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 to 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 (CILLS) – 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.

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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](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. 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.

Pretipitation: 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’. Regional data project more frequent droughts and extreme rainfall from May to July.

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. In the Lake Chad region, 90 per cent of livelihoods rely on lake water and rainfall. 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. Resource availability, seasonal variability, droughts and floods are changing pastoral mobility patterns and heightening the risk of conflict between herders and farmers.

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. 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.

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.

Livelihood Deterioration
Hotter climatic conditions and irregular rainfall and seasonal patterns in the Sahel world disproporitously 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. 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.

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.

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. 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.

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

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

Short-term, cyclical and long-term migration are all adaptation strategies that are used in the Sahel. 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. 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. The proliferation of small arms and changing livestock ownership in the Sahel have also increased the severity of violence. 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.

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. Research in Burkina Faso found that short-term migration was the preferred adaptation strategy for agro-pastoral households, but that women were less likely than men to travel for short periods. Greater urban migration, especially among young men, can also accentuate the marginalisation of low-income urban migrants and increase the risk of urban instability.

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 (ECWARN), the Lake Chad Basin Commission’s (LCBC) Regional Stabilisation Strategy, RECCAS 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 capacities to act on anticipatory analyses and initiate responses.

**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.

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. Jihadist groups have offered economic incentives and food to rural communities in exchange for loyalty and recruited heavily among marginalised pastoralist Fulani youth.

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

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. Around Lake Chad, conflict

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23 Olanikan & Okeke-Uzodie, 2015.
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-S 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 legitimise the violence employed by armed groups against Fulani herders.46

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.

Reported Fatalities

Sahel region

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<td>5,500</td>
</tr>
<tr>
<td>2020</td>
<td>6,000</td>
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</tbody>
</table>

Note: Data source: ACLED

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

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The Climate-related Peace and Security Risks project aims to generate reliable, relevant, timely and actionable information and analysis on climate-related peace and security risks for selected countries and regions on the UN Security Council agenda.

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