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FINAL REPORT

Addressing Gender Inequality, State Fragility, and Climate Vulnerability in the Sahel Region



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Final Report: Addressing Gender Inequality, State Fragility, and Climate Vulnerability in the Sahel Region

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Contents

- List of Tables..... iv
- Acronyms and Abbreviations v
- Executive Summary 1
- Introduction 5
 - Scope of the problem..... 5
 - Sahel Region Climate Change, State Fragility, and Gender Context..... 7
 - Study Approach and Data Collection Methods 13
 - USAID Implementing Partner Discussions..... 16
 - Country Focal Areas 17
- Key Findings from the Study Surveys23
 - Experiences of Climate Change..... 23
 - Responses to Climate Change 26
 - Experiences of State Fragility 28
 - Climate and State Fragility Nexus with Gender Lens 31
 - Emerging Themes from Interviews 34
 - Priority Case Study Findings on the Triple Nexus and Opportunities for Engagement..... 39
- Summary Conclusions.....44
 - Differences Between Men and Women 44
- Recommendations for Policy and Programming to Address Climate Change, Gender Equity, and State Fragility in the Sahel.....46
 - Recommendations from Local Stakeholders 46
 - Recommendations from Interviews with USAID Implementing Partners..... 52
 - Recommendations from Analysis of Surveys..... 53
- References65

List of Tables

Table 1: Central authorities and entities consulted per country14

Table 2: List of Sahel USAID implementing partners interviewed16

Table 3: Key findings from Triple Nexus case studies.....39

Table 4: Recommendations made by local stakeholder respondents in the Sahel countries surveyed.....46

Table 5: Key observations and recommendations.....55

Acronyms and Abbreviations

AGENT	Advancing Gender in the Environment
ACLED	Armed Conflict Location and Event Data Project
CRS	Catholic Relief Services
CARPE	Central African Regional Program for the Environment
CBO	Community Based Organization
ECOWAS	Economic Community of West African States
FHI 360	Family Health International 360
FAO	Food and Agriculture Organization of the United Nations
ILRI	International Livestock Research Institute
IDPs	Internally Displaced Persons
IGA	Income Generating Activities
INRM	Integrated Natural Resource Management
IPCC	International Panel on Climate Change
IUCN	International Union for the Conservation of Nature
ISSP	Islamic State Sahel Province
ISGS	Islamic State Greater Sahara
ISWAP	Islamic State West Africa Province
GBV	Gender-based violence
G5	Group of Five
JNIM	Jama'at Nasr al-Islam wal Muslimin
MEDD	Ministere de l'Environnement et Developement Durable
MEADD	Ministry of the Environment, Sanitation and Sustainable Development
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organization
NRT	Northern Rangelands Trust
NTFPs	Non-timber forest products
OECD	Organization for Economic Cooperation and Development
P4P2	Prevention and Peacebuilding
WAP	Park W Protected Area
REDD+	Reducing emissions from deforestation and forest degradation in developing countries
SODEFIKA	Société de Développement de la filière Karité (Mauritania)
STARR II	Strengthening Tenure and Resource Rights II
SRPS	Strengthening Regional Peace and Stability in West Africa
SRO	USAID Sahel Regional Office
USAID	United States Agency for International Development
DFC	U.S. International Development Finance Corporation
UNHCR	United Nations High Commission for Refugees
WABiLED	West Africa Biodiversity and Low Emissions Development
WFP	World Food Programme

Executive Summary

Our world is facing tremendous and unprecedented environmental challenges, including climate change, biodiversity extinction, food insecurity, and public health crises. In the global south, many of these environmental challenges affect millions of livelihoods each day. The Sahel region of West Africa is experiencing expanding violent extremism, state fragility and conflict, and intense climate change impacts. Poverty, poor governance, and corruption further exacerbate local grievances and weaken and undermine fragile states. The International Union for the Conservation of Nature (IUCN)'s "Advancing Gender in the Environment: Exploring the triple nexus of gender inequality, state fragility, and climate change" study (Boyer et al. 2020), elucidated the interaction of the three factors and critical vulnerability ("triple nexus"). Environmental and political instability in the Sahel region continues to put pressure and stress on already fragile and scarce local economic resources and on limited social infrastructure, in turn, compounding social inequality (Wilson Center 2022).

Given the intensity and severity at which environmental and political events are unfolding in the Sahel, it is imperative to have a greater understanding of the effects of climate change and state fragility within each country, as well as regionally. From September 2022 through September 2023, INRM conducted a study on behalf of USAID/Senegal/Sahel Regional Office (SRO) and USAID Sahel Country Offices to better understand the context-specific local drivers and root causes leading to the triple nexus challenge in the region to help inform USAID programming and regional interventions.

Building on research to date, the study sought to better understand the drivers of gender inequality, state fragility, and climate and environmental vulnerability in Chad, Niger, Burkina Faso, Mali, and Mauritania, and explored intervention opportunities and priorities to inform future USAID policy and programming in the region. The study's primary research question was, *what are the drivers of gender inequality, climate vulnerability, and instability in the Sahel and their interlinkages?* The team explored whether there are shared drivers and opportunities across countries and the region, as well as shared programming opportunities to build resilience and stability, and inform interventions to prevent and address violent extremism in the region. A literature review identified common themes on climate, gender, and state fragility across the Sahel and informed research design for the focal countries, and the identification of case studies. Background research included interviews undertaken with seven USAID implementing partner institutions working in the Sahel, along with consultations with relevant academic, development, security, and other sector experts. Research design was developed together with local expert consultants from each of the five focal countries.

In-country field data collection was undertaken between May and July 2023. The team conducted semi-structured interviews with relevant government and Ministry officials and other key intuitional representatives at the national level in each of the five countries (three-to-six national-level interviews per country). The team conducted local data collection through semi-structured interviews with key informants (including local officials, traditional leaders, women's groups, NGOs, and other actors with knowledge about the triple nexus) in two provinces in each of the five countries, specifically in areas

experiencing recent and ongoing instability and/or recent and ongoing climate change impacts. The regions surveyed included:

- Burkina Faso: Centre-Ouest and Centre-Nord regions,
- Chad: Mandoul and Batha regions,
- Mali: Mopti and Koulikourou regions,
- Mauritania: Gorgol and Hodh El Gharbi regions,
- Niger: Tahoua and Maradi regions.

The resulting 80 key informant interviews provided a geographic range and cultural diversity of information sources from key areas where the factors of climate change, security, and gender equity are most impactful in the Sahel region. Given the limited number of informants, a snowball sampling method was employed to ensure the targeting of participants who were most informed on the topic areas.

Case studies were identified and developed regarding particularly important local initiatives demonstrating progress and/or lessons learned regarding the climate, gender, and state fragility nexus and which have significant potential to inform USAID strategy and future programming. Building from the survey results, case studies were identified and developed on:

- “Accessibility to water and land for vulnerable people in the Centre-Nord region, Burkina Faso”
- “Toda, a committed community: Climate change and the promotion of peace through the status of women in a volatile security environment, Niger”
- “Influence of conflict and insecurity on climate change mitigation and adaptation initiatives in Bandiagara and Banamba areas of Mali”
- “Women-led development of the fishing industry in Lac Fitri area of Batha region, Chad to strengthen the resilience of local communities to climate change”
- “Climate change adaptation, cohabitation between pastoralists and farmers, and promotion of gender equity in Toufoundé Civé, Gorgol region, Mauritania”

The study results generated detailed information on climate change, gender inequity, insecurity drivers, temporal and spatial factors, interrelationships, and impacts in a diverse range of ethnic groups, geographies, and ecosystems across the Sahel. Emerging regional climate, gender, and state fragility nexus themes include migration, transhumance pastoralism, natural resource management, and health (physical and mental). Data analyses examined experiences of climate change in each country and region surveyed; responses to climate change (institutional approaches and community-based solutions); experiences of state fragility; and climate and state fragility nexus with a gender lens (gender roles mitigating the impacts of state fragility, climate change, and natural resource management conflict). Emerging themes were identified on gendered demographic change (impacts of transhumance governance, economic migration, and displacement on civil society) and climate change and state fragility impacts on the physical and mental health of local communities.

Climate change and state fragility were reported to be impacting populations’ movements creating increased conflict. These populations include Internally Displaced Persons (IDPs), seasonal and permanent migrations, transhumance pastoralism, and population movements in relation to shifting

security fronts. The study found evidence of changing gender roles in the Sahel region, including areas where men left (migrated, died), and women remained and are taking on stronger leading roles and responsibilities as heads of households and communities (e.g., as reported for some areas of Mauritania, Niger, Chad), and areas where women and girls moved from their home areas due to conflict and climate-induced hardships, making them more vulnerable (e.g., areas of Mali and Burkina Faso). The movement of boys and girls to urban areas where they are often vulnerable and subject to abuse were identified as serious factors. Some young boys in Chad were reported to be forced into “labor” as livestock attendants. Mental health impacts of climate change and state fragility on households were clearly reported across the survey areas. Men are particularly affected by the lack of ability to provide economically for their families due to conflicts and climate change. This results in mental illness (e.g., depression and a sense of identity loss for men). Women also suffer because men under mental illness conditions often become violent.

Natural resource-related conflicts exacerbated by pressures and scarcity related to climate change and insecurity were reported as *the primary source of violence* in the surveyed areas. Observations on local conflicts over natural resources and the impacts of climate change on conflict and poverty have important implications for countering extremist group expansion in the region. Transhumance pastoralism has been seriously impacted by climate change and insecurity throughout the region, resulting in conflict from competition with farmers, changing movement patterns, and suspicions of or links with violent extremist groups. The role of women in communications and relations between local farming communities, and between transhumance pastoralists and armed groups (through bartering and sale of milk, meat, and other products) provides an important opportunity to improve gender equity and mitigate conflict. Grievances involving land claims, extortion of transhumance pastoralists in exchange for access, and other forms of corruption by local government authorities in remote rural areas were cited among the reasons some individuals perceive alternative dispute resolution opportunities with violent extremists and other armed groups.

Policy frameworks to address gender inequity and climate change are in place in each of the five Sahel countries surveyed, with varying degrees of recognition and application. Burkina Faso, Niger, and Mali seem to have particularly strong gender equity policy frameworks. Study respondents indicated that despite policies in place, Mauritania and Chad have particularly entrenched societal gender inequities. Policy implementation promoting gender and women’s roles is less advanced compared to the other three countries. Youth were found to be very aware, well-informed, and motivated to engage in efforts to mitigate and adapt to climate change in several surveyed areas (e.g., Mali). The study identified climate finance opportunities in relation to the Sahel Triple Nexus and outlined local, country, and regional programming opportunities.

A set of recommendations from local stakeholders, USAID implementing partners, and in-depth analyses of the Sahel Triple Nexus investigation’s findings are presented to assist USAID/SRO and USAID Sahel Country Offices to inform future programming design, priorities, and options to address the drivers of gender inequality, climate vulnerability, and state fragility in the Sahel. Transboundary and regional factors, and complex bilateral relations in the Sahel, require flexible and coherent regional environmental and stabilization interventions. Building on results of this study and aligned with the U.S. Government policy framework and strategies, USAID is critically positioned to support Sahel states, civil

society, and local communities to secure and stabilize the region, promote democracy and prevent backsliding, mitigate and adapt to climate change, address gender inequity and empower women, sustainably manage natural resources, and catalyze sustainable economic development.

Introduction

Scope of the problem

Our world is facing tremendous and unprecedented environmental challenges, including climate change, biodiversity extinction, food insecurity, and public health crises. In the global south, many of these environmental challenges affect millions of livelihoods each day. Severe drought in the Horn of Africa has sparked famine within the region, with more than 18 million people living under conditions of severe hunger (IPPC AR6 2022). Record-breaking cyclones in Malawi and Mozambique have caused severe flooding and displaced millions. In many regions of Africa, particularly in the Sahel, environmental pressures interact with a number of other social factors that have long persisted within the region, including poverty, political and armed conflicts, violent extremism, human migration, social inequality, poor management and competition over natural resources, and weak institutions that contribute to unstable governance and corruption.¹

The Sahel region of West Africa is experiencing expanding violent extremism, state fragility and conflict, and intense climate change impacts (UNHCR 2023). Poverty, poor governance, and corruption further exacerbate local grievances and weaken and undermine fragile states. The past decade has presented continuously unfolding challenges within the region. Over the past year, approximately 40 percent of all fatalities linked to Islamic militant groups in Africa occurred in the Sahel.² Violent events by Islamist militant groups have doubled since 2021, with Burkina Faso and Mali making up the majority (87 percent) in the past year; violent events in Niger also increased by 43 percent.³ The instability of state institutions, with two military takeovers in Burkina Faso in 2022 and in Niger in July 2023, and state violent repression in Chad in late 2022, presents serious challenges to mitigating violent extremism within the respective countries and in the region. Increased violence and evolving instability within individual countries in the Sahel have broader effects throughout the region.

The IUCN's "Advancing Gender in the Environment (AGENT): Exploring the triple nexus of gender inequality, state fragility, and climate change" (Boyer et al. 2020) report, produced under the USAID/IUCN AGENT partnership, elucidated the interaction of the three factors and critical vulnerability, calling this interaction phenomenon the 'triple nexus.' The study found that two of the top 10 countries (out of 122) ranked by "triple nexus" challenges are located within the Sahel, with Chad (ranked 5th) and Mauritania (ranked 9th), along with Niger ranked 14th and Burkina Faso 33rd. The need for humanitarian and development assistance and stabilization approaches in the Sahel is intensifying due to sustained increases in internally displaced peoples and refugees and associated

¹ <https://berlin-climate-security-conference.de/en>

² [African Center for Strategic Studies](#)

³ [African Center for Strategic Studies](#)

insecurity from violent extremism, conflicts, climate shocks, and other factors that further exacerbate gender inequity.

The environmental and political instability experienced in the Sahel continue to stress the availability of social, productive, and reproductive resources (as well as the institutions that govern them), which, in turn, compounds social inequality within the region. Despite wide spanning efforts to improve equity in the Sahel, gender inequality remains a serious problem in the region (Wilson Center 2022).

Environmental stressors can impact livelihoods that further impact gendered roles and responsibilities as well as gendered access to resources within households. Consequently, migration, livelihood adaptation, social unrest, and political instability emerge from the ecological challenges the Sahel is facing (McOmber 2020). Climate variability and environmental degradation have made livelihoods difficult to sustain, resulting in broad ranging impacts on social and economic systems. Research has shown that households with equitable division of labor, access to resources, and decision-making between men and women are better able to adapt to climate shocks and build resilient livelihoods to respond to future severe climate events. In the Sahel, gender equity measures indicate strong inequalities between men and women around human development indicators.

Given the intensity and severity at which these environmental and political events are unfolding in the Sahel, it is imperative to have greater understanding about the effects of climate change and state fragility, both locally within each country, as well as regionally. Due to the intersectional nature by which these interacting phenomena are experienced, a nuanced approach through a gendered lens is critical to understanding the unfolding situation in the Sahel. It is important to understand not only the challenges institutions, governments, and communities are facing, but also the ways they are currently adapting to build resilience in the face of these challenges. This study seeks to illuminate key areas of concern within and across five Sahel countries (Burkina Faso, Chad, Mali, Mauritania, and Niger) and, ultimately, to identify critical interventions to support resilience-building initiatives that will respond to current and future challenges of climate, state fragility, and gender inequality within the region.

Building on the findings from the IUCN AGENT report, INRM conducted a study on behalf of USAID/Senegal/ SRO and USAID Sahel Country Offices, to better understand the context-specific local drivers and root causes leading to the triple nexus challenges to inform USAID programming and regional interventions. Between September 2022 and September 2023, in collaboration with USAID/SRO and concerned USAID Country Offices, INRM investigated the drivers of gender inequality, state fragility, and climate vulnerability in these five countries and explored opportunities to inform future programming. The resulting data and analysis presented in this report cover the drivers of climate change, gender inequity, and insecurity, temporal and spatial factors, interrelationships, and impacts in a diverse range of ethnic groups, geographies, and ecosystems. Emerging critical regional climate- gender-state fragility nexus themes include migration, transhumance pastoralism, natural resource management, and health (physical and mental). The findings of this investigation will assist USAID/SRO and USAID Country Offices to better understand the drivers of gender inequality, climate vulnerability, and state fragility in the Sahel; analyze the ways in which these drivers affect each other; and design options for future policies and programming that address them.

Sahel Region Climate Change, State Fragility, and Gender Context

Climate Change

Climate change impacts across the Sahel countries are some of the most significant on the planet, including extended dry seasons, droughts, erratic and unprecedented rainfall patterns, severe heat, etc., with projections worsening (IPPC 2022; IPCC 2023; UNHCR 2023).⁴ Depending on the scenario, the temperature in the Sahel is projected to rise between 2.0 and 4.3°C by 2080 (compared to pre-industrial levels), with higher temperatures and more temperature extremes projected for the northern part of the region. Precipitation trends are uncertain and vary across the Sahel, with projections indicating an overall increase in annual precipitation of up to 16 mm by 2080 (UNHCR 2023). Future wet and dry periods will likely become more extreme and the number of days with very hot temperatures or heavy rainfall will rise sharply.

Projections indicate that a fifth of the population in the Sahel might be affected by at least one heatwave per year by 2080, leading to a fourfold increase of heat-related mortality (UN Sahel Predictive Analytics 2022). Sahelian countries are simultaneously among the most affected by climate change and the least prepared to adapt within Africa. Countries in the Sahel have experienced the largest average temperature increases (UNHCR 2023). At the same time, five of the six Sahelian countries are in the bottom 25 of the Notre Dame Global Adaptation Initiative Country Index, which ranks countries based on their vulnerability to climate change and readiness to improve resilience (Tesfaye 2022).

Lake Chad's water surface area has decreased by 90 percent since the 1960's with only an estimated 1,500 sq. km presently, and increased impacts of climate change are projected to put tremendous strain on natural resource-based livelihoods, increasing resource conflicts. Agriculture systems, food security, and employment, are greatly affected throughout the region, with decreased land productivity and drastically increased competition for arable land and pastures (Lamarche 2023). An increase in extreme unpredictable weather in the Sahel has negatively impacted agricultural productivity and local agrarian communities, resulting in significant rural-to-urban migration in search of income-generating activities. This migration is particularly by men, leaving women of the households to address day to day livelihoods and farming, and face security threats in many areas (IPPC Ar6 2022; IPCC 2023). These factors also contribute to grievances and vulnerabilities of youth, which are exploited by armed groups (Armed Conflict Location and Event Data Project (ACLED) 2022-23; Sampaio et al. 2023).

Food insecurity due to climate change greatly destabilizes many parts of the region and is a strong driver of insecurity, migration, and displacement. IDPs and refugees, forced to move by insecurity, further strain already reduced resources and encroach on local communities' lands. As insecurity and armed conflicts expand, together with increasing climate change impacts, there is intensified competition for increasingly scarce resources, coupled with weak governments' inability to protect civilians, resulting in

⁴ <https://berlin-climate-security-conference.de/en>

cascade effects and impacts further undermining national institutions and community confidence in government (Tesfaye 2022; Wilson Center 2022).

Climate change has forced transhumance pastoralists to adjust seasonal movement patterns spatially and temporally, and to compete for reduced pasture lands. Herder-farmer conflicts have increased throughout the region as herders are forced to move into areas at different times of the year compared to past patterns (e.g., earlier in the dry season) due to extreme and unpredictable climate conditions (drought and lack of access to water points and pasture) and insecurity, which prevents access to some areas (Jobbins and McDonnell 2021). Tensions between transhumance pastoralists and local farmers have been further complicated by Fulani pastoralist ethnic group connections, and/or perceived connections, with violent extremist groups. Extortion of pastoralists and cattle theft by armed groups and local authorities as well as associated banditry in the Sahel, particularly along borders, are sources of local community grievances against government authorities.⁵ (UN 2020; ACLED 2022).

Global review has found that the nexus of climate change, state fragility, and gender equity is very high in Sub-Saharan Africa, including several Sahel countries (Boyer et al. 2020). There is a disproportionate impact of climate change and conflict and gender-based violence (GBV) on women and young girls, particularly in countries with strong gender inequality factors (McOmber 2020). Progressive empowerment of women and promotion of gender equity in peacebuilding and climate change intervention processes are critical areas for engagement and societal transformation in the Sahel region, taking into account social cohesion.⁶

Climate change impacts combined with violent extremist expansion and armed conflicts are driving rural-to-urban migration and increasing conflict across the Sahel (Black et al. 2022; Perellin 2021). Fleeing from areas of extreme insecurity and environmental and economic disaster, IDPs and refugees seeking refuge in more stable areas often strain already reduced resources and encroach on local community lands and resource use. Expanding insecurity, increasing climate change impacts, and intensified competition for resources, coupled with governments' inability to protect civilians further weakens community and civil society trust in government institutions (ACLED 2022-2023).

State Fragility

In the context of the Sahel triple nexus study, we employ the following definition for “State Fragility.” “Fragile states” are those losing their capacity to govern. They are “failing, failed, and recovering states,” including “vulnerable” states “unable or unwilling to adequately assure the provision of security and basic services... and where the legitimacy of the government is in question,” as well as states in “crisis” – “where the central government does not exert effective control over its own territory... and where violent conflict is a reality or a great risk.” (USAID Fragile States Strategy 2005). While the application of “state fragility” is wide-spanning and complex, for the purposes of this study, the team focused the

⁵ <https://berlin-climate-security-conference.de/en>

⁶ <https://berlin-climate-security-conference.de/en>

research on violent conflict—often discussed as ‘insecurity’ in the context of the interviews—as a critical component of “state fragility.”

The Sahel region is facing unprecedented, deepening, and expanding threats and drivers of instability from violent extremism, climate change, land and natural resource degradation, and related conflicts (ACLED 2022-2023). State stability and efficacy is undermined by, long standing political conflicts, more recent violent extremist organization territorial expansions and success in recruitment/conscription, local conflicts, coup prone effects, and weakening of governance across the region. Gender inequity and lack of social inclusion are further drivers of instability in these countries. In Burkina Faso and Mali, violence between 2022-23 reached the highest levels ever recorded by the Armed Conflict Location and Event Data Project (ACLED). The number of reported deaths from political violence increased by 77 percent in Burkina Faso and 150 percent in Mali from 2021 (ACLED 2022-2023).

Over the past decade, regional and international security efforts in support of the G5 Sahel have sought to counter violent extremism (Chad, Mauritania, Niger, Burkina Faso, and Mali, formerly participating in G5—no longer functional due to withdrawal of member states). These efforts have been largely unsuccessful, with Jama'at Nasr al-Islam wal Muslimin (JNIM) groups and Islamic State Sahel Province (ISSP) (formerly Islamic State Greater Sahara) and affiliates now controlling significant portions of Mali, Burkina Faso, and their tri-border area with Niger (ACLED 2023; Zimmerman and Vincent 2023; Van Ostaeyen et al. 2023). JNIM attacks have also expanded significantly in recent years, reaching northern Ivory Coast and Ghana, and ISSP attacks expanded into northern Ghana, Benin, and Togo (ACLED 2022-2023). Islamic State West Africa Province (ISWAP) has also expanded control of areas in the Lake Chad transboundary area of northern Nigeria, Cameroon, Chad, and into Niger (Zimmerman and Vincent 2023). Boko Haram (the group from which ISWAP was formed), while remaining active in some areas of Nigeria/Lake Chad basin, has been largely absorbed or eclipsed by ISWAP (Chestnutt and Zimmerman 2022).

With the deterioration of the security situation across much of Mali and following the military coups that toppled the government in August 2020 and May 2021, the Malian transition authorities turned to cooperation with Russia and Wagner group security forces in an attempt to stem jihadist expansion. Burkina Faso, subject to two armed takeovers in January and October 2022, is also reported to have requested assistance from Russia and Wagner forces.⁷ The Nigerien military parties leading the July 2023 coup removing President Mohamed Bazoum cited the deteriorating security situation as a justification for taking control. However, violent extremist attacks in the country had reportedly declined in the previous year as the U.S. and France provided military support (ACLED 2022).

In September 2023 Burkina Faso, Mali, and Niger formed the Alliance of Sahel States as mutual protection in response to the unstable internal and external security situations and threats of ECOWAS intervention following the coup in Niger.⁸ In Mali, Tuareg rebels made extensive gains against Government and Wagner forces following the withdrawal of UN forces from the north in August 2023. Fighting has spread to new locations in the north, with the country averaging four violent attacks daily

⁷ <https://www.opendemocracy.net/en/odr/burkina-faso-wagner-sahel-security-jihadist/>, <https://crsreports.congress.gov/product/pdf/IF/IF12389>

⁸ <https://www.reuters.com/world/africa/mali-niger-burkina-faso-sign-sahel-security-pact-2023-09-16/>

since the beginning of 2023—a 15 percent increase compared to the same period in 2022 (ACLED 2023).

State fragility in some coup-prone countries in West Africa may further lead to lack of confidence in the military by authorities and international security partners which would undermine the ability to invest in security forces and hence responses that counter violent extremism (Bruijne 2022). The French government's closure in 2022 of the decades long Barkane counterterrorism operation and withdrawal of troops from Mali and Burkina Faso, marked an important strategic crossroads for the Sahel region. Compounding this, as a result of the coup in Niger and ensuing political crisis, France was further forced to withdraw its remaining forces from Niger in August 2023.⁹ The U.S. military now remains the primary presence that counters violent extremism in Niger, although their ability to maintain this critical presence is also under scrutiny.¹⁰

Poor governance, corruption, and the inability of state and local governments to protect civilians results in civilian populations being vulnerable to influences of violent extremist groups.¹¹ Local community grievances and conflicts (including those arising from transhumance pastoralism, fishing areas, water, land rights, etc.) that the governments cannot, or are unwilling to resolve, result in cycles of conflict. These conflicts are exploited by violent extremist groups for recruitment and support¹² (ACLED 2022; Sampaio et al 2023). Ethnic tensions between Fulani pastoralists and other local communities are escalated by pastoralists' mobility in the region and perceived associations with armed groups. The territorial expansion of violent extremist groups southward is thought to be facilitated by movement corridors known by transhumance pastoralists and their familiarity with the geography (ACLED 2022).

Violent extremists, traffickers, and bandits exploit remote, ungoverned protected areas often used as safe haven operating bases to launch armed attacks. JNIM and ISSP extremists have used Arly and W Parks in Burkina Faso, and Park W Niger, and Boko Haram/ISWAP has based out of Sambisa Forest in Nigeria. Analysts have raised strong concerns regarding the vulnerability of the many largely unmanaged and ungoverned protected areas across the littoral countries of West Africa (ACLED 2022; Bruijne 2022; Sampaio et al 2023). With expansion southwards, JNIM and ISSP operating in Burkina Faso, Niger, and northern areas of Benin reportedly gain support from local communities and transhumant pastoralists by granting access to land under their occupation/control for trafficking (drugs, fuel, etc.) and for exploitation of resources (livestock grazing, wood, gold, etc.)¹³ (Sampaio et al 2023; Luizza and Bronteim 2023).

Illegal and poorly controlled natural resource exploitation, including gold, other precious minerals, fishing, timber, and trafficking of high-value wildlife products (e.g., ivory, pangolin scales, hippo products, etc.) are drivers of instability and conflict, creating financial flows and youth involvement that are exploited by extremist groups (Sampaio et al 2023). Drugs and arms trafficking through the Sahel

⁹ <https://www.nytimes.com/2023/09/24/world/africa/france-troops-ambassador-niger.html>

¹⁰ <https://www.nytimes.com/2023/09/22/us/politics/un-biden-africa-coups.html>

¹¹ <https://berlin-climate-security-conference.de/en>

¹² <https://berlin-climate-security-conference.de/en>

¹³ <https://globalinitiative.net/wp-content/uploads/2023/05/An%CC%82nio-Sampaio-Eleanor-Beavor-et-alReserve-Assets-Armed-groups-and-conflict-economies-national-parks-west-africa-May-2023-web.pdf>

countries into the littoral states contributes to further vulnerability and potential exploitation by armed groups.

As Sahel governments expand security responses, incidents of poor governance and corruption violate human rights, alienate local communities, and create opportunities for extremists to recruit and expand local support. Suspicions about pastoralist connections with violent extremists exacerbate tensions and foster potential for human rights violations by armed security forces (ACLELED 2022).

Local defense groups developed in some areas (e.g., Koglweogo groups in Burkina Faso) are both a challenge and an opportunity for stabilization approaches and enhanced protection of local communities. The Koglweogo groups in southeastern Burkina Faso are reported to have previously played a strong positive role in limiting banditry and hindering the initial violent extremist expansion into the area (until extremists overwhelmed the zone in recent years) (Elkan et al. 2019). These groups' activities, if not well governed, may also potentially drive ethnic tensions and violence. The Koglweogo groups have a long history and tradition of local community defense, which is very different from the Homeland Defense Volunteers (VDP) that Burkina Faso authorities have mobilized since 2022 to assist the military in countering extremist attacks.¹⁴

The absence of state delivery of basic social infrastructure services and government presence in many areas of Sahel countries, particularly in remote border areas, damages community confidence (USAID implementing partner personal communication). The lack of basic services (health, education, water access, etc.), security presence, and economic development initiatives by governments lead to strong distrust and deep grievances amongst local populations, which are easily exploited by violent extremist groups. The combined issues of corruption, absence of basic services, and incidents of human rights abuses by government security forces result in major grievances and a lack of state-society trust.

Interlinked state fragility, climate change, and natural resource management challenges directly impact security and conflict with varying impacts and dynamics across the Sahel (Tasfeye 2022). Violent extremist and other armed groups are taking advantage of these interlinkages and interconnections by providing promises of security and access to resources in exchange for community cooperation, intelligence, and recruits (ACLELED 2022-2023; Sampaio et al. 2023).

Gender Lens

Issues of climate change and state fragility occur in the context of persistent gender inequality. In places where the aforementioned dynamic is unfolding (environmental issues and state fragility), vulnerabilities are magnified by the diverse, but also unequal experiences that men and women have adapting to these impacts. Therefore, it is critical that gender is used as a primary lens to understand social vulnerability due to the impacts of climate change and insecurity in the Sahel, to inform appropriate responses. These gender inequities shape vulnerabilities in the Sahel and limit opportunities to build resilience to the

¹⁴ <https://issafrica.org/iss-today/risks-of-burkina-fasos-new-military-approach-to-terrorism>

growing prevalence of climate- and conflict-related crises. While gender inequality is, in itself, a form of social vulnerability, other social inequalities intersect with and compound gender vulnerabilities, such as: ethnic identity, language, education level, income disparity, age, physical or mental ability, and geographic location.

Despite global efforts to improve gender equity, women's access to resources—including economic, human, social, and political—remains unequal. The impact of this gendered lack of access to resources is pervasive in much of the Sahel. Girls have historically been less likely than boys to attend school (Bouchara 2018); while the littoral West Africa and Central Africa region shows 53 percent of girls between the ages of 15-18 years old had attended primary school, statistics for girls' primary-level education are much lower to the north in Sahel countries, like Mali (35 percent), Chad (30 percent), and Niger (22 percent) (Gaddis et al. 2018). There are half as many literate women as there are men in Burkina Faso, and in Chad, women are about one-third as likely to be literate as their male counterparts (UNES 2019). This lack of education has implications in the growing climate and conflict reality that is unfolding in the Sahel. Where education and literacy rates remain unequal, opportunities for alternative livelihoods that extend outside agriculture can be limited, further hindering women's ability to take on leadership roles in climate responses and conflict mitigation.

Since agriculture remains a primary livelihood in the Sahel providing more than 80 percent of employment (FAO 2014), “food system development, livelihoods, and economic development are intrinsically linked” (OECD 2022). In the region, women's livelihoods are often strongly embedded in the food economy (Pepper 2019; Allen 2018). Pastoralism is another primary livelihood that is part of the food system economy in the Sahel region, which about 25 percent of the population relies upon (De Haan et al. 2016). However, increasing pressure on land use as well as reduced availability of farm/pasture land due to climate change and conflict, has made an already difficult livelihood—compounded by issues of social and political marginalization—ever more complicated (McKune and Silva 2013).

Livelihoods that are dependent on natural resources are particularly vulnerable to resource degradation brought on by climate change and conflict. Women remain extremely vulnerable in this aspect. While women contribute significantly to agricultural livestock labor within the region, they are less likely to own land (Carr and Thompson 2014; FAO 2011; Fletschner and Kenney 2011; Gaddis et al. 2018). Women in West and Central Africa make up 70 percent of the agricultural workforce, while only 30 percent of women own land, either independently or collectively (UN Women 2021). Women are also less likely to participate equitably on agricultural value chains (OECD 2021). This inequality exists in the context of ‘chronic malnutrition’ occurring within the Sahel, with acute malnutrition and child stunted growth prevalent in the region (OECD 2021). Such inequalities will become more pronounced in the coming years as crop productivity within the region is expected to decrease by 11.9 percent by 2050 (OECD 2022).

U.S. Government Policy and Strategy

The U.S. Government's Global Fragility Act,¹⁵ [U.S. Strategy to Prevent Conflict and Promote Stability's](#) commitments to West Africa, [U.S. Strategy for Sub-Saharan Africa](#), and U.S. Integrated Country Strategies for Burkina Faso, Chad, Mali, Mauritania, and Niger¹⁶ provide a robust policy and strategy framework for comprehensive U.S. engagement to help address climate change, gender inequity, and state fragility in the Sahel.

The [U.S. Strategy on Women, Peace, and Security](#),¹⁷ [USAID Climate Strategy](#), and [USAID's Gender Equality and Women's Empowerment Policy](#) particularly align to support states and civil society with appropriate policy and program responses to address climate change, gender inequity, and state fragility triple nexus opportunities and challenges in the region.

Within this U.S. government framework, the USAID Sahel Regional Office and USAID Missions in Sahel countries, are critically positioned to support Sahel states, civil society, and local communities to secure and stabilize the region, promote democracy, and prevent backsliding, mitigate, and adapt to climate change, address gender inequity and empower women, adapt natural resource management, and catalyze sustainable economic development.

Study Approach and Data Collection Methods

Research Questions

Building on research to date, the purpose of the Sahel Triple Nexus study was to better understand the drivers of gender inequality, state fragility, and climate and environmental vulnerability in the Sahel countries and to explore intervention opportunities to inform future USAID policy and programming in the region. The primary research question was: *What are the drivers of gender inequality, climate vulnerability, and instability in the Sahel and their interlinkages?* Subcomponents of this question include the following:

- *How does gender inequality impact state fragility? And the inverse?*
- *How does climate vulnerability impact gender inequality? And the inverse?*
- *How does state fragility impact climate vulnerability? And the inverse?*

¹⁵ For more information on the Act, see <https://www.csis.org/analysis/global-fragility-act-unlocking-full-potential-interagency-cooperation> and <https://www.devex.com/news/us-releases-global-fragility-act-country-plans-105226>

¹⁶ <https://www.state.gov/integrated-country-strategies/#af>

¹⁷ See also USAID's implementation plan: <https://www.usaid.gov/women-peace-and-security>.

- *How do the interactions between the three areas (nexus) impact gender inequality, state fragility, and climate vulnerability?*

The research team explored whether there are shared drivers and opportunities across countries and the region, as well as shared programming opportunities to build resilience and stability, and inform interventions to prevent and address violent extremism and conflict in the region. The team considered priority climate, natural resource management, environmental, security, institutional, economic, and societal interventions at the triple nexus to transform gender equity, build state stability, and address climate change impacts in the Sahel. Finally, the team considered how climate change financing may be utilized to address gender inequality, state fragility, and climate vulnerability.

Research Process

This study proceeded in four phases. First, the team conducted a literature review to identify common themes on climate, gender, and state fragility across the Sahel region and to inform the research design for the Sahel focal countries (Chad, Niger, Burkina Faso, Mali, and Mauritania), as well as the identification of potential case studies. The team then conducted background research on climate, gender, security, and other related elements relevant to the research through interviews with critical informants from seven USAID implementing partner institutions working in the five Sahel countries. The team also held consultations with various relevant academic, development, security, and other sector experts in the region. Based on this preliminary information gathering process, the team developed a research design, which was refined together with local expert consultants from each of the focal countries.

Working with five local expert consultants, in-country data collection was undertaken between May and July 2023. The team conducted semi-structured interviews with relevant government and Ministry officials and other key institution representatives at the national level in each of the five countries. These consultations included the Ministries of Environment, Gender, and Security and other relevant authorities. For each country, the team conducted three-to-six national-level interviews with central government authorities and related entities (Burkina Faso n=6, Chad n=6, Mali n=5, Mauritania n=3, Niger n=4). The central authorities and entities consulted per country were as follows:

Table 1: Central authorities and entities consulted per country

Country	Authority/Entity
Burkina Faso	Ministère de l'Administration Territoriale, de la Décentralisation et de la Sécurité
	Ministère de l'Environnement, de l'Eau et de l'Assainissement
	Ministère de la Solidarité Nationale et de l'Action Humanitaire, de la Réconciliation Nationale, du Genre et de la Famille
Chad	Alliance Mondiale Contre les Changements Climatiques
	Ministère du Genre et de la Solidarité Nationale

	Ministère de l'Environnement
	Direction des changements climatiques
	Projet Programme National 'd'Adaptation
	Cellule de Liaison et d'Information des Associations Féminines
	Association des Femmes Juristes du Tchad
Mali	Ministère de l'Environnement
	Ministère de l'Agriculture
	Direction National de la Promotion de la Femme
	COMAGESC (Coalition Malienne Genre, Sécurité et Climat)
Mauritania	Direction National de Changement Climatique au MEDD
	Direction Nationale du Contrôle Environnemental (DNCE)
	Direction du Changement Climatique, en charge du Genre
Niger	Direction Nationale de la Promotion de la Femme et du Genre
	Plate forme des Femmes du G5 Sahel
	Direction General de l'Environnement
	Direction General de l'Administration Territoriale

The team then conducted 16 semi-structured interviews with key informants in each of the five countries. These took place in two priority provinces of each country with local officials, traditional leaders, women's groups, NGOs, and other actors impacted by or engaged in activities related to the research. Study sites were chosen, prioritizing those which experienced recent and ongoing instability, and/or recent and ongoing climate change impacts. For researcher and participant safety, study sites were also chosen based on accessibility, with special attention to evolving security concerns within each country.

Key informant interviews were conducted in the following locations:

- **Burkina Faso:** Centre-Ouest and Centre-Nord regions
- **Chad:** Mandoul and Batha regions
- **Mali:** Mopti and Koulikourou regions
- **Mauritania:** Gorgol and Hodh El Gharbi regions
- **Niger:** Tahoua and Maradi regions

An estimated 80 interviews were conducted (16 per country, eight per province) providing a geographic range and cultural diversity of information sources from key areas where the factors of climate change, security, and gender equity are most impactful. Key informants included local chiefs and local community leaders involved in conflict and/or climate mitigation and adaptation efforts. Given the limited number of informants for this study, they were selected using a snowball sampling method to ensure the targeting of participants who were most informed on the relevant study topics.

From the beginning of the research process, the team made a special effort to identify potential topics for case study development regarding particularly important local initiatives demonstrating progress and/or lessons learned on climate, gender, and state fragility nexus, and those with significant potential to inform USAID strategy and future programming. Following a review of the key informant interview data from the regions, one priority case study theme/location was selected for each country for write-up and analysis.

Building from the survey results, the following five case studies were identified and developed:

- “Accessibility to water and land for vulnerable people in the Centre-Nord region, Burkina Faso”
- "Toda, a committed community: Climate change and the promotion of peace through the status of women in a volatile security environment, Niger"
- “Influence of conflict and insecurity on climate change mitigation and adaptation initiatives in Bandiagara and Banamba areas of Mali”
- “Women-led development of the fishing industry in Lac Fitri area of Batha region, Chad to strengthen the resilience of local communities to climate change”
- “Climate change adaptation, cohabitation between pastoralists and farmers, and promotion of gender equity in Toufoundé Civié, Gorgol region, Mauritania”

USAID Implementing Partner Discussions

INRM interviewed seven USAID implementing partners working in the five Sahel target countries to gain a better understanding of what types of programs USAID is implementing, what the operational environment looks like, and to identify success areas and gaps in programming in relation to the triple nexus. USAID provided suggestions on particular implementing partners in each of the five countries that would be most relevant for consultation in relation to the climate, gender, and state fragility nexus study.

Table 2: List of Sahel USAID implementing partners interviewed

Country	Implementing Partner	Activity Name
Burkina Faso / Niger	Chemonics International, Inc.	On Est Ensemble (Conflict Mitigation, Peace, and Reconciliation)
Burkina Faso	Winrock International	TerresEauVie (Water Security and Resilience (WSR))
Burkina Faso	ONF-BF	ASTER (Amelioration et Sécurisation des Terres vers la Resilience)

Chad	FHI 360	Chad Civil Society Strengthening Activity
Mali	ILRI	Governance Programming (in collaboration with the University of Madison)
Mauritania	FHI 360	Tamkeen Activity
Niger	Catholic Relief Services (CRS)	Girma

Country Focal Areas

The following briefly outlines key contextual factors in the countries and respective regions surveyed by the Sahel Triple Nexus study.

Burkina Faso

Since 2015, Burkina Faso has been confronted with insecurity marked by terrorist attacks perpetrated in several regions, plummeting the country's level of socio-economic development. The consequences of this insecurity include a drop in agricultural and livestock production, reduction in trade between regions, increase in poverty among the population, and a deterioration in socio-economic infrastructure. On the humanitarian front, millions of IDPs have been recorded. According to the Burkina Faso Ministry of Education, by January 2023, the number of schools closed due to insecurity in Burkina Faso had risen to 6,383. The continuing deterioration in security has led to massive displacement of people (2.06 million as of March 2023), more than 80 percent of whom are women and children, according to the Permanent Secretariat of the National Council for Emergency Relief and Rehabilitation in 2023. People are moving to areas where communities are already experiencing their own very high humanitarian needs, putting further pressure on resources in these communes. Migration is likely to worsen as agricultural production declines due to erratic rainfall, degradation of natural resources, and low productivity of farming systems as a direct consequence of climate change.

Centre-Ouest Region

The Centre-Ouest region, whose capital is Koudougou, comprises the provinces of Boulkiemdé, Sanguié, Sissili, and Ziro. The region is characterized by natural vegetation composed of savannah and classified forests. It has enormous economic potential, thanks to its geographical location that favors trade. The region is also home to industrial and craft activities, with several production units and a few mining operations. In recent years, several villages in the region have been hit by terrorist attacks, which have led to a deterioration in security conditions and a decline in the economic fabric and livelihoods of the people living in these areas. This has led to an increase in the number of IDPs, which represent 2.7 percent of the total number of IDPs in the country (SP/CONASUR 2023). The Centre-Ouest region has

also been affected for several years by other problems, including climatic hazards and progressive soil impoverishment due to climate change and land degradation.

Centre-Nord Region

The Centre-Nord region comprises three provinces: Bam, Namentenga, and Sanmatenga. Kaya, the region's capital, is located around 100 km from the capital, Ouagadougou. The region belongs to the sub-Saharan phytogeographic domain and corresponds to the sub-Saharan climatic zone. Since the start of terrorist attacks in 2015, insecurity has grown in this region. The security situation is particularly worrying, with its corollary of increased forced displacement of populations, both within their region of residence and to other regions of the country, deemed safer. The region is home to 24 percent of the country's IDPs (SP/CONASUR 2023), making it the country's second largest IDP destination. This high concentration of IDPs puts enormous pressure on the region's natural resources, exacerbating environmental degradation and difficulties accessing drinking water.

Chad

Chad is considered a fragile, conflictual, and violent (FCV) country, according to the World Bank's 2021 Country Environmental Diagnostic Report. Gender inequality in Chad is among the highest in the world, and women and girls face inequalities in all aspects of life. There are significant gaps between boys and girls in secondary education. Chad is ranked 160th out of 180 countries on the gender inequality index (UNDP 2020). An estimated 28 percent of women have been victims of physical, domestic violence at least once in their lives. In addition, the prevalence of child marriage remains high with 67 percent of girls married before the age of 18. Chad is ranked 187th out of 189 countries for Human Development Index (HDI) according to the 2020 United Nations Development Programme (UNDP). Chad is also among the most vulnerable countries to climate change (Notre Dame Global Adaptation Initiative 2021) with exacerbated desertification, degrading the productive potential of soils and reduced biodiversity, making rural populations, whose main source of income is agriculture, more vulnerable. It has also led to the massive displacement of people, generating conflicts over natural resources.

Batha Province

The province of Batha, located in the center of the country, covers an area of 88,800 km.² As of 2012, the total population was estimated at 561,177, with a population density of six inhabitants per km.² It is ecologically very heterogeneous with sub-desert Saharan zones to the north and semi-arid Sahelian zones to the south. The dominant activity in the north is livestock farming, while in the south, agropastoral activities are of greater importance. The urban population remains very low. Batha Province is almost entirely inhabited by people of the Muslim faith who have historically lived there. People of other religious denominations and animists found in the region are non-natives. Batha province has one of the lowest levels of education in Chad. The educated population in Batha represents only 14 percent of the total population. At the primary school level, girls represent 48 percent of students, while at secondary school level, girls account for only 27 percent of attendees.

Mandoul Province

Mandoul province is bordered to the north by the Province of Tandjilé, to the south by the Central African Republic, to the west by the Province of Logone Oriental, and to the east by the Province of Moyen-Chari. It covers an area of 17,727 sq. km. The province's capital, Koumra, is located 690 km from the national capital, N'Djamena. Vegetation consists of wooded savannah (nééré, karité, tamarind, jujube, doum palm, etc.), shrub savannah, grasses, and bushes. The region's predominantly farming population is also involved in tree crops, such as mango, guava, lemon, roast, moringa, and others.

Mali

Mali has pioneered efforts to improve environmental issues in general, and climate change, in particular, in Africa. Under the leadership of the Ministry of the Environment, Sanitation and Sustainable Development (MEADD), Mali has adopted a national policy on climate change, backed by a national strategy, and has implemented several projects and programs to make them operational.

Some sectoral strategies have been drawn up, notably for agriculture, water, energy, transport, and cooking. However, in recent years, these strategies have struggled to be implemented due to the multidimensional security, political, and economic crisis facing Mali due to JNIM and ISGS extremist group expansions and the Tuareg rebel groups in the north, coups in 2020/21, withdrawal of France and UN forces, and influx of Russia with Wagner. This has further exacerbated environmental degradation, the impacts of climate change, and persistence of conflicts between social strata and ethnic groups, with particularly negative effects on the well-being of women and children in local communities. The rural environment seems to be more affected than the urban environment, due to the gap in opportunities and services provided by the state and the private sector involved in managing development issues related to climate change. This is also due to the nature of the economic activities carried out by rural communities, linked to rainfall, land, and forest resources that are all highly vulnerable to climate change.

The study surveyed the Bandiagara area of Mopti Province and the Benamba area of Koukourou Province.

Mopti Province

The Bandiagara area of Mopti is particularly hard hit by climate change impacts because of its geography, made up of cliffs and hills. As a result of global warming and bad weather linked to climate change, arable land has been greatly reduced. In the area, only an estimated 10 percent of the land is fertile (Bandiagara Water and Forest Authority personal communication), all of which has led to increased demographic pressure on scarce land and natural resources and the multiplication of conflicts between communities. Women are particularly hard hit, with the massive displacement (migration) of men due to persistent insecurity in the area linked to uncontrolled armed groups.

Koukourou Province

In the Banamba area of Koukourou, the situation is also very difficult due to reduced rainfall, recurrent drought, and the community's cultural links with trade and livestock farming, which require a great deal of mobility. These activities are suffering from recurrent banditry, with armed gangs robbing citizens of their goods on the roads and stealing livestock. Added to this challenge is the existence of Islamic extremist armed groups who impose restrictive lifestyles on communities. This has led to a massive displacement of people to safer areas in Mali, but also to other parts of Africa and around the world. This has a negative impact on women and children, whose mobility is reduced by cultural constraints. Here, however, it is women who are involved in grain production after the harvest. Land commissions and town councils seem to have more influence on land management in Banamba than in Bandiagara.

Mauritania

Mauritania is a predominantly desert country with extensive pastoral areas and limited arable land. Mauritania's economy is poorly diversified with heavy dependence on extractive activities (iron, gold, and copper) and fisheries. In Mauritania, wetlands are characterized by eco-floristic, hydrological, climatic, and anthropic features that make them fragile and sensitive to risk. Their multiple biological, ecological, and economic functions make them a valuable natural heritage and critical for ecosystem function and local community livelihoods. Unfortunately, these wetlands are threatened and severely degraded due to overexploitation of the natural resources they contain. Access to land is governed by Ordinance 83/127 and its implementing Decree N° 90.020 of 31/01/1990 and the implementing decrees of 2014. Access to water is governed by the French Water Code and its implementing decrees. Other natural resources are governed by the Forestry Code, the Pastoral Code, and the Hunting Code. All these codes have been updated by implementing decrees and orders. There are several authorities engaged in supporting the implementation of these ordinances, decrees, and orders. These include the decentralized services of the Departments in charge of Territorial Administration, Justice, Environment and Sustainable Development, Hydrology, Livestock and Agriculture, and NGOs.

Hodh el Gharbi Region (Kobenni area)

Hodh el Gharbi is an administrative region (wilaya) of Mauritania, located in the east of the country on the border with Mali, with Aïoun El Atrouss as its regional capital. The wilaya is made up of five departments: Kobenni, Tamchekett, Tintane, Touil and Aïoun. Hodh El Gharbi is one of the country's wilayas with the highest rainfall, though it suffers from heavy evaporation caused by hot, dry continental trade winds and high temperatures. The Boïzyet area sits on wetlands with livelihoods centered around livestock breeding, gathering of non-timber forest products, agriculture, handcrafts, and trade. The Boïzyet area is located on a transit route for pastoralists/transhumants coming from the north of Hodh El Gharbi towards Mali, and vice versa.

Women in this provincial region have limited engagement in decision-making. There is one woman member of parliament representing Kobenni and there are a few women that occupy municipal counselor posts, teaching positions, and nurse and midwife positions. There have been several government and NGO initiatives providing guidance and training to promote women's participation in

conflict mitigation and environmental protection initiatives; however, this has not yet been embraced by the community.

Gorgol Region (Toufoundé Civé area, Kaedi)

Gorgol is an administrative region (wilaya) of Mauritania, located in the south of the country on the border with Senegal, with Kaédi as its regional capital. The climate is particularly hot in this Sahelian region of southern Mauritania, far from any oceanic influence with limited rainfall.

Toufoundé Civé is a rural commune within the wilaya of Gorgol that lies on the banks of the Senegal River, facing the town of Matam in Senegal linked by motorized pirogues. The main income-generating activities come from trade and seasonal employment paid for by the transhumant pastoralists.

The El Athif area is an agropastoral zone whose population is made up of Fulani and Moorish people who live on agriculture and partly on pastoralism. The women of the transhumant communities provide a base for animals and look after the shepherds and their supplies. The area is marked by diminishing biodiversity due to overgrazing and deforestation caused by transhumance pastoralism, the presence of asphalt roads, and pressure of unauthorized poaching. Pastoralists disturb fragile nesting areas in search of grazing land. This area suffers from continued rainfall deficits and heat waves, resulting in a significant drop in the water table. Watering holes have been silted-up and ponds and *tamourts* (wetlands) have been drying out prematurely.

The ongoing drought throughout the north of the country has localized livestock transhumants and nomads in the El Athif area. There are also added pressures on natural resources, particularly water and pastures, due to the continued influx of livestock from the north and from Senegal. Increased demands on natural resources have led to environmental degradation. There have been deforestation activities turning forests into savannahs, resulting in the loss of flora and fauna. This loss has included wild fruit trees, which previously served as an income source for women and as added nutrition for children, as well as the loss of medicinal plants. Overfishing has resulted in the reduction of aquatic resources.

The main conflicts in this region are between breeders and farmers over roaming livestock, between the population and coal miners/ tree cutters/ sand extractors, the population, and fishermen over the waste of fresh water, and conflicts between herders over watering points and grazing areas.

Niger

Located in the heart of the Sahel, Niger's economy is not very diversified, and depends on agriculture for 40 percent of its GDP. More than 10 million people live in extreme poverty. Niger is located in one of the hottest regions on Earth, with a very hot and dry climate. Niger faces an influx of refugees fleeing conflicts in Nigeria and Mali. As of August 2022, UNHCR counted 294,467 refugees and nearly 350,000 displaced persons on its territory. On the security front, Niger faces a security crisis in the border areas with Nigeria, Burkina Faso, and Mali, where armed groups perpetuate attacks on security forces and civilians. A state of emergency was declared in the regions of Diffa, Tahoua and Tillabéry. Counter-terrorism efforts of the Niger government, supported by the E.U., U.S., France, and other allies in 2022

resulted in relatively fewer attacks and improved security in several areas. However, the coup in July 2023 created a further political crisis, impacting the country and putting in question various international assistance packages.

Maradi Region

The Maradi region lies 700 km from Niamey, the capital, in the south of Niger on the border with Nigeria; it borders the Tahoua region and Zinder to the east. Maradi's population is made up of Haoussa, Peuls, and Touareg people and is predominantly rural, with 86 percent of the population living in rural areas, compared to 14 percent in urban areas. Women account for an estimated 50 percent of the population. According to estimates, the Maradi region remains the most densely populated in Niger, with an estimated population of 3,117,810 in 2011, or 20 percent of Niger's total population. Its population density is estimated at 89 people/km², compared to 19 people/km² for the country at large. This creates important demographic and land pressures.

Forest resources are numerous and diversified and play an important role in the region's economy through financial resources, food, medicine, and employment. The Maradi region has 17 classified forests totaling 106,495 ha of protected forests (40 protected estates covering 128,483 ha), agroforestry parks, and artificial plantations. Fisheries resources area is also important. Of the region's 40 or so ponds, only the Kourfin Koura pond, the Madarounfa lake, the Rafin Wada reservoir, and the Akadaney pond are permanent, and fish farming is practiced there. Alongside these pools, there are also numerous semi-permanent pools where fishing is also practiced. The southern areas of Maradi bordering Nigeria are subject to incursions by violent extremist groups and other armed bandits, who commit acts of banditry, kidnapping, and theft.

Province b. Tahoua

The Tahoua region covers an area of 113,317 km². It is bordered by the Agadez region to the north, the Republic of Mali to the northwest, and Nigeria to the south. Tahoua's population is estimated at 3,327,260 (2012), with a surface area of 113,371 km², and a population density of 29 inhabitants/km². The main economic activities are agriculture, livestock breeding, trade, and industry.

Key Findings from the Study Surveys

Experiences of Climate Change

Burkina Faso

Respondents in Burkina Faso explained that their climate has changed in two primary ways: changes in rain patterns and heat. Delayed onsets of rain and periods of drought are the primary challenges affecting livelihoods long dependent on natural resources. One respondent explained, “Climate change has affected our region because, as a child, even at this time of year, there was already the first rain; there was water everywhere, there was grass, but now you can see for yourself that it's very hot. It's not far from 45 degrees and, frankly, it's only in the last few years that we've noticed this heat.” The consequence of this has been that productivity within agricultural livelihoods has become “weaker and weaker.” Another respondent explained, “When there's no water, there's no life: it affects the profitability of production, leading to poverty, food insecurity, and all that goes with it. And because agricultural livelihoods are no longer viable, many households are turning to cutting trees for firewood and charcoal.”

At the same time, it was reported that, when rains do come, they tend to cause flooding because water management infrastructure cannot withstand the amount of water accumulating from rains. This is the case both in urban areas where infrastructure is not adequate for the large volumes, and also in rural areas where degraded and drought-stricken land suffers from intense flooding. One respondent explained, “Rainfall is unevenly distributed in time and space, and when it does rain, it's accompanied by strong winds and often heavy rain. At the same time, there is a lack of rain and flooding.” Another explained, “Sometimes, it rains a little too much, I'd say, causing flooding, which is also seen in the development of the town of Kaya. At the moment, just the three rains we've had, there's still water stagnating. This is precisely because the gutters are clogged, creating flooding.”

As a result, biodiversity loss remains a critical issue. One respondent from the Centre-Nord province of Burkina Faso explained, “Species, both flora and fauna, that can't withstand this kind of weather, are disappearing.” Others explain that desertification is increasing as a cumulative consequence of both environmental and human stress on natural resources. One informant from this same region explained, “The priority is to work on the environment. We need to take strong action on the environment to restore the vegetation cover. When you manage to restore the environment, you restore a lot of things. Agricultural production will improve, and species will reappear, both in terms of trees and wildlife. Biodiversity will be reborn, and balance will be restored.”

Chad

Respondents in Batha and Mandoul provinces indicated that the main climate change impacts are drought, floods, rising temperatures, and strong winds that have led to famine, migration, disease, and conflict. Rural populations are generally more vulnerable than urban ones, due to their low incomes and dependence on climate-dependent agricultural activities. Women with lower incomes than men become more vulnerable to droughts and floods, leading to the destruction of property.

One respondent indicated that, “The effects of climate change began to be felt in the 1970s. In 1975, Lake Fitri even dried up completely. The northern part of the country was hardest hit. In Fitri, after the lake dried up, communities dug the bottom of the lake to remove catfish for sauce and they used water lily seeds to obtain flour for couscous.” Another respondent indicated that in the past, herders used to move down from the north to the center after the harvest to take advantage of grazing and watering points, and they would leave again when the rains arrive to avoid insect-borne diseases. For some time now, due to the drought, these herders have been moving down to watering holes and pastures. Some have even become sedentary, which is a source of conflict with local farmers.

In Southern Chad a respondent stated, “Both men and women suffer because they must work harder to get a good harvest due to declining soil fertility and low rainfall or floods that engulf the fields. However, women suffer even more because of household chores.”

Mali

Respondents indicated that global warming is leading to drought, soil erosion, a lower water table and level of ponds and streams, and pollution of drinking water, causing diseases in humans and livestock. Climate change leads to a loss of biodiversity, which impacts food, medicine, and incomes for local communities. Reduced rainfall results in crop failure, famine, and malnutrition.

Respondents in Mopti indicated that pastoral women and their families are more affected by climate change than other groups. Pastoral women tend to earn income by selling or trading dairy products to sedentary populations to support their families. However, climate change, conflicts, insecurity, and the remoteness of pasturelands have compromised this daily activity.

Respondents spoke about the critical role intergenerational knowledge plays in supporting responses to climate change. However, one barrier to communicating this knowledge is that elderly people are constrained by factors related to health and insecurity. Older people have indigenous knowledge on how to cope with climate change. They could make these solutions more available to younger generations, but communications are hindered by a lack of mobility due to physical condition and the dangers of travel caused by armed groups in the area.

Mauritania

In Mauritania, respondents explained that climate change resulted in increased scarcity of natural resources and loss of biodiversity (such as transforming forests into savannah). Diminishing rainfall and

hot trade winds have resulted in dwindling water resources, resulting in insufficient water availability for agricultural needs, livestock, and household consumption. The Boizyet landscape has been impacted by climate change in significant ways. The landscape has been shifting from forest to savannah, resulting in the loss of wild fruits and medicinal plants, disappearing wildlife, river silting and premature drying of water sources, and groundwater discharge. This has led to reduced harvests of wild fruit (an income generating activity for women) and agricultural products, as well as reduced grazing land for livestock.

These impacts have led to reduced livelihood opportunities. As a result, youth have been emigrating to cities and abroad, there is a continued population shift from north to south, and there are prolonged transhumance periods within the country and to neighboring Mali and Senegal, resulting in increased tensions between communities and countries.

The problems highlighted by the pastoralists of Boizyet are the excessive exploitation of bush resources, including tree felling, the massive collection of straw and the outbreak of bushfires, leading to the degradation of agropastoral areas. Women have had to take on additional livelihood responsibilities to make ends meet. Women have started engaging in sorghum cultivation, herd-rearing, and production of handicrafts and local beverages to sell on the local markets. Men have put increased effort into protecting their livestock and rainfed crops by reinforcing hedge fences.

With the emigration of men and boys, the roles of women and girls are multiplied, and their burdens are increased, especially for domestic work, work for profit (including petty trading, domestic animal husbandry [hut rearing]), and household management. As a result, women's weekly schedules are busier than men's, especially in rural and semi-urban areas.

Niger

Respondents indicated that the most significant climate change impacts in Niger's Tahou and Maradi regions are drought, extreme heat, patchy and insufficient rainfall, sandstorms, flooding, reduced grazing for livestock and wildlife (with some wildlife species reported to have disappeared), reduced flora and plant cover, the disappearance of large trees and small forests, and low agricultural production.

One respondent shared, "The causes of these changes are also due to human action (bad behavior, cutting down trees, mismanagement of natural resources, to name but a few). There are also natural causes linked to climate change itself, with rising temperatures etc. (Maradi). The regions most affected are those along the border, particularly in the north, where the wind is very strong and accentuates the advance of the desert (Tahoua). "The change is considerable, the arrival of the rains is becoming increasingly late, we notice a delay and then the rains stop very quickly. The answer to these problems requires us to change our lives." Another indicated, "Before, there was the forest, there was enough rain, and the crops produced well, there is no wind, but now, with an increased population, things changed a lot. Today, rain is rare, there is wind, and production has decreased. The current production is not enough to feed the population."

Responses to Climate Change

Institutional Approaches

Governments in each of the five countries of this study have put into place plans to address the imposing climate change challenges. In Niger, for example, policies, programs, and projects were initiated that intervene at the local level to mitigate risks associated with climate change. The government adopted several measures, such as the Rural Code, with decentralized land commissions on natural resource management, and reforestation projects which are being implemented at the local level (Plateforme des Femmes du G5 Sahel pers. comm, Direction General Environnement personal communication) Interview respondents in Mali indicated that the government, under the leadership of the Department of the Environment, Sanitation and Sustainable Development (MEADD), has adopted a national policy on climate change, backed by a national strategy, and has implemented initiatives to tackle climate change, including ratifying international conventions and agreements. The government also implements and monitors projects and programs in partnership with other national and international institutions. In line with national policies and strategies defined by the state, local authorities and CSOs develop, implement, and monitor public and/or private climate response initiatives, working together. In Chad, respondents indicated that actions by the government, NGOs, and others to mitigate the effects of climate change focus primarily on reforestation. Adaptation interventions are more focused on developing solar energy and solar cookers, and butane gas to replace fossil fuels and firewood. However, much remains to be done, especially in rural areas. Individuals in communities rely more on flood recession crops, market gardening, and alternative income-generating activities to cope with difficulties.

From the perspective of the KII interview respondents in the five countries surveyed, governments seem to be providing support around livelihood adaptation. In particular, respondents recognized government interventions in agricultural livelihoods at the local level through provisions for climate adaptation information, and investment in improved seed varieties and through land works, like building swales and trenches for managing water when the rains do come. In Mali, promising climate responses include the adoption of new short-cycle seed varieties, soil conservation techniques, reforestation efforts through dune fixation, awareness-raising, boreholes, market gardening, gravel quarries, stone crushing, and other income-generating activities.

These are necessary activities, not only for climate adaptation, but to ensure that those who currently live in Bandiagara, Mali remain able to do so. One respondent explained, “If nothing is done, these areas will be empty, especially in the villages, and here in Bandiagara. In normal times, we only have seven percent of arable land. With climate change, we have far less arable land, and the population is growing day-by-day. The scarcity of arable land is pushing people to go elsewhere, and we can see that dozens of people are dying on the Mediterranean every day.” In contrast, Banamba, Mali has comparatively more arable land than Bandiagara and, therefore, the pressures and competition for land and resources are less intense. When communities adapt through migration, this creates further vulnerabilities and pressures in Bandiagara. A respondent indicated, “The phenomenon of climate change is something that people won’t be able to control, so young people will keep on moving too.”

In Burkina Faso, the government has focused on strong resilience-oriented policies and is committed to realizing its Nationally Determined Contribution (NDC) to cut emissions and adapt to climate impacts. One respondent explained, “Resilience is the best approach: change our practices by introducing the use of new farming techniques, especially market gardening; promote soilless cultivation and new farming techniques, known as *synecoculture*, which is agriculture through ecological synthesis.” Interviews in Burkina Faso revealed an emphasis on collaboration with all stakeholders to address emerging climate problems as they exist at the micro and macro levels. One respondent explained, “We need to think together to be able to change new agricultural technologies, and seeds must be improved according to the amount of water we currently receive.” Another informant explained, “The best strategies are those that involve grassroots communities in a participatory way, that engage their responsibility, that enlighten them.” Yet, while the need for communication and collaboration is recognized, there is a lack of financial resources and capacity to ensure that this is done optimally. Another respondent explained, “Our real concern is to reach as many people as possible so that they can tackle the problem of climate change head-on, but we are limited by insecurity and the scarcity of financial resources.” From a governance perspective, there has been an effort to change people’s mindsets and behaviors around climate adaptation. While informants believe that these efforts have been well received in urban areas, the rural areas continue to pose a real challenge.

In Mauritania, a national climate change adaptation plan covers agriculture and livestock, ecosystem conservation, biodiversity and forests, water and sanitation, energy, land use planning, health, education, fisheries, and aquaculture. The government projected the investment needs for climate change adaptation through 2030 within the framework of the NDCs. The government has put in place several nature protection strategies, such as the National Wetlands Conservation Strategy and the National Strategy for the Management of Classified Forests. The Food Security Commission also started piloting a livestock feed sales and distribution program. The pastoral code is currently under review and being updated. However, implementation of these initiatives and other existing legislation remains limited due to corruption and influence peddling, according to findings. As such, NGOs are engaged in public awareness-raising activities, including around government initiatives and strategies.

While most people recognize that governments are trying to address the issues of state fragility, climate change, and gender inequity, the public has the perception that government capacity is insufficient to address the extent of these issues regionally. One informant in Burkina Faso explained, “The government is trying to provide a fairly global response, given the country's limited resources, and often the answers are not very specific.” International development institutions are largely understood to be responsible for addressing gender inequalities in the context of climate change adaptation. Informants recognized activities by UN programs like the Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP), to address the gendered impacts of climate change on food production through land restoration. They also mentioned UNDP as a critical program in the region to build social cohesion between communities and to address gender inequalities. In Burkina Faso, international organizations, like the Konrad Adenauer Foundation, are doing important work to address gender inequalities in land ownership. Community-level informants also mentioned national-level policies as trying to address gender inequality. However, they explained that local NGO and community efforts to improve livelihoods largely exclude women. With men dominating governing boards, women’s issues and concerns are often unheard. One informant explained, “Women must be involved in all

activities. It is wrong that there are NGOs where the board of your association is made up entirely of men, and they don't even talk about you. Women need to be involved at all levels, whether governmental, communal, or regional.”

Community-Based Solutions

Communities are making adaptations to support their livelihoods by adopting improved seed varieties within their agricultural production and through livestock management. In Burkina Faso, this has meant changes in livestock management practices to preserve pastureland and ensure the sustainability of their livelihoods. A respondent from the Centre Nord province of Burkina Faso explained, “We favor fattening livestock locally, and avoid transhumant distant movements of livestock. Nowadays, we prefer to have a small, well-maintained herd rather than a large one, and the first thing we do is get animals to market.” In Chad, community-based reforestation activities in the Mandoul region were reported to be particularly noteworthy, including the creation of mango orchards that not only provide shade, but also generate income from the sale of fruit. In some cases, young people work together to initiate reforestation projects, which help the community and provide livelihoods and income.

Respondents in Mauritania explained that community-based interventions have also been historically important to adaptation efforts at the local level. In Boïzyet, there are small community initiatives to mitigate the negative impacts of climate change. These include protecting grazing areas near villages, fighting against bush fires and abusive tree felling, and fencing wetlands. One respondent recalled how the community came together in times of crisis to provide support explaining, “The idea of inhabitants of Boïzyet Diaghdid coming together spontaneously to combine their efforts and help each other following the drought was a good strategy, as was the case in 2008 when a storm hit the village, destroying many dwellings, prompting them to resort to more resilient housing construction with cement and iron.” Another indicated, “Where state capacity is unable to provide support to adaptation needs at the local level, communities are forced to respond together.”

Experiences of State Fragility

In the Centre-Nord region of Burkina Faso, state fragility has evolved over time. In the past, violence and insecurity largely consisted of banditry, but many respondents recognize that most violence today consists of terrorist activities brought on by violent extremists now inhabiting the area.

While violent extremists and other armed groups were reported as extreme security factors dominating Mali and parts of Burkina Faso, with impacts in Niger, *conflicts over natural resources were consistently reported as the primary sources of violence for all the areas of the five countries surveyed by this study*. In Chad, evidence of state fragility is largely reflected in conflicts over natural resources, including conflicts between agriculturalists, pastoralists, and fishermen within the region. One informant explained, “It has to be said that climate change impacts the means of production and people's living conditions, such that people produce little when there are situations of climate change. Environmental conditions are also deteriorating, and people are increasingly at war over resources.”

One of the main reasons for conflict is land ownership and land use. Informants explained that farmer-herder conflicts were common, and that increasing desertification and drought periods have made fodder and grazing areas scarce, therefore leading to more frequent confrontations between farmers and pastoralists. One informant explained, “The causes of farmer-herder conflicts are often linked to drought and lack of grazing. Grazing is scarce, and people like to go to the edges of fields where fodder grows, because in the dry season, the wind brings a little moisture to the places where there are stones. Conflicts are also often due to the lack of respect for cattle tracks.”

Another respondent reinforced this assertion, “Climate change is leading to a lack of rain, which is causing herders to leave in search of pastures. When herders arrive, it's causing insecurity because the local farmers don't want to let them, and the herders also say that it is their land. So, this aggravates the conflicts.” Informants also discussed issues over informal processes of inheritance, where a lack of formal documentation over land ownership has created disputes between extended families. One informant in Burkina Faso explained, “In the Centre-Nord region, there are conflicts linked to the exploitation of natural resources (conflicts between farmers and stock breeders, conflicts between environmental technical services and farmers, land conflicts, and conflicts linked to the exploitation of water), as well as conflicts between traditional chieftaincies and inter-religious conflicts in Kaya here, since it's between Muslim religions over a leadership problem. People have even died over it.”

In Chad, respondents explain that climate change has led to increased competition over land and that farmer-herder conflict has increased. One respondent in the Batha region explained, “Today, an increase in population means an increase in cultivated land, resulting in the occupation of transhumance pastoralism corridors. Herders who used to move down to the central and southern regions after the harvests do so very early due to the drying up of ponds, leading some to become sedentary. What's more, some military authorities have become livestock breeders, concentrating their herds in the southern zone, which is used for agricultural purposes because of the grazing. All these factors combined are the root causes of the conflicts.” Another respondent agreed, “Climate change drives conflict in the area. The migration of nomadic pastoralists to the center and south of the country after the early drying of ponds is the main cause of farmer-herder conflicts.”

As elsewhere in the region, Mauritians also explained that most conflicts are caused by natural resource management. They explained that, while conflicts between pastoralists and agriculturalists remain common, other sources of conflict are noteworthy, such as those regarding deforestation and the charcoal economy.

In Niger, too, respondents indicate that natural resource management factors drive conflicts, which has evolved and exacerbated with the pressure on land and the scarcity of resources. One respondent from the Tahoua region of Niger linked climate change, economic hardship, and the recruitment of youth into violent extremist groups. They explained, “Types of conflict include land disputes between farmers and herders, juvenile delinquency, and terrorist attacks. Conflicts are all caused by poverty and the lack of jobs for young people. So, we can say that climate change is the root cause of conflict and insecurity. Climate change attacks the natural resources used by populations for subsistence, and when people have nothing left to do, they must find a way to survive. Hence, the birth of these conflicts. It is the cause of

all this insecurity and conflict. It creates widespread poverty at all levels, especially in the countryside.” These elements also appear to be centrally important in Mali, Burkina Faso, and Chad.

Respondents reported the variety of impacts of instability and/or conflict in the two regional areas of focus in Mali. These impacts included poverty, killings, population displacement (including waves of whole families on the move), forest cutting and bush fires, degradation of protected areas, loss of business funds, absence of the state support, lack of access to formerly accessible resources, lack of social cohesion, social fragmentation, and weakening of local authorities. Corruption increasingly contributes to issues of insecurity at the local level, as one respondent explained that elite community members will join forces with armed groups to take advantage of an opportunity to assert their place of traditional legitimacy.

Respondents further explained how conflicts are also driven by armed groups occupying land and demanding payment of taxes. A respondent in Bandiagara stated, “Villages are often abandoned by their inhabitants and are taken over by previously unknown armed men coming from nowhere. Local village chiefs and land chiefs become displaced persons, refugees, welfare recipients, and beggars, either because their resources are coveted by assailants, or to free their path from people who might denounce them.” Rural populations are the hardest hit by state fragility. In the event of insecurity, the government authorities withdraw to the regional capitals, leaving the local population without protection nor government services. When access to water and electricity infrastructure becomes virtually non-existent, inhabitants of the region have no option but to migrate to other areas. As a result, armed groups can recruit young people by force or coercion in localities where they have gained an upper hand over the local communities.

Respondents in Burkina Faso also described the challenges of economic hardship and youth recruitment to extremist groups. As climate change continues to threaten livelihoods, recruitment into violent extremist groups increasingly provides an alternative source of income. This has especially been true for male youth. One informant from Burkina Faso explained, “The causes of insecurity are poverty (in particular, vulnerable groups are easily manipulated, and this leads them to become involved with terrorist groups), high unemployment, and underemployment among young people.” Respondents in Niger report similar dynamics occurring in Maradi, where the influx of weapons within the region has allowed for the legitimacy of violent extremist groups to occupy regions and recruit youth. One Nigerian respondent from Maradi explained, “The dispersal of weapons (from Libya) has helped certain communities who feel aggrieved to take up arms and join jihadist and religious movements. Poverty has pushed some young people to join terrorist movements, if they have not been captured by force.”

While the Malian government takes civil and military action in the area to address security threats (particularly terrorist group expansion), NGOs/CBOs also have projects and programs they implement with remote communities. They do so in partnership with local leaders, including private sector actors, which have served as a model for developing innovative and successful initiatives.

Climate and State Fragility Nexus with Gender Lens

Gender provides a critical lens for observing and assessing the impacts of climate change and insecurity within the Sahel region. It also provides a critical lens for how these two social phenomena- *climate change* and *state fragility* interact with each other. In many ways, climate change has long been impacting gendered livelihoods and associated roles and responsibilities within households and communities. Women's traditional roles and responsibilities tie their livelihoods to the stability of natural resources. Desertification throughout the Sahel has increased work burdens on women and girls as they must travel farther to collect firewood and water for daily household and farming needs.

As income-generating opportunities become increasingly scarce due to climate change pressures (including crop failure, loss of non-timber forest products [NTFPs], and reduced pasturelands for livestock rearing), women's contributions to household income are increasingly necessary for survival. A direct consequence of the increased burden on women's time means that there is little opportunity for them to become involved in social and political activities, all of which reduce their chances of accessing decision-making spheres. Therefore, despite their critical roles and growing responsibilities at the household level, a respondent in Mali indicated that it is still difficult for women to emerge as decision-makers in the public arena.

In some cases, the impacts of climate change on livelihoods have led to increased violence. In other cases, social structures of power have also changed, impacting social relations within villages. One Malian respondent spoke to these changing social dynamics in the wake of climate change impacts on agricultural and pastoral livelihoods. "Some Fulani villages have fallen victim to influence peddling by cash crop farmers who have invaded their grazing land. The native Fulani leaders, the privileged, become beggars because of climate change. Certain Tuaregs pay with their lives and their well-being for their desire to remain Malian."

Gender Roles in Mitigating Impacts of State Fragility

Community respondents in Mali explained that state fragility in the region has resulted in violence that has driven gendered impacts on demographic community structures. In the study regions in Mali, men either fight or emigrate to safer areas with economic opportunities. Malian respondents explained that local communities, like that of the Wô area of Koukourou, are often forced to accept the authority of Islamic extremist armed groups that assert control over gendered roles and responsibilities in livelihood and income-generating activities. One example was that women were prohibited from working in the fields or cutting wood in the Wô area. Customs and traditions dictate that girls also emigrate, but for shorter periods than their male counterparts, to earn money. The women often remain with the children and elderly in the villages. If they do move to the nearest urban centers to seek other income-generating activities, they face significant constraints and vulnerabilities. In addition to the inequities experienced as women, they also have compounded challenges as "outsiders," which further reduces their access to adaptive resources.

Gendered roles mitigating state fragility impacts and developing responses present entry points for addressing climate and conflict challenges in Chad, by enhancing security and leadership roles for women. In Niger, there are community solidarity mechanisms for the most vulnerable: for example, if a person's herd is stolen, the villagers contribute by collecting livestock for the victim, which may even exceed the number of stolen animals. In some villages, after the harvest, women contribute cereals that are stored in case of need; they also make periodic cash payments called “*assussu*”; men also have their own support groups to help the most vulnerable. Vulnerable girls and boys are taken in by village chiefs, who place them with respectful families.

In Mauritania, respondents discussed the gendered experiences of conflict, with men handling issues of insecurity along the Malian border, while women hold a critical role in peacebuilding, both at the household and community levels. The roles of women and men within households and communities have changed due to conflict. Women have become heads of households, faced with daily household management, monitoring children's education, taking care of the family, participating in weekly markets, and contributing to community affairs. Men, on the other hand, play a greater role protecting livestock, families, and the community, and are often exposed to attacks in search of pastures and water in sometimes dangerous areas.

Conflicts between transhumant pastoralists and local populations in Mauritania have become increasingly frequent and violent as pastoralists are extending the transhumant period. These conflicts put added pressures on already limited natural resources, such as watering points and pastures that greatly affect women and expose them to violence. One respondent in Boāzyet explained that women were heavily involved in early warning and conflict management committees, particularly focused on mitigating conflict between agriculturalists and pastoralists. The government encouraged pastoralists in Toufoundé Cive to group together in a single village, “Tejemoue El Athif,” to ensure better management of the area based on agricultural and pastoral vocations. In addition, there are initiatives to establish committees for conflict management, environmental protection, and early warning. Authorities and projects in Hodh El Gharbi set up complaint management mechanisms as a conflict resolution approach, such as the nine-member conflict management committee in Gougui Zemmal, which includes two influential women. Women also work alongside the Ministry of Social Action to manage cases of rape and family disputes within the community. This committee is involved in resolving conflicts at water points during the lean season. However, respondents also explained that such committees were poorly funded and did not have the “resources for conflict prevention and management.” Yet, despite women holding roles in conflict mitigation in Mauritania, most women do not have decision-making power on these committees, and this presents challenges ensuring that perspectives of women are well represented in committee activities and interventions.

Gender Roles in Mitigating Climate Change

Given the gendered roles and responsibilities for pastoralist livelihoods (i.e., men bring animals to pasture and women produce and sell dairy products) women interface with the community and, in important ways, serve as intermediaries to agriculturalist communities and to armed groups occupying the region. One respondent from Bandiagara explained, “In pastoralism, the man is the shepherd, the one who grazes the animals. When he returns, the woman manages the products of the herd, such as

milk and cheese. They're the ones who sell the milk or barter. If you try to look at it, the women play a big role because they are more in contact with the other armed actors.” Another respondent further explained how women facilitate cooperation and mitigate conflict in the area, “The men do the grazing and bring the milk to the women to sell in the villages. So, the first contact with other communities is made by women, and when they come back there are talks, the Fulani women who sell milk are generally identified by the villagers and they automatically know that there are shepherds somewhere nearby. The men would invite them to stay in the fields after the harvest.”

In Chad, both in the Mandoul and Batha regions, women have been centrally involved in conflict mitigation through natural resource management. One respondent explained, “Women's role in the management of natural resources and conflicts through *Comités Cantonaux de Conciliation* (cantonal conciliation committees) made up of canton chiefs, village chiefs, farmers' and herders' representatives, and resource persons, are set up and chaired by the canton chiefs. Women are present in each of these committees, but do not head them. These committees have drawn up local agreements on space management and conciliation in the event of problems.” In Batha, women were more involved in leadership roles within natural resource management conflict mitigation than in Mandoul, and they served on conflict management committees.

In Mauritania, the Ministry of Environment and Sustainable Development promotes the effective involvement of women in community-based environmental management mechanisms. This policy is shared by development partners, who bring attention to gender aspects. However, men are still reluctant at the local level to effectively integrate women, and women in rural Mauritania remain highly dependent on natural resources for their livelihoods. Most women live on the land and are the primary beneficiaries of NTFPs (e.g., gum, jujube, Baobab fruit, almonds, etc.). Climate change has resulted in diminished availability of these products, linked to changing rainfall patterns with shorter wet seasons, fewer rainy days, and early drying of *tamouts* (wetlands). This has led to reduced income generation for women, forcing them to diversify their activities, which increases their burden. In addition to household chores, during the lean season, women are responsible for feeding, watering, and caring for livestock, and supplying the shepherds. Daily expenses are covered by activities, such as selling wood and coal in neighboring Senegal (from Toufoundé Civé) and selling sails and handicrafts at the weekly markets of Kobenni Moughataas (Boïzyet).

Gender and Natural Resource Management

Women increasingly hold critical roles in natural resource management in Burkina Faso. From local forestry and water management initiatives to shea butter production, women appear to be taking action to ensure the sustainability of their livelihoods through conservation and natural resource management efforts. One respondent explained, “When it comes to NTFPs, I think the main players are women. Whether it's shea butter or *soumbala*, it's women who are involved from the very beginning of collection through to processing and marketing. As a result, they work to protect these resources.” Furthermore, women leaders have been critical in communicating the importance of conservation to other women in the community. A Centre-Ouest respondent from Burkina Faso explained that a woman chief in the area—a rare occurrence in this region—encouraged women in her locality to organize to support environmental conservation and to consider the needs of the future when using

natural resources. In Mali, too, women are taking on significant roles in natural resource management. One Malian respondent explained, “Women are playing critical roles in dune fixation. There's tree planting, there's RNA (regeneration) in one's own field. These are just some of the many examples where women play important roles.” It is also the case in Mali that conservation practices, like improved cookstoves that reduce the use of firewood, have developed an economic industry that drives training, commerce, and sustainability within the region. One respondent explained, “With women, we have popularized the use of metal fireplaces. We have trained blacksmiths to produce metal fireplaces that women buy. These fireplaces are more efficient and last longer. We are developing alternative income generation to enable women to buy fireplaces.”

Emerging Themes from Interviews

The study also revealed important sub-themes that have become more pronounced under the impacts of climate change and state fragility. Common themes from each of the cases explored in this study include women's migration for economic reasons and forced displacement due to violence. In many of the interviews, a recurring sentiment was that women were leaving rural areas. This exodus of women from rural areas was seen as necessary, but a negative change, as women were exposed to different types of vulnerabilities in urban areas where they were moving. Other critical themes that emerged from interviews included health vulnerabilities and disparities in access to equitable care, as it interfaced with environmental impacts of climate change (including concerns about nutrition and water quality), transhumance movements causing increased conflicts, and violence brought on by violent extremism due to state fragility within the region.

Gendered Demographic Change: The Impacts of Transhumance Governance, Economic Migration, and Displacement on Civil Society

The research shows that transhumance practices are changing due to climate change and state fragility. One respondent from Chad explained, “Before the 1980s, herders used to move down from the north to the southern part of the country after the harvests to take advantage of grazing and watering points and would leave again when the rains arrived to avoid insect-borne diseases. Since the 1980s, these pastoralists have been moving down more than usual, due to the drying-up of ponds and the disappearance of fodder in the northern part of the country due to climate change. Some have even settled down.” In Mauritania, respondents reflected on how transhumant movement has been changing for decades. One explained, “For a long time now, and worsening with the onset of drought since 1984, thousands of head of cattle and groups of men, women, and children have been leaving the northern Hodh El Gharbi every year, heading south to the Kobenni area, then returning to Mali in search of pasture, and returning in the rainy season to the pastoral areas of the north via the villages of Boïzyet.” This has contributed to increased conflict in Boïzyet.

In Chad, respondents explained that these changes in practices have coincided with women becoming more involved in livestock ownership and governance of pastureland. Ultimately, this has resulted in

women organizing around the management of the transhumance corridors. One respondent from Chad explained, “The Société de Développement de la filière Karité (SODEFIKA) has set up the Comités Cantonaux de Conciliation (cantonal conciliation committees), which have local agreements on land management and are made up of men and women who work to manage conflicts.”

In Niger, despite efforts by the land commission to regulate the use of land, transhumance governance has become increasingly difficult with climate change. One Nigerien respondent explained how this practice has changed over time. “A date is set in each region to clear the fields and facilitate the passage of the herds, but climate change has changed everything. With the disappearance of vegetation cover in certain localities and of watering places, the herders return before the date when the farmers have not cleared the fields. When the herders return early, they create conflicts with farmers that are often very bloody.” Still, as in Chad, the officials interviewed for this study explained that there has also been greater cooperation, as pastoralist women increasingly own livestock through government programs in Niger. They explained, “The women control the animals and take them to the grazing areas, ensuring that passage corridors and grazing areas are respected to avoid conflicts with the farmers. They often coexist well with the farmers, selling them milk and butter and buying millet and bran for them and the animals.”

This research shows an interesting dynamic happening in the Sahel regarding demographic change. In some cases, as experienced in the study regions in Chad, respondents reported an increased feminization of the region, with women being left behind. Increasingly, women are becoming the heads of households, in the absence of men who have traditionally held that role. One respondent in Chad explained, “Climate change has led to the drying up of ponds in the northern part of the country and the disappearance of grazing land, forcing herders to descend to the south in search of water and pasture. Men can defend themselves better than women. Some flee or die, leaving women and children to suffer. The number of female heads of household has been increasing for some time, with the death or flight of husbands due to conflict. There is a risk of this situation worsening in the future.” Without interventions to support women in these changing demographic scenarios (i.e., where men are absent and women are now livelihood providers, household heads, and in some cases, decision-makers), they may be exposed to vulnerabilities of violence and poverty. In Niger, respondents from Tahoua also reported women having increased demographic proportion in the province, with men either killed or displaced and women and children left behind. One respondent explained, “The men are either killed or displaced, while the women and children are left to fend for themselves. More than 80 percent of the refugees in Tahoua are women who came with bare feet and nothing in their hands.” One respondent in Maradi, Niger echoed these concerns for the vulnerability of displaced women who are migrating, explaining, “They [women] are vulnerable and exposed to all forms of abuse and exploitation, and may even be trafficked. Climate change is a major factor in migration, due to the weakness of agricultural production and its impact on people's standard of living.” In Mauritania, a male absence in the villages interviewed for this study also resulted in changing roles and responsibilities for women as they became heads of households. One Mauritanian respondent explained, “With the emigration of men and boys, the roles of women and girls are multiplied, and the burdens are increased, especially for domestic work, work for profit, petty trading, domestic animal husbandry (hut rearing), and household management. As a result, women's weekly schedules are busier than men's, especially in rural and semi-urban areas.”

In contrast, in other regions of the Sahel, such as Burkina Faso and Mali, respondents reported the displacement of women from rural areas, particularly from areas impacted by armed conflicts and extreme insecurity. In Burkina Faso, displacement of communities continues to emerge as a critical area of concern. While it has been widely observed in the global south that climate change has driven male out-migration from the rural areas to find alternative livelihoods, in the Sahel, the overlay of conflict in the context of climate change has made migration and displacement much more complex. On the one hand, the interviews indicated that the displaced are largely women and children in Burkina Faso. One informant from Burkina Faso explained, “Due to the insecurity, many women have been widowed and therefore, were forced to take on the role of family. Many are victims of violence (verbal and physical) and when you go to the sites of the displaced, I can assure you that apart from the children, it’s the women. There are no men.”

On the other hand, there is a paradox that social conditions make it incredibly difficult for women to move. One informant in Burkina Faso in the Centre-Nord region explained, “Women are the most vulnerable. If we say move over there, the man just gets up, it’s his feet. But the woman, she may be pregnant, she may have a small child she’s alerting, she may have two or three grandchildren and the woman can’t run without taking something with her. So, they’re the most vulnerable. They pay the heaviest price.” Another continued, “It’s the same with water. At our level, we organized a pump repair training course, and more women than men came to learn how to repair pumps. As many as two women left a remote village called Pensa to come here, because they were the ones who repaired their pumps in the village. This means that when the terrorists come, they spoil the pump and leave, and after that, it’s up to the women to repair it. So here you can see that the role has been reversed.” Therefore, it is likely that while men have the means and flexibility to move in anticipation of a violent or climate-related event, women are only able to do so when the situation becomes absolutely necessary, after the event has occurred, exposing them to greater vulnerabilities.

Finally, economic reasons are driving migration for youth, in particular. The rural exodus of young men and women has been significant within the region and is a seasonal strategy used by families to manage their livestock. One respondent from the Mandoul province of Chad explained, “In the Mandoul province, the most frequent form of migration is the rural exodus phenomenon, where young girls and boys leave for the major urban centers, especially N’Djamena or the northern part of the country, in most cases to work in the home. Most of the time, the boys are accused of theft and sent to prison or dismissed without pay. As for the girls, they are often raped and return to the village with children, thereby increasing their suffering and that of their parents. However, there are cases where these young people return and change their living conditions. These migrations are prompted by poor-quality soil that does not produce enough, the devastation of fields by herders, and inter-community conflicts. There are only a few cases of those who return from the cities with fine clothes and so on.” In Bandiagara, respondents spoke about how youth migration increases women’s vulnerability. One respondent explained, “Here, people want to feel better. Especially the girls, it’s our mothers who push them to migrate to fetch wedding dowry from the age of 13 to 15. They’re already promised to someone at an early age. Unfortunately, they often come back pregnant or with incurable illnesses.” As a result, financial hardship drives young women to search for economic opportunities in the city. One respondent explained, “So, in search of a better life, people go to Bamako, Sikasso, or to the gold-mining areas, otherwise there are resources here, such as quarries and sand. All this is due to the lack of jobs

and poverty, otherwise, if they had permanent jobs in their villages they would stay.” Some local officials have invested in land for young women to farm so that they can build livelihoods in Bandiagara without having to leave for economic reasons. Respondents explained that these areas for farming are not just for young women local to the area but are also for IDPs who earn incomes working in the gardens.

Climate Change and State Fragility Impacts on Health and Mental Health of Local Communities

Water quality remains a critical issue and has worsened because of severe climate events, such as drought and flooding. In Niger, respondents reported malnutrition as a critical impact of climate change in the country, explaining that it leads to child malnutrition and poor maternal health of pregnant women, at times resulting in miscarriages. In the Bandiagara region of Mali, respondents reported that minerals in the water contribute to kidney and heart illnesses and that the persistent presence of pathogens in water sources causes typhoid infections. Since drinking water resources have become increasingly scarce, and because the collection of water continues to be a highly gendered responsibility, women and girls bear the physical burdens of traveling further for water collection. One Malian respondent explained, “As the villages have no water points and the women have no rest, they exert themselves too much, often suffering fractures and dislocations on the way to fetch water. Due to climate change, there is often abundant water for two days, and then water can be scarce for 15 days.” In Chad, too, respondents reported diseases, like malaria and cholera have worsened with increased incidents of flooding, which they attributed to climate change. Chadian respondents emphasized that not only humans, but livestock were also susceptible to diseases brought on by flood events and temperature changes. Finally, Mauritanian respondents also expressed concerns that climate change was impacting food security in the country, ultimately impacting nutritional outcomes for vulnerable populations; this is reflected in a decrease in the quantities consumed and a decline in food and nutritional diversity. Respondents explained how women appear to be especially sensitive to the risks of hypertension and diseases related to reproductive health.

Climate change impacts on vegetation have also created barriers to accessing and implementing herbal medicinal practices that have long been used to support community health, particularly as weak state health institutions are unable to effectively reach rural communities. One Malian respondent explained, “This compromises Indigenous solutions that communities have been developing for millennia within the framework of traditional medicine, while the use of medicinal plants is an established practice in our region.”

Respondents in all countries discussed the physical health burdens brought on by climate change and the mental health challenges. A common theme was the sense of despair climate change has evoked as agricultural and livestock productivity has declined. One Malian respondent explained, “Climate change affects mental health, because in a family, when you grow crops and harvest, you can’t feed the family for three months. This can lead to depression in some heads of household. You have your crop that you see invading water, all the plants are spoiled and that’s what brings depression to people.” The response to this inability to provide for the household has produced mental health concerns, however, respondents explained that the ways in which these mental health challenges manifest are highly

gendered and linked with social norms around masculinity. One Malian respondent explained, “Men are affected in terms of mental health because they lose it when they can't provide for their families. It's like castration. In his home, if he can't provide for his family's basic needs, he becomes violent, and develops illnesses that he himself can't even explain.” While men are experiencing this loss of identity linked with livelihood roles and responsibilities, women also suffer because of the violence these mental health crises can cause. A respondent further explained, “Poverty makes you bitter and everyone becomes aggressive and violent. Both men and women are affected, but women are the hardest hit.” In Mauritania, this same sentiment was also expressed by respondents. One pregnant woman explained, “At the beginning of rainy season, my house was destroyed by a violent storm. My husband, who has just arrived, doesn't have enough money to repair the damage or build a new home.” She explained that environmental crises, like those she had experienced, cause a significant amount of stress, and affect her mental health.

The trauma of violence within the region due to state fragility has created a real need for mental health services. One Malian respondent explained that the mental health impacts are widespread in the Bandiagara region, “Someone who had relatives or victims of this violence, or if we only hear cases of attacks, see mutilated people, charred villages, women stripped naked and cut into small pieces. Even at the level of self-defense groups, there are people who went crazy because when they left, they were not prepared for it. When they saw dead people, they were traumatized by what was done to their loved ones. Not only self-defense groups, even our military suffer there too- just by seeing obscene acts. Children and women are the most affected by conflicts, they are the most vulnerable during attacks, and the most exposed too.” Yet, despite the real need for mental health interventions, there is a lack of capacity by states in the region to fully support this growing need. At the same time, social norms around mental illness present barriers to services for those who need care across each of the five countries.

Priority Case Study Findings on the Triple Nexus and Opportunities for Engagement

Five case study assessments for Chad, Niger, Mali, Mauritania, and Burkina Faso are summarized below. Case studies were identified and developed focusing on local initiatives demonstrating progress, approaches, or lessons learned regarding how to address climate change, gender equity, and state fragility challenges in the region. The following table outlines the case studies, key topic areas, and findings.

Table 3: Key findings from Triple Nexus case studies

Case study Title	Key Findings
<p>“Accessibility to water and land for vulnerable people in the Centre-Nord region, Burkina Faso”</p>	<p>Women, young people, and children are the most vulnerable to climate change and insecurity in the Centre-Nord region of Burkina Faso where they make up the majority of IDP populations. They are mainly influenced by conflict dynamics because of their IDP status. Women and young girls are discriminated against in relation to social and economic opportunities: particularly regarding their access to land. In the case of IDPs, the demographic pressure induced by their arrival has amplified tensions over access to land, water, and other natural resources. Increasing competition for land has led to a proliferation of conflicts and speculation over land, the main factor of production and support for human existence. With climate change, rain is scarce, rivers are dry, ponds and dams have no water, say key informants. This situation makes life very difficult for people and animals. Women and girls' queue for hours to fetch a tiny amount of water, which is often insufficient to meet their families' daily needs. Thousands of people live in precarious conditions, without water for drinking or washing. In this context, conflicts over water points are frequent, and remain a factor in the deterioration of social cohesion. The security crisis, which has had humanitarian consequences due to the massive influx of internally displaced persons (IDPs), has led to increased pressure on existing water points, causing tensions. Programming considering these factors and women-led initiatives for water management are urgently recommended.</p>

Case study Title	Key Findings
<p>"Toda, a committed community: Climate change and the promotion of peace through the status of women in a volatile security environment, Niger"</p>	<p>Maradi region, once known as the "Grenier du Niger," is witnessing environmental degradation due to climate change (gradual drying up of ponds, soil, depth of the water table), which has severely affected agro-sylvo-pastoral and fisheries production; continued environmental degradation linked to climate change, as well as human activity (populations occupying areas destined for cultivation and grazing) are severely impacting the area. This is also affected by insecurity in the southern part of Guidan Roundji and Madarounfa; all these transforming factors are depleting natural resources and compromising human development. In Toda, a Peul village/group in the Gidan Roundji department, conflicts between farmers and herders are frequent and can often degenerate and affect the whole community. Interlinkages of Climate, gender, and security in the Toda area of the Maradi region are examined: <i>What role can women play in resolving agricultural-pastoral conflicts and climate change? Climate change is caused mainly due to human action (cutting down trees, over exploitation of natural resources, etc.) with rising temperatures due to global emissions. Conflicts often occur between farmers and herders, which generally occur at the end of the agricultural season. Regarding interventions, there are ways of tackling conflicts: the government has set December 31 as the date for clearing the harvest from the fields, and it's important to respect this date. With the change of season, some people are asking for date to be reviewed. Maradi has significant human capital and levers that can be used to mitigate the negative impacts of climate through intensive farming that adapts to climate change, better application of land tenure strategies and the promotion of gender equality. In this context, security remains a challenge, and the region needs strong support from the central government to secure.</i></p>
<p>"Influence of conflict and insecurity on climate change mitigation and adaptation initiatives in Badiangara and Banamba areas of Mali"</p>	<p>Mali, under the leadership of the Department of the Environment, Sanitation and Sustainable Development (MEADD), has adopted a national policy on climate change, backed by a national strategy, and has implemented several projects and programs to make them operational. In addition, several sectoral strategies have been drawn up under the guidance of the MEADD, notably for agriculture, water,</p>

Case study Title	Key Findings
	<p>energy, transport, and cooking. With the support of the international community, initiatives have been taken in the areas of natural resource management, gender mainstreaming, and conflict management linked to the negative effects of climate change in Mali. However, in recent years, these strategies and other initiatives at community level have struggled to be implemented due to the extreme multidimensional security, political and economic crisis in Mali particularly in Bandiagara and Banamba. The team reviewed local community-based initiatives in Bandiagara region focused on: 1) dune fixation, 2) baobab planting, 3) community sale of livestock feed and initiatives in Banamba region, 4) consolidation of transhumance corridors, and 5) local land commissions. The team examined how this reduction in climate change mitigation and resilience activities leads to environmental degradation and persistent conflicts between different sectors and social strata, with an observed negative impact on the well-being of women and children compared to men in the communities. Through this case study, the team provides insight on the triple nexus factors, generates lessons learned from these local progressive climate mitigation/adaptation and stabilization programs, and outlines opportunities to rehabilitate and reestablish programs and reduce future vulnerabilities.</p>
<p>“Climate change adaptation, cohabitation between pastoralists and farmers, and promotion of gender equity in Toufoundé Civé, Gorgol region, Mauritania”</p>	<p>The Gorgol region of southeastern Mauritania is greatly impacted by agro-pedoclimatic constraints, insecurity, and growing poverty due to the population's low capacity to adapt to climate change, and difficult cohabitation between herders and farmers. The Toufoundé Civé area is one of the regions most affected by the security crisis and <i>is particularly hard hit by the phenomenon of seasonal transhumant herders</i>. Finally, the problem of inequalities and disparities between men and women are particularly acute in Mauritania. The women of Toufoundé Civé are well organized and dynamic due to the existence of many local CSOs, committed to the fight against poverty through the promotion of community development. The pressure of pastoralists on water and forests has contributed to the desertification of the area and the constant disturbance of farmers. Conflicts between transhumants and natives of the Toufoundé Civé transit and reception areas, as</p>

Case study Title	Key Findings
	<p>well as with local authorities, are becoming increasingly frequent and violent. Positive initiatives to address pastoralist-herder conflict includes: 1) the government has encouraged pastoralists in Toufoundé Cive to group together in a single village, "Tejemoue El Athif," to ensure better management of the area and reduce herder-agro conflicts, 2) local initiatives undertaken include protection of grazing areas near villages and fighting against bush fires and abusive tree cutting; and 3) dispute management committees have been set up to help settle disputes. In the villages of Toufoundé Cive and Tejemoue El Athif, women do not formally hold decision-making positions on dispute management committees. Yet, women are still the backbone of the transhumant community. An exciting example is the women members of the Djokere Endam cooperative, a large market garden for widowed women in Toufoundé Cive, who liaise with community leaders of the transhumant and nomadic pastoralists in El Athifes to manage frequent conflicts linked to the livestock movements. Persisting challenges include the following: the Toufoundé communities have never received any training in gender or gender-sensitive programming; in the Toufoundé Cive district, there are no management positions held by women, but women do hold positions as councilors in the municipality, teachers in the communal schools and a nurse at the health post; difficulty cohabitating between the town of Toufoundé Cive (host population) and transhumant and nomadic communities; lack of coordination between communities to ensure rational management of natural resources in the Tifoundé Cive district; and women are not formerly involved in the management of natural resources due to a reported lack of customs and ignorance of their rights. In practice, however, women often help resolve conflicts and consolidate peace and social cohesion. Despite the practical progress, there is still a strong need for better formal role and recognition of women in the various programs of Tifoundé Cive.</p>
<p>“Women led development of the fishing industry in Lac Fitri area of Batha region, Chad to strengthen the</p>	<p>In northern Chad, rising temperatures have caused ponds to dry up, forcing nomadic pastoralists to concentrate in the central and southern parts of the country, thus increasing the frequency of inter-community conflicts. Insecurity caused by terrorism in the Lake Chad area has also led people to migrate</p>

Case study Title	Key Findings
resilience of local communities to climate change”	<p>to Lake Fitri, Batha Province which has had a negative impact on local populations. In addition to the impacts of climate change and insecurity on crops and soil productivity, demographic pressure has also led to decreases in arable land, often encroaching on transhumance corridors, resulting in conflicts that create widows and orphans, making women and children even more vulnerable. Women find themselves alone with the burden of children and the household, yet they are not educated and are vulnerable to abuse. Islamic law, with its restrictions on rights of women and girls, is strongly applied in the area, and makes women even more vulnerable and widens the gap between men and women. Women's organizations are engaging in fish processing in Lac Fitri area to improve their economic and conflict mitigation conditions. These women, although very motivated, are inadequately trained and lack the equipment needed to produce quality smoked and dried fish. Supporting the development of the Lac Fitri women-led fish industry is perfectly aligned with addressing the challenges of the triple nexus, as it will strengthen the resilience of communities in the face of climate change, reduce the risks associated with farmer-herder conflicts, and empower women.</p>

Summary Conclusions

Differences Between Men and Women

The men and women in Batha and Mandoul provinces that were met with as part of this study are aware that the Chadian Government State is making efforts in conflict prevention, but much remains to be done. The local and traditional authorities the researchers met clearly understand the links between climate change, security, and the vulnerability of populations, especially women and children, and have even made proposals, such as the creation of artificial ponds for livestock, grazing areas, and the development of related activities for the well-being of local communities.

In Mauritania, men tend to focus on problems linked to the reduction of open spaces for grazing, due to livestock pressure and the multiplication of illegal fences preventing access to pasture for pastoralists. They also complain of the pressure exerted by foreign fishermen who fish in the streams, causing the early drying up of the ponds (as in the case of the Déylana tamourt at Toufounde Civé and the Charié tamourt at Boizyet).

The men report an increase in conflicts resulting from the watering of animals, poaching, and unauthorized fishing outside the catchment areas, putting enormous pressure on the water table and depleting groundwater. They also express concern about the phenomenon of cattle rustling and the disfiguring of animals by criminal gangs. The men also complain about the abusive cutting of wood by charcoal burners, who illegally clear forests under the pretext of agricultural development.

Women are more likely to highlight specific problems, such as the disappearance of NTFPs, which used to be collected by women to sell at the market and feed their children. They also point to the remoteness of water sources, which is a hardship for accessing drinking water. The women say they have been forced to seek alternative activities, such as sewing veils, to meet the basic nutritional needs of their children, who no longer have access to the forest products that used to be freely available in the wild. In addition, access to wood for cooking has become difficult due to the remoteness of supply sources.

The following important citations by local respondents reflect key components of local understanding and perspectives on climate, gender, and state fragility interactions as well as opportunities and approaches to address these challenges.

Burkina Faso

- *“The climate/conflict/gender link is a major challenge. It's all so intertwined, so mutually exerting that you can't separate them.”*
- *“So, peace begins in families, and if there's peace in all families, there won't be war outside.”*

Niger

- *“Women are much more vulnerable than men, especially when it comes to conflict. Their roles have evolved over time, with women playing a major role in conflict mitigation. In the future, women will be at the heart of development and will be involved from start to finish in everything that concerns the country and the region.”*

Chad

- *“The earth lives off the rain and mankind lives off the land.”*

Mauritania

- *“At the beginning of the rainy season, my hut was destroyed by a violent storm. My husband, who has just arrived, doesn't have enough money to repair the damage or build a new home.”*
- *“Climate change has exacerbated sexual violence (three cases of rape were reported) in 2022,”*
- *“Influence peddling and corruption are the weapons most frequently used by the predators of the natural environment.”*

Mali

- *“To do something for me without me is to do it against me.”*
- *“When it's one person, there's one vision; with two people, there are two visions.”*

Recommendations for Policy and Programming to Address Climate Change, Gender Equity, and State Fragility in the Sahel

A series of policy and programming recommendations for USAID, governments, local authorities, and local communities are outlined below based on the above findings of the Sahel Triple Nexus study conducted in Chad, Mauritania, Burkina Faso, Mali, and Niger.

Recommendations from Local Stakeholders

Table 4: Recommendations made by local stakeholder respondents in the Sahel countries surveyed

Country/Region	Recommendations
Burkina Faso: Centre-Nord/ Centre-Ouest	<p>In Burkina Faso, the primary solution suggested is to raise awareness about the benefits of gender equity for household stability in times of environmental crisis or violence. This means investing in education campaigns that target men in addition to women, so that they see how equality within the household will improve their ability to respond to these social, political, and environmental shocks that continue to challenge the region. While informants recognized that these efforts for improving awareness of gender equity were already being led by international development institutions and national government, they need to be reinforced at the local level.</p> <p>A remarkable and telling response to the perception of women’s role in conflict and insecurity in the Centre-Nord region is as follows: "If the woman discourages you, it won't go far, but if she encourages you, it will go far. We learned from the FDS that there was an attack in Barsalogo where when the terrorists were shooting there. The women were there, they were praising them, we have to kill them." Respondents indicated that strategies are needed to address this type of women’s involvement inciting violence.</p>
Niger: Tahoua/Maradi	<p>Creation of hydro-agricultural schemes, building boreholes, creating income-generating activities for women. We're creating everything that</p>

Country/Region	Recommendations
	<p>can change aridity to humidity. The WFP program constructed half-moons to recover degraded land. This reclaimed land is reforested. (Tahoua)</p> <p>Support vulnerable people through social programs. For example, the state sells cereals at moderate prices and even distributes them free of charge. Organizations, such as WFP, also intervene during the lean season through activities, such as cash for work, cash transfers, and the distribution of super-cereals, especially for children and nursing or pregnant mothers.</p> <p>Reinforce girls' schooling and create income-generating activities for women (Tahoua)</p> <p>Implement education and training for women and men, strengthening women's economic capacities and resilience through income generating activities (IGAs). Specific support is needed for women, for example, in livestock farming, and for men in agriculture, as well as awareness-raising, which is often cited by informants. (Maradi)</p> <p>Community involvement and awareness about the challenges of climate change, insecurity, and the status of women is very high in the Tahoua and Maradi areas surveyed. The local populations would like to see better development of policies that promote the integration of young people and that advance women.</p>
<p>Mali: Mopti/Koulikourou</p>	<p>“Climate change is getting worse and there's no doubt about it. The current adaptation strategies and solutions that people have developed are good strategies. For example, people are developing techniques concerning land degradation, such as stone bunds, Zai, half-moons, and composting. Regarding other sectors, crops are no longer enough, so market gardening activities must be developed.” (Bandiagara response)</p> <p>“Activities that are already underway must be continued. For example, there were fruit trees that people ate, but all these trees are dead. There is malnutrition and market gardening can be a solution to this malnutrition and to food insecurity, while also helping to increase women's incomes. IGAs have to be developed. There are places where you can't do market gardening or the water table is 90 meters away, so in these places, it is better to develop hiring because there is potential for that. You have to see their circles, what they are already doing, and what can be improved.” (Bandiagara response)</p>

Country/Region	Recommendations
	<p>No doubt, women are the pillar of society, at the beginning, the middle, and at the end of everything. Therefore, the involvement of women at all steps of community development should be addressed for appropriate growth, success, and sustainability. Most often, women leave the floor to men to make decisions, but unfortunately, if we miss opportunities to consult, discuss, and consider/integrate women’s points of view, sustainable progress will not be possible. This fact should be understood and put into practice by managers permanently. There are also male opinion leaders and religious leaders who are highly respected and when they say a word, 90 percent of people fully respect what they say. Especially women play a very important role when they are given the floor, but if not [given the chance], they say nothing. Between them, with complete freedom, women will speak, but publicly, in a meeting, they are almost silent even though they know what is needed, or what needs to be done for the village or for the family. Conflicts will be significantly reduced, and peace quickly and sustainably restored by empowering and giving roles to both a man or a woman, men of worship, opinion leaders, religious persons, the community authority, and find/build a platform of meeting to exchange/discuss to involve all the stakeholders. (Badingara response)</p> <p>“Most conflicts are related to climate change issues. So, if we overcome or mitigate the impacts of climate change, I think it will strongly reduce conflicts. For example, instead of doing traditional extensive agriculture, which requires a lot of space, we should motivate farmers to implement intensive agriculture using reduced land using best practices: equipment, improved seeds, fertilizers, weed/insect killers, and expect high yields and good quality crops. Some grazing areas were also grabbed because of drought, which can be spared. Many NGOs have included climate change mitigation aspects in their programs. We have specific programs, such as trees planting (i.e., baobab) for communities as collective work. Regarding livestock, we have projects concerning the sale of livestock feed. To help them adapt to climate change, breeders have asked us for support with livestock feed.”</p> <p>In the past, relations were friendly, fraternal, and there were even Fulani cooperatives who could leave their animals to feed when they went to a Dogon village to get supplies. Unfortunately, this activity is no longer continuing as many Fulani villages totally moved from the Bankass area and none of these Fulani villages exist today, but the Dogon villages do exist and continue with cattle feed. In the villages, upon many meetings, agreements were made for consensual management of grazing area and clearing the transhumance tracks. This involved communal authorities, the prefecture, and the whole community. After several awareness workshops, people agreed</p>

Country/Region	Recommendations
	<p>to release the track. Because of insecurity, we have had to postpone this activity. We have only released three tracks to date; the remaining will be done when appropriate, in accordance with security issues. (Bandiagara response)</p> <p>There are many answers to conflicts that are very generally linked to climate change. What shall we do? Today, many techniques/approaches are well-known regarding climate change: fight against it, mitigate it, adapt to it; all these responses should properly apply to the field conditions. Then, one can decide to apply specific technique or a combination of techniques. For example, a field previously grown with rice can be reverted to grow vegetables if it covers the requirements. In addition, the choice of cash crop will help us achieve our goal of "increasing production and productivity" to generate more income and give a voice in the community decision-making process.</p> <p>This is also valid for implementing a combination of techniques. We must adapt to that, and it is also valid for climate change adaptation. In relation to the degradation of the plant cover, there are a lot of reforestation campaigns. In all NGO programs, there is a component on reforestation and protected areas. These areas lead farmers to apply Natural Generated Assisted (GNA) techniques for new assisted regeneration, which allows them to keep in the fields, the plants that they can use themselves. Even for the recovery of degraded lands we have witnessed in certain areas next to the stone barriers, next to the Zai, half-moons we do the sowing of certain species, which will first occupy the area. If we see that the cultures can be installed now, then we put them in. Many are being done in this area, in the case of sowing, these are grasses, especially thorny ones, which pick up easily. Here, the thorny ones adapt very quickly, especially trees, such as balanites, jujube, balazan, and acacias. (Bandiagara)</p> <p>For conflict management, since 2008 the NGO, AFAD, has set up land conflict management commissions, which must settle all conflicts at the community level to preserve families ties without going to court. These commissions must ensure the proper management of natural resources. There have also been other organizations that have strengthened communities to better manage natural resources and social conflicts. For example, in Madina Sacko, two families did not agree about a plot/land of culture and would like to take legal action, but the actors of justice kindly asked them to meet first with the land conflict management commission for advice and then make a final decision. (Benamba)</p> <p>Interventions of some NGOs, including AFAD, CSPEDA, AEDD, ADRA, AMAIL, Mercy Corps, are helping to address hunger, improve economic</p>

Country/Region	Recommendations
	<p>capacity of local communities and address social inequalities. These structures do their best to support communities with measures to adapt to and mitigate the impacts of climate change. This enabled the financing of income generating activities for women, the creation of pastoral tracks, the deepening of ponds, and the establishment and support of land conflict management commissions in some municipalities and villages. (Benamba)</p> <p>“Regarding the conflict between herders and farmers, communities must be made aware of reasons and consequences of conflicts; grazing areas must be established for herders and must be demarcated from the fields, and transhumance corridors must be created. In relation to climate change, it is necessary to motivate and create a tree forage planting area, and to encourage farmers to plant trees and use improved early seeds and agricultural best practices techniques. In relation to equity, it will be gratifying to fund income-generating activities for women, young people, and men.” (Benamba)</p> <p>“Strengthen the resilience capacities of communities by supporting them in acquiring potable and sustainable water sources, such as boreholes, for domestic activities and production activities. To date, these activities are based on wells, which dry up more and more. So, that limits their activities and their means of subsistence. So, we are striving to strengthen resilience capacities by supporting the development of sustainable and paid water sources, the rational management of water through drip irrigation systems, and the popularization of renewable energies, such as solar, solar equipment for energy production and even for lighting. Also, it is important to raise awareness for behavior change, considering women's rights and human rights in general. (Benamba response to solutions on gender inequity)”</p>
<p>Mauritania:</p> <p>Gorgol/ Hodh El Gharbi</p>	<p>Strengthen protection against domestic violence. Women need to register marriages, set marriage requirements, and ensure that they are respected.</p> <p>Community resilience is very limited, as they are not aware of livelihood protection mechanisms. Women and youth need training and support to master the skills needed to sustain their livelihoods, particularly regarding nature protection, animal care and fattening, and technical capacity building around nursery planting and crop cultivation.</p> <p>Women do not have an active voice in natural resource management and are unaware of their rights. Organize awareness campaigns around the importance of women’s role in climate change to improve gender</p>

	<p>equity. In Boïzyet, this would include encouraging greater participation of women in wetlands protection.</p> <p>To promote the inclusion of women in leadership positions, the following initiatives should be pursued:</p> <ul style="list-style-type: none"> ● Engage men in promoting women leadership; ● Lobby administrative authorities and community leaders in favor of women’s political participation; ● Strengthen literacy and school enrollment programs for girls; and ● Introduce a quota system requiring participation of women in decision-making positions. <p>Regarding climate change adaptation, several approaches could be considered:</p> <ul style="list-style-type: none"> ● Install water points; ● Reforest and apply forest classifications; ● Fence crops and wetlands; ● Create other transhumance corridors, particularly in the south; and ● Arrest and prosecute those engaging in illicit activities impacting the environment, such as charcoal burning, sand extraction, and tree cutting.
<p>Chad: Batha/Mandoul</p>	<p>“Trends point to a worsening situation. We therefore need support from our partners and the State to develop projects to support the development of irrigated crops, the fish industry, and to improve access to micro-credit.” (Batha)</p> <p>“The creation of artificial ponds and water points can considerably reduce farmer-herder conflicts. Large-scale reforestation projects throughout the region can help improve rainfall throughout the region.”</p> <p>“Organize women into cooperatives for agricultural production and development of the shea butter sector, agricultural activities using compost, and the development of other income-generating activities. We need to develop programs and projects to help empower women, including facilitating access to micro-credit.” (Mandoul)</p>

Country/Region	Recommendations
	Artificial ponds need to be created to enable the development of market gardening . The State must develop a strategy to protect rural communities . (Mandoul)

Recommendations from Interviews with USAID Implementing Partners

The following recommendations were made during interviews with USAID implementing partners currently working in the Sahel region in relation to addressing climate, gender, and state fragility nexus challenges.

Burkina Faso

Recommended activities include:

- Supporting state institutions’ responsiveness to the needs of the population;
- Promotion of social cohesion and conflict mitigation activities that prioritize traditional and community-led systems; and
- Climate adaptation and impact mitigation.

Chad

Emphasis should be placed on community-led programming. Recommended activities include:

- Capacity building on conflict management and prevention;
- Support to the review and publicization of legislation, particularly around natural resource management and climate resilience;
- Increasing women’s participation in activity development; and
- Support economic reinsertion of women coming out of militia groups.

Mali

Activities should focus on empowering local communities, and having communities engaged in program design. Recommend activities include:

- Exploring traditional mechanisms on natural resource management;
- Initiatives to increase animal feed supply;
- Income generating activities for foraging groups; and

- Land management activities such as water supply management and creation of livestock corridors.

Mauritania

Activities should take a community-based approach and include:

- Educating men on the benefits of gender equity;
- Support access to education and leadership training for girls and women;
- Campaigns to end child marriage; and
- Support to farmers and pastoralists.

Niger

Program implementation should consider how to engage the government and align it with government objectives, prioritizing community-based interventions. Initiatives should be inclusive of marginalized groups. Consideration should be given to promoting pastoralist integration and land restoration programs.

Recommendations from Analysis of Surveys

In complement to and building upon the recommendations outlined above on policy and programming suggested by the study, local stakeholder respondents, and USAID implementing partners, the study team provides the following recommendations from the in-depth analysis of study findings on local, transboundary, and regional scales. This combined set of recommendations is presented to help inform USAID and other U.S. government entity discussions, strategy, and future programming in the Sahel and to promote effective responses to climate change, address gender inequity, and contribute to improving state stability across the Sahel. These recommendations for programming interventions align with meeting the objectives and policy frameworks of the U.S. Strategy to Prevent Conflict and Promote Stability commitments to West Africa, The U.S. Women, Peace, and Security Strategy, USAID's Integrated Country Strategies for Burkina Faso, Chad, Mali, Mauritania, and Niger, USAID's Climate Strategy, and USAID's Gender Equality and Women's Empowerment Policy.

New Triple Nexus Sahel programming design and support would also benefit from synergies with the new related USAID-supported programs in the region, including USAID's Strengthening Regional Peace and Stability in West Africa and USAID mechanisms, such as Programming for Prevention and Peacebuilding (P4P2)¹⁸ and USAID's Fragile Waters program. The design of USAID's future programs in relation to climate, gender, and conflict in the Sahel, and the recommendations of this study should also gain from considering USAID lessons learned regarding resource-related conflict, and land, water, and

¹⁸ <https://www.usaid.gov/about-us/organization/conflict-prevention-stabilization/center-conflict-and-violence-prevention>

peacebuilding solutions¹⁹ as well as related thought leadership initiatives, such as the Berlin Climate and Security conferences.²⁰

¹⁹ <https://www.newamerica.org/future-land-housing/events/frontiers-global-opportunities-for-strengthening-resource-security/>

²⁰ <https://berlin-climate-security-conference.de/en/climate-change-and-human-security-building-integrated-early-warning-systems-increase-resilience>

Table 5: Key observations and recommendations

Study Key Observation	Recommendations
<p><i>The primary source of violence in the areas surveyed are natural resource-related conflicts exacerbated by pressures and scarcity due to climate change and insecurity.</i></p>	<p>The triple nexus case studies demonstrate various interventions (and identify potential interventions) requiring specific support and/or removal of obstacles to address, prevent, and mitigate conflict over natural resources and to develop responses on climate change adaptation and mitigation.</p> <p>Review and prioritize provinces and specific areas in each country for natural resource management conflict mitigation and prevention program design and implementation. Women-led and community-based interventions should be a fundamental requirement for funding and implementation. Review local context and specific linkages between local natural resource conflicts, gender inequities, corruption, and vulnerabilities to violent extremism as part of the scoping exercise and project design.</p>
<p><i>How to best support communities and local governments on natural resource management and conflict prevention and mitigation in the context of climate change and state fragility <u>with moving populations</u> (IDPs, seasonal and permanent migrants, transhumance pastoralism, and movements in relation to shifting security fronts)?</i></p>	<p>Design and support community-based, gender sensitive, and progressive programs on natural resource management and conflict mitigation programs that are explicitly intended to address the needs of vulnerable people in moving populations, and those who are sedentary, but hosting and receiving transit or in-migration groups. These programs should consider seasonal and conflict-related movements, both within countries and transboundary and regionally.</p>
<p><i>How to best support women and girls in the context of changing gender roles in the Sahel region?</i></p> <p>Scenario a). Areas where men have left (migrated, died), and women have remained and are taking on stronger leading roles and responsibilities as heads of households and communities (e.g., as reported for some areas of Mauritania, Niger, and Chad).</p>	<p>Design and support programs for women and girls tailored to the context of changing gender roles and evolving dynamics within those contexts. For example,</p> <p>Identify and mobilize rapid support and training for women on natural resource management, livelihoods, and skills development in locations where women are taking on leadership roles and added responsibilities for households and communities.</p> <p>Design programs to support women and girls who have been forced to move, addressing their vulnerabilities to abuse, and creating safe and supported local</p>

Study Key Observation	Recommendations
<p>Scenario b). Areas where women and girls have moved (from their home areas) due to conflict- and climate-induced hardships, and are now more vulnerable (e.g., areas of Mali and Burkina Faso).</p>	<p>environments, including access to land, water, education, and health care, considering mobility. Programs should also be designed to support and promote safe movements from stricken areas to “safe” zones, particularly for women and children.</p>
<p>The study identified that the movement of boys and girls to urban areas often resulted in high vulnerability for abuse. Young boys in Chad were reported to be forced into “labor” as livestock attendants.</p>	<p>Undertake location-specific vulnerability assessments to provide a better understanding of boys’ and girls’ vulnerabilities in specific contexts in the five study countries (building on observations from this study). Based on additional investigations, specific programs should be designed to address migration concerns and to create incentives and opportunities to remain in rural areas, including climate responses.</p>
<p>Youth were found to be very aware, well informed, and motivated to engage in efforts to mitigate and adapt to climate change in several areas surveyed (e.g., Mali).</p>	<p>Prioritize, design, and support specific programs with strong youth involvement and opportunities for growth, economic development, and leadership. These programs should include both stand-alone programs and clear components of multi-faceted climate and conflict mitigation programs.</p>
<p>The study observed that local conflicts over natural resources and the impacts of climate change on conflict and poverty, have important implications for countering extremist group expansion in the region.</p>	<p>Future programs must recognize the importance of local natural resource management conflicts, climate change, corruption of local authorities, and resulting economic hardships in creating vulnerabilities of local communities to violent extremist group coercion and recruitment.</p> <p>Prioritize the design of local programs to address these vulnerabilities as part of stabilization and security approaches for the region. New programs should explicitly take into account the role of women and girls at every level, including encouraging or discouraging violence and non-cooperation or cooperation with violent extremists.</p> <p>Specifically investigate and design responses to the new approaches being developed by violent extremist organizations to coopt and gain support from local, vulnerable communities. For example, JNIM and ISSP reportedly control large portions of</p>

Study Key Observation	Recommendations
	<p>protected areas in the Park W Protected Area (WAP) complex (Niger, Burkina Faso, and Benin border area) and grant land and natural resource access to local communities and transhumance pastoralists. They also employ local residents in illegal activities (i.e., trafficking, mining, poaching, illegal grazing, etc.) in exchange for intelligence, recruits, and local political support.</p> <p>Design and develop robust community-based natural resource management and conservation programs that both anticipate and prevent violent extremist expansion, while also countering and recovering areas that are vulnerable to such extremist group control and coercion. Support the identification and resolution of conflicts and grievances between governments and local communities over natural resources and access to land and economic opportunities to enhance state stability and reduce vulnerability to violent extremist groups.</p> <p>Integrate lessons learned on security, governance, and conflict mitigation from USAID-supported Northern Rangelands Trust (NRT) community conservancy management in northern and coastal Kenya supported into programming interventions in the Sahel region. NRT has been very successful with community-based programs, including in highly volatile and conflictual areas that are potentially vulnerable to Al-Shabaab jihadist expansion. Incorporate relevant lessons into Sahel approaches for stabilization, natural resource management conflict mitigation and governance, and conservation-security approaches.²¹</p> <p>Reviews of conservation and security interactions in Sub-Saharan Africa have elucidated the positive impact protected areas and conservation can have in fostering security and governance in remote areas. These initiatives can provide strong platforms for women’s empowerment in natural resource management and law enforcement. Lessons learned from the EU-supported study on conservation and</p>

²¹ <https://www.nrt-kenya.org/>

Study Key Observation	Recommendations
	<p>security interactions in Sub-Saharan Africa (Elkan et al. 2019) should be incorporated into Sahel strategies and programming to secure vulnerable remote protected area spaces in a manner that is sensitive to community needs and reduces vulnerabilities to coercion by Jihadists. This includes supporting initiatives in remote ungoverned spaces, such as neglected protected areas and transhumance corridors, to monitor, manage, and promote governance through natural resource management and conservation programs in these highly vulnerable areas.²²</p>
<p><i>Transhumance pastoralism has been seriously impacted by climate change and insecurity throughout the region, resulting in conflict from competition with farmers, changing movement patterns, and suspicions of (or links with) violent extremist groups. The role of women in communicating and engaging with local farming communities and between transhumance pastoralists and armed groups (through the bartering and sale of milk, meat, and other products) provides an important opportunity to improve gender equity and conflict mitigation.</i></p>	<p>Design specific programs, including interventions at local, transboundary, and regional interventions scales, to explicitly support and amplify the key role women play in transhumance pastoralist society, particularly in communication and conflict mitigation with local sedentary communities and armed actors. The critical role of local women from agriculture communities in communicating with transhumance groups and other armed actors should also be recognized and reinforced by implementers in conflict prevention and mitigation programs. Case study examples from Chad, Mauritania, Mali, and Niger reveal approaches and opportunities to inform the design of local, transboundary, and regional interventions on transhumance pastoralism for adaptation, conflict prevention, and stabilization through a gendered approach.</p> <p>Investigate and design programs to address information/disinformation about the connections between transhumance pastoralists and violent extremist organizations.</p>

²² <https://op.europa.eu/en/publication-detail/-/publication/d7e2d9a7-4bc5-11ea-8aa5-01aa75ed71a1/language-en>; <https://globalinitiative.net/wp-content/uploads/2023/05/ Anto%CC%82nio-Sampaio-Eleanor-Beavor-et-alReserve-Assets-Armed-groups-and-conflict-economies-national-parks-west-africa-May-2023-web.pdf>

Study Key Observation	Recommendations
	<p>Implementers should also engage transhumance pastoralists, recognizing the potential role and source of insecurity they may play.</p> <p>Complement these programs with various interventions to coordinate and support conflict mitigation and transhumance and climate change predictions tools. Study respondents strongly emphasized the critical importance of locally designed and developed approaches for increased likelihood of adoption and effective implementation.</p> <p>Develop regional programming to engage transhumance pastoralists, support conflict mitigation initiatives with local communities, detect and deter transhumance cooperation with jihadists, and engage transhumance pastoralists in rangeland and protected area management programs. Employ a spatially explicit mapping exercise to identify the highest priority areas and top candidate transhumance pastoralists for program interventions.²³</p>
<p><i>The mental health impacts of climate change and state fragility on households was clearly reported across the survey areas. Men are particularly affected by the lack of ability to economically provide for their families due to conflicts and climate change, which results in mental illness (e.g., depression and sense of loss of identity as a man). Women also suffer as men under mental illness conditions often become violent.</i></p>	<p>Design and implement specific awareness raising and interventions to address mental health needs, particularly targeting vulnerable men and to women subsequently exposed to GBV. These programs should be designed in relation to climate change impacts and they should prioritize areas most greatly impacted by climate change and conflicts, which results in greater economic stress on households. Program design should consider the provision of psychotherapy services and violence prevention interventions to treat people acutely suffering from mental health problems, while also supporting interventions to address the root causes of the crisis, for example, providing opportunities for dignified revenue generation for both men and women.</p>

²³ https://www.researchgate.net/publication/369619295_Protected_areas_and_pastoralists_in_West_and_Central_Africa_Challenges_and_opportunities_in_the_21st_century

Study Key Observation	Recommendations
<p><i>Climate finance opportunities in relation to Sahel triple nexus.</i></p>	<p>Design of climate, gender, and state fragility nexus programming will benefit from funding allocations and opportunities for potential private sector partnerships, nature-based solutions, and green financing in the Sahel. Each of the five countries surveyed is suffering from severe climate impacts which also present opportunities for both mitigation and adaptation programs. While investments (in relation to climate but also more broadly) need to be carefully and spatially planned in relation to governance, armed conflict and insecurity, the opportunities for stabilization gains and countering extremists, justifies forward leaning “risk tolerant” investments in program development, particularly with remote vulnerable communities.</p> <p>High-value NTFP value chain support, such as for shea and gum, present opportunities for private investments in locally led women’s cooperative initiatives for economic development and stabilization in the Sahel.</p> <p>Nature-based carbon projects, although scrutinized on methodologies, are now being piloted in savanna ecosystems and rangeland management schemes,²⁴ as well as more established forest ecosystem REDD+ projects. This presents significant savanna grasslands opportunities for Sahel countries for green financing and revenue generation. There are also opportunities to develop important REDD+ (avoided deforestation) and wetlands climate mitigation projects in the region. Implementers should also explore biodiversity conservation financial certificates to conserve all habitat types (i.e., wetlands, savannas, and forests) in relation to local biodiversity conservation and climate initiatives.²⁵</p>

²⁴ <https://www.nrt-kenya.org/news-2/2022/12/16/the-northern-kenya-rangelands-carbon-project-a-community-based-climate-solution-10-years-in-the-making>

²⁵ <https://www.goldstandard.org/blog-item/gold-standard-collaborate-organization-biodiversity-certificates>

Study Key Observation	Recommendations
	<p>USAID’s Africa Trade Investment initiative²⁶ and USAID’s Climate Finance for Development Accelerator²⁷ are potential robust mechanisms available to support climate mitigation and adaptation initiatives.</p> <p>To assess support needs and opportunities in each of the five Sahel countries surveyed, program designers should explore USAID’s and the State Department’s support to governments on nature-based solutions, plans for meeting NDCs, National Adaptation Plan development, carbon market establishment and management. Within this broader Sahel context and in synergy with USAID and the State Department, the U.S. International Development Finance Corporation (DFC) may also be able to play a role, security and political status permitting, in certain Sahel countries to catalyze private sector green investments in clean energy (i.e., wind, solar, and green hydrogen), as well as carbon and biodiversity protection and financing programs, and high-value NTFP and agriculture value chains.</p> <p>Adaptation credits and payments/financing are also an important potential opportunity for the Sahel region’s response to the climate, gender, state fragility nexus challenges and opportunities.²⁸</p>
<p><i>The most cited reasons that some individuals perceive alternative dispute resolution opportunities with violent extremists and other armed groups includes grievances involving land claims extortion of transhumance pastoralists in exchange for access and other forms of corruption by different authorities in remote rural areas.</i></p>	<p>Improving rule of law in remote areas, particularly by fighting corruption by local authorities (both state and traditional), is essential to gain the trust of local communities and deter cooperation with violent extremist groups that may be perceived as less corrupt or as providing alternative means for grievance resolution. Border areas, natural resource exploitation zones (e.g., gold mining), and</p>

²⁶ <https://www.usaid.gov/ati>

²⁷ <https://www.climatelinks.org/projects/cfda>

²⁸ <https://www.wri.org/insights/adaptation-finance-explained>; <https://thehill.com/opinion/energy-environment/3639363-a-radical-idea-to-fund-climate-adaptation-globally/>

Study Key Observation	Recommendations
	<p>transhumance corridors (where pastoralists often pay bribes for access and passage) are hot spots for such corruption.</p> <p>Program interventions should consider the development and enforcement of government codes of conduct for local authorities, anti-corruption training, and support to government to monitor local authorities and put in place transparent and safe complaint mechanisms to detect and deter corruption. Implementers must strongly promote the lead role of women and gender equity in these processes. Anti-corruption programs in relation to transhumance pastoralism, natural resource management, and land conflict resolutions should be among the top sectors for engagement. Redressing underlying grievances over corruption and/or perceived injustices should be included in strategic approaches, along with prevention.</p>
<p><i>Policy frameworks to address gender inequity and climate change are in place in each of the five Sahel countries surveyed, with varying degrees of recognition and application. Burkina Faso, Niger, and Mali seem to have particularly strong gender equity policy frameworks. Study respondents indicated that despite having policies in place, Mauritania and Chad have particularly more entrenched societal gender inequities, and thus, their policy implementation to promote gender and women roles is less advanced in those countries compared with the other three countries.</i></p>	<p>Overall, the study observed that gender equity policy frameworks are largely in place in the five countries. Therefore, future programs should emphasize policy implementation and connecting national-level entities in charge of supporting and monitoring policy implementation, with local entities and authorities implementing at the regional, provincial, and department levels. Chad, for example, has a central civil society body (Cellule de Liaison et d'Information des Associations Féminines) that should be supported in realizing its role and connecting with local initiatives. Policy and monitoring support for both Chad and Mauritania will help encourage and foster gender equity policy applications and in both urban and rural areas.</p> <p>Regionally, both G5 Sahel and ECOWAS have formal strategies and policy frameworks through which Sahel country initiatives can draw support and which provide opportunities for regional-level support. Some potentially useful and important structures to engage with for future programming include the Sahel Regional Gender Strategy and the G5 Sahel Regional Women's Platform (and their action plans) and associated national women's chapters. While the G5 is currently</p>

Study Key Observation	Recommendations
	<p>under political crisis and currently no longer functional, these previously established regional gender equity strategies and structures provide additional support opportunities for Sahel country-level policies and structures, with some guidance and potential for formal coordination.</p> <p>Similarly, the ECOWAS Commission and Member state governments have made commitments to ensure gender integration and to empower women in peacebuilding efforts, and have adopted the Women’s, Peace, and Security Guidelines. The ECOWAS Committee on Social Affairs, Gender, and Women Empowerment provides a mechanism for regional engagement and support to national processes.</p> <p>Study respondents emphasized the need and priority to support local community-led programming, which is the recommended priority emphasis for new USAID programming.</p>
<p><i>Conflict over natural resources, exacerbated by climate change, were reported during this study as the primary source of violent insecurity in the Sahel region. Effective programming will require flexible and coherent regional environmental and stabilization interventions that take into account transboundary and regional factors, as well as complex and dynamic bilateral relations.</i></p>	<p>It is recommended that USAID design, develop, and mobilize new programming for regional environment and natural resource management for the Sahel region, with a focus on natural resource management conflict prevention and management, climate change mitigation and adaptation, addressing gender inequity, and enhancing state and local governance stability. Technical approaches and design of the new program should be tailored to the Sahel semi-arid/arid environment, biodiversity and ecosystems, conflict and security situation, climate change impacts, and gender specificities of the region.</p> <p>Approaches from NRT Kenya, and other USAID-funded savanna and wooded-savanna ecosystem programs in difficult operating contexts in Africa may be useful to inform future program interventions. The new USAID “Sahel Environment, Gender Equity, and Peace Program” would also benefit from structures and governance lessons learned from USAID’s Central African Regional Program for the Environment</p>

Study Key Observation	Recommendations
	<p>(CARPE)²⁹ and the West Africa Biodiversity and Low Emissions Development (WABiLED) Program.³⁰</p> <p>Synergies and cooperation between the WABiLED initiative and new Sahel program efforts should be ensured, given the transboundary linkages between the Sahel countries and littoral states of West Africa. Vulnerable, remote protected areas in the northern parts of the littoral states (e.g., Ivory Coast, Guinea, and Ghana) should also be considered for similar environment, gender, and peace programming support in transboundary synergy with Sahel country initiatives. These Sahel and littoral site-based initiatives will yield significant direct and indirect security and stabilization, as well as climate and gender equity benefits, including countering and preventing violent extremist group expansions.</p>

²⁹ <https://www.usaid.gov/central-africa-regional/central-africa-regional-program-for-the-environment>

³⁰ <https://wabled.exposure.co/>

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