

Mali is characterised by short-term climate variability, and is vulnerable to long-term climate change due to high exposure to the adverse effects of climate change, but also high population growth, diminished resilience and multiple violent conflicts. Mali is forecast to become hotter with more erratic rainfall, impacting seasonal regularity and increasing the risk of droughts and floods. Moreover, conflict, political instability and weak government institutions undermine effective adaptation to climate change.

- Climate change may impact seasonal regularity and jeopardise natural resource-based livelihoods. Livelihood insecurity can interact with political and economic factors to increase the risk of conflicts over natural resource access and use.
- Conflict, agricultural development and changing environmental conditions have affected migratory livestock routes, pushing herders into areas where natural resources are under pressure or shared use is not well defined. This can increase the risk of conflict with other herders and farmers.
- Evolving conflict dynamics have strengthened the linkage between local resource disputes, ethnic/religious community conflicts and civil war. Local conflicts are becoming more violent, complex and harder to resolve.
- Weak governance and agricultural policies have created social, economic and political inequalities that feed conflicts. The same factors undermine community resilience to climate change, particularly among marginalised groups.

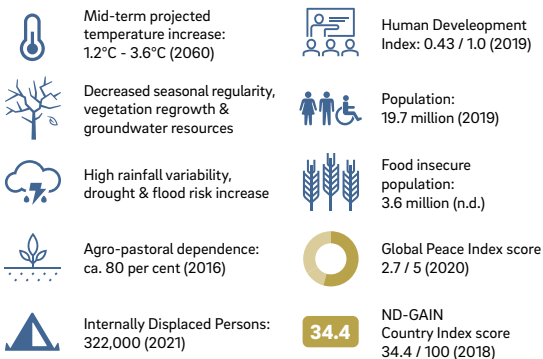
The Malian government and its regional and international partners should focus conflict resolution, peacebuilding and long-term development strategies on issues where the impact of climate change entails conflict risks: livelihood security, herder-farmer relations, resource disputes, community conflict, governance, social marginalisation and exclusion. Malian civil society can play a role in defining conflict-sensitive responses that address local needs. The government and its partners should establish mechanisms for analysing the effects of climate change, to improve the knowledge base for agencies and organisations working on violent extremism and peacebuilding in Mali and enable them to fine-tune their responses. Special attention should be paid to the impacts of climate change on marginalised groups, including women.

RECOMMENDED ACTIONS:

- ▶ The UN Security Council (UNSC) should task the United Nations Multidimensional Integrated Stabilisation Mission in Mali (MINUSMA) with incorporating climate, peace and security risks as a higher-order priority in its mandate. MINUSMA should report to the UNSC on climate security, its effects on the mission mandate, and actions taken to address these problems.
- ▶ The UNSC should encourage MINUSMA to work with UN Environment Programme (UNEP) to appoint an Environmental Security Advisor for prioritising climate, peace and security risks within MINUSMA and for coordinating effective responses with the rest of the UN system, the Malian government, civil society, international and regional partners. The Advisor should support capacity-building for analysis, reporting and coordinating responses to climate, peace and security risks – particularly in the Malian government and MINUSMA divisions that regularly address local resource conflicts.
- ▶ The Malian government and its regional and international partners should work with civil society to improve data and analysis on the impacts of climate change on peace and security – especially on the differing risks for men and women, girls and boys, and female-headed households. It is important to improve the participation and leadership of women and girls in decision-making on conflict-sensitive resource management, climate adaptation and responses to climate, peace and security risks.
- ▶ The Malian government, and its bilateral and multilateral partners, including the G5-Sahel Force, the Economic Community of West African States (ECOWAS), the African Union (AU), European Union (EU) and United Nations (UN), should agree on a climate-sensitive stabilisation strategy that combines hard security with attention to critical development needs, governance reforms and political dialogues to address the drivers of conflict in Mali's ten regions and in transboundary areas like the Liptako-Gourma – including the drivers affected by climate change.

ND-GAIN Climate Vulnerability and Adaptation Readiness Indexes

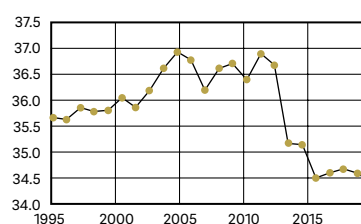
Mali



ND-GAIN Country Index

The ND-GAIN Country Index captures a country's Vulnerability to climate change and other global challenges, and its Readiness to improve resilience.

ND-GAIN Country Index score over time



Country comparison	ND-GAIN Country	Global Peace Index score
	Yemen 34.7/100	3.4/5
	Burundi 34.4/100	2.5/5
	Liberia 33.4/100	1.8/5
	Zimbabwe 33.3/100	2.4/5
	Niger 32.5/100	2.6/5

Figure 1. Sources: Hegazi, F. et al. (2021). Climate-related Security Risks and Peacebuilding in Mali; Government of the Republic of Mali. (2016). Contribution Déterminée au Niveau National; Notre Dame Global Adaptation Initiative (2018). ND-GAIN Rankings; UNDP (2012) Human Development Report; UNHCR. (n.d.). Mali. Operations Portal: Refugee Situations; USAID. (2018). Climate Risk Profile: Mali; Vision of Humanity (2020) Global Peace Index 2020; WFP. (n.d.). Mali.

Climate Exposure: Trends and Projections

Climate change has differing effects on Mali's multiple ecological zones: northern desert with high temperature variability and long dry seasons, central Sahelian region with seasonal flooding, and southern tropical savannah region.

Temperature: Mean annual temperature in Mali is 28.3°C, with a 0.7°C increase recorded from 1960 to 2015.¹ Projections forecast an increase of 1.2°C to 3.6°C by 2060, particularly affecting the southwest, centre and north of the country.²

Precipitation: Average annual precipitation across Mali varies over time and ecological zones, from 100 mm in the north to ca. 1 700 mm in the south, with high rainfall variability leading to droughts and floods in exposed areas.³ Since the 1900s there has been a decrease in rainfall, with extreme droughts in the 1970s and 1980s; but a slight recovery in precipitation has since boosted vegetation.⁴ Precipitation projections are unclear, but precipitation is expected to become more erratic.⁵

Socio-ecological Vulnerabilities

Agriculture, agro-pastoralism and nomadic pastoralism are cornerstones of the Malian economy, accounting for ca. 80 per cent of livelihoods.⁶ Fertile zones provide farming, fishing and grazing opportunities for various livelihood groups: the Inner Niger Delta accounts for ca. 8 per cent of national GDP and sustains ca. 14 per cent of the population.⁷

Precipitation Anomalies

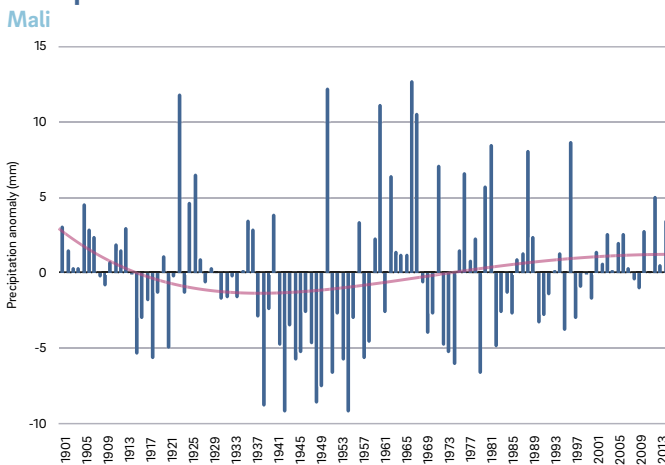


Figure 2. Precipitation anomalies in millimetres relative to the 1901-2015 average. Data source: World Bank.

The effects of climate change on seasonal regularity and the incidence of droughts and floods may weaken livelihood security.⁸ This can exacerbate vulnerabilities, compound grievances against other groups and the government, and may increase the risk of violence.

Long-standing farmer-herder conflicts in Mali are directly influenced by factors including agricultural policies and local governance.⁹ There is also evidence that farmer-herder conflicts are indirectly impacted by short-term climate variability and ensuing changes to the availability and exploitation of natural resources.¹⁰ Local resource disputes are also affected by broader conflict dynamics – between armed groups and the state, and between ethnic and religious communities.¹¹ Conflicts in Mali increasingly overlap: livelihood groups are associated with specific ethnic and religious communities, increasing the risk that multiple identities converge in the conflicts between communities, armed groups and the government.¹²

Climate-related Peace and Security Risks

Climate change and its societal outcomes can impact peace and security. Research has identified multiple pathways through which climate change affects political, social and environmental stresses, compounding existing vulnerabilities and tensions.¹³ This can undermine development gains and affect the dynamics of violent conflict and fragile peace processes. In turn, conflict and political instability are obstacles to climate change mitigation and adaptation.¹⁴

Four interrelated pathways illustrate the relationship between climate change, peace and security: livelihood deterioration, migration and mobility, military and armed actors, and political and economic exploitation.¹⁵

Livelihood Deterioration

Mali is physically exposed to adverse weather events resulting from climate change; but the effects of climate change on peace and security are mediated by social, political and economic factors.¹⁶ Ongoing conflicts undermine human and physical security, social cohesion and development. Conflicts make communities, especially vulnerable groups, less able to invest in livelihood options that build resilience to climate change.¹⁷ In the Liptako-Gourma region, climate factors (droughts and floods) and human factors (changing land ownership and escalating violent conflict) have undermined farming and herding, to the detriment of local peace and security.¹⁸

Small-holder farmers and herders are heavily dependent on seasonal rainfall. Often operating as small, informal family businesses, they can be politically and economically marginalised, with impacts on their capacity

¹ World Bank (n.d.) Mali: Climate Data, Historical. Climate Change Knowledge Portal. <https://tinyurl.com/24kn66dp>

² USAID (2018). Climate Risk Profile: Mali. <https://tinyurl.com/smx7f3sc>

³ World Bank (2011). Climate Risk and Adaptation Country Profile Mali. <https://tinyurl.com/xrds53hf>

⁴ 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>

⁵ World Bank (n.d.) Mali: Climate Data, Projections. Climate Change Knowledge Portal. <https://tinyurl.com/yssvvt9n8>

⁶ Government of the Republic of Mali (2016). Contribution Déterminée au Niveau National. <https://tinyurl.com/3u34vnmnk>

⁷ Madgwick, F. J., et al. (2017). Water Shocks: Wetlands and Human Migration in the Sahel. <https://tinyurl.com/2ms7nfrc>

⁸ Penda, S. et al. (2020). Perceptions paysannes des impacts du changement climatique sur les ressources et les systèmes de production : cas du cercle de Yélimané au Mali. In N'Diaye, I. et al. (eds.) Adaptation de l'Agriculture et de l'Élevage au Changement Climatique au Mali : Résultats et leçons apprises au Sahel (pp. 39–50). Institut d'Économie Rurale. <https://tinyurl.com/2bexdrke>

⁹ Benjaminsen, T.A. (2009). Farmer–herder conflicts, pastoral marginalisation and corruption: a case study from the inland Niger delta of Mali. The Geographical Journal 175(1), 71–81. <https://tinyurl.com/eewnf8z8>; Benjaminsen, T. A. et al. (2012). Does climate change drive land-use conflicts in the Sahel? Journal of Peace Research, 49(1), 97–111. <https://tinyurl.com/3ej83zn9>

¹⁰ Schilling, J. et al. (2010). Climate change and land use conflicts in Northern Africa. Nova Acta Leopoldina, 112(384), 173–182 <https://tinyurl.com/uff3p99d>; Seter, H. et al. (2018). All about water and land? Resource-related conflicts in East and West Africa revisited. GeoJournal, 83(1), 169–187. <https://tinyurl.com/uw3tzdh9>; Beeler, S. (2006). Conflicts between farmers and herders in north-western Mali (IIED Issue Paper no. 141). <https://tinyurl.com/bzi82wdy>; Dolo, A.A. et al. (2019). Perceptions des

populations de la commune urbaine de Niono sur les effets néfastes des changements climatiques (CC) sur leurs activités, Région de Ségou, Mali. Afrique Science 15(6), 310–321. <https://tinyurl.com/35v8tax3>

¹¹ Benjaminsen, T.A. & Ba, B. (2018). Why do pastoralists in Mali join jihadist groups? A political ecological explanation. The Journal of Peasant Studies, 46(1), 1–20. <https://tinyurl.com/ydkt79dy>

¹² Mbaye, A. A. (2020). Climate change, livelihoods, and conflict in the Sahel. Georgetown Journal of International Affairs, 21, 12–20. <https://tinyurl.com/xfz4udwz>; Nagarajan, C. (2020). Climate-Fragility Risk Brief: Mali. <https://tinyurl.com/3efz3bcz>; ICG (2020a). Reversing Central Mali's descent into communal violence (Africa Report 293). <https://tinyurl.com/5z6wjhpt>

¹³ 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), 547–575. <https://tinyurl.com/2e76tztz>

¹⁴ 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 (NUI Report 4/2020). <https://tinyurl.com/22xyfsjp>

¹⁵ Mobjörk, M., et al. (Nov. 2020). Pathways of Climate Insecurity: Guidance for Policymakers. <https://tinyurl.com/3fknkbec>

¹⁶ de Sherbinin, A. et al. (2015). Data integration for climate vulnerability mapping in West Africa. ISPRS International Journal of Geo-Information, 4, 2561–2582. <https://tinyurl.com/4k5s5z2s>; Busby, J. W. et al. (2014). Identifying hot spots of security vulnerability associated with climate change in Africa. Climatic Change, 124(4), 717–731. <https://tinyurl.com/4szvt88y>

¹⁷ ICRC (2020). When Rain Turns to Dust: Understanding and Responding to the Combined Impact of Armed Conflicts and the Climate and Environment Crisis on People's Lives. <https://tinyurl.com/va39mnrj>; Vivekananda, J. et al. (2014). Climate resilience in fragile and conflict-affected societies: Concepts and approaches. Development in Practice, 24(4), 487–501. <https://tinyurl.com/hnwxc9y>

¹⁸ WFP. (2020). Région de Liptako-Gourma : Conflicts persistants, pertes des terres agricoles et insécurité alimentaire récurrente. <https://tinyurl.com/2fdahi2p>

to withstand livelihood shocks.¹⁹ The effects of climate change on natural resource availability can increase the risk of conflict when alternative livelihood strategies are limited.²⁰ For example, water resources in the Inner Niger Delta have decreased, because of factors including intensive up-stream water use and drought, increasing out-migration, and herder-farmer conflicts over water and pastures.²¹

In Mali, women comprise ca. 40 per cent of agricultural labour but less than 10 per cent of landowners.²² National legislation aims to protect and promote women's land ownership, but women, girls and female-headed households often lack the assets, alternative income sources and access to services for building resilience to livelihood shocks.²³ Many rural women depend on garden produce and small livestock for sale in local markets, rendering them highly exposed to the effects of climate change and conflict.²⁴

Dealing with the effects of climate change on livelihoods, with the potential of increasing the risk of violence, requires greater cooperation and information-sharing involving MINUSMA, the Malian government and partners. Climate impacts should be given higher priority in MINUSMA and UN country team mandates, and factored into all stages of programming, from assessments to planning and responses. Capacity-building for mission personnel responding to local resource conflicts would strengthen climate-sensitive analysis, planning and responses, and reporting to the UNSC. The Malian government and its partners should work with civil society organisations to boost participation and leadership among women, girls and female-headed households in climate and conflict analysis and decision-making on gender-sensitive climate-adaptation strategies.

Migration and Mobility

There is evidence that diverse climate effects have changed traditional migration and mobility patterns within Mali.²⁵ Migrant pastoralists are particularly vulnerable to short-term climate variability and long-term climate change. Changing transhumance patterns because of conflict, agricultural policies and expansion, and climate change, among others, can increase the risk of violence between herders and other livelihood groups in the host area.²⁶

Insecurity has forcibly displaced more than 322 000 people in Mali since January 2021, of which 55 per cent are women.²⁷ Conflicts also affect pastoralist migration. The 2012 crisis in northern Mali displaced pastoralists from Timbuktu and Gao regions into central Mali and the Inner Niger Delta, putting pressure on resources and fuelling conflicts with local farmers.²⁸ Escalating conflict in the Liptako-Gourma region, straddling Mali, Niger and Burkina Faso, has affected pastoralist mobility options.²⁹

Men and women do not have the same migration options. Agro-pastoralist households in the Sahel often use short-term migration as a livelihood adaptation strategy, but women are less likely than men to travel for short periods.³⁰ When women assume household leadership but lack the access to services and alternative livelihood strategies available to men, they are doubly exposed to climate and insecurity.³¹ However, an increase in female-headed households can also drive social change. Women sometimes collaborate more than compete for resources, as through women-led initiatives like agricultural associations for soliciting financing from NGOs.³²

Livelihood Zones & Civilian Fatalities

Mali, 2020

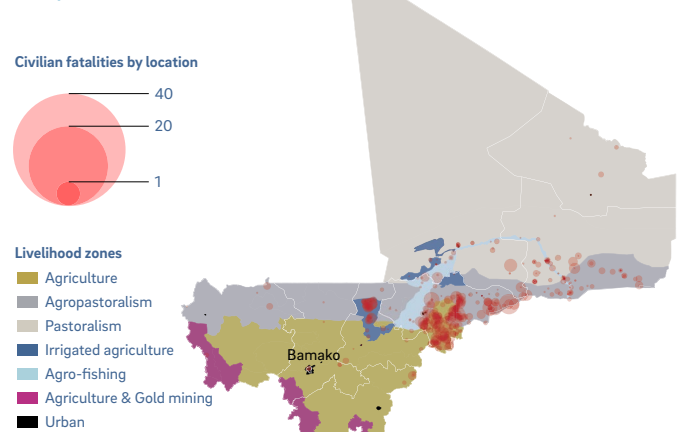


Figure 3. Data source: ACLED & FEWSNET.

Pastoral migration is an important adaptation strategy in Mali and the Sahel region, requiring climate- and conflict-sensitive policy responses that consider the needs of pastoralists and farmers alike – particularly in areas experiencing increasing in-migration and intensive resource use. The Malian government and its partners should develop policy frameworks for responding to changing migration and mobility patterns, to support climate mitigation and adaptation strategies that reinforce the resilience of farming and herding communities and prevent violent conflict.

Military and Armed Actors

Violent conflicts in Mali have been shaped by factors that have increased the availability of small arms, created local power vacuums and undermined peaceful coexistence between communities. Climate change can interact with the effects of instability, reduce livelihood security and exacerbate local community grievances, providing armed groups with opportunities to boost recruitment and support.

Social, political and economic issues can be exacerbated by the effects of climate change, opening opportunities for armed groups. In central Mali, the Katiba Macina has exploited issues like land rights and herder marginalisation to draw local support.³³ Armed groups have offered economic incentives and food to rural communities in exchange for loyalty, recruiting heavily among marginalised pastoralist Fulani youth.³⁴ In north and central Mali, armed groups have capitalised on government absence by mediating resource disputes, providing protection and support to farmers and herders, and defining rules for livestock migration.³⁵

Local resource disputes increasingly connect with national and regional conflict dynamics, escalating levels of community violence, increasing the involvement of armed groups and making local resource disputes harder to resolve.³⁶ Self-defence militias have proliferated in central Mali – in the absence of /with tacit support from the Malian armed forces – increasing levels of violence between, e.g., farming Dogon and herding Fulani communities.³⁷ Greater availability of small arms in the Sahel region facilitates the increase in violence and fatalities.³⁸

¹⁹ Mbaye, 2020.

²⁰ Cabot, C. (2017). Climate Change and Farmer–Herder Conflicts in West Africa. Climate Change, Security Risks and Conflict Reduction in Africa (pp.11–44). Berlin: Springer. <https://tinyurl.com/sfh5p2ym>

²¹ Madgwick et al., 2017; Gorman, Z., & Chauzal, G. (2019). 'Hand in hand': A study of insecurity and gender in Mali (SIPRI Insights on Peace and Security 2019/6). <https://tinyurl.com/5sbfa8mv>

²² McOmber, C. (2020). Women and climate change in the Sahel (West African Papers 27). <https://tinyurl.com/xntk7y3x>

²³ Gorman & Chauzal, 2019.

²⁴ McOmber, 2020.

²⁵ Penda et al., 2020; USAID (2017). Climate change risk profile: West Africa Sahel. <https://tinyurl.com/ye6pza3m>

²⁶ Dolo et al., 2019.

²⁷ UNHCR (n.d.). Mali. Operations Portal: Refugee Situations. <https://tinyurl.com/3e5vpj4p>; IOM. (2020). Matrice de Suivi de déplacements (Rapport DTM octobre 2020). <https://tinyurl.com/5dydpr99>

²⁸ UNOWAS (2018). Pastoralism and security in West Africa and the Sahel: Towards Peaceful Coexistence. <https://tinyurl.com/5hfhretpb>

²⁹ Lyammouri, R. (2020). Mobility and conflict in Liptako-Gourma. <https://tinyurl.com/4hr2ms3c>

³⁰ McOmber, 2020.

³¹ Masson, V. L. et al. (2019). How violence against women and girls undermines resilience to climate risks in Chad. Disasters, 43(S3), S245–S270. <https://tinyurl.com/2j48kus9>

³² McOmber, 2020.

³³ Benjaminsen & Ba, 2018; Rupesinghe, N. & Boås, M. (2019). Local drivers of violent extremism in Central Mali. <https://tinyurl.com/yuxxf8bv>

³⁴ ICG. (2020b). The Central Sahel: Scene of new climate wars? (Africa Briefing 154). <https://tinyurl.com/m8ap6756>; Hegazi, F. et al. (2021). Climate-related Security Risks and Peacebuilding in Mali. <https://tinyurl.com/xuzb5kmb>

³⁵ Walch, C. (2018). Disaster risk reduction amidst armed conflict: Informal institutions, rebel groups, and wartime political orders. Disasters, 42, 239–264. <https://tinyurl.com/8xhznw9e>; Ba, B. & Cold-Ravnkilde, S.M. (2021). When jihadists broker peace: Natural resource conflicts as a weapon of war in Mali's protracted crisis. <https://tinyurl.com/3nr7ppnk>; Nagarajan, 2020.

³⁶ Mbaye, 2020; Nagarajan, 2020; ICG, 2020a.

³⁷ Bodian, M. et al. (2020). The challenges of governance, development and security in the central regions of Mali (SIPRI Insights on Peace and Security 2020/4) <https://tinyurl.com/8ss5uapa>; ICG, 2020a; BBC (2019, 29 Mar.) Mali attack: More than 130 Fulani villagers killed. BBC News. <https://tinyurl.com/2b5x4ajs>

Conflict has increased vulnerability to the adverse effects of climate change. Young Fulani herders, suspected of belonging to armed groups, are reportedly targeted by Malian forces, communities and local militias, curtailing their mobility.³⁹ Women's access to markets for selling goods has been restricted by conflict, undermining livelihood security and resilience. Although some women encourage armed self-protection, women have also contributed to local peacebuilding, disarmament, ceasefire monitoring and mediating community tensions and violence.⁴⁰ According to estimates, food insecurity affects 18 per cent of Malians, due to the combined effect of conflicts, droughts and agricultural sector challenges: this figure is twice as high in female-led households.⁴¹

Given the combination of climate change, conflict, and governance and development challenges, the Malian government and its regional and international partners should improve analysis, joint planning, information sharing, coordination and strategic coherence on climate, peace and security risks. Risk management should prioritise dialogue, governance and development interventions for enhancing resilience to climate change across government, civil society and local communities.⁴² To avoid securitising climate, peace and security risks, actors should move away from a threat narrative and invest in prevention, resilience and preparedness.

Political and Economic Exploitation

Inequalities, a recognised driver of conflicts, also influence how short-term climate variability and long-term climate change affect individuals and communities. In Mali, the effects of weak governance, elite exploitation, marginalisation and exclusion mean that climate change will impact some groups more than others, in turn feeding the grievances that drive conflicts.

Since Malian independence, national agricultural policies have favoured sedentary farmers over migrant herders, restricting herders' access to lands and water.⁴³ Even in relatively resource-rich areas, like the Inner Niger Delta and the Sikasso region, harmful policies and weak governance have compounded environmental strains, contributing to resource conflicts.⁴⁴ Unofficial land tenure predominates in parts of Mali, leaving small-holder farmers vulnerable to exploitation by elites seeking to expand large-scale agriculture.⁴⁵

Research in the Inner Niger Delta has found that land conflicts are accentuated by local corruption, excessive fees levied on herders for pasture usage, and national gendarmerie participation in protecting

Livelihood Zones & Civilian Fatalities

Liptako-Gourma, 2020

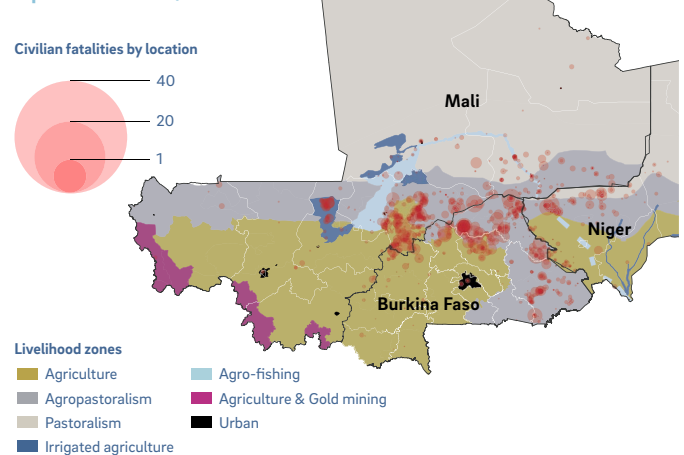


Figure 4. Data source: ACLED & FEWSNET.

farmers' land access.⁴⁶ Related grievances have fuelled support for armed groups in pastoralist communities.⁴⁷ In some regions, perceptions that local government representatives and customary authorities cannot / will not manage resource conflicts peacefully increases the risk that parties use self-defence, including force, to protect their claims.⁴⁸ The relevance of traditional leaders, institutions, and local resource management systems has waned in some regions, due to a combination of corrupt practices, decentralisation policies, conflict and the influence of new elites – including some associated with armed groups.⁴⁹

Faced with the multiple challenges of climate change, conflict, governance and development in Mali, MINUSMA and the UN system should prioritise a comprehensive, system-wide approach to preventing and managing climate, peace and security risks. The Malian government and its bilateral and multilateral partners should develop policy frameworks to address resource management and agricultural development to strengthen the resilience of natural resource users and prevent violent conflict. The Malian government, MINUSMA, the G5 Sahel Force and other partners should coordinate a shared vision and strategic framework for national, regional and international efforts, and a common approach to preventing and mitigating climate, peace and security risks.⁵⁰

³⁸ Small Arms Survey (2019). Weapons compass: Mapping illicit small arms flows in Africa. <https://tinyurl.com/577rab39>; 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>

³⁹ Rupesinghe & Bøås, 2019; Nagarajan, 2020.

⁴⁰ Gorman & Chauzal, 2019.

⁴¹ WFP (n.d.). Mali. <https://tinyurl.com/udeu2cbm>

⁴² ICG (2021). A Course Correction for the Sahel Stabilisation Strategy (Africa Report 299). <https://tinyurl.com/h2fctftb>; Okeke, J.M. (2020, 25 Nov.) Blended Stabilisation? Experiences from the Lake Chad Basin region. ACCORD. <https://tinyurl.com/4fysjfyf>

⁴³ Gaye, S.B. (2018). Conflicts between farmers and herders against a backdrop of asymmetric threats in Mali and Burkina Faso. <https://tinyurl.com/kc57xuc8>

⁴⁴ Benjaminsen et al., 2012; Benjaminsen & Ba, 2018.

⁴⁵ Bodian et al., 2020; Leonhardt, 2019.

⁴⁶ Benjaminsen & Ba, 2009; Seter et al., 2018.

⁴⁷ Benjaminsen & Ba, 2018.

⁴⁸ Benjaminsen & Ba, 2009.

⁴⁹ Leonhardt, 2019; Walch, 2018; Centre for Humanitarian Dialogue (2019). Agro-pastoral Mediation in the Sahel Region of Mali, Niger and Burkina Faso. <https://tinyurl.com/7pmdzrer>

⁵⁰ UN Sustainable Development Group (2020, Oct. 20) Communities address root causes of the crisis in Burkina Faso, Mali and Niger. Stories. <https://tinyurl.com/244hk9a7>

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