; UNOWAS. (2018). Pastoralism and Security in West Africa and the Sahel. <https://tinyurl.com/5hfrtgb>

¹⁸ Freeman, L. (2017). Environmental Change, Migration, and Conflict in Africa: A Critical Examination of the Interconnections. *The Journal of Environment & Development*, 26(4), pp. 351–374. <https://doi.org/10.1177%2F1070496517727325>; Reuveny, R. (2007). Climate Change-Induced Migration and Violent Conflict. *Political Geography*, 18, pp. 656–673. <https://doi.org/10.1016/j.polgeo.2007.05.001>

¹⁹ Rigaud, K. K. et al. (2018). Groundswell: Preparing for Internal Climate Migration. <https://tinyurl.com/rbsjtv46>

²⁰ European Commission (2019, 23 Oct.) ECHO Daily Flash. ERCC Portal. <https://tinyurl.com/2fhhrn9j>; Thomas, A. (2013, 2 Aug.) Sahel villagers fleeing climate change must not be ignored. *The Guardian*. <https://tinyurl.com/536uyby>

²¹ Obioha, E. E. (2008) Climate Change, Population Drift and Violent Conflict over Land Resources in Northeastern Nigeria. *Journal of Human Ecology*, 23(4), pp. 311–324. <https://doi.org/10.1080/09709274.2008.11906084>; Brottm, L.V. (2016). Environmental Change and Farmer–Herder Conflict in Agro-Pastoral West Africa. *Human Ecology*, 44(5), pp. 547–563. <https://doi.org/10.1007/s10745-016-9846-5>

²² Olaniyan, A. & Okeke-Uzodike, U. (2015) Desperate Guests, Unwilling Hosts: Climate Change-Induced Migration and Farmer–Herder Conflicts in Southwestern Nigeria. *Conflict Studies Quarterly*, 10, pp. 23–40. <https://tinyurl.com/yrtf4a7s>

²³ Bagayoko, N et al. (2017). Gestion des ressources naturelles et configuration des relations de pouvoir dans le centre du Mali: entre ruptures et continuité. <https://tinyurl.com/v4pd5phb>

²⁴ Olaniyan & Okeke-Uzodike, 2015.

²⁵ Le Masson, V. et al. (2019). How Violence against Women and Girls Undermines Resilience to Climate Risks in Chad. *Disasters*, 43(S3), pp. S245–S270. <https://doi.org/10.1111/disa.12343>

²⁶ McOmber, 2020.

²⁷ Kaag, M. et al. (2019) Migration, Youth, and Land in West Africa: Making the Connections Work for Inclusive Development. *Land* 8(4). <https://doi.org/10.3390/land8040060>

²⁸ Bagayoko, N. (2021, 22 Feb.). In the Sahel, terrorists are now sitting at the negotiation table. *The Africa Report*. <https://tinyurl.com/vykn5bwz>; Desorgues, P. (2021, 18 Feb.). Au Mali et au Burkina Faso, des communautés locales négocient déjà avec de djihadistes. *TV5Monde*. <https://tinyurl.com/ncayeuuc>; Centre for Humanitarian Dialogue. (2021, 26 Jan.). Three peace agreements signed between the Fulani and Dogon of the area ('circle') of Koro in central Mali. <https://tinyurl.com/rur9bzhc>; Ba, B. & Cold-Ravnkilde, M. (2021, 20 Jan.). When jihadists broker peace: Natural resource conflicts as weapons of war in Mali's protracted crisis. <https://tinyurl.com/mkpsm4t6>

²⁹ Benjaminsen, T.A & Ba, B. (2019). Why do Pastoralists in Mali join Jihadist Groups? A political ecological explanation. *The Journal of Peasant Studies*, 46(1), pp. 1–20. <https://doi.org/10.1080/03066150.2018.1474457>; Rupesinghe, N. & Boás, M. (2019). Local drivers of violent extremism in Central Mali. <https://tinyurl.com/yuxxf8bv>

³⁰ Walther, O. (2017, 29 Sep.). The blurred boundaries of political violence in the Sahel-Sahara. *OECD Development Matters*. <https://tinyurl.com/48hat5zx>; ICG. (2020b). The Central Sahel: Scene of New Climate Wars? (Africa Briefing No. 154). <https://tinyurl.com/m8ap6756>; Hegazi, Krampe & Seymour Smith, forthcoming.

³¹ Centre for Humanitarian Dialogue. (2019). Agro-pastoral mediation in the Sahel region of Mali, Niger and Burkina Faso. <https://tinyurl.com/7pmdzr>

³² BBC (2019, 29 Mar.). Mali attack: More than 130 Fulani villagers killed. *BBC News*. <https://tinyurl.com/2b5x4ajs>; Brottm, 2016; Benjaminsen & Ba, 2019.

³³ ICG, 2020a; Majekodunmi, A.O. et al. (2014). Pastoral Livelihoods of the Fulani on the Jos Plateau of Nigeria. *Pastoralism: Research, Policy and Practice*, 4(20). <https://doi.org/10.1186/s13570-014-0020-7>

³⁴ Hegazi, Krampe & Seymour Smith, forthcoming.

³⁵ Nagarajan, 2020.

between Boko Haram and security forces has blocked access to waters that support farming and fishing, leaving people more vulnerable.³⁵ The prevalence of small arms in Nigeria, due partly to the conflict with Boko Haram, means that pastoralists often carry guns for protection – and confrontations with farmers may quickly become deadly.³⁶

To build a better understanding and evidence base of the links between armed conflict and climate change in the Sahel, the G-5 Sahel Force and the AU, European Union (EU) and UN missions in the region should enhance their analyses, information sharing and reporting on climate, peace and security risks. This could build on existing efforts, for example regional programmes for assessing and controlling small-arms proliferation.³⁷ The UN Climate Security Mechanism (CSM) and UNOWAS could provide support to review planning and inclusion of the effects of climate change when identifying key stakeholders for engagement.

Political and Economic Exploitation

The impacts of climate change on local disputes can exacerbate the risk of conflict, especially when manipulated or exploited by individuals or groups with relative wealth, privilege, power or influence.³⁸ Marginalised groups are doubly vulnerable to the adverse effects of climate change, being more likely to live in environmentally degraded regions and also more affected by disasters and post-disaster government responses or manipulation of funds. Combined, these factors compound poverty and the likelihood of local resource conflicts and migration.³⁹

Agriculture policies that favour farmers have restricted migrant herders' access to land and compounded the effects of environmental change, increasing the risk of conflict over water and grazing – even in relatively resource-rich areas like Mali's Inner Niger Delta.⁴⁰ Political and economic marginalisation of Fulani pastoralists in Burkina Faso feeds grievances and increases the risk of violent competition with farmers over natural resources.⁴¹ There is also evidence that 'neo-pastoralists' – urban elites who own large herds and hire men to manage them – are contributing to escalating farmer–herder tensions.⁴²

There is strong evidence from the Sahel that perceptions of the authorities' ability and willingness to address local resource disputes influences the risk of the parties resorting to force to secure their claims.⁴³ Research in Nigeria's Ekiti, Kwara, Oyo and Nasarawa states found that just 10 per cent of farmers turned to state authorities for intervention in resource conflicts, whereas

37.5 per cent turned to traditional authorities and 30 per cent relied on 'self-defence'.⁴⁴

The interaction of local disputes with national political issues – politicised ethnic stereotypes, immigration, elections or even peace negotiations – may also fuel farmer–herder conflicts in the Sahel.⁴⁵ In Mali, tensions between Tuareg and Fulani pastoralists over resource access have been affected by Fulani perceptions that the peace deal between the Malian government and Tuareg armed groups involved in the 2012 crisis served to legitimised the violence employed by armed groups against Fulani herders.⁴⁶

Reported Fatalities

Sahel region

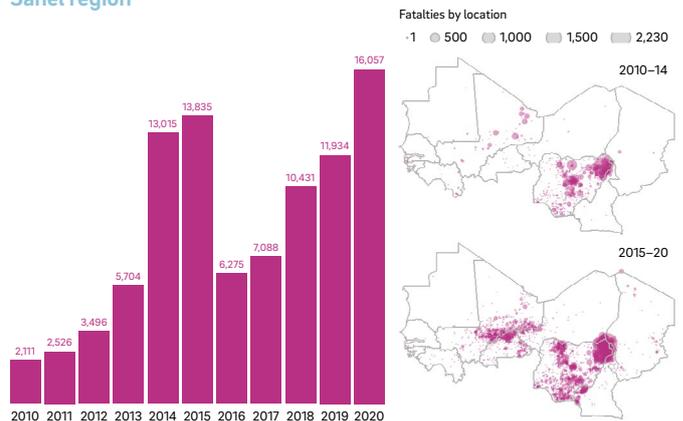


Figure 4. Includes fatalities of state and non-state armed combatants as well as civilians. Data source: ACLED

To promote climate- and conflict-sensitive development in the Sahel, the UN system and its partners should improve their analyses of the links between climate, peace and security. Such efforts can also strengthen government and partner interventions in governance, peacebuilding and development. To facilitate information sharing, joint planning and collaboration across the UN system, as well as with governments, civil society and partners in the Sahel, the UNSC should authorise a regional climate-security expert group based in UNOWAS.

³⁵ Vivekananda & Born, 2018.

³⁶ Akinyemi, T.E. & Olaniyani, A. (2017). Nigeria: Climate War. Migratory Adaptation and Farmer–Herder Conflicts. *Conflict Studies Quarterly*, 21, pp. 3–21. <https://tinyurl.com/34h75u3s>; Small Arms Survey. (2019). *Weapons Compass: Mapping Illicit Small Arms Flows in Africa*. <https://tinyurl.com/577rab39>

³⁷ Maletta, G. & Robin, L. (2021). Supporting Small Arms and Light Weapons Controls Through Development Assistance: The Case of Sub-Saharan Africa. <https://tinyurl.com/feumnybu>

³⁸ van Baalen, S. & Mobjörk, M. (2016). A Coming Anarchy? Pathways from Climate Change to Violent Conflict in East Africa (Stockholm University Research Report 2016). <https://tinyurl.com/5aaf4e55>

³⁹ Raleigh, C. (2010). Political Marginalization, Climate Change, and Conflict in African Sahel States. *International Studies Review*, 12(1), pp. 69–86. <https://tinyurl.com/ypevpvpt>

⁴⁰ Benjaminsen, T.A & Ba, B. (2009). Farmer–Herder Conflicts, Pastoral Marginalisation and Corruption: A Case Study from the Inland Niger Delta of Mali. *The Geographical Journal*, 175(1), pp. 71–81.

<https://doi.org/10.1111/j.1475-4959.2008.00312.x>; Benjaminsen, T. A., Alinon, K. & Buhaug, H. (2012). Does Climate Change Drive Land-Use Conflicts in the Sahel? *Journal of Peace Research*, 49(1), pp. 97–111.

<https://doi.org/10.1177%2F0022343311427343>; Seter, H., Theisen, O.M. & Schilling, J. (2018). All about Water and Land? Resource-Related Conflicts in East and West Africa Revisited. *GeoJournal*, 83, pp. 169–187.

<https://doi.org/10.1007/s10708-016-9762-7>

⁴¹ Bisson et al., 2021.

⁴² Luizza, M. (2019, 10 June). Urban Elites' Livestock Exacerbate Herder–Farmer Tensions in Africa's Sudano-Sahel. *New Security Beat*. <https://tinyurl.com/jstm76fu>

⁴³ Benjaminsen & Ba, 2009; Benjaminsen et al., 2012; Benjaminsen & Ba, 2019.

⁴⁴ Akinyemi & Olaniyani, 2017.

⁴⁵ Seter et al., 2018.

⁴⁶ Nagarajan, 2020.

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