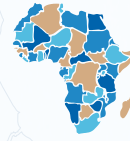# PROMISE, PERIL AND RESILIENCE:

VOICES OF AGROPASTORALISTS IN AFRICA'S BORDERLAND REGIONS

United Nations Development Programme,
Africa Borderlands Centre

December 2022

Agropastoralist, Gao, Mali

↗ FOREWORD

No corner of the world is spared from current global crises. Economic shocks, public health crises, or climate emergency are upheaving societies and communities across the globe, and Africa is no exception.

When faced by crisis, home and family come first for most people around the world. Securing a safe place to shelter, enough food and resources to survive and maintaining a sense of well-being through life's challenges are our first priorities. These are also the priorities of communities in the most remote and isolated parts of Africa, those living in borderland areas.

However, for borderland farmers and pastoralists, resources and actions to secure these basic human are uniquely different. Better understanding their specificities enables community leaders, governments and development actors to support them with the right push that will enable them to lift themselves up and build greater resilience to natural hazards and human-made shocks they are vulnerable to.

By listening to many of these rarely accessed communities, and by showcasing the innovation, creativity, and potential that people and nature abound with in these border areas, we can design and lead more effective actions towards thriving communities and fast-growing local economies.

This report "**Promise, Peril, and Resilience: Voices of Agropastoralists in Africa's Borderland Regions"**, produced by the United Nations Development Programme's Africa Borderlands Centre constitutes a wealth of insights to build better programming and make sure our development actions are relevant and efficient.

Ahunna Eziakonwa

United Nations Assistant Secretary-General, UNDP Assistant Administrator and Director of the Regional Bureau for Africa

Through direct testimonies from agropastoralists living in Africa's borderland regions, communities describe their strengths and vulnerabilities; detail the current challenges of rising forced displacement, intensified climate change, increased violence and conflicts; and explain their strategies to overcome these trying experiences. For borderland farmers and pastoralists, prolonged exposure to adverse environmental, economic, and social conditions has diminished well-being, intensified conflict within and among communities, and reduced livelihood prospects for farmers and herders.

Their detailed accounts of their values, history, practices, and priorities provide a roadmap toward improved development solutions that can better support the innate resilience of agropastoralist communities in Africa's borderlands.

This study's uniqueness also stems from its breadth of insights, a large number of respondents, and its geographical scope spanning across multiple locations in eight countries – Burkina Faso, Ethiopia, Kenya, Mali, Niger, Nigeria, South Sudan, and Uganda.

In addition to this report, visual and audio testimonies of agropastoralists sharing their lives in borderland regions are gathered in a full multimedia catalogue and an exhibition, which I invite you to explore.

You will discover how access to markets, cross-border trade, and sustainable peacebuilding systems are often predicated on strong community ties, which allow for constructive dialogue and exploring mutually beneficial opportunities together.

This report also shows how mobility is fundamental to these dynamics. As communities explain, free and safe movement across borders is not just a strategy to cope with vulnerabilities: it also maintains family and community ties, allows trading of goods and services, and creates opportunities to improve livelihoods.

Overwhelmingly, however, these areas tend to be underserved by national institutions and characterized by conflict and endemic poverty. Basic services are lacking in many borderland areas, diverting human and economic capital that could be used more productively. While this report is a testimony of agropastoralists' extraordinary resilience and capacity to adapt, it also demonstrates the need for States and governments to step up services in communities feeling disenfranchised.

Recommendations shared in this report offer solutions identified by the communities themselves and policy and programmatic interventions for authorities and other actors to consider. They include incremental but high-value changes in basic governance and service provision, with the potential to transform the lives of hundreds of thousands of borderland inhabitants. They focus on scaling up existing efforts and improving coordination between local and national levels of government.

As explained by communities themselves, borders are not barriers but magnets that keep families together, encourage trade, and improve the quality of life. Governments and development actors can make significant impact by better understanding and leveraging the potential of communities living across borders and reinforcing rather than breaking the indelible bonds that deeply run through centuries of our African history.

Dr. Zeynu Ummer
Senior Chief Technical Advisor/Team Leader
UNDP - Africa Borderlands Centre

↗ ACKNOWLEDGMENTS

Agropastoralist from Morinyang Village, Kaabong Uganda

⤴ CONTENTS

↗ LIST OF FIGURES

↗ LIST OF TABLES

↗ ABBREVIATIONS AND ACRONYMS

ABC	Africa Borderlands Centre
ACLED	Armed Conflict Location & Event Data Project
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank Group
AUC PAPS	Africa Union Commission, Political Affairs and Peace and Security
COMESA LO/AU	Common Market for Eastern and Southern Africa, Liaison Officer, Africa Union
COVID-19	Coronavirus Disease 2019
CRS	Catholic Relief Services
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
GDP	Gross Domestic Product
GPS	Global Positioning System
ICT	Information Communication Technology
IIAG	Ibrahim Index of African Governance Index Report
IGAD	Inter-Governmental Authority on Development
LNOB	Leave No One Behind
NGOs	Nongovernmental Organizations
OLS	Ordinary Least Squares
OSBP	One-stop border post
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
UNDP	United Nations Development Programme
UNSCEB	UN System Chief of Executive Coordination Board
USAID	United States Agency for International Development
WGPDD	Women & Gender Policy and Development Division
WANEP	West Africa Network for Peacebuilding

Herdsboy tending cattles at the Kraal, Uganda

↗ EXECUTIVE SUMMARY

This report is based on direct testimonies from agropastoralists[1] living in borderland regions of Africa. The evidence has been collected objectively and systematically to allow the research participants to explain how they live their lives, to describe the vulnerabilities they face, showcase the sources of their resilience and, crucially, to highlight how they overcome the challenges of living in the borderlands.

The report draws on a mixed methods approach utilizing quantitative and qualitative research, as well as a wide range of visual representations of agropastoralist life captured during the research interviews. The quantitative research involved a survey of 1,042 agropastoralists interviewed in 55 sample points across eight countries – Burkina Faso, Ethiopia, Kenya, Mali, Niger, Nigeria, South Sudan and Uganda. The sample points were chosen due to their proximity to international borders, typically within 30 kilometres of a border. The dataset is unique regarding the breadth of insights from agropastoralists, the number of respondents and its spread across multiple locations in East and West Africa.

The quantitative analysis is integrated with insights gained from the qualitative research. The qualitative research involved a mixture of focus group discussions and in-depth interviews with agropastoralists. In total, 92 participants took part across all eight countries. In addition, the fieldwork teams also interviewed 62 key informants.

The power of this research is that it challenges oversimplified notions of borderlands as simply lawless, peripheral or harsh places to live. This is not to deny people's many vulnerabilities, ranging from conflict to climate. These vulnerabilities are often a result of an absence of basic services – a lack of electricity, or difficulty accessing clean water or the absence of state security. Indeed, very few places exist in the world where the intense scarcity of such basic services would be tolerated. Yet, agropastoralists have strong attachments to their homelands; they demonstrate remarkable adaptability to living in rugged terrain and enduring vulnerabilities. They also have a clear sense of how they would like things to be different to help them live better lives.

Perhaps one of the most striking findings from the research is that the vast majority of agropastoralists wish to remain in their home area. They cope with and overcome many of the challenges they face. Three themes underpin this resilience – family, labour diversification and mobility.

Family

Labour diversification

Mobility

---
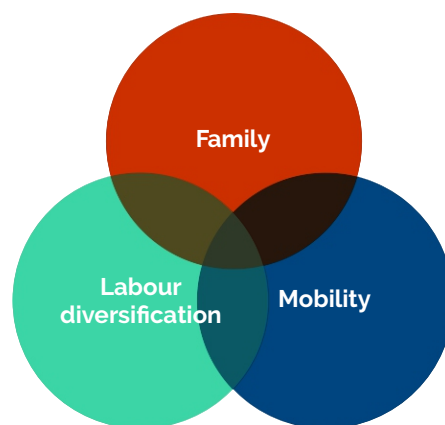
[1]In this report, "agropastoralist" is defined as an individual or family that relies on growing crops and/or herding as their source of livelihood.

To a large extent, the **family** is the first and most important support mechanism, providing safety, economic support and well-being in the context of the challenges that agropastoralists face. This is reflected in the hierarchy of reasons why people in the borderlands move across communities and borders. Agropastoralists move for a variety of reasons, including to maintain family and kinship ties, build and maintain social capital and to diversify economic activities in ways that enhance their livelihoods. The most common reason for crossing international borders is to visit relatives, and closeness to family is the key anchor for wanting to live in the borderland regions. When people face economic problems, they rely primarily on their families for help. Families support individuals to exploit opportunities and provide services and protection in the absence of adequate services by the state.

Individuals and families in the agropastoral borderland communities demonstrate high levels of **labour diversification** in how they live their lives, particularly in response to economic challenges. This means individuals utilize different skills at different times of the year or, increasingly, benefit from innovation and technology to adapt how they farm or practice animal husbandry.

Mobility is fundamental to existence in agropastoral communities. It is used as a strategy to deal with vulnerabilities, for example, when people are driven from their homes or lands by, for instance, conflict or climate-related disasters. More often, though, mobility is about accessing markets and trade and benefitting from opportunities to improve livelihoods.

Community Leader, Moroto, Uganda

The key findings of this research reveal that:

⬈

○ Cross-border movement is a significant feature of life in the borderlands. One in four respondents had crossed an international border in the last month, and almost half had done so in the last 12 months. People move for family and trade reasons, often to access markets or services unavailable on their side of the border, or in response to conflicts and disasters.

○ A majority of respondents feel safe (62 percent) when crossing an international border, and protection provided by government is the most common safety mechanism. While on one hand the inadequate presence of government creates vulnerabilities for those trying to move, at other times when border officials are present, agropastoralists face harassment or even extortion by police or other border guards.

○ Most agropastoralists struggle to buy basic goods and few make enough money to save. Diversifying income sources and relying on family and community support are key coping mechanisms.

○ Lack of adequate governance (limited state presence and service delivery) is a feature of life in many borderland areas, exposing agropastoralists to greater vulnerabilities. While agropastoralists demonstrate high degrees of adaptability and resilience in the context of limited state presence and service delivery, the state needs to step up and meet its core obligations.

○ Basic services are lacking in many borderland areas, and this makes life difficult and diverts and limits human and economic capital that could be used more productively.

○ Providing services in borderland regions requires tailored and innovative solutions – building on strong community engagement and coordination between governments at the local and national levels and across borders (a regional approach). Agropastoralists require greater responsiveness from the state to deliver the services and levels of representation they need.

○ Encouragingly, most people (55 percent) feel safe where they live, in contrast to the broader national and regional picture that pinpoints a deterioration in governance and security in Africa. The perspectives of respondents may reflect the sample location (bias) or the existence of relatively safe areas in Africa's borderlands. Overall, much more can be done to reduce conflict and provide more secure lands in which agropastoralists can thrive. The benefits of tackling conflict are wide-ranging; not only does it provide security for

individuals and families, but it supports communities to benefit from services and enhances mobility for more trade.

⊙ Agropastoralists are worried about environmental changes, including extreme climate events, and the negative impact these may have on their lives and livelihoods. While successes in reducing conflict have been creating a virtuous circle to empower lives, vulnerabilities around climate impact, especially in relation to water, threaten to create a regressive cycle.

⊙ Although Agropastoralists in African borderlands rely on generations of experience in adapting to changed circumstances, they can still benefit greatly from new technology and innovation and in fact new technologies may be essential to ensure that borderland communities obtain adequate basic services, such as security and water.

Recommendations ↗

The recommendations in this report are based on the evidence collected through the research and cover policy and programmatic interventions required of government and other actors. Using a regional lens that incorporates strengthening cross-border cooperation provides a good foundation for a comprehensive approach to reducing the vulnerabilities of agropastoralists in Africa. Starting with small changes – often focused on providing basic services and improving governance – would have the potential to be transformative to the hundreds of thousands of Africans who call borderlands their home.

Policy ↗

The following are specific policy recommendations for the African Union and its Member States, regional economic communities, the United Nations system, civil society organizations and community-based organizations.

1. Embrace and facilitate cross-border mobility, as the capacity to criss-cross borders is fundamental to borderland life, as a strategy to deal with vulnerabilities, access markets and trades and improve livelihoods.

2. Prioritize a 'regional lens' in addressing the needs of borderland communities. A regional integration lens could expand the range of stakeholders by incorporating the leadership of borderland communities, agropastoralist associations, cross-border trader associations, civil society organizations, the private sector, government ministries and departments, security forces and local government institutions.

3. Be 'borderland sensitive' by acknowledging borderlands as unique socio-economic and geographic entities requiring dedicated policies and engagement strategies. This would mean formulating and aligning national and regional borderlands engagement strategies that explicitly articulate the opportunities of borderland regions.

4. Evolve new narratives about borderland regions as zones of opportunities, inter-cultural exchanges and regional integration. This could involve highlighting the contributions of borderland communities and agropastoralists to economic production, regional integration and efforts to address transnational security threats. It can also provide incentives for private sector engagement and investment.

5. Promote agropastoralism as a socio-economically successful livelihood form while supporting economic diversification as a critical source of resilience for agropastoralists.

6. Recognize and support alternative, non-state service delivery mechanisms in borderland communities, including using traditional institutions, occupational groups, cooperative societies, youth groups and civil society organizations as major service providers.

7. Strengthen local governance systems in borderland regions to enhance the presence and visibility of the state and service delivery. Adapt and optimize local government systems for borderland regions through identifying clearer forms of representation and consultation, establishing accountability mechanisms and boosting service delivery capacities.

8. Prioritize climate-change adaption in borderlands. Invest in data, research and infrastructure to support the ability of borderland communities to cope with the impacts of climate change. Use research and data collected for evidence-based policymaking and planning and to guide strategies for achieving sustainable development goals in the region.

Programming

1. Explore programmes that support sustainable agriculture and livestock production in borderland regions.

2. Facilitate environmentally sustainable production systems, anchored on shared ownership of assets and facilities for agropastoralists and harmonious co-existence.

3. Support cooperatives and promote access to credit and finance for borderland agropastoralists and traders, and promote private sector investments in agropastoralism.

4. Install catalytic small-scall infrastructure (in water, energy, health, education and agropastoral storage and processing) to support the economy of borderlands and value chain enhancement.

5. Promote a regional approach to conflict and security management in borderland regions. This could involve efforts to enhance the capacities of local conflict resolution mechanisms and foster reconciliation and social cohesion in local, cross-border and regional border communities.

↗ INTRODUCTION
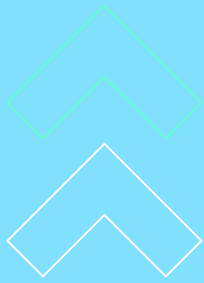
CHAPTER
01

Background

Agropastoralists living in borderlands of West and East Africa exhibit enormous creativity, innovation and economic potential. The regions contain both human and natural resources that underpin and support communities. Nevertheless, these borderlands have challenges, including the lack of state support, armed conflict and insecurity, and often harsh and unpredictable environmental conditions. People's mobility between different jurisdictions provides further complexity to daily existence in agropastoral communities near borders.

The exposure of farmers and pastoralists to adverse environmental, economic and social conditions has generated a complex web of adverse vulnerabilities, leading to widespread conflict and insecurities that rob communities of their full potential. Extant data and insights from the survey undertaken and other anecdotal evidence point to the fact that agropastoral communities in Africa face harsher socio-economic, political-security and environmental conditions, relative to the national average. For example, "while several African countries have made impressive gains in reducing extreme poverty since 2010, 1 in 3 Africans – 427 million people – still live in extreme poverty. It is even more difficult to reach those remaining in extreme poverty, people living in fragile contexts and those in remote areas who are all at risk of being left behind." Without dedicated policy attention and investments, borderland communities face the prospect of being "left behind" in progress towards achieving the Sustainable Development Goals (SDGs) and national development agendas.

The focus of much of this research is to understand how agropastoralists adapt to and demonstrate resilience when faced with multiple vulnerabilities. In recent years, the concept of resilience has gained popularity among policymakers and international donors concerned about the consequences of climate change and repeated humanitarian crises on local livelihoods in Africa. One strand of the literature argues that African societies are culturally predisposed to be resilient to internal and external shocks. This view is shared by much of the border studies and mobility literature, for whom agricultural and pastoralist societies have responded to climatic and political changes by developing innovative patterns of social and spatial mobility since precolonial times. The "spatial factor" approach in African history, for example, argues that the flexibility of traders' social networks allowed them to adjust to changing market conditions during and after the colonial era. The resilience of African societies is also at the heart of the "mobile space" approach in geography, initially developed to analyse how farmers and pastoralists responded to droughts in the Sahel and later formalized to reflect the primacy of mobility in the spatial organization of the region.

Why borderlands?

Borderlands matter for a variety of reasons.

01 First, a potential risk exists that agropastoral borderlands could be left behind in national, regional and global efforts aimed at achieving sustainable development, especially the SDGs. The Africa SDG Index and Dashboards

---

[2]SDGCA, 2021, p. 3.
[3]Little and Peak, 2014.
[4]Boesen et al., 2014; De Bruijn et al., 2001; Gagnol, 2012; Köhler, 2020; Turner et al., 2014; Walther and Retaillé, 2015, 2021.
[5]Engel and Nugent, 2010; Howard and Shain, 2005.
[6]Retaillé, 1989.
[7]Retaillé and Walther, 2011, 2013, 2014.

Report 2020 acknowledges the existence of serious challenges, with most countries performing poorly, including struggling to tackle all kinds of inequalities. The major challenge for African countries includes demographic imbalance and inequalities, ineffective governance arrangements and unaccountable institutions, weak statistical systems, inequalities and discriminations, and shocks and fragility. The report also notes that "geographical location leaves people behind and open to vulnerability and inequity social and economic opportunities, health services, human security, and quality public services because of their place of residence, especially those found in hard-to-reach areas. Most of the data disaggregated by rural and urban shows that the rural population is more disadvantaged." Borderlands are among those hard-to-reach places and addressing geographical inequalities will be key to achieving all-inclusive progress in sustainable development.

02 The difficulties and challenges facing people living in African borderlands are well documented, and the multi-dimensional, multi-layered nature of these challenges often constitute a problem, potentially making borderlands a difficult space to fully understand by researchers. Borderlands are characterized by farming and pastoralism, with some households practising one or more of pastoralism, farming and trading in the agricultural value chain. Such economic activities can lead to farmer-pastoralist conflicts over natural resources for their livelihoods. In addition to the competition for resources, further vulnerabilities impact all who live and work in the borderland regions, in particular lack of access to basic services, such as clean water, adequate health facilities and electricity. Other vulnerabilities include shocks arising from extreme climatic events such as drought, flash floods and locust invasions. All these can be features of life and these threats have led to the continual disruption of livelihoods and the increased vulnerability of borderland residents. The effective management and transformation of the challenges associated with agropastoral borderlands are central to progress towards attaining the SDGs in most African countries.

03 Borderlands are central to realizing progress in women's and girls' rights and socio-economic empowerment. The reality of women constituting a significant population in the borderlands indicate, on the one hand, the possibility of women and girls being the most affected (and being left behind) by the challenges in those communities. For example, it is estimated that up to 30 percent of income inequality is due to inequality within households, especially between women and men, and "there is an overall decline in maternal mortality in most African countries, but women in rural areas are still up to three times more likely to die while giving birth than women living in urban centres." And on the other hand, it suggests that

---

[8]SDGCA, 2021, p. IX.
[9]Ibid, p. 3.
[10]Ibid, p. 3.

borderlands would be vital to progress in women's rights, socio-economic empowerment and enhanced livelihood opportunities, financial inclusion, access to sexual and reproductive health services, etc.

04 African borders have long represented a source of opportunity for border communities and Africa at large. African borders and borderland communities are central to achieving regional and continental aspirations of free trade, transnational social capital, enhanced socio-economic integration and cultural exchanges, all encapsulated in the African Continental Free Trade Area (AfCFTA) framework. Despite being largely imposed by colonial powers, African borderlands are increasingly regarded as laboratories of integration, where flexible social networks and new forms of governance evolve in response to the artificiality of inherited borders on the continent. In countries with relatively fluid borders, national discontinuities are often exploited by ethnic groups, traders, producers and herders to promote cultural exchange, informal cross-border trade and regional integration. Currency and taxation differentials, ethnic ties and ecological complementarities stimulate a vigorous process of integration "from below" that bypasses or finds accommodations with state institutions

and formal processes. The complex web of socio-cultural and economic exchanges contribute to enhancing the resilience of local communities and their capacity to absorb socio-economic and environmental shocks.

05 African borders also magnify or even create insecurities and can be a major source of risks and conflict between states and local communities and can serve as a haven for the incubation of transnational security threats, including violent extremism and organized crime. Boundary disputes remain a crucial point of contention between states in some regions in Africa. Since the mid-2000s, many border regions have also transformed into sanctuaries for rebel groups and religious extremists in search of a new political order, with disastrous consequences for the livelihoods of farmers and pastoralists.

06 African borders produce functional and institutional obstacles that make farmers and pastoralists living in borderlands more vulnerable to political and climatic changes. Neglected by central governments for decades, border regions have never really been provided with the institutions and infrastructure that would allow them to develop as centres of innovation and business hubs, which this paper theorizes is possible.

[11]Feyissa and Hoehne, 2010; Foucher, 2020.
[12]Diarrah, 2002; OCDE, 2017.
[13]Dobler, 2016.
[14]Little et al., 2015; Titeca, 2021.
[15]Nori and Scoones, 2019.
[16]Ikome, 2012; Moyo and Nshimbi, 2020.
[17]Brunet-Jailly, 2015.
[18]Walther and Miles, 2018.
[19]WFP, 2019.
[20]Nugent, 2019.
[21]Trémolières and Walther, 2019a.

07 Agropastoral borderlands in Africa in historical and contemporary times are artefacts: they embed the histories of societies; they document and respond to cultural and environmental changes; and they alter the character of their respective state and societies. Border and mobility studies view borderlands and their people as instrumental to shaping the trajectory of colonial and post-colonial states. With that in mind, the trajectory of borderlands in the modern day will likewise shape the character and future of their countries and regions.

08 Multidisciplinary approaches to borders have documented several mobility patterns that cross national boundaries in both East and West Africa, including seasonal mobility, rural-rural migration, long-term migration, smuggling and regional trade.

A strand of the literature argues that African farmers and pastoralists are constantly responding to the transformation of the natural environment by developing innovative forms of land restoration. The urgent needs across the globe to find solutions for climate and environmental crises means that studying and learning from borderland community experiences in land restoration could be beneficial.

Focus on resilience in thematic areas

The research (and this report) focuses on five key themes that underline resilience in agropastoral communities in East and West Africa, namely, mobility, livelihoods, governance and access to services, safety (conflict and security) and the environment and climate. The themes emerge as sources of challenges, including those highlighted in the Africa SDG Index and Dashboards Report 2020, and are key resources and factors that enable agropastoral communities to cope with individual and multi-dimensional shocks, caused by both natural and human-induced events. The themes are cross-cutting and intertwined (not linear categories) in their empirical manifestations and interaction with vulnerabilities and coping strategies.

This report uses the United Nations Development Programme (UNDP) definition of resilience as the ability of a system, community or society exposed to risks to resist, absorb, adapt to and recover positively from the effects of the risks efficiently and effectively. Resilience combines the capacity to "identify and stay away from risks and, when risks become shocks, the capacity to cope, to adapt to them or to reshape them."

This report also covers two cross-cutting issues and categories, namely gender and youth, by exploring the gendered and intergenerational dimensions of the challenges and coping

[22]Nugent and Asiwaju, 1996; Nugent, 2019.
[23]Gonin, 2018; Scoones, 2020.
[24]De Bruijn and Van Dijk, 2003.
[25]Brachet, 2018; Marei and Ninot, 2018; Tacoli, 2009.
[26]Scheele, 2012.
[27]Benjamin et al., 2015; Choplin and Lombard, 2014; Little et al., 2015; Titeca, 2012.
[28]Chomba et al., 2020; Kassa et al., 2017; Lohbeck et al., 2020.
[29]UNSCEB 2017, p. 17. .
[30]United Nations, 2021, p. 11.
[31]See "Resilience Hub for Africa," https://www.undp.org/africa/undp-resilience-hub-africa, accessed 15 September 2022.

mechanisms present in agropastoral communities in East and West Africa. The choice of themes is based on a rigorous analysis of existing literature, preliminary data on agropastoral communities and technical guidance from UNDP.

The approach is deliberately designed to obtain feedback across these five themes, reflecting the overlapping and often reinforcing impact these have on people's lives. Within each of the chapters, relevant extant data and literature are highlighted to provide context and framing for the research findings. However, it is not in the scope to provide exhaustive commentary or detailed academic analysis of issues within each theme.

Furthermore, the purpose of this report is not to simply repeat or amplify the challenges agropastoralists encounter. Instead, the research was designed through the inspiration of listening to how borderland inhabitants explain their lives in both positive and negative ways. This report aims to better understand how farmers and herders experience multiple vulnerabilities and how they position themselves to take advantage of the opportunities they have. The focus of this report is to showcase agropastoralist voices as measured through research tools to inform policy debates and discussions and to provide inspiration to the wider world. The evidence generated through this project seeks to place the resilience agropastoralists demonstrate and the adaptations they make so they can be appropriately supported to continue to survive and thrive in their homelands.

Locations

The research took place in borderland areas in eight countries in West and East Africa, namely Burkina Faso, Ethiopia, Kenya, Mali, Niger, Nigeria, South Sudan and Uganda. Uniquely, this report places the experiences of those living in the borderlands at the core by utilizing research tools to give respondents the opportunity to share their experiences and to use these voices to inform the work of UNDP and other national and international actors.

The evidence generated through this research and the insights highlighted in this report will help support the Africa Borderlands Centre to fulfil its role as a thought leader in "thinking better and doing better" and delivering cutting-edge data and analysis that informs borderland policy and programming. This will help the Centre achieve its purpose of ensuring that the 270 million people living in Africa's borderlands are not permanently left behind.

Report structure

After the introduction, there is an explanation of the research methodology and a sample profile of those interviewed for both the quantitative and qualitative components. The five thematic chapters are then provided. Each chapter begins with a summary of the relevant context, predominantly taken from available academic research and extant data. This context is provided as a useful framing devise rather than as an exhaustive

Street of Moyale border town, Ethiopia - Kenya border

summary of available data. The new quantitative and qualitative evidence generated by this study is then analysed, together with a summary of key issues, including reflections on the gender and youth dimensions.

Following the five thematic chapters, the report provides two sections summarizing cross-cutting issues of gender and youth, which includes tables summarizing the main gender and age-related differences in responses to the survey.

The final section of the main report contains the recommendations. This chapter sets out how the evidence generated by the study could inform a strategic framework for developing actions, as well as identifies several policy and programme related recommendations.

Farmer, Paajok South Sudan

RESEARCH
METHODOLOGY

CHAPTER
02

This document reports the findings of an original, mixed methods research study, utilizing quantitative and qualitative approaches. In total, just over 1,000 agropastoralists were interviewed using a structured questionnaire (quantitative research) and 55 participants took part in a series of focus group and in-depth discussions (qualitative research). The fieldwork took place between November 2021 and March 2022.

Scope

Within the borderland environment, the livelihoods of farmers and pastoralists are subject to particularly high levels of risk in the context of adverse environmental, economic and social conditions. Previous studies indicate that, though most borderland inhabitants earn a living through farming, pastoralism, trading or some combination of these, a significant gap exists in terms of detailed analysis of how farmers and pastoralists in the borderland environment are impacted by conflict dynamics and how they cope with the acute environmental shocks and changing circumstances to which they have been exposed.

This study is primarily focused on how multiple vulnerabilities shape the livelihoods of agropastoralists in Africa's borderland communities. The selection of the themes and the scope of the research was informed by a robust literature review and consultative meetings with partners and stakeholders. The research is designed to provide data on the attitudes and lived experiences of agropastoralists residing in a range of Africa's borderland regions.

Five thematic areas were chosen for the scope of the research:

MOBILITY

LIVELIHOODS

GOVERNANCE AND ACCESS TO SERVICES

SAFETY (CONFLICT AND SECURITY)

ENVIRONMENT AND CLIMATE

Relevant questions were asked of respondents within each of these areas and therefore the report provides a corresponding thematic analysis of the data. Nevertheless, it is also clear that these themes overlap and reinforce each other, so the analysis identifies several important linkages between the themes to illustrate how the multiple vulnerabilities – and opportunities – intersect.

Locations for survey samples

This research was conducted in border locations of eight countries in two major regions of Africa, namely: West Africa and East Africa. In total 16 regions (two per country) were used and a total of 55 sample points across these 16 regions selected as locations to conduct the quantitative research.

The areas selected as the basis of sample points used a mix of criteria, including:

◎ epicentres of farmer/pastoralist clashes within borderland communities;

◎ language diversity (Anglophone and Francophone); and

◎ balance between borderlands with competitive and complementary approaches to farmer/pastoralist livelihoods dynamics.

The sample points were also chosen due to their proximity to international borders and relative security and accessibility. Each sample point was within 20 kilometres of a settlement and that settlement was within 30 kilometres of an international border.

The Table below lists the sample points for the quantitative research, providing the country name, region of the country, name of the sample point and approximate distance from the international border.

Borderlands Farmers, Lodwar, Kenya

Table 1:
Sample points of survey locations

Country	Region	Sample point	Distance From international border
Burkina Faso	Cascades	Mangodara	30 km
		Koutoura	29 km
		Dakoro	30 km
	Sahel	Bambari	3 km
		Wiboria	7 km
		Salmossi	15 km
Mali	Sikasso	Zegoua	5 km
		Misseni	20 km
		Finkolo	22 km
	Gao	Baara	125 km
		Ansango	107 km
		Tin Hamma	87 km
Niger	Tillaberi	Djebou	73 km
		Kankantouti	55 km
		Panoma	60 km
		Gomgoube	22 km
		Bokki	60 km
	Zinder	Samao	35 km
		Gomleri	28 km
		Tagabasse	32 km
		Oungoual Maza	28 km
		Adare	
Nigeria	Jigawa	Madana	28 km
		Jajeri	29 km
		Galadi	5 km
		Turbus	25 km
	Sokoto	Mogombo	30 km
		Kutufare	30 km
		Araba	29 km
		Lafani	30 km
		Dukumaje	25 km
		Wawru	28 km
East Africa			
Ethiopia	Daawa	Bardasalam	3 km
		Chamuk	6 km
		Buladi	4 km
	South Omo	Tiremret	2 km
		Bemuket	1 km
		Nebremus	6 km
Kenya	Marsabit	Wayne Godha	6 km
		Odha	4 km
		Fachana	8 km
	West Pokot	Alale	3 km
		Kapchar	1 km
		Kiwawa	4 km

South Sudan	Eastern Equitorial	Nimule	1 km
		Pajok	18 km
		Owimykibul	19 km
	Upper Nile	Pagak	1 km
		Jekow	0 km
		Maiwut	16 km
Uganda	Kaabong	Kalapata	14 km
		Lodiko	29 km
		Loyoro	18km
	Moroto	Tapac	18 km
		Rupa	10 km
		Katikele	12km

Respondents

Individual respondents were then randomly selected within the chosen locations, with a total of 1,042 agropastoralists interviewed. All study participants were asked to participate voluntarily, and their consent was obtained before any interviews or discussions. (Profiles of those interviewed are provided in the next chapter).

Process and quality assurance

The design of the research methodology, selection of case study countries, sampling approach and creation of the specific research instruments was led by UNDP's African Borderlands Centre, using a participatory approach. The African Borderlands Centre held consultations with UNDP Resident Representatives from the eight targeted borderland countries, the African Union, the Intergovernmental Authority on Development (IGAD), borderland communities and research experts in the thematic focus areas.

The research was designed in close collaboration with two independent research fieldwork organizations – InfoTrak (for research in East Africa) and WANEP (for research in West Africa). The selection of both organizations was done through a competitive process guided by the research terms of reference, which required institutions with demonstrable experience in conducting complex research. InfoTrak and WANEP had this experience in the respective regions, and both demonstrated capability in quantitative and qualitative methods, as well as in capturing communication outputs in audio and still photography. In addition, the two institutions have a track record of working with international organizations in multi-cultural settings and multi-stakeholder processes.

A research design expert was recruited to undertake final quality assurance of all the tools and the sampling methodology. The survey questionnaire was tested in focus group discussions and piloted before being finalized.

Two research methodology training sessions were held to ensure that the research approach was fully adapted and synchronized for East and West Africa. The training workshops provided an opportunity for fieldwork coordinators to familiarize themselves with the overall research design and research instruments and processes for selecting and training field assistants.

A non-random sampling strategy was applied to identify respondents, with quotas and selection criteria set to provide a clear definition of the sample profile and to ensure a good spread of different types of respondents. These quotas included minimum targets for gender, age group and the number of respondents per country. The profile of respondents is shown below.

The high-quality methodology included appropriate quality control and data entry checks at each stage of the research. Weekly and bi-weekly technical meetings were held virtually with all research partners and personnel, providing an opportunity to clean the data and continuously provide quality assurance by the lead technical consultants and the African Borderlands Centre research team.

Following data cleaning and analysis, the draft report was reviewed at a technical workshop, bringing together key stakeholders, including borderland communities, the African Union and IGAD. A series of follow-up validation workshops were also held with UNDP experts at the global level, United Nations agencies, civil society groups, government agencies, regional economic communities, African Union, the private sector and borderland communities. These workshops were held to gain stakeholder feedback on the key insights and recommendations contained in this report.

Data interpretation

The dataset is unique in terms of the breadth and depth of insights from agropastoralists, the number of respondents and its spread across multiple locations in East and West Africa. Given the non-random sampling method, all results apply only to the dataset and technically may not be inferred for the larger population of agropastoralists. However, the overall sample size and the breadth of the sample, when combined with the insights from the qualitative research, means that the evidence generated here is robust and provides pointers about the livelihoods, vulnerabilities and opportunities of agropastoralists living in Africa's borderlands. Measuring and reporting agropastoralists' lived experiences in this way provides for a greater understanding of the extent of their vulnerabilities, their responses and coping mechanisms and the opportunities available to people living in the African borderlands.

The methodology is designed to provide insights across the sample of 1,042 respondents. It is not designed to provide detailed data analysis at individual sample point level, by country or by regional level. Findings from the surveys conducted in all eight countries have been aggregated to allow for overall descriptive analysis. Sub-group analysis, for example, by gender and age category, was conducted across the full dataset and is reported in detail in this report. Further statistical analysis was also included, including ordinary least squares (OLS) regression. This helps to identify which characteristics of agropastoralists life have the strongest relationship with a specific attitude or behaviour when other variables are considered. This type of analysis is not designed to prove causality between variables (i.e., it cannot be proven that one attitude or behaviour causes another), however it does shed light on systematic patterns and correlations within the data. To assist the reader, more information on the detailed statistical analysis is provided in the Annexes and key insights from this analysis are commented on within the main chapters of the report.

Qualitative insights

The quantitative analysis is integrated with insights gained from the qualitative research. The qualitative research involved a mixture of focus group discussions and in-depth interviews with agropastoralists. In total 92 participants took part across all eight countries. In addition, the fieldwork teams interviewed 62 key informants. The qualitative data derived from agropastoralists and key informants were coded and analysed within the MAXQDA Qualitative Analysis software package, according to the main project signifiers.

Finally, to complement the research data, individual testimonies, in the form of short videos and photos, given by agropastoralists in the regions were gathered. A communication guide was developed to support the recording of borderland voices through video, audio and still photos. These have been used to provide further insights on the topic and to provide illustrations throughout this report. The film and photographic material gathered will be showcased as part of the wider project.

Limitations and risk management

This report is in no way an exhaustive analysis of all aspects of borderland communities, and it does not cover the whole of Africa. It is structured to assess contemporary challenges and adaptation strategies (resilience) disaggregated into five thematic areas in selected agropastoral borderland communities in West and East Africa. The research focuses on exploring the 'big picture' of agropastoral communities in borderland regions of selected countries. The emphasis on cross-cutting realities, as opposed to disaggregated dynamics, is deliberate. It is also a cross-section study as opposed to a longitudinal assessment, thus the findings from the study are tied to the period in

which the data was collected. Nonetheless, the research followed a robust methodology that acknowledged relevant limitations and strategies used to mitigate associated risks and how the research design (including sampling techniques and choice of research locations) shape data collection and analysis.

Old man listens keenly to discourse at Naput Village Rupa sub county, Moroto Uganda

Two men take a rest on traditional men folk seat, Lolung Moroto, Uganda

Key limitations of the report are described below.

○ Accessibility: Research locations are in marginal areas characterized by difficult terrain and insecurity which in some locations hampered accessibility. This was mitigated by ensuring effective sensitization of key stakeholder networks on the ground by UNDP and the two research partners in West and East Africa.

○ Security: Insecurity in the marginal border areas could have potentially affected data collection. This was mitigated by using research institutions with experience and understanding of the research locations and with boots on the ground to support data collection. Field assistants were recruited and trained from the local communities. Nonetheless, the communities chosen for data collection were those with 'good enough' levels of security and access, and this naturally impacts some of the data collected, for instance, data on safety (conflict and insecurity) and livelihoods. This was acknowledged and accounted for in the analysis and use of the data.

○ Targeting: Pastoralists are mobile which makes it difficult to target them in some border regions. To reach out to them, the team worked with the research institutions in West and East Africa to apply a stratified survey approach that considered mobility dynamics. The community networks provided useful insights that guided the data collection.

○ Big picture versus disaggregated insights: The objective of providing aggregated findings from the 16 agropastoral communities makes the report biased towards treating all the study locations (borderlands) as the same or overlooking internal variations and peculiarities of each borderland community. This report acknowledges the added value of exploring disaggregated analysis to assess the severity of issues, peculiar dynamics and differences in the challenges, adaptations and forms of resilience across the selected study locations.

○ Gender: Reaching women, men and youth in some borderlands can be challenging due to the nature of agropastoral lives. This was addressed in the research design by setting quotas of equal gender balance and a minimum of one quarter for youth to make up the full sample of those interviewed. Interviews were also conducted in locations where it made it easier for females in the practice of pastoralism and farming to participate.

○ Data integrity: Research teams ensured strict adherence to the methodology, the multi-level of quality assurance processes with backstopping from qualitative, quantitative and communication experts, and the use of ICT monitoring tools. For data collection the use of GPS location for administration of questions and KOBO applications were used.

Agropastoralist , Nimule, South Sudan

Profile of Research Sample

Quantitative research

The map below shows the sampling points where the quantitative interviews took place. The number of interviews is roughly equal (c. 125) in each of the eight countries.

Figure 1:
Map of survey locations

- **Mali** - Gao, Sikasso

- **Niger** - Zinder

- **Burkina Faso** - Sahel, Cascade

- **Nigeria** - Jigawa, Sokoto

- **South Sudan** - Eastern Equatorial

- **Ethiopia** - South Omo, Dawa

- **Uganda** - Kabong, Moroto

- **Kenya** - Marsabit, West Pokot
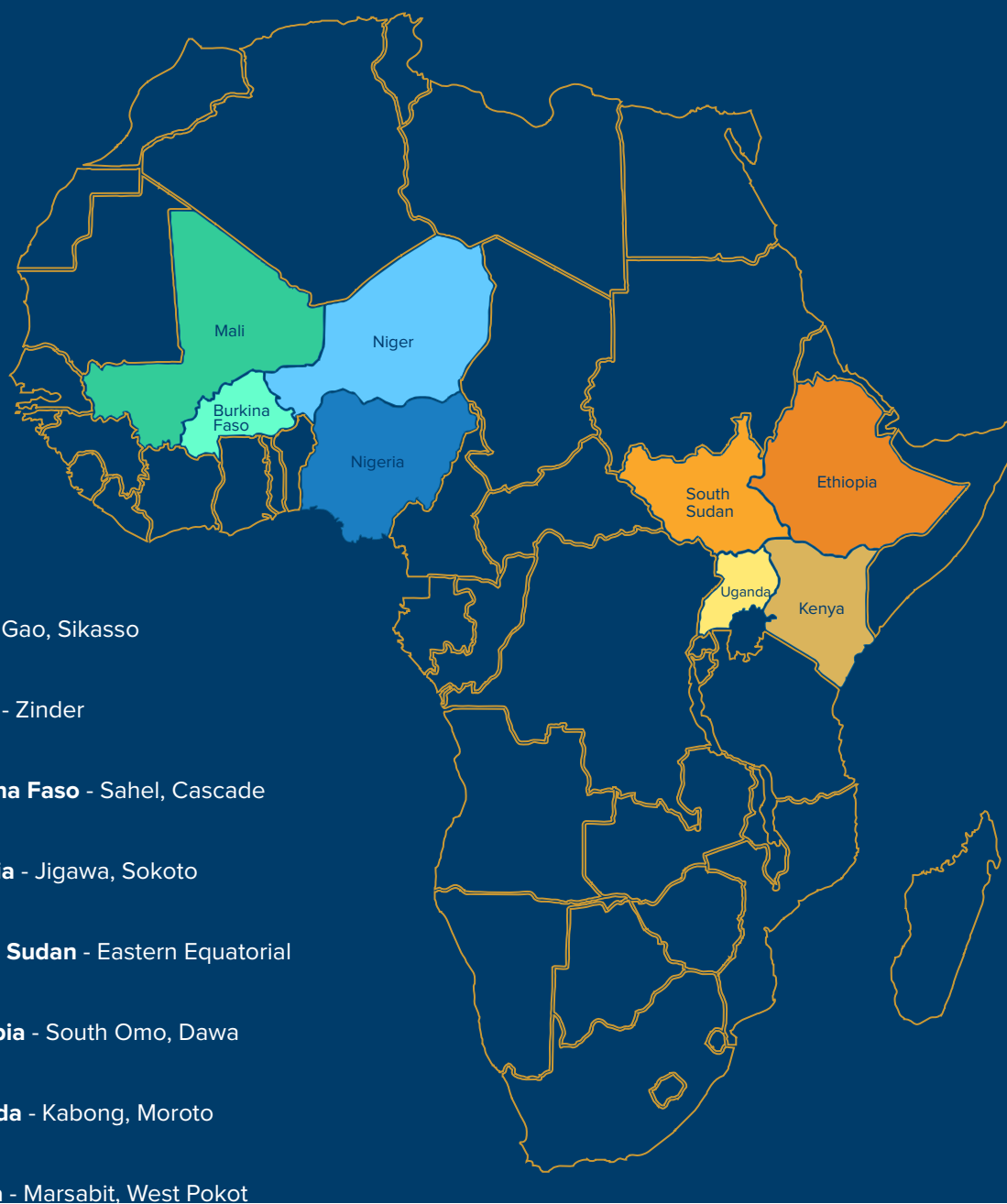
Most survey respondents (60%) identified farming as their primary occupation and just over two in five (44%) said they were herders. Reflecting that the respondents could select more than one option at this question, one in five (18%) also identified as traders. Approaching half of the respondents own both farms and livestock (46%), with roughly equal proportions just owning a farm (22%) or livestock (22%).

There was an equal split between male and female respondents, which was deliberately planned to support robust gender analysis of the data.

One in four respondents was aged between 15 and 24 years, with the remainder equally split between those aged between 25 and 34 years

and those aged 35 or more. As with the gender profile, the research was purposively designed to capture sufficient responses from the youth group (aged 15 to 24) so that their views and experiences could be analysed throughout the reporting.

The majority of agropastoralists interviewed – three in five (60%) – have completed no formal education, and those most likely completed primary school only. Just one in nine say they completed secondary education or equivalent, and three percent at least college.

The household size of agropastoralists is typically large. Around half live in a household of between five and nine people, and almost four in ten live in a house with at least 10 people.

Enumerator (R) conducting an in-depth interview, Niger

Profile of survey respondents

Age

15-24 years	25-35 years	35+ years
24%	38%	38%

Gender

Male	Female
49%	51%
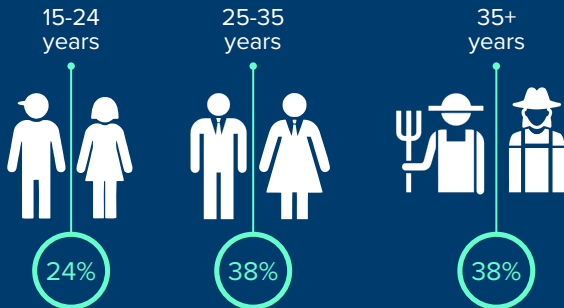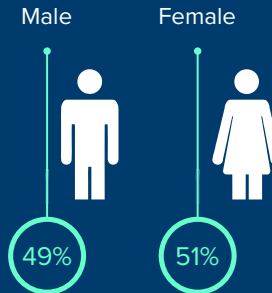
Primary occupation (Respondent could select more than one)

Herder	Farmer	Trader	Artisanship	Look after children/home	Student	Other	No job
44%	60%	18%	3%	10%	4%	4%	2%
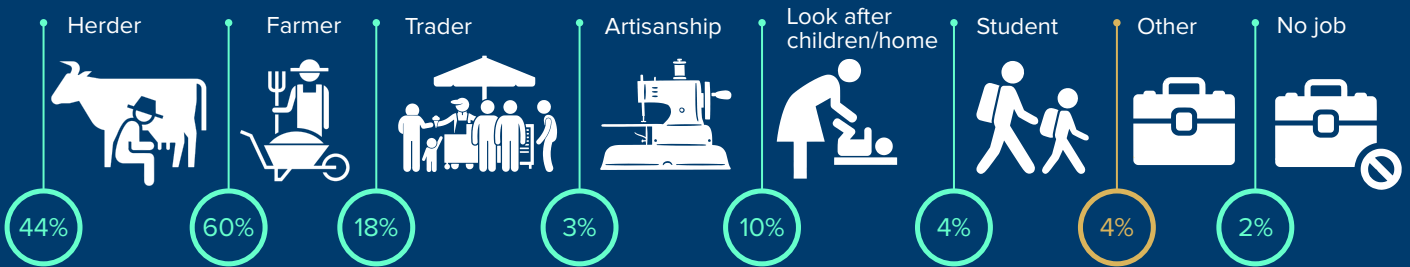
Highest level of completed education

None / no formal education	Primary	Secondary or equivalent	College / university	Other
61%	24%	11%	3%	0%

Household size

1 - 4 members	5 - 9 members	10 - 14 members	15 - 17 members	More than 17 members
11%	51%	23%	7%	8%
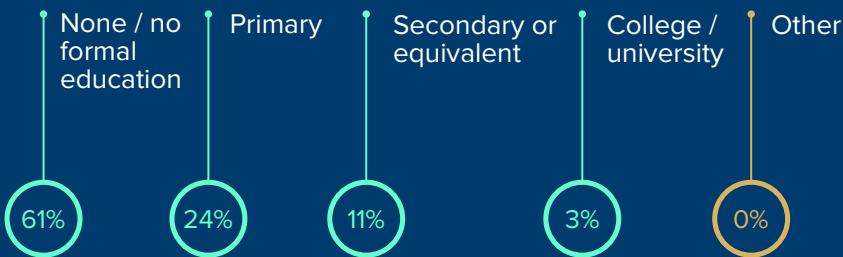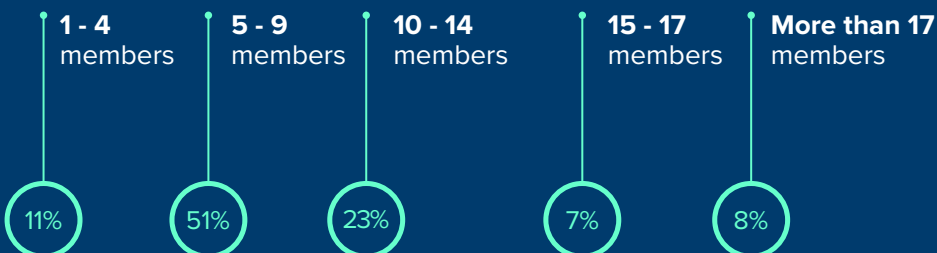
Qualitative research

Qualitative research took the form of focus group discussions with agropastoralists to help pilot the quantitative survey questionnaire and provide substantive feedback on the topic areas. In-depth interviews were held with both agropastoralists and key informants. The profile of those taking part in the different qualitative methods is shown in Table 3 below.

Table 3:
Profile of qualitative research participants

Focus group discussions

Agropastoralists

6

In-depth Interviews

Agropastoralists

44

In-depth Interviews

62

Key informants: government officials, policymakers, development practitioners, local and municipal authorities, heads of farming and pastoralist associations, youth leaders

Agropastoralist with her kids, Ethiopia

"

Mobility is a key feature of borderland life, which brings opportunities and challenges. Agropastoralists move both in response to the vulnerabilities they face, as well as to exploit opportunities and adapt to changing circumstances.

MOBILITY

Context

Mobility has long been a central pastoralist strategy for managing risks and responding to uncertainty in the Horn and the Sahel. Pastoralists also use livestock movement and diversification to protect themselves and their animals against external stressors such as climate variability and insecurity. One of the major strategies utilized by pastoralists to diversify their livestock is to raise smaller stock that requires lower feed and can more easily be moved or sold in case of necessity. This is common in Kenya during times of drought, land tensions, or disrupted access to grazing.

Mobility and diversification, which had allowed pastoralists to develop across ecological boundaries and establish powerful precolonial entities, reached their limits during the great droughts of the 1970s. Many communities had to travel greater distances to access sufficient grazing during rainfall variability, droughts, and times of stress, which led to livestock death. In northern Uganda, for example, the Karamoja groups lost significant herd numbers during the severe droughts of 1979-1981, and they became dependent on fragile and unreliable agricultural subsistence. Since then, increasing competition for land and resources has led significant numbers of pastoralist groups to sedentarize and/or shift into agropastoralism.

Evidence from East and West Africa suggests that transport corridors favour large, formal companies but have rarely improved the daily life of small entrepreneurs, who do not use formal procedures and infrastructures anyway. One stop border post (OSBPs) may potentially have a more significant impact on local farmers and herders, who routinely cross borders to attend social events and do business. Existing studies point out that OSBPs established in East and West Africa have not erased distinct institutional cultures and have rarely replaced older bureaucratic practices. The growing investment in border technologies and management techniques seems to have marginally improved the ability of African states to monitor and secure the transnational circulation of goods and people. Rather, imported technologies seem to have been instrumentalized by political elites or contested by border communities, sometimes with violence.

Importance of movement

Agropastoralists living in the borderlands have strong and enduring ties to their home communities –, they have lived in the same location all their lives or moved to the area for family reasons. The vast majority also want to continue to live in the same location.

At the same time, borderland regions are not static. They are dynamic places to live, characterised by a great deal of movement within areas and often across international boundaries. For instance, as shown in Table 4, over half of the respondents to this survey say they have moved to stay in another location within the last year, including one in five who have moved in the last month. The ability to move within and across international borders allows agropastoralists to make the borderlands their home.

---

[32]Nori and Scoones, 2019.
[33]Bollig and Österle, 2013.
[34]Herrero et al., 2016.
[35]Yurco, 2017.
[36]Nori and Scoones, 2019; UNECA, 2017.
[37]Lumborg, 2021.
[38]Hauck and Rubenstein, 2017.
[39]Benjaminsen and Svarstad, 2021.
[40]Dobler, 2016.
[41]Nugent and Soi, 2020.
[42]Frowd, 2018.

Table 4:
Moving to other locations

Q)	How often do you move to stay in other locations during the year for work?					
	At least monthly	At least every 6 months	At least once a year	Less than once a year	Never	Don't know/refused
	20%	10%	18%	8%	41%	4%

Base: 1,042 agropastoralists (full sample).
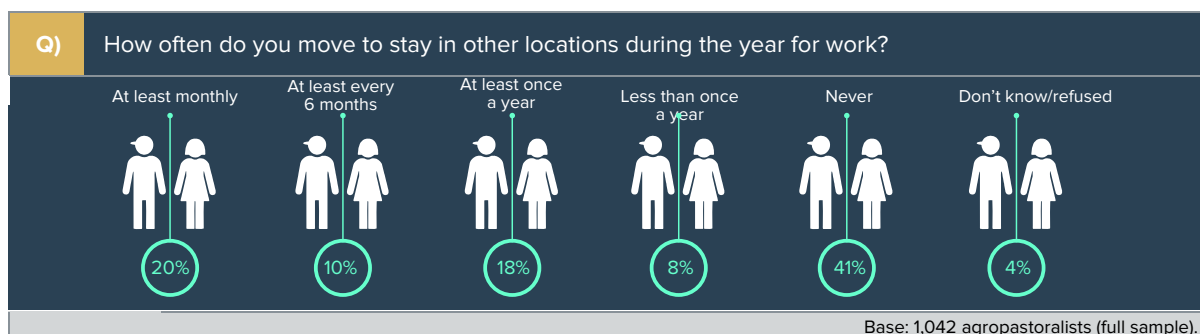
Crossing borders

Cross-border movement is also a significant feature of life in the borderlands. One in four respondents has crossed an international border in the last month, and almost half have done so in the last 12 months.

This high level of mobility is, as would be expected, linked to agropastoralists' livelihoods. Around two in five (40 per cent) of those who have crossed an international border in the last 12 months say the reasons for doing this are either for pasture or trading. Yet the most significant driver of movement is to visit relatives – six in ten say this is the reason they crossed a border. It is also clear from the data below that people move for multiple reasons.

The differences in responses to the survey questions between men and women in terms of mobility are not great. A third of female respondents say they have always lived in the location in which they were interviewed, which compares to a quarter of men; and slightly more men moved to their current location for family reasons.

More men utilize mobility in their lives – just over half have moved to live elsewhere at least once in the last year (55%). While this is a higher proportion than women who do the same, as

many as two in five women (40%) also do so. Similarly, men are more likely to cross an international border (31% have within the last month compared with 22% of women). These differences reflect the well-established gender practices in pastoral societies in which men work in the field and move herds to access pasture and water. For instance, it is more common for men to migrate seasonally with the main herd and for women to be left with pregnant, sick, weak, or young animals, whilst having responsibility for caring for the rest of the household, as well as a farm plot (subsistence farming). This is not always the case however, and women also undertake seasonal herding in some locations, especially in East Africa. Pastoralist production also depends on optimising opportunities of new feed availability and moving livestock to take advantage of this, sometimes across borders. The system is therefore highly dynamic and requires women and men to undertake unique and different roles and risks, which are normally complementary and strengthen the production system, within a wider network of family and community that provides mutual support in challenging times, such as during drought.

The youth cohort in this study (15–24-year-olds) are significantly less likely to have crossed an international border than the older age group (35+ year-olds): 19 per cent of youth respondents claimed to have crossed a border versus 37 per cent of older adults. Among those that have

crossed a border, younger people tend to feel less safe in doing so. Movement for economic reasons is also less important for younger people. At the same time, the youth group are somewhat less likely to say they plan to stay in the same location in the next five years – albeit still four in five do still plan to stay. This contrasts sharply with conventional assumptions about the link between young people and migration in Africa.

Drivers of mobility

As indicated in Table 5 below, most respondents (62 percent) claimed that their mobility within and across borders is driven by family ties, specifically to visit relatives, maintain kinship ties and to offer or receive support from relatives. Trading and other livelihood activities (50 per cent) and access to pasture (33 per cent) are the second and third drivers of mobility among respondents, respectively. The dominance of family ties underscores the centrality of family and kinship ties in socio-cultural and economic processes in agropastoral communities, and why people live in the borderlands and move around within them. Family dynamics as a driver for movement incorporates the desire to see relatives, as well as for social occasions such as festivals, marriage ceremonies, or funerals. In some cases, family ties have economic and financial ramification, especially as a strategy for building and extending social capital. The need to cross borders for family reasons also illustrates the arbitrary nature of many national borders, as seen from the perspective of communities and families living in these areas long before state borders were devised. The perspectives (voice) of some respondents underscore the importance of family ties in borderland communities as indicated below.

Cattle in the Borderlands, Mali

ABC Researcher, Burkina Faso

See https://www.ifad.org/documents/38714170/39144386/FINAL2_HTDN_gender%26pastoralism_2020_08_07.pdf/f1b55ace-ec9f-4b79-a3b3-120e532197ab.

Table 4:
Reasons for crossing borders

Q) Why do you cross the borders? Multiple answers allowed

To visit relatives	For trading	For Pasture	For Arable Farming land	For religious observance	Other	Don't know
62%	40%	33%	18%	18%	7%	1%
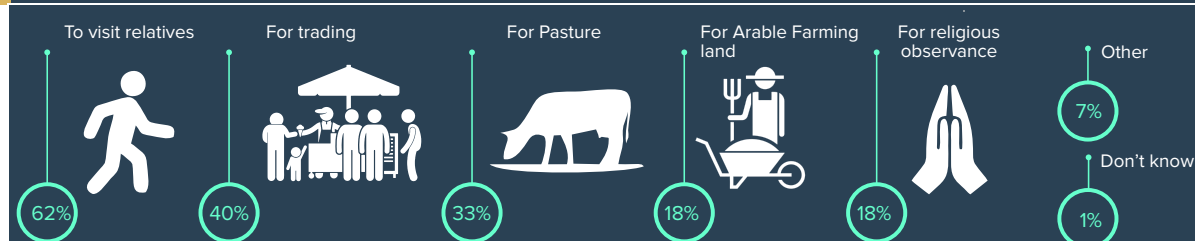
Base: 554 respondents who crossed an international border in the last year.

> "The border location makes my life easier because I will cross the border to buy items, graze, and visit relatives."

> "We sometimes cross them to go and visit friends. When I was a child, I went with my parents to visit their friends."

> "One village, but half Nigeria, the other half Niger Republic. We cross the border to attend social events, having engaged in inter-marriages. There are not many problems or difficulties. Nowadays, we use motor vehicles and motorcycles mostly as means of transportation into Niger Republic. The sandy nature of the roads we take to access villages and towns in Niger make our journey difficult. Sometimes, the journey is delayed due to bad terrain (sandy roads)."

Trade and access to markets are other features of borderland life and moving to trade is common. Sometimes this movement allows women to trade cattle and other animals, trade small goods (such as fruit and vegetables, and basic consumer items, clothing) and buy medicines. Movement, therefore, may often be seasonal, reflecting long-term patterns, or occasionally disruptive, when there are water shortages. Differences and changes in currency exchange rates and immigration procedures either side of a border create opportunities and challenges. Nevertheless, without the ability to move generally, and across borders specifically, agropastoralists livelihoods would be negatively impacted. Some respondents explain this:

[44]Ethiopia, South Omo, in-depth Interview.
[45]Uganda, Kaabong, in-depth Interview.
[46]Nigeria, Jigawa, in-depth interview.

"During dry seasons, we will cross boundaries searching for grazing land, which helps our livestock herds survive droughts. However, as border area residents, the main problem we face is exchange rate volatility and the consistent decreasing value of the Ethiopian Birr."

"I frequently cross the border every week or two to buy food and access the services not provided here, even though I use the money to get what I need. It's the central market where we sell our animals are reasonable prices and buy food at affordable prices. Livestock medicines are also purchased at the border... I have reacted to these changes positively. I have cattle that bring the money once sold. The money I get from there is used to buy food and livestock medicine from the Ethiopian border. This food takes my family a month or two before I could start thinking of something else."

"Seasonal migration has been the only way to save the animals' lives from harsh climates. Moving along the borders has helped a lot because of the easy accessibility of food, medicines, and even market to sell livestock and livestock products."

"We may cross borders daily or weekly based on our household needs. The main reason to cross the border is to buy basic goods, buy livestock fodder, cross border grazing, and ask for relatives."

Farmer and pastoralist watering his plants, Ethiopia

The comments above illustrate the importance of accessing water and markets across borders. They also show how being able to access services – particularly medication for people and animals – is also a core feature of resilience in the borderlands.

---

[47]Ethiopia, South Omo, in-depth Interview.
[48]South Sudan, Upper Nile, in-depth interview.
[49]South Sudan, Upper Nile, key informant interview.
[50]Ethiopia, Daawa, in-depth interview.

Issues in cross border mobility

Among respondents that cross international borders, around 60 percent claim to feel safe, including three in five survey respondents say they feel very safe (27%) or quite safe (35%). This compares to nearly two in five (40 percent) who feel unsafe – either quite unsafe (31%) or not at all safe (7%). Government security forces are most often trusted to provide safety when crossing an international border – as many as seven in ten respondents say they trust them, and this is

considerably higher than other support mechanisms, such as family (31%) and community members (25%). These findings clearly illustrate the positive role the state can have in supporting agropastoralists and the benefits of security to people's livelihoods.

Providing safety and security has wider benefits, which reduces other vulnerabilities and can produce a virtuous circle to support people's livelihoods, as illustrated in the following feedback.

> "Despite me saying that there are few health facilities, some years back you couldn't even get one, because most of the border point was a battleground. People were not settled. But, for now, along the borders, despite little skirmishes, they have tried to settle, so it means that peace has prevailed to some extent. If peace prevails and people begin to settle, the facilities like schools start to come up, health facilities, like dispensaries and health centres, begin to crop up."

Of course, security is not always in evidence and even where it is, it does not always translate into support and help to those moving. The four in ten who feel unsafe do so either because of a lack of government security or because of harassment or difficulties caused by state officials. Research participants provide several examples of their experiences of frustration and lack of security in crossing borders or when movement itself can increase potential for conflict and vulnerabilities.

One of the most obvious areas of tension is the movement of cattle and animals – which applies within an area and across borders – where herders need to move to support their livelihoods. Encroachment of animals into farms land or gardens can spark conflict between farmers and pastoralists. The movement of animals may also help viral infections spread too. For instance, herders with tsetse flies and other waterborne

diseases (such as trypanosomiasis and foot and mouth) may infect their animals and others.

More specifically, in relation to border points, participants provide examples of deportation, harassment, and extortion by the police and border officials because of their inability to produce travel documents, national identity cards, residence permit, vaccination cards or papers on vehicles with foreign number plates. Problems crossing formal border points can increase people's vulnerabilities as they still attempt to cross borders but do so in more dangerous ways. For instance, some pastoralists face kidnappings, attacks and harassments by criminals, Jihadists, and armed groups when crossing the border by foot and motorbikes using unapproved roads as strategies to counter challenges. This demonstrates the importance of making formal border crossing points as easy and inclusive as possible.

---

[51]Kenya, West Pokot, key informant interview.

"

"The problems we face when crossing the border include issues of identity card, residence permit, residency card or papers on vehicles with foreign number plates, whether you have them or not you will be charged and you will be compelled to pay some money. The situation has become worse with the advent of COVID-19."

"At the borders we encounter too many problems with the security forces because the papers that our security forces issue to us here in Mali. Once we cross the border, we encounter problems because they let us know that we are strangers. We really do sneak across the border to avoid trouble with the foreign security forces who harass us a lot."

Agropastoralists want to stay

The survey respondents were asked if they plan to continue to live in the same location over the next five years or to move to live somewhere else. Almost nine in ten (90 percent) plan to stay, and this is consistent across all age and gender categories. Reflecting the findings reported above, the two core reasons for wanting to stay are because agropastoralists have always lived here and for family reasons.

Figure 2:
Stay or move to live elsewhere

Q) Do you plan to stay in this location in the next five years or to move to live somewhere else?

6%

8%

86%

- Plan to stay
- Plan to move
- Don't know / refused
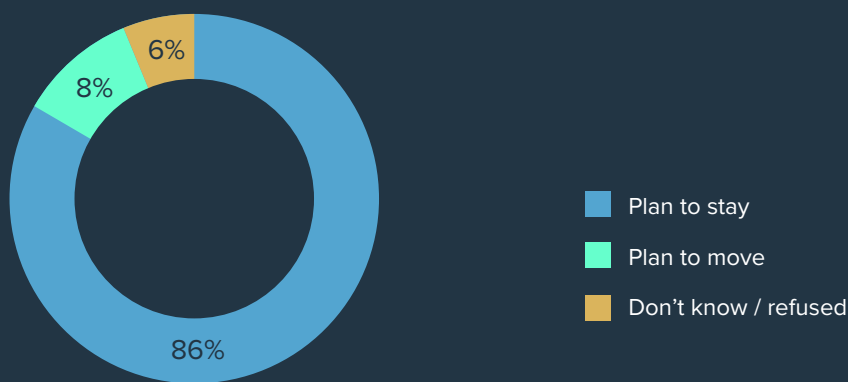
	Male %	Female %	18-24 %	25-34 %	35+ %
Plan to stay	86	86	80	85	89
Plan to move	10	7	11	8	7

Base: 1,042 agropastoralists (full sample).

---

[52]Niger, Tillabery, in-depth Interview.
[53]Mali, Sikasso, focus group discussion.

Among the main factors driving the movement for those who want to live elsewhere are (from top to bottom in Table 6), "economics/livelihood," "security," "environment/climate change" and "family reasons." These four reasons all carried fairly similar weight in the answers.

However, the key insight from the research is that very few want to live elsewhere. It may be that some of these have never thought about leaving or feel that they could do so, even if they wished. Exploring issues around structural immobility are outside the scope of this study. Nevertheless, the socio-economic, cultural and psychological value people place on belonging to an area should not be easily dismissed. Those who plan to move are driven by a combination of multiple factors, including economics, security, climate change and family reasons. It suggests moving to live elsewhere is generally the result of negative drivers.

Table 6:
Reasons for staying or moving to live elsewhere

Q) Why do you plan to stay here? Multiple answers allowed					Q) Why do you plan to move? Multiple answers allowed			
Always lived here	Family Reasons	Economic Livelihood	Feel Secure		Economic Livelihood	Security	Environment climate change	Family Reasons
75%	57%	32%	24%		48%	44%	43%	40%
Environment is right	Basic services/ governance	Other			Basic services/ governance	Other	Don't know/ refused	
17%	6%	3%			19%	8%	1%	
Base: 893 respondents who plan to stay.					Base: 86 respondents who plan to move.			

" "I live close to an international border because this is where I was born, my forefathers lived here long ago. Up to today, this has been home, and I'm not willing to relocate."

"We lived in our localities because it is our place of birth and hometown, and therefore have limited choice in terms of migrating to stay in other localities."

---

[54]South Sudan, Upper Nile, in-depth Interview.
[55]Nigeria, Jigawa, in-depth Interview.

While people see the borderlands as a place they wish to continue to live in, mobility within areas (including crossing borders) is a fundamental feature of life in the borderlands. While some of this mobility is driven by history and family relations (for example, with some family members located in one place and others more mobile), it is also important to recognize that movement is a response to the challenges of living in these areas, often linked to the need to access services and for trade. As it is shown in subsequent chapters, agropastoralists rely on mobility as a coping mechanism when their livelihoods – and in some cases, their lives – require them to do so.

Perhaps most significantly, the evidence presented here argues for a paradigm shift from governments in how they see borders in the borderland regions. One the one hand, it is legitimate and necessary that government provide security that upholds their state's integrity. The lack of security and inadequate governance increases the vulnerabilities of the people who call the borderland their homes. On the other hand, security by itself is not sufficient. Agropastoralists require support to move more freely and maintain their family, trade and livelihood links that span different areas and countries. This reflects historical experiences and responses to contemporary (and most likely) future challenges. Viewing borders as vital arteries of livelihood can lead to policies and programmes that support mobility rather than restrict it.

Herder migrating with his camels, Marsabit Kenya

Living in the borderlands is financially challenging and getting harder. Most agropastoralists do not earn enough money, but they also show remarkable adaptability, from diversifying their labour and skills to working as families and communities to collectively strengthen their economic resilience.

LIVELIHOODS

Context

National economic processes and performance have direct implications for borderlands, and the recent economic outlook for Africa is bound to affect borderlands disproportionately. According to the African Development Bank, the economies of African countries, including the eight countries covered in this report, rebounded strongly in 2021 in the aftermath of COVID-19; the continent recorded a 6.9 percent growth. However, it is projected to decelerate to 4.1 percent in 2022 due to the ebbing of base effects and uncertainties related to the persistence of the COVID-19 pandemic and the impact of the War in Ukraine. The growth trajectory is uneven across countries and is highly uncertain, with risks tilting to the downside. Key risk factors include the spill over effects from the War in Ukraine, low COVID-19 vaccination rates and risks of new COVID-19 variants, heightened debt vulnerabilities, tight global financial conditions as inflationary pressures rise, climate and environmental risks and other socio-political and security issues.

Africa and its agropastoral communities are among the most affected by economic and climate shocks; it is estimated that 5 of the 10 most affected countries in 2019 were in Africa. In 2020-2021, Africa recorded 131 extreme-weather, climate change-related disasters (99 floods, 16 storms, 14 droughts and 2 wildfires). Climate change poses considerable risks to the economies of African countries and the livelihoods of its agropastoral communities. For example, "extreme weather events like Cyclone Idai, pandemics like COVID-19 and environmental degradation lead to loss of access to land, livelihoods and jobs, and have the potential to push vulnerable groups furthest behind into extreme poverty." In South Sudan, the economy contracted by 6 percent in 2020-2021 after recording a growth of 13.2% in 2019-2020, largely because of extreme climate events such as floods, locust invasions and COVID-19. Niger recorded weaker economic growth in 2021 compared with 2020 because of lower agricultural production due to poor rainfall. As a result, the base poverty rate in Niger rose to about 42% in 2020 and access to employment remains problematic—a cause of inequality—with an official unemployment rate of about 16 percent of the active population.

In Burkina Faso, the economy is expected to be undermined by socio-political instability and insecurity arising from political upheaval (there were two coup d'états in 2022) and attacks from violent extremist groups; the African Development Bank projects a slowdown in economic growth to 5% in 2022.

National and continental economic trajectories have direct and indirect implications for the livelihoods of agropastoral communities. Unfortunately, the regional and country economic outlooks above paint a dire situation for borderlands in Africa as agropastoral communities in Africa typically have some of the most vulnerable populations, consistently recording lower than national average economic growth and higher than national average impacts of economic shocks. This is due to structural factors, such as the lack of infrastructure, social services, investments and relative neglect in the national economic calculations.

This section of the report reflects on livelihoods as a key component of resilience, and a valuable measure of how national and regional economic outlooks directly impact borderlands.

[56]ADB. 2022, p. 2.
[57]Ibid.
[58]Ibid, pp. 3-4.
[59]SDGCA, 2021, p. 3.
[60]Ibid, p. 150.
[61]Ibid, p. 186.
[62]Ibid, p. 177.

Livelihood patterns in agropastoral communities

Pastoral livelihoods in dryland areas often feature diversification involving dryland agriculture, livestock husbandry and labour emigration. Far from being a homogenous group, pastoralists engage in a wide range of behaviour and subsistence activities, ranging from full migration between seasonal pastures to settled or semi-settled agropastoralism. Agropastoralism requires partial settlement to cultivate crops while maintaining mobility of livestock. The combination of farming and herding activities brings numerous benefits to agropastoral groups, such as milk, meat, sales, animal traction and manure. For example, the Karamojong pastoralists of northern Uganda practice transhumance with opportunistic sorghum cultivation in years of adequate rainfall.

In East and West Africa, livestock production is extensive, and pastoralists tend to straddle national boundaries as animals are moved in search of better pasture or to be sold alive. Despite this high level of mobility facilitating the spread of livestock and zoonotic diseases, such as Rift Valley fever, Crimean-Congo haemorrhagic fever and Peste des petits ruminants, pastoralists make a significant contribution to regional economies despite political marginalization.

Beyond the economic sphere, pastoralism is also a cultural system in which wealth is determined or measured by herd size and spatial mobility. In most pastoralist societies, animals tend to be regarded as a source of social standing and as

insurance against uncertainties or a source of cash to pay taxes or fulfil social obligations. Pastoral societies contribute to defining the cultural and religious values of the Sahel and Horn of Africa. In West Africa, for example, pastoralists are involved in some of the most significant cultural events of the region, such as the Salt Cure (Cure Salée) a social gathering of Tuareg and Wodaabe that celebrates the end of the rainy season in Niger. The cultural values of nomadic societies are, since precolonial times, deeply entrenched in the literary history and music production of the region as evidenced by the Tishoumaren, or "desert blues" style of music, that gained popularity in the 2000s in the Sahara. In both East and West African regions, cultural values transmitted by pastoralist societies tend to influence the use of natural resources and determine how innovation, such as irrigated farming, is adopted and by whom.

Agropastoralist doing business with multiple phones, Ethiopia

---

[63]Little, 2019; Turner et al., 2012.
[64]Cline, 2020.
[65]Pflaum, 2021.
[66]Majekodunmi et al., 2014.
[67]Detges, 2014; Gray et al., 2003.
[68]Corniaux et al., 2012.
[69]Dean et al., 2013.
[70]Pavanello, 2009; Zondi, 2018.
[71]Bernus, 1993.
[72]Boutrais, 2007.
[73]Baroin and Boutrais, 2008.
[74]Lutta et al., 2020.

Gender differentials in livelihood patterns

The livelihoods aspect of agropastoralist life shows some of the greatest gender differences across all the variables covered by the research. The marked difference is that more than twice as many men (77 percent) than women (36 percent) are chief income earners in their households. This has a direct impact on earnings for men and women, with men, on average, earning around $20 per week and women $11.

The primary occupations of men and women differ too – up to 63 percent of men and 57 percent of women describe themselves as farmers. Just over half of men (52 percent) say they are a herder, versus 36 percent of women who earn a living this way. In contrast, significantly more women than men describe their primary income as looking after their children (18 percent vs. 1 percent). A similar proportion of men (17 percent) and women (19 percent) describe themselves as traders.

Partly reflecting the gender profile of the youth sample, this group is considerably less likely to be the main income earner in their household as compared to those aged 35 years or more; and consequently, youth are slightly less likely to have traditional agropastoralism as their primary occupation. Instead, one in ten youth sees themselves primarily as students. Given this, it is not surprising that youth may be less financially exposed than older groups and are more reliant on parents for financial support.

The fact that more men earn a living probably explains why a higher proportion of males say their income has decreased over the past two years (61 percent versus 55 percent of women), and it is noteworthy that there is no difference between genders in terms of their ability to make enough money to buy basic goods or save money. Nevertheless, the different earning modalities and the fact that women are

considerably less likely than men to be the main income earners does impact on how these groups cope with and respond to financial vulnerability. Half of male survey respondents say they do not get financial help from anyone else, while only a third of female respondents say the same. Wives are almost three times as likely to get financial help from their husbands as vice versa; and daughters can rely on their parents more than sons can. This can be both positive and negative for wives: being able to receive support is positive, but a wife's dependence on their husband can be disempowering. Even so, both men and women can rely on family to help them with their livelihoods: 62 percent of men and 71 percent of women say they would get help from their family if they had an economic problem, such as crop or herd loss.

These findings correspond closely with the established literature on gender differences and perspectives in terms of the economic role played by men and women in these communities. This literature is summarized in the gender section later in this report.

Not earning enough

Herders typically save in the form of cattle and livestock, and when they are forced to sell these off to access cash income, it is often an indicator of distress. At the same time, economic life in the borderland regions is tough. As illustrated in Figure 3, only one in ten survey respondents say they earn enough money to save, and half do not earn enough to buy the basics. Approximately a third only earn enough to buy basics. This illustrates the harsh financial context of life for most people in the borderland regions. It also exemplifies the resilience shown through a combination of relying on diversification of economic activities and dependence on social capital for survival.

The economic context of agropastoral life in the borderlands was also assessed in the research by asking respondents how much income or money they typically make each week. The results are shown in Figure 3. Almost half of the respondents earn less than $5 per week, including a quarter who say they earn nothing. The average income of the survey respondents is $65 per month. To provide some comparison, the average median monthly income of the public across each of the eight countries is $797.

Borderlands agropastoralists with poultry

Figure 3:
Earning money

Q) Which on these statements best applies to you?

- 6%
- 10%
- 34%
- 50%

- I make enough to buy basics & save the surplus
- I make enough only to buy basics
- I don't make enough to buy basics
- Don't know / refused
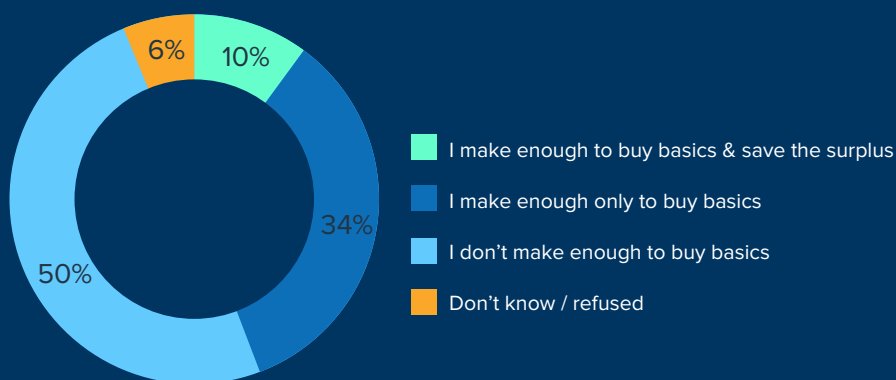
	Male %	Female %	18-24 %	25-34 %	35+ %
Make enough to buy basics and save the surplus	10	9	13	8	9
Make enough only to buy basics	36	32	32	35	34
Don't make enough to buy basics	49	51	44	49	54

Base: 1,042 agropastoralists (full sample).

[75]https://worldpopulationreview.com/country-rankings/median-income-by-country.

Table 7:
Average weekly incomes

Q) In a typical week, how much income/money do you make?

- **25%** Nothing
- **23%** Below $5
- **11%** Between $5 and $10
- **11%** Between $10 and $20
- **17%** Over $20
- **14%** Don't know/refused to answer

Base: 1,042 agropastoralists (full sample)
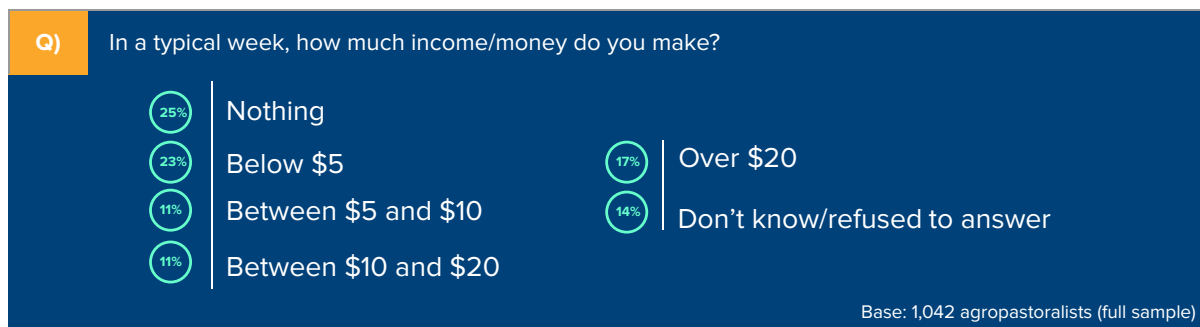
Livelihoods getting more difficult

The evidence suggests that financial vulnerabilities are becoming more severe, as nearly three in five (58 percent) survey respondents report that their income has decreased over the past year. This compares with one in eight (12 percent) who report an increased income. There is also a strong association between those who say their income has changed and their ability to meet their basic needs. Among those who say their income has gone up in the last two years, 37 percent are able to save money and just 17 percent do not have enough to buy basics. In contrast, among those who say their income has gone down in the last two years, only 6 percent are able to save and ten times more (62 percent) do not have enough to buy basics.

The vulnerability of agropastoralist livelihoods is a good example of how multiple vulnerabilities intersect and often reinforce each other. Environmental problems or more irregular rainfall can impact harvests or hamper pastoralist ability to water and feed their animals. This in turn, reduces productive capacity and can lead to conflict. Increased conflict reduces people's ability to earn a living, which is often associated with increasing prices, as illustrated in the following comment.

"
"Lack of a peaceful environment to yield and harvest enough food that will sustain me and my family throughout the year, uncertainty of the outcome of what one planted due to fear of herders' destruction, hike in prices of commodities... one hardly feeds his family these days."

Other changes, such as the high cost of agricultural inputs and poor-quality inputs, can also have a profound impact.

[76]Nigeria, Jigawa, focus group discussion.

55

"
"We used to grow good quality cotton and after the sale we earned a little money for our daily needs, but three years ago they sent us a variety of cotton seed that is not of good quality, we cultivate it, but we do not harvest much and we are in debt because we took the inputs on credit, so this is a threat to us. This situation has led many cotton farmers to decide not to grow cotton anymore. It should also be noted that fertilizer is very expensive, yet our livelihoods come mainly from agriculture, and this situation exposes us to food insecurity."

Beyond the specific challenges highlighted by respondents, country-level data and patterns of poverty, unemployment and literacy underline the acute livelihood limitations that borderland communities face. As documented in Annexes 1-3, an average of nearly 42% of the population in the eight countries live below the national poverty line; it is highest in South Sudan with 82%, around 40-45% in Niger, Nigeria and Mali, and lowest in Uganda (21.4%) and Ethiopia (23.5%). Across the eight countries, the employment rate is around 66%; it is highest in Ethiopia (78%), Kenya (72.9%) and Niger (71.5%), and it is lowest in Nigeria (48.5%). The average literacy rate for the eight countries is 54.5%; it is highest in Uganda and Kenya (over 87%), and lowest in Mali (50%) and South Sudan (47.9%). Such limited employment and literacy rates in the context of high population growth, high incidence of poverty, a youth bulge and poor economic growth means that populations in borderland areas face an uphill task in maintaining their livelihoods and sustaining their living standards.

Economic diversity and social capital

The family is the most important source of financial help to people in borderlands – one in four survey respondents say they receive financial help from their spouse, and 47% receive support from any family member. This compares with just 11% who say the government provides financial assistance, and 19% get support from other bodies, such as financial institutions, micro-savings groups or non-governmental organizations. Furthermore, two in five agropastoralists do not receive financial support from anyone.

To understand how agropastoralists who struggle to earn enough money to buy basics cope, this sample was asked what they do in response. The most common responses are shown in Table 8.

[77] Burkina Faso, Cascacades, focus group discussion.

Table 8:
Responding to not making enough money

Q) What do you do to cope without enough money?

Base: 520 respondents who are unable to buy basics

24% I sell livestock/ agricultural products and other goods

19% I depend on donations from NGOs and government

15% I get financial help and support from family members

7% I do manual labour for money

6% I avoid unnecessary purchases

5% I borrow money from creditors

As well as seeking direct financial support from family, NGOs or government, resilience is established through diversifying work, labour and commercial opportunities. The strong emphasis on being able to trade, have access to markets and adapt sources of livelihoods that fit seasons are striking features of agropastoralists' resilience to the changing vulnerabilities impacting their livelihoods. The following two examples illustrate this diversification, from two participants (one based in Uganda and the other in Kenya).

"Here you will not get ready food but work for it. Someone calls you to make bricks or build his house and pays you money. Sometimes they pay by giving you food or cash; now it's upon you to plan for your family by buying food for them. We sometimes move to farms, and you dig and be paid money...My spouse and I do a lot of work to provide for our children. As a man, I collect firewood and give it to my wife to go and sell; she also goes and fetches water to get a little money to help us out."

"In business, I'm spared all the problems with livestock keeping, like moving in search of water and pasture and the stress of taking care of weak animals due to drought. I have observed those doing business have better living standards than livestock keepers."

---

[78]Uganda, Kaabong, in-depth interview.
[79]Kenya, Marasbit, in-depth interview.

Nevertheless, the family is at the centre of economic-related resilience and coping. As Table 9 illustrates, relatively few people feel they can turn to the government in times of need. Instead, two-thirds of agropastoralists would turn to their family if they had an economic problem, which is considerably more likely than other means. Interestingly, very few (7%) feel they would have no one to turn to if they had an economic problem.

Table 9:
Support when economic problems arise

Q) If you need help because of an economic problem (for example crop or herd loss), who do you think would help you?
Multiple answers allowed

- **67%** Family
- **25%** Friends
- **26%** Government
- **25%** NGOs
- **18%** Community Networks
- **10%** Traditional/cultural/tribal institutions
- **5%** Religious bodies
- **2%** Other

Base: 1,042 agropastoralists (full sample)
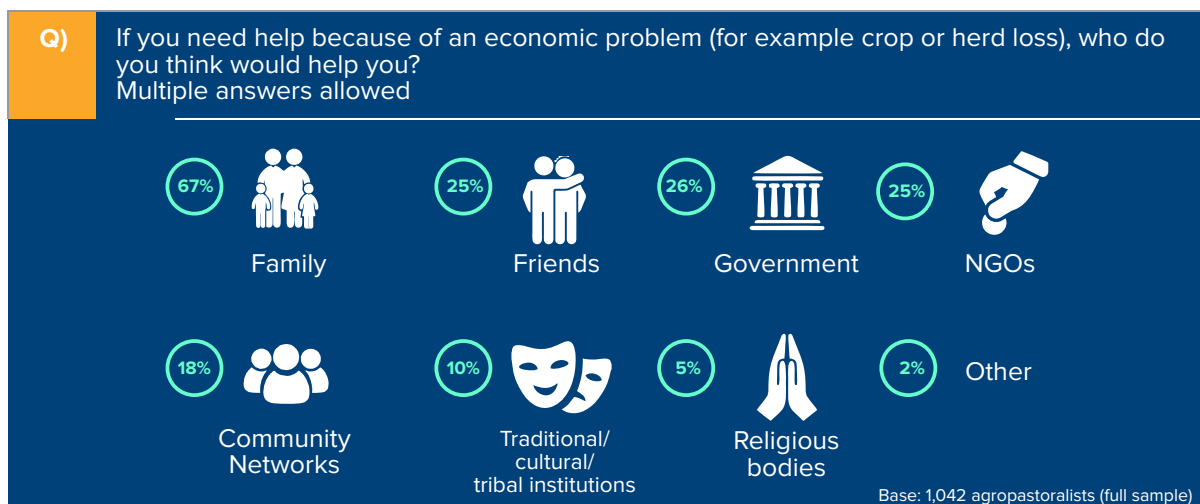
The reliance on family support can be seen as both a positive and negative aspect of agropastoral life. Family structures mean that there is some support for those that struggle. On the one hand, the reliance on family for support reflects the inadequate level of social protection in many countries. As indicated in Annex 8, except for Uganda with social protection for over 75% of its population, all the other seven countries have low levels of social protection, including Kenya (34.7%), Ethiopia (16.2%), Niger (15.5%), Nigeria (5.2%), South Sudan (3.4%), Burkina Faso (1.8%) and Mali (0.6%). It could be expected that the level of social protection in borderland areas will be lower than the national average due to patterns observed in service delivery in most countries.

On the other hand, the reliance on family support correlates with the rising amount and importance of remittances to Africa and the fact that it is driven in largely by the "...migrants' desire to help their families by sending money home and drawing on savings." While there are no disaggregated regional and national data on recipients of remittances in ways that allow for the determination of inflow to borderland communities, it is logical to expect that borderland populations will also be beneficiaries of remittances. The national level data provides interesting insights; the World Bank notes that in 2021, remittance inflows to sub-Saharan Africa increased by 14.1% ($49 billion) and it is projected to grow by another 7.1% in 2022. In 2021, Nigeria retained its position as the highest recipient with $19.2 billion, followed by Kenya with $3.7 billion,

Uganda with $1.1 billion and Mali with $1 billion. In the previous year, Burkina Faso and Niger received over $500 million each and Ethiopia received $404 million. Across the research countries and Africa at large, remittance inflow is the largest source of external financial flow and in some of the research countries, remittances constitute a significant share of GDP. In Kenya for example, remittances constitute 20% of GDP.

Still, family support can also mean whole families are affected when there is a lack of adequate government intervention, and for women, the lack of institutional support could increase their reliance and dependency on husbands and other male family members. Moreover, the vulnerability of remittances and other forms of family support (and other non-institutional support mechanisms) to shocks in the global and local economy multiplies the risks to the livelihood and survival of borderland communities, as witnessed during the COVID-19 pandemic and its associated impact on financial flows, including remittances.

The advanced statistics analysis of the dataset (see Annex 11 for more details) confirms the benefits of household size and diversity of sources of income, as well as mobility. Table 10 shows the findings of a model in which the individual reports not making enough money to buy basics (used as a self-reported poverty indicator). Older people seem to be significantly (yet marginally) more likely to be poor, while household size turns out to reduce the poverty indicator and is statistically significant – that is an extra household member reduces the likelihood of being poor by 6 percentage points. This is consistent with a household model in poor contexts, in which members are a source of labour and income for the family, rather than a liability. Being the breadwinner is, not surprisingly, associated with a lower likelihood of being poor, while being in a trading occupation is less associated to self-reported poverty. Yet, having a conflict experience increases the likelihood of being poor.

---

[80]Migration Data Portal, 'Remittances,' https://www.migrationdataportal.org/themes/remittances, accessed 29 September 2022.
[81]World Bank (2022), "Remittances to Reach $630 billion in 2022 with Record Flows into Ukraine," Press Release No:2022/060/SPJ, available at https://www.worldbank.org/en/news/press-release/2022/05/11/remittances-to-reach-630-billion-in-2022-with-record-flows-into-ukraine#:~:text=During%202021%2C%20remittance%20inflows%20saw,South%20Asia%20(6.9%20percent), accessed 30 September 2022.
[82]See The World Bank, 'Personal Remittances Received (current US$),' https://data.worldbank.org/indicator/BX.TRF.PWKR.CD.DT, accessed 30 September 2022.
[83]World Bank (2022), "Remittances to Reach $630 billion in 2022 with Record Flows into Ukraine," Press Release No:2022/060/SPJ.

Table10:
Determinants of being poor (self-reportedas not making enough money to buy basics)

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	0.00387***	0.00417***	0.00416***
	(0.00125)	(0.00127)	(0.00127)
Gender (=0 male, 1 female)	0.0157	0.0205	0.0205
	(0.0352)	(0.0362)	(0.0363)
Secondary education and more	-0.0475	-0.0503	-0.0508
	(0.0457)	(0.0465)	(0.0466)
Household size	-0.00625**	-0.00558*	-0.00562**
	(0.00269)	(0.00285)	(0.00286)
Access to basic services (electricity, water, shelter)	0.0446	0.0524	0.0506
	(0.0495)	(0.0511)	(0.0512)
Main earner (=1 YES)	-0.0663*	-0.0627*	-0.0642*
	(0.0359)	(0.0367)	(0.0369)
Herder occupation	-0.0464	-0.0407	-0.0399
	(0.0349)	(0.0357)	(0.0358)
Farmer occupation	-0.0247	-0.0217	-0.0199
	(0.0361)	(0.0372)	(0.0374)
Trader occupation	-0.105***	-0.113***	-0.113***
	(0.0393)	(0.0413)	(0.0413)
Artisanship occupation	0.194**	0.187**	0.192**
	(0.0876)	(0.0887)	(0.0891)
Look after children or home occupation	0.0344	0.0578	0.0549
	(0.0556)	(0.0572)	(0.0576)
Student occupation	0.403***	0.396***	0.395***
	(0.0865)	(0.0875)	(0.0876)
Distance to drinking water (in hours)		-0.0118	-0.0116
		(0.0173)	(0.0174)
Border crosser (=1 YES)		-0.0112	-0.0123
		(0.0348)	(0.0350)
Conflict experience (=1 YES)		0.0551*	0.0537
		(0.0334)	(0.0335)
Economic help (=1 YES)			-0.0249
			(0.0607)
Security help (=1 YES)			0.0640
			(0.0951)
Constant	0.545***	0.509***	0.474***
	(0.0704)	(0.0748)	(0.121)
Observations	958	928	928
R-squared	0.169	0.162	0.162
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

> Inadequate state governance and failures of effective representation mean that many agropastoralists do not have the services they should have. Basic gaps make life harder than it should be and diverts human and economical capital that could be used more productively elsewhere. Enhancing services for these communities requires both state investment and radical redesign in how services are delivered, building on the lifestyles and needs of borderland communities.

GOVERNANCE AND SERVICES

Context

Available data indicate limited progress and/or deterioration in the governance indicators of most African countries. For instance, the 2020 Ibrahim Index on African Governance (IIAG) pinpoints a worrying decline in key governance indicators for Africa. It notes that "although African governance has improved since 2010, progress has slowed in the last five years. Indeed, the 2019 Overall Governance score concerningly registers a year-on-year decline for the first time in the decade." The IIAG notes that since 2015, improvements in Africa's governance indicators either slowed or stagnated. In fact, compared with the patterns recorded in 2010, Africa has witnessed deterioration in participation, rights and inclusion, security and rule of law, and a slower pace of improvements in economic opportunities and human development.

Still, observing minimum standards in democratic political transitions and political governance, and providing people with access to basic public services, such as education, health, transport and security, are fundamental human rights as stipulated in regional and international statutes. Minimum standards also underpin the existence and effectiveness of the state (social contract obligations) in the promotion of development and social cohesion. In many respects, the social utility of the state determines its credibility and viability.

Lack of improvements in key political governance issues (rule of law, justice, accountability, transparency, anti-corruption, human rights, political participation, inclusion and equality) and inadequate policies specifically adapted to the needs of border regions have resulted in underinvestment, poor services and

marginalization of borderland regions. In the Horn and the Sahel, the lack of investment in infrastructure, education, health and market activities has whipped-up anti-state sentiments and weakened the process of national cohesion, facilitating the festering of secessionist and extremist movements. Pastoralists and farmers living in border regions have been among the first to be affected by the development of violent extremist groups affiliated with Al Qaeda or the Islamic State. The decline in agricultural production and restructuring of trade routes due to violent insurgencies has negatively affected livelihoods, created several major food crises in the two regions.

Development policies implemented by Sahelian and East African states from the late 1970s onwards rarely contributed to attenuating the impact of climatic crises and, as a result, pastoralists have become highly dependent upon development aid, particularly during droughts and other times of stress. These policies were often designed on a national basis, assuming the state wields complete sovereignty over its territory and without considering cross-border interdependences. Thus far, capacities of borderland regions to deal with vulnerability and insecurity are limited by the national and regional governance context, including the lack of formal institutions that would extend beyond national boundaries.

Political transition challenges

National governance environments directly and indirectly shape events in borderland regions. Over the past decade, the eight countries profiled in this report experienced significant challenges in political transitions, including contested elections,

[84]Mo Ibrahim Foundation, 2020, p. 3.
[85]Ibid, p. 6.
[86]Nugent, 2019.
[87]Walther and Miles, 2018.
[88]World Food Programme, 2019.
[89]Derbyshire et al., 2021.
[90]World Bank, 2020.

pre- and post-election violence and dysfunctional national-local governance arrangements, notwithstanding efforts at devolution in recent years. Recent events, including cross-border insurgencies and insecurities, military coups and associated responses (sanctions) by regional and global institutions have worsened the situation. The imposition of socio-economic and political sanctions (e.g., diplomatic suspensions, trade and travel restrictions and closure of borders) by regional bodies compound economic challenges, including in the borderland regions that rely on cross-border mobility. Beyond coups, the quality and outcomes of elections in some of the study countries are perennial sources of tension, violence and instability across the countries, including border areas.

Recurring political governance issues

The eight countries (and their borderland regions) have experienced a variety of political governance challenges over the past decade, including those in the field of the rule of law and justice, dysfunctional national-local governance arrangements, limited accountability and transparency and anti-corruption efforts, and challenges to political participation, human rights and issues of inclusion and equality. These challenges have direct implications on political stability, economic growth and the quality of governance and service delivery to citizens in general, and to borderland regions in particular. For instance, issues of marginalization, political exclusion, unequal representation and service delivery and corruption underpin grievances against the state and governments and are a basis for agitation for radical changes, secession and unconstitutional changes of government in some of the countries.

Rural areas (including borderlands) lagging behind

The headline observation from the 2020 IIAG regarding Africa's decline in most governance indicators over the past decade is most reflected in rural areas (borderlands are mostly rural regions). As indicated in a longitudinal reading of trends in the 2020 IIAG's rural sector (and sub-indicators like rural land and water access, market access and rural sector support) performance for the eight countries for 2010-2019 shows a decline or stagnation or marginal improvement. As indicated in Annex 9, none of the eight countries is ranked in the top 10 for overall rural sector performance in Africa in 2020. When disaggregated, South Sudan recorded the largest decline (-23.6) for overall rural sector performance in the period 2010-2019, followed by Burkina Faso (-7.9), Nigeria (-5.9), Niger (-2.7) and Kenya (-2.3). Ethiopia, Mali and Uganda recorded stagnation or marginal improvements. South Sudan recorded the most decline in rural land and water access (-23.0), followed by Burkina Faso (-10.5) and stagnation in Niger. Nigeria recorded the largest decline in rural market access (-29.0) because of insecurity (Boko Haram insurgency and banditry) in rural areas. Rural sector support declined the most in South Sudan (-23.0), followed by Burkina Faso (-15.6), Uganda (-13.6) and Niger (-10.8). All indications point to the intensification (deterioration) of this trend, especially with worsening security situations in borderland areas in the eight countries since 2020.

[91]IIAG 2020 Country Score Cards, https://www.worldbank.org/en/news/press-release/2022/05/11/remittances-to-reach-630-billion-in-2022-with-record-flows-into-ukraine#:~:text=During%202021%2C%20remittance%20inflows%20saw,South%20Asia%20(6.9%20percent), accessed 30 September 2022.
[92]Ibid.

Inadequate formal governance

Analysis of 2019-2021 Afrobarometer data from the public across the countries covered in this research provides useful context for understanding the problems facing borderland regions and the importance of traditional leaders as a source of governance and legitimacy when faced with a lack of adequate state-level institutions of governance.

In the sampled countries, more people say that elections generally do not ensure Members of Parliament reflect the views of voters (50% not well vs. 44% well) and just over half of people are not satisfied with democracy (52% not satisfied vs. 45% satisfied). Criticisms of national politics and governance are reflected in how people rate the performance of different levels of politicians. Overall, 46% approve of the performance of their Member of Parliament and 49% disapprove. Ratings of local government councillors are higher: 51% approve vs. 35% disapprove. This illustrates the importance of an empowered local government that can be responsive to the needs of local communities.

These questions were not asked in this research of agropastoralists and therefore direct comparisons of the data is not possible. Nevertheless, it is helpful to understand the wider public's views on national vs. local governance and of traditional leaders. The Afrobarometer data reveals the public in these countries are more positive about the performance of traditional leaders (74% approve vs. 19% disapprove) and of their role in governance (see the stats below).

- ◎ **60%** believe traditional leaders strengthen democracy vs. **8%** who say they weaken it;

- ◎ **66%** think traditional leaders have some or a lot of influence in governing their local community; and

- ◎ **78%** consider traditional leaders have some or a lot of influence in solving disputes.

Agropastoralist plays with grandchild, Kenya

In this research, issues around governance are primarily considered in the qualitative methods. The interviews with key informants show that a common thread among borderland areas has been attempts in recent decades at decentralization in the name of bringing government closer to the people. Many examples exist of laws, policies and initiatives aimed at improving livelihoods. However, as the comments from research participants below illustrate, there is also much criticism of the gaps between the theory and the practice of decentralized government, with politicians often not being responsive to local needs, a lack of agropastoralists involvement in the development of policies and inadequate consultations with impacted communities.

[93]Analysis is based on aggregated surveys of the public in seven of the eight countries covered by this study (data is not available for South Sudan). https://www.afrobarometer.org.

"

"In case of problems of representation or governance, these communities have no choice because they cannot change anything, and their voice does not count."

"These various farmer and pastoralist organizations need to be revitalized by involving the grassroots communities. Generally, policies are drafted and then they are just communicated and implemented, and that is the problem. The communities must be involved in the drafting and implementation of development policies."

"The gaps in policies and programmes today are the lack of information and consultation with the population. Indeed, the texts are adopted without a concrete involvement of the stakeholders concerned (farmers and herders) who are the most concerned but unfortunately considered as illiterate and therefore not able to add value, a notion which is totally false. In addition, there is a bad practice in the implementation of the activities. When support is available, it happens that the management units are too far from the beneficiaries of the assistance."

"The herders and farmers living in these remote areas are not represented in governance. It is part of our plea for the government to include the herders and famers in governance this will bridge the missing gap between the remote rural dwellers and the state. This will go a long way in ensuring government policies and programmes meant for the borderland communities to succeed."

Others also cite the lack of education among farmers and herders of their rights in terms of representation and governance. When examples of improved representation are given, these are often connected with initiatives to educate people on their rights.

[94]Mali, Sikasso, key informant interview.
[95]Burkina Faso, Cascacades, key informant interview.
[96]Mali, Gao, key informant interview.
[97]Nigeria, Sokoto, key informant interview.

> "The thing is the leaders were not elected, but rather appointed, especially at local and state levels. So, you don't expect the leader to do the needful because he does even know the problems of his constituents. The farmers and herders on the other hand are not aware of their rights and how they can make their voices count in [the way] they are being governed. Their duties are only casting of votes from one election cycle to another. I think the only way to make these people have a say is through free and fair elections. If they elect their leaders, they will have the guts to query them when necessary because they gave them their mandates."

A general lack of direct individual representation and state fragility in these areas means that traditional authorities and farmers and herders associations are often the point of contact with authority and provide the fora through which consultation takes place. As is explored in the next chapter, this is particularly true when conflict and security are concerns. Sometimes these approaches are effective – and in the absence of more formal, state institutions the only mechanism for representation; yet truly effective governance requires a combination of local participation, state support and cross-border cooperation.

> "If there is an issue on the side of Uganda, there are committee members there, and the same with Kenya. The committee members hold a baraza on the side of Kenya, and then they communicate. Then they look for a ground where they can all meet and hold a joint baraza between the people of Uganda and Kenya where they will discuss the issue of peace. At times, they look for the culprits who might have engineered the skirmishes and, if found, they are penalized by their community if [the culprit] is from Uganda, the committee from there will handle the matter and likewise in Kenya so that it serves as a warning to whoever could make such an intention in future."

> "Recently, there has been relative peaceful co-existence compared to before. However, there are still a few livestock theft cases on both sides of the border. The Kenyan and Ugandan governments have put up a committee to help follow such cases hence helping to spot the animal theft. To a significant extent, conflicts have been minimized, thus the peaceful co-existence. Conflicts were more rampant twenty years ago."

[98]Nigeria, Sokoto, key informant interview.
[99]Kenya, West Pokot, key informant interview.
[100]South Sudan, Easter Equatorial, key informant interview.

As the Afrobarometer data shows, in borderlands and other areas, traditional leaders are often seen as more legitimate and better avenues for participatory political involvement than the state structures. Nevertheless, states do have responsibilities to provide for citizens irrespective of where they live. A symptom of inadequate governance can be seen in the extent to which agropastoralists can access quality services and how they respond when unable to.

Access to services

Around nine in ten respondents say they have access to shelter and land, but their ability to benefit from other services is considerably more limited. The continental pattern of decline in governance performance, including service delivery, are reflected in the eight countries covered in this report, and borderland communities fare worse than national averages. To begin with, the countries are not in the top echelons in the 2020 IIAG rankings for governance in Africa; for instance, the eight countries are ranked as follows: Kenya (14), Burkina Faso (17), Uganda (22), Niger (28), Mali (31), Ethiopia (31), Nigeria (34) and South Sudan 53). When disaggregated, most of the countries have even lower rankings and score for their Rural Sector (including rural market access, rural land and water access and rural sector support) and on Human Development (including access to health and healthcare, water and sanitation). All this suggests that agropastoral borderlands in the selected countries exist in country contexts in which governance broadly, and the provision of services in particular, lag.

From interviews and secondary data, the eight countries score low in overall access and quality of services to rural population. In the 2020 IIAG for instance (see Annex 9), for rural access to land and water, the highest ranked among the eight countries (for Africa) is Ethiopia (7), Uganda (11), Kenya (14), Mali (27) and Burkina Faso (29). For rural market access, Mali is ranked 14, followed by Ethiopia, Kenya, Uganda and Niger (jointly ranked 15), Burkina Faso (29) and Nigeria (33). These gaps in service provision and access have a profound impact on how people live and their ability to prosper. The lack of services can either be due to a genuine lack of capacity and resources on the part of the state, or poor policies and lack of prioritization (neglect) of borderland communities.

More than four in five people interviewed do not have electricity, one in three lack access to security (explored further in section 4) and one in five live without water. For a population for which mobility is a central part of life, it is also striking that over two in five lack access to transportation.

Table 11 shows the proportion of respondents who have access to 13 different types of services together with who is the main provider of that service. The percentage in parenthesis is the proportion of those who have access to each service that say that service is provided by the main provider. For instance, 90% of respondents say they have access to shelter and 72% of this 90% of the full sample say the main provider of shelter is "ourselves/community." Another pertinent observation is also the degree of self-help, couched as 'ourselves/community,' in the provision of certain critical services in borderland areas.

Access to services and main provider of each service

Service	% Whohave access	Main provider
Shelter	90	Ourselves/community (72%)
Land	87	Ourselves/community (58%)
Education	79	Government (88%)
Water	78	Government (52%)
Healthcare	75	Government (86%)
Telecommunication	68	Government (45%)
Security	64	Government (82%)
Justice	56	Government (64%)
Transportation	55	Private sector (60%)
Markets to sell goods	44	Ourselves/community (54%)
Veterinary services	34	Government (63%)
Electricity	13	Government (66%)
Capital for business	9	Ourselves/community (71%)

Base: 1,042 agropastoralists (full sample).

Interestingly, access to governance and services is reasonably consistent between men and women, albeit slightly more men say they can access some services like markets, veterinary services and telecommunications. Perhaps most strikingly, while men are more able to access markets provided by government, women rely on markets provided by coming together as a community (cooperatives). Although there is minimal difference in the proportion of men and women who say they have access to education (76% and 73%, respectively), more female than male respondents say they have received no education (67% and 56%, respectively).

In terms of youth respondents, the only service for which a significant difference in views is observed is in relation to transportation, with youth being considerably more likely to be positive about the service provided. Youth are more educated than older people, reflecting the generally greater access to education across generations. Even so, as many as one in two agropastoralists aged 15 to 24 years old has no formal education. To provide some context, Afrobarometer data shows that just 28% of the adult population across the countries surveyed have no formal schooling, including just 18% of those aged 18-25 years old.

Among those who do have access to services, the government is most likely to provide most of these services, in particular healthcare, education and security. However, the government is typically not the only provider. For example, even with security, one in nine say this is provided by the people themselves and their community. Furthermore, shelter and land are two services with the greatest levels of provision, and the government is not the main provider of either.

For several services, the government is the minority provider. Transportation is most likely to be delivered by the private sector (only 7% say the government provides this), and a clear majority say that shelter and capital for business is provided through the community.

Having access to quality services provides direct benefits, but the positive impact reaches further than the utility of the service itself. The statistical analysis of the responses to this survey (see Annex 11 for more details) illustrate that a strong statistical correlation exists between access to basic services (such as electricity, water and shelter) and exposure to other vulnerabilities: e.g., those with little access to services and water are those with a higher degree of multiple

vulnerabilities. Table 11 shows that those with less access to services are least likely to feel they can stay living in their homelands (even if they want to) and having access to basic services is positively associated with safety – as Table 11 shows, on this indicator, basic service access decreases the likelihood to feel unsafe by about 18 percentage points.

Barriers to access

Table 12 shows the proportion of survey respondents who say they do not have access to each service. The top two services (in terms of lack of access) are capital for business and electricity. The table also illustrates the top two reasons given for why access is unavailable. Lack of service is the primary reason, with distance typically being the secondary barrier. To some extent, these represent the same barrier to access in that, from the perspective of individuals, the services are not available to them, and they suggest significant infrastructure investments and/or reimagining how some services can be delivered as core priorities to support greater access. These points are explored in more detail below.

Agropastoralist builds a manyatta, Kenya

Table 12:
Lack of access to services and top two reasons why

Service	% who have no access	Main reason	Second reason
Capital for business	87	Does not exist	Cannot afford
Electricity	86	Does not exist	Cannot afford
Veterinary services	62	Does not exist	Too far away
Markets to sell goods	54	Does not exist	Too far away
Transportation	43	Does not exist	Cannot afford
Justice	42	Does not exist	Too far away
Security	33	Does not exist	Too far away
Telecommunication	31	Does not exist	Cannot afford
Water	21	Does not exist	Too far away
Healthcare	24	Does not exist	Too far away
Education	18	Does not exist	Too far away
Land	8	Cannot afford	Does not exist
Shelter	8	Does not exist	Cannot afford
			Base: 1,042 agropastoralists (full sample).

> The lack of service provision represents a lack of governance that typifies many borderland areas.

"We have been here for years but there is no representation of the state security forces, no good road, no electricity, no drinking water, our water is from wells. Our community has taken its destiny into its own hands in terms of conflict and reconciliation to ensure security, in collaboration with neighbouring communities. Individuals have been identified and mandated to inform the traditional authorities if they find suspicious people entering our communities."

"It's difficult to access such services because the government has limited resources."

"The most accessible service is health care access with 100% coverage, but the quality is not good; education is also 100% accessible. Security services are also accessible, but the main service we are looking for is electricity service; Ethiopia's government is the provider."

"We need electricity, advanced irrigation service and transport. Unfortunately, these services are not available, and those services are the ones we need most."

Quality of services

The survey respondents were also asked to rate the quality of the services they can access. Table 13 presents the results showing the proportion of respondents who have access to each service and (among those who do have access) the proportion who rate the service as either good or poor.

Encouragingly, for all services, more respondents say they rate the service as good rather than poor, with the highest negative score for shelter (23% rate it as poor). For eight of the 13 services, at least half rate the services as good, and for the remaining five, fewer than half do. The lowest positive scores are capital for business (30% rate as good) and transportation (36%).

Agropastoralist shares Paw Paw fruit from his farm with a neighbor, Paajok South Sudan

---

[102]Mali, Sikasso, key informant Interview.
[103]South Sudan, Upper Nile, key Informant Interview.
[104]Ethiopia, Daawa Zone, key Informant Interview.
[105]Ethiopia, Daawa Zone, key Informant Interview.

Table 13:
Access to and ratings of services and the main provider of each service

Service	% who have access	% rate as good	% rate as average	% rate as poor
Shelter	90	43	33	23
Land	87	65	29	6
Education	79	53	34	13
Water	78	58	32	10
Healthcare	75	49	37	14
Telecommunication	68	54	28	17
Security	64	55	31	14
Justice	56	55	29	5
Transportation	55	36	49	13
Markets to sell goods	44	42	40	17
Veterinary services	34	50	42	6
Electricity	13	50	39	9
Capital for business	9	30	51	15
Base: 1,042 agropastoralists (full sample) and those who have access to each service.				

Even when more are positive than negative about service quality, significant proportions also tend to rate each service as average, suggesting there is plenty of scope for improvements in the quality of most services.

The quantitative survey results provide useful data on how many people have access to different services, overall perceptions of the quality of services and identifies gaps in provision. The qualitative research offers a more in-depth understanding of how agropastoralists experience these services and can illuminate the complex difficulties faced in benefiting from services. Three themes related to service provision stand out, as described below.

(a) Joined up government

Even when a service might be available, the full user needs may not be met. Several participants highlight this with respect to healthcare. For instance, a health centre or hospital without adequate doctors and nurses can only be of limited use; pharmacies and dispensaries that are far from the medical centres can mean a lack of treatment for those who need it. Some services may be within a reasonable distance, but poor-quality rural roads or lack of affordable transportation renders services still difficult to access for many people. Respondents criticized lack of maintenance, poor maintenance and poor governance as examples of how services, even when available, are not satisfactory.

> "All the above-mentioned services are declining when compared to the last two years. Gradually, things are going backwards, the few hospitals, schools and water sources, as well as electricity, are not properly maintained and managed due to corruption and bad governance. The population of both farmers and herders grows by the day, but the services are not expanded to take care of the growing populace."

(b) Seasonality

Access to water can vary considerably depending on the season, with some participants stating, for example, that in the rainy season water can be accessed within 30 minutes, but in the dry season it can be 20-30 kilometres away to the nearest source. Boreholes close to living areas may dry up or be of no use when they are not properly maintained (see section 5 for more details, particularly around access to water).

(c) Effects of conflict

Several participants talked about how conflict has a negative impact on service provision, by creating a barrier to the human or personnel capabilities required for adequate provision, which begins a vicious circle of conflict-induced lack of service provision. While a new structure or building can facilitate the provision of services, without people to provide the service, it serves little use, as illustrated by the below comments.

> "Take for example if you were to establish a school in one of these communities and you find the whole area had been deserted due the conflict what will you do? Even if a teacher is posted to these remote areas, they never report to duty because of the insecurity problem."

> "Today we are seriously confronted with the issue of education in Mali in general and in the Gao region. Only the big cities have schools here. In fact, our schools have been closed since 2012 with the first attacks on Kidal and Gao by terrorists. The teachers are afraid of reprisals from the armed men. That is why everyone has gone home, and the schools are closed."

---

[106]Nigeria, Jigawa, key informant interview.
[107]Nigeria, Sokoto, key informant interview.
[108]Mali, Gao, focus group discussion.

Resilience in the absence of adequate governance

The general failure of governance and widespread lack of many services requires agropastoralists to demonstrate high degrees of resilience and adaptability. Living in borderland areas would be impossible without high degrees of resilience.

This study's research identifies four common coping strategies that feature among this population, as illustrated in Figure 4.

Figure 4:
Resilience in the absence of adequate governance and services
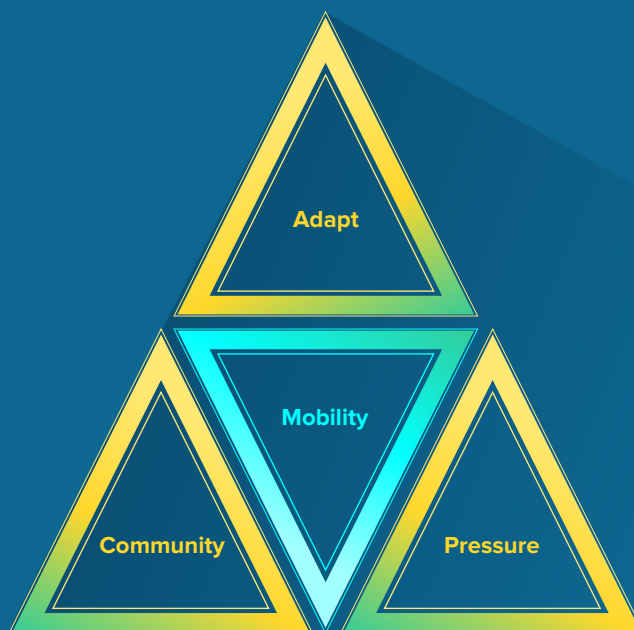
The first response mechanism is to **adapt** to living without services. This may include, for instance, depending on herbal medicines or self-medication when people are sick. When electricity is not present, it may require installing solar panels or generators, or, for some, doing without. Providing electricity could have a transformative impact on other aspects of people's lives. For example, providing electricity and mobile connectivity would increase sellers' market information – they could have a better idea in advance how much their goods would be sold for at a market (which is often some distance way) and therefore allow them to make informed choices about where to travel and reduce dependency on richer merchants who have greater market information.

"We that live in the bush have less business with electricity. We have never dreamed of enjoying it. I do not even think it is possible a herder like me would ever have electricity in her home, except if we migrate to towns."

"There is no access to electricity, so they make do with "China thank you;" [that's what we call] the solar lamps that come from China. They don't have access to state-supplied electricity."

Mobility is a coping mechanism for many people when governance and services are lacking. This is particularly true when core services, such as water and security, are unavailable. In some ways, living close to borders is a bonus for agropastoralists as this allows them to access services and support unavailable in their home country.

"There is currently a problem in this area; life is very hard, there is no hospital around, there are no drugs. People are suffering in this area of Kiwawa, [Kenya], which is why they seek medical services in Amudat, Uganda."

"I live next to the border because of easy access to Ethiopia's other side services. For example, accessing food in the Ethiopian market is easy and affordable."

These examples provide further evidence of the vital role that mobility plays in supporting agropastoralist life in borderland areas. It also shows that when governments work together across borders to deliver services the benefits can extend beyond just the provision of the service.

"On behalf of the county government, there are some programmes that the government is implementing. We have border schools where children from neighbouring communities interact, this curbs the rivalry between the communities. The national government is doing this in partnership with the county government. We have two border schools in this area."

[109]Nigeria, Jigawa state, in-depth interview.
[110]Burkina Faso, Cascacades, key informant interview.
[111]Kenya, West Pokot, key Informant Interview.
[112]South Sudan, Equatoria, in-depth Interview.
[113]Kenya, West Pokot, key informant interview.

Some participants explain how they can exert some **political pressure on leaders** to improve service provision. However, there are also many examples of frustration that promises are not kept or that representatives only listen during election times. Moreover, there is much criticism that projects may be funded to start with, but poor resourcing and governance leads to lack of maintenance and use.

> "The communities are not happy; politicians knew how to visit those communities for campaigns but when it comes to providing services they are neglected."
>
> "Policies and programmes that support livestock breeders and farmers are actually few and far between. The shortcomings of these programmes include poor intervention and poor government stewardship."

In the qualitative research participants provide many examples of trying to lobby local government for more support, but few examples were given of this being successful.

Finally, this population group relies on **communities and non-governmental organizations** for some types of support. This includes, for example, establishing their own Koranic or nomadic schools when the government fails to provide state education. Religious education is a feature of life for many – 43% of the survey respondents say they have attended religious schools, although this is slightly more likely to be true of men and older respondents. This applies to areas such as justice too. Agropastoralists often depend on the customary institutions (traditional institutions) to seek justice.

> "I see some little changes. For example, NGOs came in to help the government. That is why there are more boreholes now than in the past; in schools, they are constructing and renovating classrooms, giving educational materials, etc., and they also assist. These have increased accessibility to farmers and herders."

In certain circumstance, the void created by lack of government provision is filled by other actors. As is explored more in the next section, this is most often seen in terms of security through self-defence groups being formed to provide security, or some communities rely on Jihadist and other armed groups. While this may provide some level of protection, it can also raise vulnerabilities due to the proliferation of weapons in unregulated hands and the belief that self-help groups will favour one side in a conflict rather than being a mediator or agent to ease tension.

---

[114]Nigeria, Sokoto, key informant interview.
[115]Niger, Zinder, key informant interview.
[116]South Sudan, Eastern Equatorial, key informant interview.

> "In the last two years, the nature of the conflict has changed a lot because there has been a proliferation of offensive weapons. The impact is that farmers and herders are divided, and they disagree on many aspects of social cohesion."
>
> "Acquiring weapons had become part of the resilience of the rural dwellers; weapons are more than a necessity but a must because they are tired of how the bandits are attacking them at will. Acquiring weapons for self-defence had become an integral part of the locals' methods of adopting to the crisis. For instance, in Illela there are villagers that have completely deserted their homes and are now refugees in the city. Likewise, in Tureta, I also know a colleague who is currently playing host to his relatives because of the insecurity menace. So, it's either you get a gun, learn how to use it, or pick up your shoe and leave."

The lack of adequate governance therefore directly feeds into vulnerabilities around conflict, as is explored in the next section.

Agropastoralist fetching water at Dambala Fachana community dam, Marsabit, Kenya

[117]Niger, Zinder, key informant interview.
[118]Nigeria, Sokoto, key informant interview.

Most agropastoralists feel safe and are optimistic about the future. Yet, conflict and the ever-present threat of violence remains a feature of borderland life. Agropastoralist communities will need to be at the centre of future conflict resolution and prevention initiatives, but some threats can only be addressed through state guarantees.

CONFLICT AND INSECURITY

Context

Armed conflict and insecurity are critical challenges in most borderlands in Africa. Insecurity in borderlands arise from the activities of violent extremist groups, criminal networks operating transnationally, armed rebellion and inter-group and inter-communal clashes. Conflicts and violent extremism directly affect agropastoral communities either because they take place in, or spill over to, border communities, or they compound the environmental and humanitarian situations across borderlands. Extant data on country level dynamics; for instance, the Helderberg Conflict Barometer notes that in 2021, shows that the number of active conflicts in sub-Saharan Africa marginally increased to 87, and this included violent conflicts and wars. At the national level, all eight borderland countries of this study have one or more active violent conflicts at the national and sub-national levels, including farmer-herder, inter-communal conflicts and those criss-crossing national borders. In Ethiopia, Kenya, Mali, Nigeria and South Sudan, cases are documented of inter-communal clashes, including farmer-herder clashes, over access to natural resources, especially cattle and land. In borderland communities in north-eastern and north-western Nigeria, inter-communal clashes and attacks by violent extremist groups and bandits have led to further deterioration of the security situation, including the disruption of livelihoods and the displacement of over two million people. In South Sudan, conflicts take place between agropastoral communities over cattle and land involving Dinka, Misseriya, Murle and Nuer communities. Many of the clashes take place in rural communities, including borderlands, and the clashes tend to have cross-border dimensions. The 2022 fragile state index includes five of the countries profiled here among the top 20 most fragile states; South Sudan (7th), Ethiopia (13th), Mali (14th), Nigeria (16th) and Niger (20th).

Social protection is critical for the future generation

---

[119]HIIK, 2022, p. 61.
[120]Ibid, p. 63.
[121]Ibid, p. 62.
[122]Fragile States Index, 2022.

Conflicts involving agropastoral communities

Agropastoralists tend to be involved in two kinds of conflict in border regions: communal violence with neighbouring communities and armed conflicts against state security forces. Given the transnational status of most East and West African pastoralist groups, conflicts involving pastoralists have a high potential to disperse across borders and negatively affect border regions, where a disproportionate number of violent events and deaths tend to concentrate. In West Africa, for example, 10 percent of all the victims of violent political events recorded since the late 1990s have been located less than 10 kilometres from an international border.

Communal violence between farmers and pastoralists over access to natural resources or political power is not a recent phenomenon. Farmer-herder conflicts are influenced by a broader set of processes that shift within specific historical contexts. Local political and socioeconomic factors tend to drive these conflicts, including land encroachment, competing land claims, access to resources, state policies and mineral development projects. Farmers tend to view pastoralists as marauding groups that move through areas and overgraze pastures, without punishment or prosecution, while pastoralists view famers as agents behind agricultural encroachment into pastures, forcing livestock into increasingly contested and

constricted areas. Socio-cultural shifts within borderland communities since the droughts of the 1970s have further complicated these relations, as pastoralists increasingly settle and take up agropastoralism, while other groups, like investors and farmers, increasingly own livestock.

Another historical and cultural dimension of ethnic and communal conflicts is the traditional practice of cattle raiding. Evidence suggests that the main factors driving cattle raiding are availability and access to resources (impacted by drought and policies) and hunger. Cattle raiding, which mostly emphasized replenishing stocks during scarce periods, has become more violent in recent years due to the proliferation of small and large arms, dispute over land tenure rights and ethnic tensions.

Studies suggest that grievances left unaddressed by the state can lead pastoralists to organize self-defence groups or join organized armed groups, particularly when pastoralists are viewed as anti-modern, encroaching on modern nation-state institutions, or inhibiting economic growth. Both East and West Africa have a long history of mobilization around religious issues, from the Sokoto Caliphate of Usman Dan Fodio established in today's northern Nigeria to the Mahdist state in the Sudan at the end of the 19th century. What has changed lately is that local grievances of communities are now instrumentalized by violent extremist groups who present themselves as an alternative to the state.

[123]van Weezel, 2017.
[124]Rokhideh, 2021; Radil et al., 2021.
[125]OECD, 2020.
[126]Mulugeta, 2017.
[127]Vinson, 2018.
[128]Turner, 2004.
[129]UNECA, 2017; World Bank, 2020.
[130]Schilling et al., 2012.
[131]Gray et al., 2003; Schilling et al., 2012.
[132]Alemu, 2018.
[133]Miles, 2018.
[134]Bøås et al., 2020.

Unlike ethno-nationalist rebels, the new generation of religious extremists that emerged in the central Sahel, the Lake Chad basin and the Horn of Africa thrive on the inability of states to fully control their own territory. These groups affiliated with Al Qaeda or the Islamic State are less interested in negotiating a larger share of government revenue than in replacing its political order with a conservative model based on a strict interpretation of religious law. They argue that modern nation-states are incompatible with religious law and that their borders are irrelevant to the community of believers. In that sense, more than any armed group before them, they pose an unprecedented existential threat to state elites and their informal arrangements in border regions.

Thus far, few regional governments have succeeded in developing models of border integration that mitigate the predatory exploitation of border resources and challenge the narratives and propaganda of religious extremists. Cross-border initiatives developed before the mid-2000s have proved ill-adapted to cope with communal violence and the recent development of transnational extremist groups across the continent. Governance networks established in time of peace between communities have been replaced by military alliances supported by Western allies and the international community. As a result, African countries are now in the difficult situation of having to pursue their regional integration efforts without having the resources or the willingness to control their borders efficiently.

Borderlands as the new epicentre of transnational terrorism

The eight countries and their borderlands profiled in this report have ongoing security challenges in the form of (one or more) inter-group violence, armed rebellion, civil war and transnational attacks by violent extremist groups. Kenya and Nigeria suffer from varying degrees of ethno-religious and inter-communal violence; Burkina Faso, Mali, Niger, Nigeria and Uganda continue to experience cross border attacks by extremist groups; and Ethiopia and South Sudan face conventional civil wars. Over the past decade, violent extremism has emerged as a dominant security challenge in Africa – six of the countries listed are targets of attacks by extremist groups.

The 2022 Global Terrorism Index highlights terrorism as a major challenge in sub-Saharan Africa (SSA), especially the Sahel. It notes that in 2021, "forty eight percent, or 3,461, of all terrorism deaths globally occurred in SSA with four of the ten countries with the largest increases in deaths from terrorism residing in SSA: Burkina Faso, the Democratic Republic of the Congo, Mali, and Niger. Three of these countries are in the Sahel." In Niger, fatalities linked to terrorism more than doubled in 2020 and across the Sahel deaths linked to terrorism increased by over 1,000 percent in the period 2007-2021.

[135]Walther and Miles, 2018.
[136]Martin and Prager, 2019.
[137]Moghadam and Fishman, 2011.
[138]OECD, 2020.
[139]Walther and Miles, 2018.
[140]Walther, forthcoming.
[141]IEP, 2022, p. 2.

Beyond fatalities, terrorist attacks have triggered multiple coups and general political instability in Burkina Faso and Mali, and led to systematic targeting and destruction of water sources, farmlands, food, utilities and/or infrastructure. Concerningly, most terrorist activities, including attacks, are concentrated in border regions where government activities (presence) are thin, and where socio-political vacuums exist (linked to marginalization, exclusion and inadequate service delivery).

Perceptions of safety and experience of conflict

This research finds many examples of conflict-related vulnerabilities, as well as examples of resilience and response. It is vital to set these vulnerabilities in the context of how individuals live their lives and perceive their levels of safety.

Most survey respondents say they feel safe where they live, as illustrated in Figure 5. Overall, one in five (21%) feel very safe and a third (34%) quite safe. This does not mean everyone feels safe, but it is noteworthy that three times as many feels very safe as feel very unsafe (21% vs. 7%).

Figure 5:
Perceptions of safety

Q) How safe do you feel living in this area?

Legend:
- Very safe
- Quite safe
- Not very safe
- Not at all safe
- Don't know

Values shown: 21%, 34%, 35%, 7%, 3%
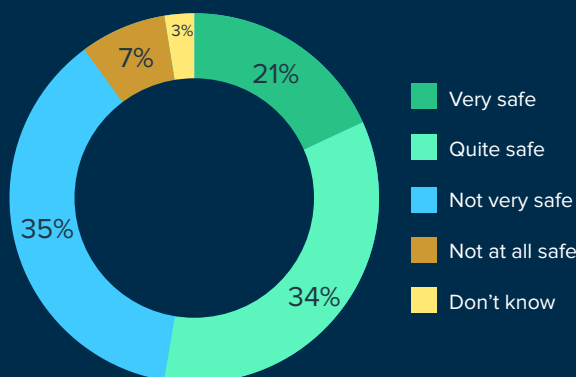
	Male %	Female %	18-24 %	25-34 %	35+ %
Quite or very safe	52	58	57	50	58
Not very or at all safe	45	39	42	45	39

Base: 1,042 agropastoralists (full sample)

In addition, just over half of respondents (56%) say they have not experienced any violent conflict in the last two years, although 17% have once and 26% have experienced this multiple times. The most common types of violent conflict are cattle rustling (60%), theft/robbery (56%) and physical abuse (44%).

While there is no difference in general perceptions of safety between younger and older respondents, the former feel less able to rely on their community or traditional institutions to resolve conflict. However, these differences should not be overstated as only around one in two youth say that traditional institutions can resolve conflict in their area.

Given the significant spike in incidences of violent conflict over the past two years in the Sahel region data for these indicators have been disaggregated to consider the responses of agropastoralists in West Africa and East Africa separately. Slightly more agropastoralists feel safe overall in East Africa than in West Africa (59% vs. 51%), but the key difference is the proportion who feel very safe. In East Africa it is 33%, but only 8% in West Africa.

At the same time, it is also worthwhile to note that the proportion of agropastoralists who say they have experienced violent conflict in the last two years is the same in both regions. Therefore,

---

[143]These figures are based on those who have experienced violent conflict in the past two years. Therefore, 60% of those who have experienced violent conflict say they have experienced cattle rustling, which would equate to approximately 47% of the total sample.
[144]ACLED data, which has been used by Club de Sahel/OECD to map the spatial character of violent conflict, makes it is very clear that it is overwhelmingly concentrated in border regions. Their main report is here: https://www.oecd-ilibrary.org/development/borders-and-conflicts-in-north-and-west-africa_6da6d21e-en.

conflict harm can be both direct and indirect, at least in terms of people's sense of security. The presence of violent conflict in the wider region therefore does have some impact on people's sense of their safety, although it does not fully explain people's sense of their own, personal security. The role of families, communities and access to security support are also important factors that contribute to people's sense of how safe they feel living in their local area.

While overall it is somewhat encouraging to understand the perceptions of safety among this group, it is likely that fewer agropastoralists in borderlands feel safe than the wider population in the countries covered by the research. The perspectives of respondents who feel safe or very safe, or who say they have not experienced any violent conflict in the last two years may be indicative of pockets of relatively safe areas in borderland regions, or the sample location bias; the research took place in borderland communities that were relatively safe for respondents and the research teams. Data on safety and the experience of violent conflicts must be interpreted in the wider context of national and regional patterns of (in)security. The 2019-2021 Afrobarometer data reveals that across these countries, 31% of the public feel unsafe walking around their neighbourhoods, which is lower than the 42% who feel unsafe living in the borderlands. Across the sampled countries, Afrobarometer data indicates that just 11% of the public have experienced violence among people in their neighbourhood or village.

Conflicted-related deaths and general insecurity increased in some of the countries since 2020, especially Burkina Faso, Ethiopia, Mali, Niger and Nigeria. Some of the listed countries, including Burkina Faso, Mali, Niger, Nigeria and South Sudan, are in the top 10 of conflict-related deaths in Africa (see Annex 7). ACLED data pinpoints that "in 2021, the number of organized political violence events in Burkina Faso doubled compared to 2020, while annual reported fatalities surpassed reported fatalities in Mali for the second time in three years." The year 2021 was the deadliest year in Burkina Faso during which attacks by Al Qaeda-affiliated Jama'at Nusrat al-Islam wal-Muslimin increased by over 200% in 2021 compared to 2020. Niger also recorded the highest level of civilian fatalities in 2021 as a result of attacks by violent extremist groups in borderland areas, especially in many villages in the Tillaberi and Tahoua regions. Nigeria recorded a 19% increase in political violence events in 2021 over levels seen in 2020, and the upsurge continued into 2022.

Reflecting the wider literature, participants in this research identify some types of conflict experienced that are specific to borderland areas. Herder-herder conflicts, involving cattle theft and tit-for-tat reprisals, have a long history in the East African region. Although they assume some of the aspects of a rite of passage for male youth, they can create considerable loss of life and serious insecurity. Farmer-herder conflicts also have a long history, although these have become more serious in both regions as the conflict for scarce

[145]https://www.afrobarometer.org.
[146]ACLED (2022), 'Sahel: persistence, expanding, and escalating instability,' https://acleddata.com/10-conflicts-to-worry-about-in-2022/sahel/. Accessed 30 September 2022.
[147]Ibid.
[148]ACLED (2022), 'Fact Sheet: Attacks on Christians Spike in Nigeria Alongside Overall Rise in Violence Targeting Civilians,' 21 July 2022, https://acleddata.com/2022/07/21/fact-sheet-attacks-on-christians-spike-in-nigeria-alongside-overall-rise-in-violence-targeting-civilians/. Accessed 1 October 2022.

resources intensifies. Farmers complain about the destruction of crops, whereas herders complain that the cattle routes have been encroached upon, often with the connivance of government officials – leaving them with very few options. As farmers enclose fields, partly to minimize water run-off, the pastoralists suffer from further loss of access. Different groups can often feel at a disadvantage: some pastoralists say they feel that they do not receive equal treatment and are routinely stigmatized by security services; farmers, on the other hand, sometimes feel that the authorities fail to act to defend their interests, as the following examples illustrate.

"

Agropastoralist cleans shed, Kenya

"As a community, we are lacking grazing areas for our cattle. Our livestock have not enough grazing areas. That is why we and farmers in this area continue to have issues. We cannot graze in peace in our own community. Our grazing reserves are being encroached, and all the authorities are watching it happening without taking appropriate action."

"Often when herders come, they take advantage of a time when everyone is sleeping during the night to put their herds on the farms. So, if the farmers come, they have difficulty identifying the culprits. As soon as the damage is done the animals leave and the farmers follow in their footsteps; when they reach the herders the conflict starts. Usually when these herders arrive, we have difficulty in dealing with them. Only this year, even this month, I was a victim, because a gentleman just called me to tell me that my farm was invaded by herds and I rushed there, and when I arrived I found 3 herds of sheep on my farm and when I tried to call these Fulanis, one of them took out his machete and he was heading towards me and so I sent someone to call the gendarmes so that we could take control of the situation."

---

[149]Nigeria, Jigawa, in-depth interview.
[150]Niger, Zinder, key informant interview.

Perceptions and experiences of safety among men and women

A greater proportion of women than men are satisfied with access to justice, and women are more likely to rely on traditional institutions if they have a security concern. Slightly more women than men report feeling safe. There is little difference in the proportion of men and women who say they have experienced violent conflict in the last two years. There is a difference in terms of gender-based violence. More women have experienced sexual assault and are more likely than men to have experienced violence because of their gender.

The research also recognizes the complex gender dimension to conflict and security. While males often see it as incumbent to do what is necessary to defend the household and community, women whose fields are located at some distance report having to abandon plots because of insecurity. One respondent claims as follows:

> "Everything has come to a halt because of the crisis. The women cannot go and collect shea nuts or process them. The men are taking over their fields and insecurity is preventing us from going to the market."

There is also some evidence that jihadists have attempted to impose certain codes of dress and forms of behaviour upon women. Conflict resolution typically involves male elders and women generally do not have an active role.

Resilience and optimism

As shown in Table 14, just two-thirds of agropastoralists feel they have access to security and, of these, 82% say that it is government that provides this security. This means that only half (52%) of agropastoralists say they have government provided security; and the proportion who feel they have access to government provided justice is even lower – at 36%. These findings explain that just 66% of the survey respondents say they would turn to government if they had a security problem, with significant numbers also saying they would rely on family (36%), traditional/cultural/tribal institutions (21%) or community networks (21%).

The lack of state and government protection in borderland communities increases the risk of conflict in two ways; first, the resort to self-help, including vigilantes and private militias, tend to inflame old and new tensions and social divides along ethno-religious and communal lines, and second, it provides a vacuum for armed non-state groups, including violent extremists and organized criminal networks, to embed themselves in borderland communities. For instance, reciprocal violence between rival communal militias and vigilantes have been reported in Tahoua and Tillaberi regions in Niger and Menka region in Mali, and between militias and extremist groups in Bandiagara and Djenné in the Mopti region, and Niono in the Segou region in Mali. Similar patterns exist in Ethiopia, Kenya, Northwest Nigeria and South Sudan. In most circumstances, insecurity for ordinary people has worsened as the government is the only legitimate source of authority to enforce security. The views of some respondents are as follows:

---

[151]Mali, Sikasso, in-depth interview.

"The sound of gunshots. The government is still struggling with raiders now that gunshots are heard… government comes in to check if people are still alive. Sometimes, they come long after the gun shooters have gone, and it's just dead bodies remaining."

"We request protection from the government, although the raiders are very tricky and are giving a hard time to the soldiers. Even after reconciliation meetings, they still launch their attacks at night."

"We do not have access to state security, and it is not for nothing that we have created self-defence groups like the Kolgweogos and the Dozos to ensure our security. For livestock breeders it is even more critical because they often move far from urban centres to avoid conflicts, so it is difficult for them to have access to state security."

Nevertheless, this research shows that some people can access alternative justice systems and security arrangements in the absence of state authority. There are some dangers in this approach, especially when self-help groups become partisan which can lead to greater conflict between groups seeking protection from each other. Two respondents in Northwest Nigeria note as follows:

"For instance, in our state the Yansakai was established to help support the security operatives in managing the conflict, but it only got worse than before. Are we going to remain like this? For how long? If we go establishing sectional associations to support our ethnic groups, like the Yansakai, we will not solve this problem. So, the security operatives have to be allowed to do their job diligently. I have never seen a criminal being burnt officially, but that is what Yansakai is doing, which further escalated the problem."

"The only measure we took is that of a vigilante group and you know that police are quite better than vigilantes. But we have to support them because they sacrifice their time and life to help the community. That's why everyone in the community gives assistance to their cause, but [if] we could have even five police officers in their midst, the operations would be more professional and effective."

---

[152]South Sudan, Upper Nile, key Informant interview.
[153]South Sudan, Equatoria, key informant interview.
[154]Burkina Faso, Cascacades, key informant interview.
[155]Nigeria, Sokoto, key informant interview.
[156]Nigeria, Sokoto, in-depth interview.

However, many examples from participants illustrate how communities work together to provide security, particularly in relation to herder-herder conflict or herder-farmer conflict. Family, traditional institutions and community networks are all relied on to provide security when there are problems. There is a need to support these types of initiatives.

"

"Our community does not get any assistance from the authorities, hence, the collaboration between the village chief, farmers and herders to deal with community conflicts to maintain social peace in our community. This is why we set up principles for the management of farmer-herder clashes, family conflicts and land disputes. The village chief, together with the administrative authorities (town council), is the first mediator in inter-community conflicts before they are referred to the competent authorities."

"We have built cattle pens and if the animals cause any damage, they are taken to the pen and people are appointed by the village chiefs to evaluate the extent of damage. Once this is done, the livestock owner is required to pay for the damage caused and this has helped to resolve a lot of issues between farmers and livestock owners."

"The policy in place to support agropastoralists is the Comité des Sages [Committee of Wise Men] and the office of the Village Development Committee. It is this committee that mostly helps agropastoralists to build their resilience to preserve peace."

"They have responded by involving the opinion leaders and kraal leaders. I think the kraal leaders are tired of these raids; they meet and discuss what to do and try to convince the boys by keeping the animals together to monitor the stubborn boys, those who go out. Those who are within, the opinion leaders, typically put their meetings together, bring the animals together, find out where the animals are supposed to be grazed or where they have to be watered from, and then monitor the stubborn guys. Sometimes they even come to the sub-county and say "please we need a borehole somewhere we can settle because that place is a bit peaceful and there is no water; we need just a borehole, and we have animals. So, we need to settle up with the kraal of so and so and create peace." Yes, that is how they have responded."

"We live in peace with indigenous herders. Our peace is maintained through traditional institutions, like the district head and village head. They help in resolving any problem that affects our lives. When there is a problem, they intervene and resolve the difference. However, in a situation when they cannot resolve then case, they hand it over to the police or court of justice in our community."

---

[157]Mali, Sikasso, key informant interview.
[158]Burkina Faso, Cascacades, in-depth interview.
[159]Burkina Faso, Cascacades, key informant interview.
[160]Uganda, Moroto, key informant interview.
[161]Nigeria, Jigawa, in-depth interview.

These examples may go some way to explain the survey research that finds twice as many respondents say conflict has decreased rather than increased in their area over the last two years (40% vs. 20%).

Table 14:
Change in perceptions of conflict

	Last 2 years	Next 5 years
	%	%
Increase	20	13
Decrease	40	42
Stay(ed) about the same	26	19
Don't know	14	26

Base: 1,042 agropastoralists (full sample).

The proportion saying conflict has increased is the same in West Africa and East Africa, although agropastoralists in West Africa are less likely to think conflict has decreased and more likely to say it is unchanged than those living in East Africa. Lack of security forces or military and poverty are given by respondents as the two main causes of rising conflict. In contrast, those who say conflict has decreased cite integration of mediating efforts in conflict zones and community cohesion to resolve conflicts as the two main drivers.

Furthermore, by an even wider margin, expectations among this group are that conflict will decrease rather than increase over the next 5 years (42% vs. 13%). Agropastoralists in West Africa are slightly less optimistic that conflict will decrease: 38% expect it will happen compared to

46% among East African agropastoralists, but still, they are more likely to be optimistic than pessimistic.

As with other vulnerabilities, solving one vulnerability can often form the basis of tackling other vulnerabilities – in this case, reduced conflict leads to more services becoming available. The case of South Sudan is instructive. Qualitative interviews with participants in South Sudan provide evidence of how the South Sudanese peace process has led to a return to areas that had been vacated during the conflict and a return of some core services, although much is provided by non-governmental organizations. Participants in these locations are more optimistic about the end of conflict and the wider benefits this brings than in several other locations.

> "I feel very safe in Meiwut because the local government maintains the security. What makes me feel safe is the guarantee of security after the revitalized peace agreement between the two opposing parties. I entirely rely on the commitment of the government to protect the area."

---

[162]South Sudan, Upper Nile, in-depth interview.

"

Woman Moulding Clay, South Sudan

"What makes me safer here is that the revitalized peace agreement was signed, and the authorities and the opposing parties are committed to the ongoing peace implementation. This has brought back calmness, not to my family alone but the whole community."

"They are now settling and building permanent homes along the borderline. In the past, people had vacated and migrated to peaceful areas, but they are now coming back due to relative peace in the country. We also do have some Kenyans settling on the Ugandan side, and that is the meaning of peaceful co-existence that we, the elders preached."

"Pastoralists came back to their homes and got back to their previous ways of life. Their livestock is back in a safe environment with pasture and water. The local market to sell animal products resumed operations, and everything seems to be back in place. Right now, the pastoral farmers take their milk to the market every day, enabling them to make a living for their families.''

"I feel safe here; the border areas are heavily guarded by the forces of Ethiopia and our government. We were feeling unsafe due to the crisis of 2013 and 2016, but with both parties now implementing the peace agreement, there is relative calm and Meiwut County is very peaceful for everyone to stay here with us. Even if something happens, we will cross to Ethiopia to seek refuge and safety. Ethiopians are very welcoming especially when you comply with their rules and policies. We pray for total peace in our country to boost the market for our produce and animals at the border point."

[163]South Sudan, Upper Nile, n-depth interview.
[164]South Sudan, Eastern Equatorial, key informant interview.
[165]South Sudan, Upper Nile, key informant interview.
[166]South Sudan, Upper Nile, in-depth interview.

However, there are certain types of conflict — those around terrorism or jihadism — that require state response and intervention; and there is a broad consensus that only government can protect people in some circumstances. If the conflict involves civil war or terrorism, sometimes the only response for the population is to move to source security elsewhere.

> "We adapted to the conflict in our area by moving our livestock and families to nearby bushlands, and the males confronted each other with guns."
>
> "During conflicts, communities respond by organizing themselves and their clan members and making the families migrate into safer nearby kebeles."

The relationship between conflict and other vulnerabilities is illuminated in the advanced statistical analysis of the survey responses (see Annex 11 for more details). Table 15 shows results of the likelihood of feeling unsafe in the location of residence. As expected, having experienced conflict significantly decreases the likelihood of feeling safe by 21 percentage points. On the other hand, having access to basic services (electricity, water and shelter) is positively associated with safety in that those with access to these services are less likely to feel unsafe by around 18 percentage points. These findings are very important in that they provide further evidence of the strong positive impact of improving basic services for agropastoralists; not only are these a direct benefit in themselves, but improved services also lead to reduced conflict and better livelihoods. Instead of a vicious circle of decline, improved security can create the foundations for a virtuous circle of prosperity.

Table 15:
Determinants of feeling unsafe living here

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	-0.00132	-0.000774	-0.000767
	(0.00111)	(0.00110)	(0.00109)
Gender (= 0 male, 1 female)	-0.0480	-0.0610*	-0.0567*
	(0.0313)	(0.0312)	(0.0312)
Secondary education, and more	-0.0159	-0.0279	-0.0259
	(0.0409)	(0.0402)	(0.0401)
Household size	0.00103	0.00164	0.00150
	(0.00239)	(0.00245)	(0.00245)
Access to basic services (electricity, water, shelter)	-0.208***	-0.188***	-0.185***
	(0.0441)	(0.0440)	(0.0440)

[167]Ethiopia, Daawa Zone, key Informant Interview.
[168]Ethiopia, Daawa Zone, key Informant Interview.

Main earner (=1 YES)	-0.0449	-0.0487	-0.0475
	(0.0319)	(0.0316)	(0.0317)
Herder occupation	-0.0878***	-0.0747**	-0.0760**
	(0.0311)	(0.0308)	(0.0307)
Farmer occupation	0.0410	0.0293	0.0234
	(0.0318)	(0.0318)	(0.0317)
Trader occupation	-0.120***	-0.126***	-0.126***
	(0.0356)	(0.0362)	(0.0360)
Artisanship occupation	0.0751	0.0513	0.0334
	(0.0793)	(0.0777)	(0.0778)
Look after children or home occupation	-0.261***	-0.215***	-0.213***
	(0.0485)	(0.0482)	(0.0483)
Student occupation	0.0556	0.0219	0.0126
	(0.0729)	(0.0715)	(0.0714)
Distance to drinking water (in hours)		-0.00252	-0.00189
		(0.0151)	(0.0151)
Border crosser (=1 YES)		-0.0538*	-0.0463
		(0.0299)	(0.0300)
Conflict experience (=1 YES)		0.212***	0.217***
		(0.0288)	(0.0288)
Economic help (=1 YES)			0.00616
			(0.0527)
Security help (=1 YES)			-0.221***
			(0.0806)
Constant	-0.323***	-0.442***	-0.245**
	(0.0624)	(0.0639)	(0.102)
Observations	996	962	962
R-squared	0.304	0.336	0.342
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

"

Generations of adaptability and resilience demonstrated by agropastoralists can provide lessons for the whole continent on how to cope with the negative impacts of environmental changes.

ENVIRONMENT
AND CLIMATE

Context

Climate change is a critical priority of the 21st century, with challenges including increases in land surface air temperature, decreases in precipitation, soil erosion and loss of crop and livestock productivity, all of which have significant impacts on agropastoral and farming communities. In the past 40 years, droughts have been recurrent and severe, floods have increased in frequency and intensity and overall temperatures in the Sahel have risen, with most countries experiencing rises of 0.5-1°C. These evolutions can potentially affect rain-fed agriculture and pastoralism by resulting in droughts, more variable rainfall or increasingly scattered and unpredictable pastures, for example. Evidence suggests climate change has already worsened crop production, led to labour market stagnation and raised price levels and competition in food insecure countries.

While climate models project changes in wet and dry extremes at the continental level, differentiated outcomes are projected at the regional and sub-national levels. Climate and environmental change are thus mainly experienced and adapted to at local levels. In East and West Africa, projections indicate that some areas could become wetter, with rainfall more concentrated in time and an increase in average temperatures, while other areas will receive less rain. In the Sahel, extreme rainfall events could become more frequent and generate longer rainy seasons. This trend will be more favourable to the eastern part of the Sahel. In northern Nigeria, for example, recent studies show that Lake Chad's surface water extent has increased since the 1990s, due to more favourable rainfall. Similar projections are done in the Horn of Africa, where rainfall is projected to increase. Other regions may experience more severe droughts that are particularly deleterious for agropastoralists and farming communities.

With scarce irrigation, even moderate fluctuations or variations in precipitation may have significant impacts on food security. In Ethiopia, where rain-fed agriculture is responsible for nearly half of GDP and where the largest livestock population in Africa resides, the impacts of climate change may adversely impact farmers and agropastoralists on a large scale. Pastoralists are completely reliant on livestock for food and money, making them very vulnerable, especially during droughts or climate change.

[169]Lumborg, 2021.
[170]UNEP, 2011; WMO, 2019; Yobom, 2020.
[171]Raleigh et al., 2015.
[172]Kendon et al., 2019.
[173]van Weezel, 2017; WMO, 2019.
[174]Raleigh et al., 2015.
[175]Dunning et al., 2018; Fitzpatrick et al. 2020.
[176]Park et al., 2016.
[177]Monerie et al., 2016.
[178]Pham-Duc et al., 2020.
[179]Dunning et al., 2018.
[180]UNECA, 2017.
[181]Lumborg, 2021.
[182]Herrero et al., 2016.

The potential consequences of climate change have led a number of scientists and policymakers to argue that changes in the environment would be a major source of armed conflict in Africa, particularly in "fragile" environments such as the Sahel and the Horn. This view is disputed by another strand of literature that argues that there is insufficient evidence to suggest that scarcity of resources or climate pressures are the primary causes of these conflicts. This approach argues that, while climate and environmental change may exacerbate conflicts, political conflict tends to be explained by social and political factors. According to this approach, changes in the abundance or scarcity of natural resources do not automatically lead to armed conflict. The rise in conflicts in East and West Africa is due to many factors, including the governance of post-colonial elites, the manipulation of ethnic and religious identities, access and distribution of natural resources, and sovereignty.

Evidence from the Horn and the Sahel seem to support this view. One of the key findings of Brottem and McDonnell's review of conflicts involving pastoralists in West and Central Africa, for example, is that "there is not sufficient evidence to suggest that the scarcity of resources or climate pressures are the primary cause of these conflicts." In Mali, and the Sahel in general, Benjaminsen and Svarstad note that the causes of the conflicts "are primarily historical and political relating to state policies leading to marginalization of pastoralists [and] climate change and resource scarcity only play a minor role in explaining these conflicts." In one of the few studies that model the relationship between climate, food price and

conflict sub-nationally, Raleigh et al. find that climate change has a weak impact on conflict in Africa, due to the many social and economic factors that intervene between a physical change and political instability.

Dryland pastoralism involves adaptative strategies for coping with sub-optimal ecological conditions, such as splitting of large mixed herds into smaller ones, scattering into several different locations and largescale movement into neighbouring regions. The case of the Turkana pastoralists of northern Kenya, for example, suggests that mobility and livelihood flexibility rely on institutions that should be supported even when they clash with those of the state.

Impact of environment and climate change

In contrast to some positive feedback from respondents in terms of their experience of adapting to conflict and with respect to people's perceptions of their safety, agropastoralists are often much more worried about vulnerabilities linked to the environment.

Three in five say that the climate and environment make it hard for them to live and only sixteen percent feel it is easy to live given the environment. Part of the challenges of climate change in borderlands in the Sahel and Horn of Africa is increasing incidence of climate-related disasters with implications for mobility (displacement), flooding, drought, locust invasion and disruptions to livelihoods. As indicated in Annex 4, Ethiopia, Kenya, Niger and South Sudan

[183]Burke et al., 2015; Hsiang et al., 2013; Welzer, 2012.
[184]Brottem and McDonnell, 2020.
[185]Buhaug et al., 2015; Witmer et al., 2017.
[186]Theisen et al., 2012.
[187]OECD, 2020; Williams, 2016.
[188]Brottem and McDonnell, 2020.
[189]Benjaminsen and Svarstad, 2021.
[190]Raleigh et al., 2015.
[191]Derbyshire et al., 2021.

have some of the highest ratios of people affected by climate-related disasters and extreme weather events over the past five years. Many of the climate-related disasters take place in borderlands, and this magnifies socio-economic, environmental and security challenges in border communities.

Climate-related events affect whole communities, but it could have differential impacts on population categories; women, children and the elderly are easily the most affected. It appears that youth are somewhat less likely to have noticed the negative impact of environmental changes in the past two years and are less pessimistic about the future. As with attitudes to security, it is important to note that these are minor differences in views rather than representing completely opposing perspectives.

Borderland Farmer, Uganda

Figure 6:
Impact of climate and environment on life

Q) Does the climate and environment make it easy or hard to live in this area?

5%
16%
21%
58%

- Makes it easier
- Makes it harder
- Both / mixed
- Don't know
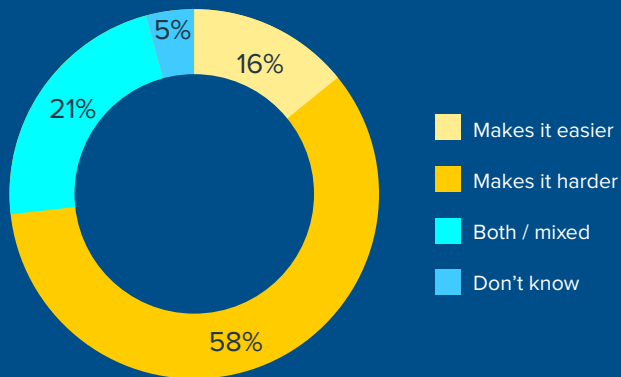
	Male %	Female %	18-24 %	25-34 %	35+ %
Makes it easier to live here	17	15	15	17	16
Makes it harder to live here	59	58	58	56	60
Both / mixed	21	22	24	21	21

Base: 1,042 agropastoralists (full sample).

95

As has been demonstrated throughout the report, the harsh climate is a driver for agropastoralist resilience and adaptability. This is very often correlated with mobility and crossing borders.

> "Seasonal migration has been the only way to save the animals' lives from harsh climates. Moving along the borders has helped a lot because of the easy accessibility of food, medicines and even market to sell livestock and livestock products."

> "As Somare people, our place is rocky, so we expect more borehole or water pans to be dug. Our major problem is the lack of water. Currently, we buy water from across the border."

Worries about climate issues in agropastoral communities

The survey suggests that concerns about the climate and extreme climate events are getting worse and agropastoralists are concerned about their future. Seven in ten say that they have noticed changes to the climate over the past two years and it is making living harder. A majority note that, over the past two years, there have been more droughts and less rainfall; and four in ten believe their homelands are getting hotter.

---

[192]South Sudan, Upper Nile, key informant interview.
[193]Kenya, Marsabit, focus group discussion.

Table 16:
Changes due to the climate over the last two years

Q) Which, if any, of these changes have you experienced over the last twoyears?
Multiple answers allowed

68% Droughts	**58%** Less Rainfall	**39%** Got hotter	**33%** Less predicatble rainfall	**23%** Flooding
14% More rainfall	**10%** Got colder	**2%** Other	**1%** Don't know /refused	
		1% None of these		

Base: 1,042 agropastoralists (full sample).
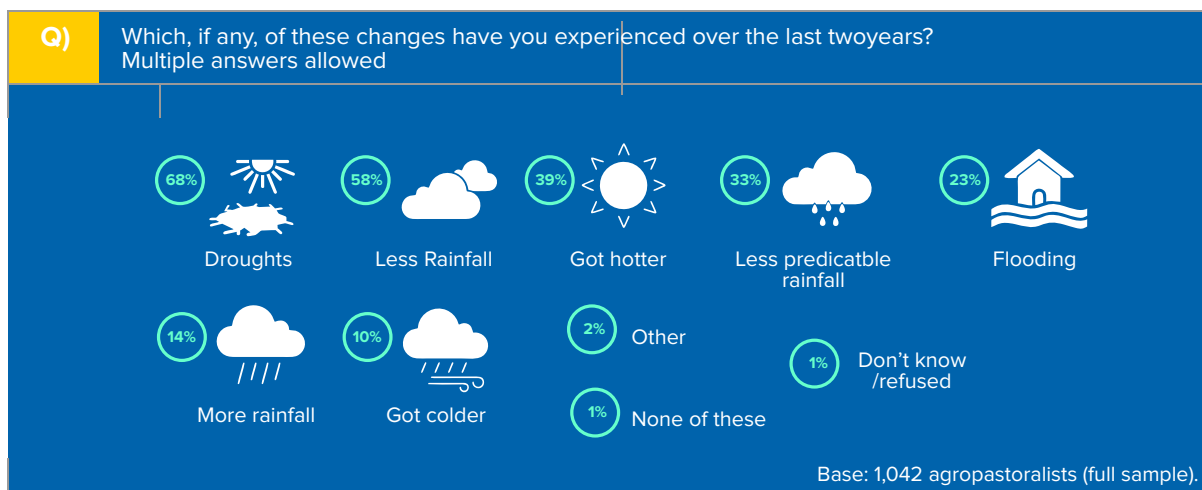
Lack of water is a fundamental issue

Like security, water is a fundamental requirement for people to survive and thrive. When either or both are scarce, other vulnerabilities are increased. For farmers this may mean reduced crops, for herders, malnourished cattle and/or increased disease. All these compound difficulties people themselves face.

> "You see, this issue of hunger this year is going to be a tough one, and it's already starting. If you now go to most homes, most people have gone to mines to look for gold to sell and get money to buy food. Last year, foot and mouth disease finished most animals. People didn't plant much and now you can see they don't have food because people didn't harvest well last year."
>
> "We have noticed that the environment is deteriorating increasingly, and the haphazard use of chemicals is contributing significantly to this degradation. The population is growing every year, so the forest is being destroyed to make way for farms. Trees are cut down to feed the cattle before they cross the border to the other side."

---

[194]Uganda, Kaabong, key informant interview.
[195]Mali, Sikasso, focus group discussion.

Access to reliable water cannot be overstated. The research reveals that access is not just about having regular or predictable rainfall, but having the infrastructure in place to access, store and maintain facilities so water is available when required. Agropastoralists provide several examples of how boreholes and, to a lesser extent, dams are built to provide more people with access to water. Innovation in crop use, better access to and management of water can be transformative for agropastoralists.

> "Currently, we are promoting crops that do well under little rainfall. For example, they want to grow maize, which might do well there. We advise them to plant crops that take short periods to mature. They are also starting to adapt irrigation but lack the capital to purchase water pumps for those around the water banks. We are doing solar pumped boreholes in small groups to help do small-scale vegetable farming; it is transforming the area."

> "The entire North Pokot lacks water and relies on the River Sok. Only those living along the riverbanks have access to water. The rest have no access to water since the area is arid. There have been a few interventions with the drilling of scattered solar-powered boreholes."

However, criticism of the lack of borehole maintenance is common.

> "We have a water tower, but it's not enough. There are a lot of people for a borehole, so many people don't have access to potable water; if we had enough boreholes, we could avoid many illnesses. As far as agriculture and livestock breeding are concerned, we don't have any large dams for agricultural activities and watering animals, so that's a major difficulty in terms of agriculture and livestock breeding."

> "Yes, we need boreholes...A solar-equipped borehole was constructed here, but now it is not working. We are now suffering."

> "If you go to these remote areas, yes, you will see some government infrastructure projects. For instance, there could a borehole sink providing water to the community but after two days it will go down and that is the end of the story. When the idea of grazing range was introduced, I was optimistic, but my fear is that after five-six months you will find such reserves dried up because of the lack of water. There are problems in maintaining sink boreholes."

[196]Kenya, West Pokot, key informant interview.
[197]Kenya, West Pokot, key informant interview.
[198]Burkina Faso, Cascacades, focus group discussion.
[199]Kenya, West Pokot, in-depth interview.
[200]Nigeria, Sokoto, key informant interview.

Women suffer more from inadequate access to water

The views of men and women in relation to the quantitative indicators covered in this section are consistent. However, the analysis of qualitative data shows that accessing water is also clearly a very gendered exercise, with women spending much of their day apparently in search of good drinking water. Some female respondents share their perspectives as follows:

Borderland woman fetching water, Marsabit, Kenya.

"The big problem is that water is a basic need. Generally, as many people depend on rain-fed or harvested water, like dams, still, then when drought comes, the dam water gets depleted so quickly. Thus, if you go out there, you will see lots of people fetching water from a borehole, especially mothers who left their homes very early in the morning and come back at midday or noon."

"In my neighbourhood there is not a single borehole. Our women are compelled to fetch water from another neighbourhood. Even the boreholes there are not in good condition. We are really appealing to all the good people who can help us to do so."

"There are no boreholes in this area, so the women have to go to the CSPS and the school in the hope of getting water from the drinking fountain, but they often find that these drinking fountains are sealed with padlocks, so they have to go to the wells to get drinking water which is not potable water. The water problem is really hard."

Adaptability and innovation

Those respondents who said that changes in the climate are making their lives harder were then asked how they are adapting to these changes. The key adaptation route is to diversify livelihoods through selling other goods or services, taking on additional labour jobs or adjusting how lands or herds are used – for example, through using different fertilizers or reducing herds to a manageable size.

The qualitative interviews further illustrated practical ways in which agropastoralists adapt to the impact of negative climate change. These can be grouped into the below three themes:

Adapt
ways of farming
and herding

Diversify
skills and trades

Exploit
new technologies
and innovation

[201]Kenya, Marsabit, key informant interview.
[202]Burkina Faso, Cascacades, focus group discussion.
[203]Burkina Faso, Cascacades, focus group discussion.

The first method for adapting to climate change, is to **adapt ways of farming and types of herds.** As cattle are particularly affected by a lack of water and adequate pasturage, many herders shift their focus towards sheep, goats and shoats, while others (especially in East Africa) have turned to rearing camels. Farmers have turned to early ripening crops, sometimes with the assistance of state agencies and non-governmental organizations.

> "As we have the effects of climate change, our old cultivation methods have to be abandoned. In the past, our parents used to grow maize, millet and rice for 4 to 5 months before the harvest, but now it is no longer possible because the rainy season ends early. Thank God the State has provided us with improved seeds that in 70 days we can start the harvest. It is imperative that we leave the old methods of cultivation if we really want to harvest something because the climate has changed."
>
> "The climate has changed this year; it's now tough to determine the seasons. I cultivated my farm early to expect the rain to fall; it didn't."

Plenty of evidence shows that agropastoralists are **diversifying skills and trades** as another method of adaptation to climate change. Some pastoralists report that they are responding by reducing the size of their herds and taking to farming activities. Farmers report that they raise some animals to have access to manure and to have something to sell. This would suggest that more people are moving towards a mix of livelihood strategies.

> "To contain the problems related to livestock breeding, for example, we have reduced our livestock considerably. With regard to the difficulties linked to agriculture, we have adopted new cultivation practices, such as zaï [pit farming], for example."
>
> "Raising cattle, sheep, goats and poultry will help reduce poverty and I use their dung to enrich my farm soil. I have noticed that the market is good in the border regions."

---

[204]Burkina Faso, Cascacades, focus group discussion.
[205]Kenya, Marsabit, key informant interview.
[206]Burkina Faso, Sahel, in-depth interview.
[207]Burkina Faso, Cascacades, in-depth interview.

Third, there is considerable exploitation of **new technology and innovation**, coupled with long-term planning. This may involve planting trees to deal with long-term causes of environmental degradation or efforts to conserve water and soil fertility as much as possible by, for example, building bunds (retaining walls) to minimize water run-off.

Sometimes, however, adaptability to support livelihoods in the short-term can have negative long-term consequences, and ultimately make life more difficult. For example, participants explained how they burned charcoal to raise money or cut trees to sell them as building materials.

> "Herders are cutting down trees and thus increasingly causing soil infertility in farms and this has impact on crop yields. Because of poor rainfall there are no grazing areas and the pastoralists cut down trees from our farms. During the rainy season the wind blows a lot, and the rain washes away the manure from our farms and this has a negative impact on farming activities and livestock breeding."

The future – peril or promise?

It is clear that a large proportion of agropastoralists are pessimistic about the future in relation to environmental conditions. As illustrated in Table 17, four in five respondents believe people will have less access to food over the next five years because of the impact of climate change, seven in ten expect more droughts and more than half expect people will need to migrate. The last point is noteworthy and somewhat stands in contrast to earlier findings that illustrate the vast majority of agropastoralists wish to remain in their homelands. Therefore, this finding suggests that either people will need to move within the borderlands to meet their livelihood needs or be forced to move elsewhere, perhaps to cities, because of climate-related vulnerabilities.

Table 17:
Future expectations about the impact of changes in the climate/environment

Q)	Do you think each of the following are going to happen in the next five years because of the impact of changes on the climate and environment?		
% Yes	% No	% Don't know /refused	
81	11	8	People will have less access to food
68	12	20	Droughts will happen more often
56	28	16	People will migrate to other places for a better life
44	29	28	The security situation will get worse
			Base: 1,042 agropastoralists (full sample).

[208]Niger, Zinder, key informant interview.

> " The climate will negatively affect us for the next five years due to indiscriminate cutting down of trees, and there will be food shortages due to the insecurity."

These findings starkly illustrate the interrelationship between vulnerabilities facing agropastoralists and how concerns about one vulnerability can have negative consequences for others: hardship brought on by environmental changes – or even the expectation of environmental changes – can change how agropastoralists live. Increased demand for ever-scarce water or fertilized land raises the prospect of greater conflict, never mind the direct impact on people's livelihoods and wellbeing. The ability, therefore, for agropastoralists to adapt to changing circumstances is clearly a strength, but this must be supported through better governance and assistance to innovative with minimal disruption.

---

[209]Niger, Zinder, key informant interview.

Young Borderland Farmer being interviewed, Niger

CROSS-CUTTING ISSUE:
GENDER

Existing literature highlights important gender dimensions to agropastoralists life in the African borderlands. Women play a crucial role in the production, distribution and marketing of agricultural and animal products in East and West Africa. Women raise numerous small ruminants and poultry that contribute to the food security and dietary diversity of pastoralist households and these animals often represent the only tangible assets women can own, control and sell in case of necessity. The strategic importance of women in trade is especially visible in border regions, where women perpetuate a long tradition of short-distance commerce that takes advantage of regulatory differences between countries. African women have also developed long-distance networks that connect the continent to the Middle East and Southeast Asia.

Yet, despite their crucial contributions to the economies of both East and West Africa, both agricultural and pastoralist women experience numerous obstacles that limit their participation in commercial exchange. Institutional obstacles include formal and customary laws that limit women's inheritance rights and lack of access to financial institutions to develop commercial activities. Functional obstacles include illegal payments demanded by state officials, lack of physical infrastructure, poor conditions of markets and lack of credit. The lack of proper means of transportation, for example, seriously constrains

women's access to international markets. Because transport ownership is male-biased, many women traders must walk long distances to sell their products across borders or devote a larger share of their income to transportation than men. Border delays frequently inhibit women's crossing, reduce their daily profit and expose them to sexual harassment. On the busy transport corridor that connects Abidjan in Côte d'Ivoire to Lagos in Nigeria, for example, women's trade activities are limited by the fact that many are illiterate and poorly informed of regulations that pertain to cross-border trade within the Economic Community of West African States (ECOWAS).

These obstacles reinforce existing gender inequalities within African societies, which display complex divisions of labour that greatly vary from region to region and from matrilineal to patrilineal societies. In West Africa, for example, women who live along the Gulf of Guinea are actively involved in cross-border trade and can control an income independently from their husbands. By contrast, those who live in conservative societies in northern Nigeria are confined to their domestic courtyards. The gendered division of labour observed in most African societies explains that women traders sell different types, volumes and qualities of agricultural products than men, sometimes to different customers and at different times of the day.

[210]Brenton et al., 2013; Coquery-Vidrovitch, 2018.
[211]Gitungwa et al., 2021.
[212]Njuki and Sanginga, 2013.
[213]Tyson, 2018; Parshotam and Balongo, 2020.
[214]Diallo, 2014; Lesourd, 2019; Sylvanus, 2016.
[215]WFP, 2016; World Bank, 2013; 2019.
[216]Bouchama et al., 2018.
[217]OECD, 2019.
[218]USAID, 2012.
[219]LARES, 2017.
[220]Clark, 2010.
[221]Hoffman et al., 2017; Rahman, 2008.
[222]Forsythe et al., 2016.

In East and West Africa, women and men are responsible for very different and divided tasks within livestock production and markets. Among the Borana that live across the Ethiopia-Kenya border, for example, women produce, store and sell milk, while men oversee fencing, selling and slaughtering livestock. In West Africa, women tend to be over-represented in the sale of fish, agricultural and food products destined for the local market, while men tend to trade in products and sectors that require larger investments and a more international market. A similar gendered division of labour characterizes the livestock production and commercialization systems.

Women and men tend to make a rather different use of borders and border markets. While women sell their goods according to the weekly calendar of market days, men tend to be involved in less regular journeys to more distant markets. Such gendered differences reflect the fact that many of women's commodities are perishable or prepared domestically, such as cooked food, while men trade in non-perishable goods, such as cereals. The goods sold by women also tend to generate lower financial return and require less capital than those sold by men because more women start out in business at a smaller scale.

Between Benin, Niger and Nigeria, for example, women involved in the rice supply chain are disproportionally represented among low earners and earn close to five times less than men. In Mali, women are under-represented in the formal sectors that are the most crucial to cross-border trade, such as transport, transit, import-export and logistics. Women's businesses tend to be smaller and rely more on family members than men's businesses; almost 80% of women operate formal businesses as sole proprietorships rather than as a company in Mali. Similar results have been found in Eastern Africa, where agricultural development projects have not always been able to include women and extend benefits to all segments of society. In Kenya, Tanzania and Uganda, for example, women are largely missing from the milk value chain, despite looking after the livestock, milking the animals and selling milk locally. In Malawi and Uganda, commodities generating higher average revenues are more likely to be controlled by men, who are also more represented in the formal sector.

In borderlands, informal trade relies heavily on border markets and brokers to bypass international controls. Network studies suggest that gender is one of the most important predictors of social ties and economic performance. In Uganda, the likelihood of securing or granting a loan is correlated to gender; women business networks are less able to provide entrepreneurs with financial support and more likely to ask for financial support. Women entrepreneurs have less financial power than men due to difficulties securing loans by formal institutions and a lack of control over household spending. In West Africa, recent studies confirm the structural causes of the marginalization of women in cross-border trade networks; women producers and retailers occupy both ends of agricultural value chains while the vital intermediary positions are held by men.

---

[223]Chagunda et al., 2015.
[224]Hertkorn et al., 2015.
[22]5Walther, 2015a.
[226]Njuki and Sanginga, 2013; Serra et al., 2018.
[227]Walther, 2015a.
[228]OECD, 2017.
[229]Walther et al., 2019.
[230]Trémolières and Walther, 2019.
[231]Gebremedhin et al., 2016.
[232]Baltenweck et al., 2016.
[233]Njuki et al., 2011.
[234]Grace and Little, 2020; Ng'asike et al. 2020; Walther, 2015a.
[235]OECD, 2019.
[236]Solano and Rooks, 2018.
[237]Walther et al., 2019.

This research survey revealed some significant and important differences between how men and women experience life in the borderlands. Disaggregating the survey data by gender is a useful way to highlight these differences, as is illustrated in Table 18. It is also important to note that the attitudes and experiences of men and women in many ways are similar; where there are differences these tend to be more nuanced differences rather than holding opposing views or experiencing life in completely different ways. This appears most clearly, for instance, in respondents' answers to questions around climate and the environment, for which there are no statistically significant differences between men and women.

Nevertheless, important differences are worth highlighting. In the sample of respondents, women are less likely to have formal education and they are generally less mobile than men, which corresponds with women taking a greater share of family duties. In these societies, women look after the children. The clearest differences between genders are in terms of economics and livelihood. As discussed, the division of labour is highly gendered. This is especially true of herding, which is a male activity. Women are heavily involved in farming in both regions, while trade may be predominantly male or female, depending on the commodity.

Twice as many men than women say they are the chief income earner (77% vs. 36%), which provides men with greater economic power. More women rely on family members for financial help. This research also clearly demonstrated how both women and men are adapting through shifts in livelihood strategies, and this inevitably impacts on the gender balance, most notably where there is a shift towards farming or where trading becomes more important. There is pressure on women to take on additional roles to assist with caring for the household.

"We women are not involved enough in what they do. Generally, we do our own house chores. The rest is done by our husbands. Nevertheless, we sometimes practice artisanal gold mining to help our husbands meet the basic needs of the family."

Interestingly, access to governance and services is reasonably consistent between men and women, albeit slightly more men say they can access some services like markets, vets and telecommunications. Perhaps most strikingly, while men are more able to access markets provided by government, women rely on markets provided by coming together as a community.

A greater proportion of women than men are satisfied with access to justice, and women are more likely to rely on traditional institutions if they have a security concern. While slightly more women than men report feeling safe, the research also recognizes the complex gender dimension to conflict and security. While males often see it as incumbent to do what is necessary to defend the household and community, women whose fields are located at some distance report having to abandon plots because of insecurity.

---

[238]Burkina Faso, Sahel, in-depth interview.

"Everything has come to a halt because of the crisis. The women cannot go and collect shea nuts or process them. The men are taking over their fields and insecurity is preventing us from going to the market."

Some evidence also finds that jihadists have attempted to impose certain codes of dress and forms of behaviour upon women. Conflict resolution typically involves male elders and women generally do not have an active role.

Table 18:
Gender disaggregated differences in survey responses

Indicator	Male (%)	Female (%)
Profile		
Have no formal education	56	67
Average age of respondent	??	??
Mobility		
Born here/always lived here	26	33
Moved for family reasons	77	67
Move to stay elsewhere at least once a year	55	40
Crossed international border within the last month	31	22
Livelihood		
Is chief income earner	77	36
Primary occupation is herder	52	36
Primary occupation is farmer	63	57
Primary occupation is looking after children	1	18
Average weekly earnings	$20	$11
Income has gone down in the last 2 years	61	55
Turn to for financial help: no-one	49	35
Turn to for financial help: spouse	13	36
Turn to for financial help: parents	14	20
Turn to family if had an economic problem	62	71
Services		
Access to markets to sell goods	48	40
Access to markets to vet	40	29
Access to telecoms	72	64
Government provides market to sell goods	37	21
Ourselves/community provides market to sell goods	49	60
Rate justice as good/very good	60	71
Conflict		
Feel safe	52	58
Experienced violence because of gender	10	16
Turn to traditional institutions if had a security problem	25	32

---

[139]Mali, Sikasso, in-depth interview.

CROSS-CUTTING ISSUE:
YOUTH
(15-24 years of age)

Table 19 shows the answers of survey respondents aged 15-24 years and those aged 35 years or more. It provides a snapshot of how attitudes and experiences between these two age groups differ. More females than males were surveyed in the youth sampling, while the reverse is true for those respondents aged over 35 years.

Youth are more educated than older people, reflecting the generally improved access to education across generations. Even so, as many as one in two agropastoralists aged 15 to 24 years old has no formal education, which is considerably higher than youth in the focus countries.

The youth cohort are less likely to have crossed an international border and, among those that have tend to feel less safe in doing so. Movement for economic reasons is also less important for younger people. At the same time, the youth group are somewhat less likely to say they plan to stay in the same location in the next five years – albeit still four in five youth do still plan to stay.

Partly reflecting the gender profile of the youth sample, this group is considerably less likely to be the main income earner in their household as compared to those aged 35 years or more; and consequently, are slightly less likely to have a traditional agropastoralists primary occupation. Instead, one in ten youth see themselves primarily as students. Given this, it is not surprising that youth may be less financially exposed as older groups and are more reliant on parents for financial support, and their weekly income is two-thirds of that of the older age group.

Interestingly, the only service for which there is a significant difference in views is in relation to transportation, with youth being considerably more likely to be positive about the service provided.

While there is no difference in general perceptions of safety between younger and older respondents, the former feel less able to rely on their community or traditional institutions to resolve conflict. These differences, however, should not be overstated as still around one in two youth say that traditional institutions can resolve conflict in their area, as the three examples from youth respondents illustrate:

A communal village,

> "The traditional leaders, police and judges help in resolving the problem between farmers and us, the Fulani herders. Frankly, we are not fairly treated. All the authorities used to be on the side of farmers."
>
> "The traditional chiefs, religious leaders of the village and their advisors help to resolve conflicts...We organize ourselves to listen to the parties before engaging in conflict management discussions with the traditional authorities."
>
> "Traditional and religious authorities as well as NGOs are important in peacebuilding. To deal with conflicts in our region, we organize sensitization, dialogues, community and inter-community meetings."

It also appears that youth are somewhat less likely to have noticed the negative impact of environmental changes over the past two years and are less pessimistic about the future. As with attitudes to security, it is important to note that these are fairly small differences in views rather than representing completely opposing perspectives.

---

[240]Nigeria, Jigawa, in-depth interview.
[241]Mali, Sikasso, in-depth interview.
[242]Mali, Gao, in-depth interview.

Table 18:
Youth disaggregated differences in survey responses

Indicator	15-24s (%)	35+ (%)
Profile		
Female	61	40
Male	39	60
Have some formal education	50	31
Mobility		
Moved to live in current location for economic reasons	11	17
Never crossed an international border	37	19
Feel unsafe when crossing border	41	34
Plan to stay in same location for next 5 years	80	89
Plan to stay in same location for security reasons	18	25
Plan to stay in same location for economic reasons	21	39
Plan to stay in same location for environmental reasons	11	22
Livelihood		
Respondent is main income earner in household	30	72
Primary occupation is herder	38	45
Primary occupation is farmer	48	68
Primary occupation is trader	11	20
Primary occupation is student	10	1
Average weekly earnings	$12	$18
Do not make enough money to buy basics	44	54
Get financial help from my parents	34	9
Get financial help from my children	3	23
Services		
Rate transportation services as good	46	25
Conflict		
Turn to community networks for help with security problem	15	23
Turn to traditional institutions for help with security problem	24	32
Traditional institutions can resolve conflict in this area	47	62
Religious leaders can resolve conflict in this area	25	32
Climate		
Noticed less rainfall over last 2 years	51	63
Noticed it has got hotter over last 2 years	34	43
People will have less access to food over next 5 years	74	85
Droughts will happen more often over next 5 years	64	72

RECOMMENDATIONS

The recommendations below are based on insights from listening to the lived experiences and expectations of agropastoralists in East and West Africa and other stakeholders working in Africa's borderlands.

Ensuring sustainable development for borderland agropastoralists requires a comprehensive approach that simultaneously addresses the causes and impacts of vulnerabilities; anticipates and mitigates new risks; and invests in the drivers of inclusive socio-economic development, peace and stability. Coordinated, intensive and concerted investments in family, labour diversification and mobility are the most critical accelerators of agropastoralist development in Africa's borderlands.

The evidence collected and analysed during this study provided a foundation for formulating recommendations, and any related actions must recognize the below guiding principles.

- A sustained focus is needed on providing basic services and improved access to water, electricity, livelihood opportunities and security. All are fundamental to life and to breaking cycles of multiple vulnerabilities.

- Communities and local actors must be put at the core of interventions, recognizing that improved services and governance must be built through community consultations.

- Borderland issues should be mainstreamed into national and regional sustainable development initiatives, with clear consideration for their peculiarities, to ensure that agropastoralist communities are not left behind.

- Diverse livelihood opportunities should be supported by catalysing the expansion of incoming-generating activities for agropastoralist communities.

- The mobility of agropastoralists must be recognized, and facilitated, as a socio-cultural right and a socio-economic necessity in borderlands.

- Solutions to many of the challenges facing agropastoralist communities require joint and collaborative responses from national governments, regional institutions, borderland communities and other stakeholders.

- A regional approach to borderlands is key to address gaps in service delivery, explore cross-border economies of scale, enhance resilience to climate-related shocks and preserve cross-border social capital to strengthen family and communal ties and encourage trade. National governments and development agencies can improve the effectiveness and impacts of their interventions through using a regional lens as a basis for coordinating programmes.

The recommendations offered in this report fall into two strands. The first strand is a set of policy recommendations that articulate key policy interventions that can be taken by Member States, the African Union and regional economic communities. The second strand identifies programming recommendations to guide development actions of different organizations, including the United Nations, civil society organizations and the private sector.

Policy recommendations

The capacity of institutions to address policy-related vulnerabilities lies in the existence of long-term strategic thinking (translated into effective policies) and a favourable operating environment to spur effective service delivery in borderland communities. Using a regional lens that incorporates strengthening cross-border cooperation provides a good foundation for a comprehensive approach to reducing the vulnerabilities of agropastoralist communities in Africa. The following are specific policy recommendations for the African Union and its Member States, regional economic communities, the United Nations system, civil society organizations and community-based organizations.

1. **Embrace and facilitate cross-border mobility and regional integration.** Mobility is fundamental to borderland life, both as a strategy to deal with vulnerabilities, but more often, mobility is about accessing markets and trade and benefiting from opportunities to improve livelihoods. Governments, regional economic communities and the African Union should embrace cross-border mobility and ratify and implement protocols that enhance and facilitate barrier-free cross-border movement of borderland communities. They should facilitate the entry into force and implementation of extant Protocols at continental and regional levels, viz: Decision A/DEC.5/10/98 relating to the regulations on transhumance between ECOWAS Member States (1998), the IGAD Protocol on Transhumance (2020), and the African Union Policy Framework for Pastoralism in Africa (2020) and ensure their alignment to the developmental goals encapsulated in the African Union Strategy for Better Integrated Border Governance (2021).

2. **Prioritize a 'regional lens' in addressing the needs of borderland communities.** The persistence of a country-by-country approach misses opportunities to leverage historical and contemporary linkages and resources for resilience across borderland communities. A regional approach to policy would transcend opportunistic coordination of country-based policies and approaches to also include joint analysis, aligned laws, shared policies and templates, inter-agency coordination and joint monitoring and reporting mechanisms, etc. A regional lens would expand the range of stakeholders by incorporating the leadership of borderland communities, agropastoralist associations, cross-border trader associations, civil society organizations, the private sector, government ministries and departments, security forces and local government institutions This would require streamlining the multitude of competing protocols passed by regional economic communities that often cause confusion and contradictions, increase costs and have the potential to worsen the vulnerabilities of agropastoralists.

3. **Be 'borderland sensitive' by acknowledging borderlands as unique socio-economic and geographic entities** requiring dedicated, and integrated, policies and engagement strategies. This means developing national borderlands engagement strategies that distinctly articulate the opportunities and the needs of borderland regions and that are explicitly mainstreamed into national development plans and local economic development plans, including having clear programming guidelines.

4. **Foster new narratives about borderland regions as zones of opportunity, inter-cultural exchanges and regional integration.** Transcend current narratives of borderlands as zones of crime, illegality and insecurity into borderlands as zones that are resilient, adaptable and resourceful. This could involve highlighting the contributions of borderland communities and agropastoralists to economic production, regional integration and efforts to address transnational security threats. Also, provide incentives for private sector engagement and investment in borderland regions, by emphasizing the business

opportunities in borderland regions. Incentives could include investing in capacity building, entrepreneurship skills and digital financial inclusion for the value and supply chains linked to agropastoralism, with prioritization of women and youth-led businesses, to enhance the actualization of the objectives of the Africa Continental Free Trade Agreement (AfCFTA).

5. **Promote agropastoralism as a socio-economically successful livelihood form**, while supporting economic diversification as a critical source of resilience for agropastoralist communities. Facilitate the establishment and strengthening of inclusive and representative Joint Border Commissions between and among member states with common frontiers, to among others, promote productivity and mobility of agropastoralists across national borders.

6. **Recognize and support alternative, non-state service delivery mechanisms in borderland communities.** This would reflect the day-to-day realities of borderlands in which customary institutions, occupational groups, cooperative societies, youth groups and civil society organizations are major service providers. The survey found that two-thirds of agropastoralists would turn to the government if they had a security problem, but that with limited state protection in borderland communities, communities often access safety through community and traditional mechanisms. Policies and research must integrate formal and non-formal security and justice mechanisms in borderland regions, and explore the provision of mobile services, such as healthcare, justice and education for both settled and transhumant pastoralists and farmers.

7. **Strengthen local governance systems in borderland regions to enhance the presence and visibility of the state and service delivery.** Adapt and optimize local government systems for borderland regions through clearer forms of representation and consultation, accountability mechanisms and better service delivery capacities. Local governance mechanisms could exploit a variety of partnerships (such as civil society and community-based organizations, the private sector, development agencies, diaspora groups, etc.) to develop regional infrastructure and promote investments.

8. **Prioritize climate-change adaption and invest in data, research and infrastructure to support borderland communities to cope with the impact of climate change**. The report highlights vital community vulnerabilities related to climate change, especially access to water. Investment in research and data collection to enhance evidence-based policymaking and planning to guide strategies for achieving sustainable development goals in the region. Stakeholders should expand the coverage of dedicated regional infrastructure based on legally recognized transhumance corridors and access routes, to enhance the production and productivity of formal and informal cross-border traders and the agropastoralists value chain.

Programming recommendations

Adopting integrated area-based programming allows borderlands stakeholders to participate in interventions that are needs driven. The programming recommendations from this research will contribute to the Leave No One Behind (LNOB) principle, especially for borderlands women and youth who often lack the opportunities to participate and who stand to benefit from climate-resilient development, trade and peace options. The following are specific programmatic recommendations for the United Nations system, Africa Union, regional economic communities, the private sector, development partners and non-governmental organizations engaged in borderlands programming.

1. **Explore programmes that support sustainable agriculture and livestock production in borderland regions.** This requires addressing problems across the entire agropastoralist value chain, including issues of land governance and usage to address the conflict between farmers and pastoralists, initiate climate-resilient agricultural practices and climate-sensitive crops, promote livelihood diversification options and provide entrepreneurial training and access to credit for women and youth.

2. **Facilitate environmentally sustainable production systems** for agropastoralists, anchored in shared ownership of assets and facilities and harmonious co-existence. Co-generate information, techniques and innovation for water solutions for agropastoralist communities and secure farming land, waterways and transhumance routes. Introduce an innovative approach to the deployment of extension services for agropastoralists. Invest in research to facilitate the use of organic and sustainable species to enhance adaptation to climate change.

3. **Support cooperatives; promote access to credit and finance for borderland agropastoralists and traders; support value chain enhancement; promote entrepreneurship and women- and youth-led business development**. This has the potential to encourage an inflow of agropastoral investors.

4. **Promote catalytic small-scall infrastructure (water, energy, health, education and agropastoral storage and processing) to support the economy of borderlands and for value chain enhancement.** Invest in post-harvest processing and storage facilities, help establish cross-border markets, share market information and support facilities for moving goods and money across borders. Invest in renewable energy sources to connect borderland populations with sustainable, reliable and affordable energy; invest in sustainable, innovative water distribution and management systems to enhance adaptation to climate change in borderland communities.

5. **Promote a regional approach to conflict and security management in borderland regions.** Enhance the capacities of indigenous services and conflict resolution mechanisms and foster reconciliation and social cohesion in local, cross-border and regional border communities. Strengthen community service provision and security mechanisms, including local infrastructures for peace, mediation and justice, ensuring close integration and complementarity with state-provided services. As required, advocate for protecting the rights of refugees, internally displaced persons and returnees living within transhumance corridors. Promote regional integration through investment in creative socio-cultural festivals and activities capable of strengthening social cohesion and improving inclusive economic growth for border communities engaged in agropastoralism.

Annex 1:   Poverty headcount ratio @$1.90/day (% of population)

Country	% of population	Year (data)
Burkina Faso	40.1	2014
Ethiopia	23.5	2015
Kenya	36.1	2015
Mali	41.1	2009
Niger	44.5	2014
Nigeria	46	2019
South Sudan	82.3	2016
Uganda	21.4	2016

Source: The Sustainable Development Goals Center for Africa (SDGCA), July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 178. (https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 2: Employment in case study countries

Country	% of population	Year (data)
Burkina Faso	62	2020
Ethiopia	78	
Kenya	72.9	
Mali	65.5	
Niger	71.5	
Nigeria	48.5	
South Sudan	63.5	
Uganda	69.1	

Source: SDGCA, July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 179. (https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 3: Literacy rate (% of population aged 15-24yrs)

Country	% of population	Year
Burkina Faso	58.3	2018
Ethiopia	72.8	2017
Kenya	87.8	2018
Mali	50.1	2018
Niger	39.8	2018
Nigeria	75	2018
South Sudan	47.9	2018
Uganda	89.4	2018

Source: SDGCA, July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 193.
(https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 4: People affected by climate-related disasters (per 100,000)

Countries	Population affected	Year
Burkina Faso	117.2	2019
Ethiopia	2744.7	2019
Kenya	2466.4	2019
Mali	42.2	2019
Niger	4345.6	2019
Nigeria	222.3	2019
South Sudan	17779.8	2019
Uganda	122.8	2019

Source: SDGCA, July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 214.
(https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 5: Public sector accountability and transparency

Country	Value	Year
Burkina Faso	45.7	2017
Ethiopia	36.5	2017
Kenya	45.4	2017
Mali	40.7	2017
Niger	38.3	2017
Nigeria	34.5	2017
South Sudan	9.1	2017
Uganda	35.7	2017

Source: SDGCA, July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 224. (https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 6: Press freedom index

Country	Value	Year
Burkina Faso	24.5	2019
Ethiopia	35.1	2019
Kenya	45.4	2019
Mali	32.4	2019
Niger	29.3	2019
Nigeria	36.5	2019
South Sudan	45.7	2019
Uganda	39.4	2019

Source: SDGCA, July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 225. (https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 7: Conflict-related deaths per 100,000

Country	Value	Year
Burkina Faso	0.8	2018
Ethiopia	0.4	2018
Kenya	0.3	2018
Mali	6.4	2018
Niger	0.8	2018
Nigeria	1.6	2018
South Sudan	8.8	2018
Uganda	0.0	2018

Source: SDGCA, July 2020,) *Africa SDG Index and Dashboards Report 2020*, p. 178.
(https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 8: People covered by social protection (% of population)

Country	% of population	Year
Burkina Faso	1.8	2009
Ethiopia	16.2	2010
Kenya	34.7	2015
Mali	0.6	2009
Niger	15.5	2014
Nigeria	5.2	2015
South Sudan	3.4	2009
Uganda	75.7	2012

Source: SDGCA, July 2020, *Africa SDG Index and Dashboards Report 2020*, p. 179.
(https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020).

Annex 9: Rankings in rural access to services

Country	Rural Sector	Rural land and water access	Rural market access	Rural sector support
Burkina Faso	12th	29th	29th	22nd
Ethiopia	17th	7th	15th	11th
Kenya	11	14th	15th	5th
Mali	18th	27th	14th	23rd
Niger	31st	42nd	15th	29th
Nigeria	33rd	32nd	33rd	31st
South Sudan	49th	43rd	50th	50th
Uganda	16th	11th	15th	25th

Source: *2020 IIAG Country Score Cards* (www.worldbank.org/en/news/press-release/2022/05/11/remittances-to-reach-630-billion-in-2022-with-record-flows-into-ukraine#:~:text=During%202021%2C%20remittance%20inflows%20saw,South%20Asia%20(6.9%20percent), accessed 30 September 2022).

Annex 10: Research Questionnaire

Percentages are based on full sample, unless stated otherwise
Where responses do not add up to 100% this may be due to multiple answers or computer rounding
Don't know/refused answers are only shown where they exceed one percent of responses

(A) DEMOGRAPHIC DETAILS

A1.   How old are you?
%
24   15-24 years
33   25-34 years
43   35+ years

A2.   Respondent is?
%
49   Male
51   Female

A3A.   What is the highest level of education you have completed?
%
61   None / no formal education
24   Primary
11   Secondary or equivalent
 3   College / university
 1   Other

A3B.   Have you attended religious schooling?
%
43   Yes
57   No

A4.   Are you a national/citizen of this country?
%
97   Yes
 3   No
 *   Stateless

A5.   How many people live in your household, including yourself? By household we mean a group of people living together, sharing the same cooking arrangement and answerable to the same household head?
%
11   1 – 4 members
51   5 – 9 members
23   10 – 14 members
 7   15 – 17 members
 8   More than 17 members

(B) MOBILITY

B1.   How long have you been living in this location?
%

3	Less than a year
10	1 – 5 years
9	6 -10 years
17	11 – 20 years
18	21 – 30 years
22	31+ years
20	Don't know / refused

B2.   Why are you living in this location? MULTICODE OK. DO NOT READ OUT
%

71	Was born here / always lived here
28	Moved for family reasons
12	Moved for security reasons
14	Moved for economic reasons
8	Moved for environmental reasons
9	Moved to look for livestock pasture
3	Other

B3.   How often do you move to stay in other locations during the year for work?
%

20	At least monthly
10	At least every six months
18	At least once a year
8	Less than once a year
41	Never
4	Don't know / refused

B4.   When did you last cross an international border?
%

26	Within the last month
10	Within the last six months
10	Within the last year
6	Within the last 2 years
19	Longer ago
25	Never
2	Don't know / refused

ASK ALL WHO CROSS BORDERS (CODES 1-4 AT B4) *base: 554 respondents*
B5.   Why do you cross the borders? MULTICODE OK. DO NOT READ OUT
%

33	For Pasture
40	For Trading
13	For Arable (farming) land
62	To visit relatives
4	For religious observance
7	Others
1	Don't know / refused

ASK ALL WHO CROSS BORDERS (CODES 1-4 AT B4) *base: 554 respondents*

B6.   How safe do you feel when you cross international borders?

%
27   Very safe
35   Quite safe
31   Not very safe
7   Not at all safe

ASK ALL WHO CROSS BORDERS (CODES 1-4 AT B4) *base: 554 respondents*

B7.   Who do you trust to provide safety when you cross an international border? READ OUT.
MULTICODE OK

%
31   Family
25   Community members
71   Government security forces
13   Traditional or religious groups
3   Humanitarian groups (or international groups)
12   Fellow herders/tribesmen
10   No-one / rely on myself
3   Other
1   Don't know / Refused

ASK ALL WHO CROSS BORDERS (CODES 1-4 AT B4) *base: 554 respondents*

B8.   How often do you go to the nearest town on the other side of the international   border?
%
45   At least monthly
21   At least every six months
20   At least once a year
7   Less than once a year
6   Never
1   Don't know / refused

B9.   Over the last two years, have you needed to move across the border more often, less often or
has it not changed much? SINGLE CODE
%
21   Had to cross borders more often
29   Had to cross borders less often
41   Has not changed much
10   Don't know / refused

B10.   Do you plan to stay in this location in the next 5 years or you have plans to move and live
somewhere else?
%
86   Plan to stay
8   Plan to move somewhere else
6   Don't know / refused

BASE: PLAN TO STAY (n=893)

B11.   Why do you plan to stay here? MULTICODE OK. DO NOT READ OUT

%

75   Always lived here
57   Family reasons
24   Feel secure
32   Have economic livelihood here
17   Environment is right
6   Basic services / governance
3   Other

BASE: PLAN TO MOVE (n=86)

B12.   Why do you plan to move? MULTICODE OK. DO NOT READ OUT

%

40   Family reasons
44   Security
48   Economics / livelihood
43   Environment / climate change
19   Basic services / governance
8   Other
1   Don't know / refused

B13A.   How long does it take you to reach the nearest source of water for drinking?

%

32   Available where I live / no time
31   Up to 30 minutes
23   Between 31 minutes and 1 hour
13   More than 1 hour
1   Don't know / refused

B13B.   How long does it take you to reach the nearest source of water for animals / livestock?

%

21   Available where I live / no time
23   Up to 30 minutes
32   Between 31 minutes and 1 hour
17   More than 1 hour
4   Not applicable / do not need
3   Don't know / refused

(C) LIVELIHOOD

C1.   Are you the main earner in your household?

%

56   Yes
44   No

C2.   Does your household own?
%
22   A farm
24   Livestock
46   Both farm and livestock
 5   None of these
 3   Don't know / refused

C3.   What is your primary occupation? MULTICODE OK. DO NOT READ OUT
%
44   Herder
60   Farmer
18   Trader
 3   Artisanship
10   Look after children or home
 4   Student
 4   Other
 2   No job

C4.   What occupations do other people have in your household? MULTICODE OK. DO NOT READ
        OUT
%
48   Herder
61   Farmer
32   Trader
 7   Artisanship
 4   Other
 5   Student
 1   Miner
11   No-one else works/has a job
 *   Don't know / refused

C5.   In the last week, how much income / money did you personally make?
%
31   Nothing
24   Below 5 USD
14   Between 5 and 10 USD
 6   Between 10 and 20 USD
13   Over 20 USD
12   Don't know / refused

C5A.   In a typical week, how much income / money do you personally make?
%
25   Nothing
22   Below 5 USD
11   Between 5 and 10 USD
11   Between 10 and 20 USD
17   Over 20 USD
14   Don't know / refused

C6.   Compared to last 2 years, has your average daily income gone up this year, gone down or is it about the same?

%
- 12   Income has gone up this year
- 58   Income has gone down this year
- 22   Income is about the same as last year
- 8   Don't know / refused

C7.   Which one of these best applies to you? READ OUT

%
- 10   I make enough money to buy basics and save the surplus
- 34   I make enough money only to buy basics
- 50   I do not make enough money to buy basics
- 6   Don't know / refused

ASK IF DO NOT HAVE ENCOUGH MONEY (CODE 3 AT C7) *Base: 520*

C8.   You say that you do not have enough money. What do you do to cope without enough money? PROBE FULLY. WRITE IN

%
- 24   I sell livestock / agricultural products and other goods
- 3   I migrate to other areas to look for work
- 15   I get financial help and support from family members
- 6   I avoid unnecessary purchases
- 3   I ration food
- 7   I do manual labour for money
- 4   I am used to living this way
- 5   I borrow money from creditors
- 19   I depend on donations from NGOs and government
- 4   I go to the mining sites
- 1   Forage for wild fruits and vegetables
- 2   Preserving and storing food
- 1   Other

C9.   Do you get any financial help and support from anyone else? IF YES. From where? MULTICODE OK. DO NOT READ OUT

%
- 42   No
- 25   Yes, my spouse
- 17   Yes, my parents
- 12   Yes, my children
- 16   Yes, other family members
- 7   Yes, other people
- 11   Yes, governments
- 1   Yes, financial institutions
- 2   Yes, NGOs
- 1   Yes, micro-savings groups
- 1   Yes, other

(D) GOVERNANCE, SERVICES AND RESILIENCE

Do you have access to the following?

		Yes %	No %	DK / refused %
D1.	Electricity	13	86	1
D2.	Shelter	90	8	2
D3.	Water	78	21	1
D4.	Security 64	33	3	
D5.	Education	79	18	3
D6.	Healthcare	75	24	1
D7.	Capital for business	9	87	4
D8.	Markets to sell goods	44	54	2
D9.	Veterinary services	34	62	4
D10.	Transportation	55	43	2
D11.	Justice	56	42	2
D12.	Land	87	8	5
D13.	Telecommunication	68	31	1

BASE: THOSE WHO HAVE ACCESS TO EACH SERVICE
Who is the main provider of each of these services to you? SINGLE CODE FOR EACH QUESTION

		(A) %	(B) %	(C) %	(D) %	(E) %	(F) %	(G) %
D14.	Electricity (137)	66	0	16	0	11	6	1
D15.	Shelter (937)	5	7	14	*	1	72	1
D16.	Water (814)	52	1	5	1	19	20	1
D17.	Security (667)	82	6	*	*	*	11	*
D18.	Education (827)	88	*	1	1	6	3	*
D19.	Healthcare (777)	86	*	2	*	9	2	*
D20.	Capital.. business (98)	7	2	10	0	5	71	4
D21.	Markets (458)	30	7	4	0	0	54	5
D22.	Vets (358)	63	1	26	0	5	4	1
D23.	Transportation (576)	7	1	60	0	*	30	2
D24.	Justice (581)	64	27	*	3	1	4	1
D25.	Land (903)	23	17	1	0	*	58	1
D26.	Telecomms (708)	45	1	40	*	*	13	2

A = Government
B = Traditional/ Cultural/ Tribal Institutions
C = Private sector (paid)
D = Religious Bodies
E = NGOs
F = Ourselves / own community
G = Others (WRITE IN)

BASE: THOSE WHO DO NOT HAVE ACCESS TO EACH SERVICE
Why do you not have access to each of these services? MULTICODE OK FOR EACH QUESTION. DO NOT READ OUT ANSWER OPTIONS

		(A) %	(B) %	(C) %	(D) %	(E) %	(F) %	(G) %	DK
D27.	Electricity (898)	31	66	*	5	14	2	1	1
D28.	Shelter (87)	32	55	0	2	1	3	5	2
D29.	Water (220)	18	52	*	0	46	1	1	1
D30.	Security (345)	10	57	2	11	28	0	6	5
D31.	Education (159) 17	36	4	8	35	5	12	2	
D32.	Healthcare (247)	7	50	1	5	47	0	3	*
D33.	Capital business (908)	33	52	1	19	7	3	1	2
D34.	Market… goods (558)	14	44	1	4	44	2	1	1
D35.	Vet services (651)	17	67	1	5	27	1	*	*
D36.	Transportation (445)	39	42	1	4	22	2	1	*
D37.	Justice (441)	15	60	1	13	23	2	1	1
D38.	Land (86)	38	26	7	12	5	3	3	9
D39.	Telecomms (318)	46	50	2	8	12	8	1	1

A = Cannot afford
B = Service does not exist
C = I am prevented from access
D = I don't know how to access
E = Too far away
F = Do not need it
G = Other WRITE IN

BASE: THOSE WHO HAVE ACCESS TO EACH SERVICE
Overall, how well would you rate the quality of the services you receive? You can say very poor, poor, average, good or very good, or don't know

		(A) %	(B) %	(C) %	(D) %	(E) %	DK %
D40.	Electricity (137)	11	39	39	9	0	2
D41.	Shelter (937)	12	31	33	18	5	1
D42.	Water (814)	19	39	32	7	3	0
D43.	Security (668)	16	39	31	12	2	0
D44.	Education (827)	13	40	34	12	1	1
D45.	Healthcare (777)	11	38	37	12	2	1
D46.	Capital for business (98)	6	24	51	14	1	3
D47.	Markets to sell goods (458)	5	37	40	16	1	1
D48.	Veterinary services (358)	14	36	42	5	1	1
D49.	Transportation (576)	6	30	49	11	2	1
D50.	Justice (581)	18	47	29	4	1	1
D51.	Land (903)	21	44	29	6	*	1
D52.	Telecommunication (708)	13	41	28	13	4	*

A = Very good
B = Good
C = Average
D = Poor
E = Very poor

D53.   If you need help because of an <u>economic problem (for example crop or herd loss)</u>, who do you think <u>would</u> help you? READ OUT. MULTICODE OK

%
67   Family
18   Community networks
10   Traditional/ Cultural/ Tribal Institutions
 5   Religious Bodies
26   Government
25   NGOs
28   Friends
 2   Other
 7   No-one / would not get help
 *   Don't know

D54.   If you need help because of a <u>security problem</u>, who do you think <u>would</u> help you? READ OUT. MULTICODE OK

%
36   Family
21   Community networks
29   Traditional/ Cultural/ Tribal Institutions
 7   Religious Bodies
66   Government
 6   NGOs
12   Friends
 4   Vigilante groups
 3   No-one / would not get Ip

(E) CONFLICT

E1.   How safe do you feel living in this area? SINGLE CODE. READ OUT
%
21   Very safe
34   Quite safe
35   Not very safe
 7   Not at all safe
 3   Refused

E2.   Have you experienced any violent conflict in the last 2 years?
%
17   Yes, once
26   Yes, multiple times
56   No
 1   Refused

Base: experienced violent conflict in last 2 years (n=455)

E3.   What types of conflict have you experienced? MULTICODE OK. DO NOT READ OUT

%
56   Theft / robbery
44   Physical assault
15   Verbal assault
6   Sexual assault
6   Arson
9   Vandalism
60   Cattle rustling
13   Ethnic clashes
2   Other WRITE IN
8   Don't know / refused

E4.   Have you experienced any violence because you are a woman / man?

%
13   Yes
85   No
2   Don't know / refused

E5.   Has conflict where you have lived increased, decreased, or stayed about the same over the last 2 years?

%
20   Increased
40   Decreased
26   Stayed about the same
14   Don't know / refused

ASK IF CONFLICT INCREASED (CODE 1 AT E5) *Base: 210*

E6.   Why has conflict increased?
        PROBE FULLY. WRITE IN

%
4   Unemployment
20   Absence of military / security forces
5   Emergence of radical-political Islamic movements
20   Poverty
3   Cattle routes encroachment by farmers
1   Corruption (extortion by security forces)
2   Lack of national or local government support in conflict resolutions
2   Emergence of banditry groups
1   Ease of access to small and light weapons
5   Farmland encroachment by herders
1   Deployment of mercenary forces
1   Lack of national or local government in imposing punishment to perpetrators
2   Increase in ethnic tensions
2   Long standing land disputes
12   Rustling
6   Others

ASK IF CONFLICT DECREASED (CODE 1 AT E5) *Base: 421*

E7.   Why has conflict gone down?

%
12   Establishment and rise of vigilante groups
 6   Presence of military / security forces
29   Integrating mediation in the conflict areas
20   Community cohesion and resolving conflict through community
13   Community and religious leaders jointing together to resolve
 5   Self-aware, conflict only brings destruction
 4   Change in government regime
 4   Others

E8.   Do you expect conflict in your area to increase, decrease or stay about the same over the next five years?

%
13   Increase
42   Decrease
19   Stay about the same
26   Don't know / refused

E9.   Which of the following can resolve conflict in your area? READ OUT. MULTICODE OK

%
21   Judiciary
49   Police
20   Gendarmeries
36   Military
17   Self-defence group
55   Traditional / Cultural / Tribal Chiefs
28   Religious Leaders
 6   International security forces
 3   Other
 1   No-one
 2   Don't know / refused

(F) ENVIRONMENT, WEATHER AND CLIMATE

F1.   Does the climate and environment make it easy or hard to live in this area?

%
16   Makes it easy to live here
58   Makes it hard to live here
21   Both / mixed
 5   Don't know / refused

F2.   Have you noticed any changes to the climate over the last 2 years? IF YES: have these changes made living here harder or easier?

%
12   No, not noticed any changes
69   Yes, noticed changes and it is making living harder
 9   Yes, noticed changes and it is making living easier
 7   Yes, noticed changes but not having an impact
 3   Refused

ASK IF MADE HARDER (CODE 2 AT F2) *Base: 721*

F3.   What have you done to adapt to these changes?
        PROBE FULLY. WRITE IN
        %
        19   Supplement my cash crop / livestock earnings by selling other goods / services
        5   I get financial help and support from family members
        *   I've reduced the size of my herd to manageable levels to survive
        4   Cultivating crops using improved seed and fertilizers
        2   Practising proper land and water management
        1   Early planting
        1   Rationing food
        4   Migrate in search of pasture
        3   Plant trees to provide shade
        *   Purchase food immediately after harvest due to its affordability
        5   Seasonable migration in search of labour / food
        1   Vegetable gardening for domestic use
        2   Changing food consumption and production patterns
        5   I'm used to living under these conditions
        6   Take part in casual labour on a daily basis
        *   Forage for wild fruits and vegetables
        2   Herding cattle that are more drought tolerant
        10   Aid
        7   Others

F4.   Which, if any, of these changes have you experienced over the last 2 years? MULTICODE OK.
        READ OUT
        14   More rainfall
        23   Flooding
        58   Less rainfall
        68   Droughts
        33   Less predictable rainfall
        39   Got hotter
        10   Got colder
        2   Other
        1   None of these
        1   Don't know / refused

        Do you think each of the following are going to happen in the next five years because of the
        impact of changes on the climate and environment? For each please tell me yes or no for
        each.

		Yes	No	Refused
		%	%	%
F5.	People will have less access to food	81	11	8
F6.	The security situation will get worse	44	29	28
F7.	People will migrate to other places for a better life	56	28	16
F8.	Droughts will happen more often	68	12	20

Annex 11: Advanced statistical analysis

Econometric models shed light on the drivers of multiple household vulnerabilities in borderlands. The following tables present an empirical multivariate analysis of a set of household vulnerability equations on the full survey sample as follows:

$$Y_{icp} = a + bX_{icp} + dZ_{cp} + v_c + e_{icd}$$

where   is the outcome variable (i.e. vulnerability measure) pertaining to the household *i* in country *c* belonging to community *p*;   are household level characteristics;   are socio-economic factors pertaining to the specific community.   are country fixed-effects, which control for all aggregate-level (time-invariant) characteristics that vary across countries (e.g., population size, the level of development or conflict/violence at the state level).We estimate the equation above with linear models with robust standard errors.

The dependent variables,   capture the multiple vulnerability dimensions (both current and expected), namely:

(i) livelihood/poverty
(ii) environment (safety, conflict, climate)

A regression model helps investigating multivariate relationships between variables in a systematic way, i.e., by hypothesizing that one variable (the dependent variable) depends on a combination of other variables, taken all together (i.e., controlling for all of them).

More specifically, the outcomes are the following variables included in the survey questionnaire:

Livelihood
C5A – Income in a normal week (USD) – continuous
C7 - Do you make enough to buy basics? (=1 NO) – Dichotomous poverty indicator

Environment (Conflict & Climate)
E1_dummy- Do you feel safe living here? (=1 NO) – Dichotomous
B6_dummy – Do you feel safe when you cross international borders? (=1 NO) – Dichotomous
F1_dummy - Climate makes it difficult to live here (=1 YES) – Dichotomous

Control variables, or covariates, included in   are demographic characteristic such as
Gender
Age
Education (highest in years)
Occupation
Household size (or number of children)
Access to services (Water, Shelter, Electricity)
Mobility pattern.
Coping strategies with conflicts and lack of resources

The OLS regression results of the estimated 'vulnerability equation' as described here. This exercise aims at exploring whether differences in vulnerability exposure are systematically associated with some individual or context-related factors. Results are reported in the tables below, where each table reports results while using a different vulnerability measure: weekly income (in a normal week), a dichotomous poverty indicator (dummy), a dummy for feeling unsafe (living there and crossing the international border, respectively), a dummy whether climate makes life difficult, a dummy for being a circular migrant (moving to stay in other locations at least monthly for work) and a dummy if planning to move away in the next 5 years.

Each table reports results while using 3 models. The first model includes major covariates such as demographics (age, gender, household size, education), a dummy for having access to basic services (electricity, water, shelter), a dummy for being the main earner in the household, and different dummies for occupational categories (herder, farmer, trader, artisan, childcare-giver, student, where the reference category is having no job). In addition to the latter, Model 2 controls for variables that reflect context-related characteristics, i.e., distance to drinking water (in hours), whether the individual is a border-crosser (i.e., s/he reports having crossed the border at least once in the last two years) and whether s/he had experienced any violent conflict in the last two years. Finally, Model 3 includes other controls related to coping strategies, i.e., whether the individual received any economic and/or security-related help.

Models 1-3 in Table 1 provide the estimates for weekly income (in a normal week, US$). The gender dummy is negative and statistically significant at 1%, that is women earn systematically less than men (where the difference is about $6.5), other things being equal. On the other hand, having more education (i.e., secondary education or more) significantly increases weekly income by about $6, while being the household breadwinner significantly increases it by about $4. In terms of occupation, those who are only herders or students earn significantly less than those who have no job, pointing to these occupations as the main vulnerable in economic terms. Turning to contextual variables, being a regular border crosser is positively and significantly associated with weekly income, while having conflict experience significantly decreases earnings. The inclusion of the latter variables does not eliminate or mitigate the significant association above and, similarly, results are robust to the inclusion of self-reported coping mechanisms as well (i.e., receiving economic or security help, Model 3).

Table 2 shows the results of a linear probability model where the dependent variable is a dummy for whether the individual reports not making enough money to buy basics (a self-reported poverty indicator). Older people seem to be significantly (yet marginally) more likely to be poor, while household size turns out to be negative and statistically significant, that is an extra household member reduces the likelihood to be poor by 6 percentage points (p.p.). This is consistent with a household model in poor contexts, where members are a source of labour and income for the family, rather than a liability. Being the breadwinner is not surprisingly associated with a lower likelihood to be poor, while being in trading occupation (student) is less (more) associated to self-reported poverty. Results are robust to the inclusion of contextual and coping variables. Yet, having a conflict experience is statistically significant and increase the likelihood to be poor by 5 p.p.

Table 3 shows results on the likelihood of feeling unsafe in the location of residence. Interestingly, having access to basic services (electricity, water, and shelter) is positively associated with safety (it decreases the likelihood to feel unsafe by about 18 p.p.). Herders, traders, and child rearing increase the safety feeling (compared to having no job), while having conflict experience significantly decreases the likelihood of safety by 21 p.p. While receiving security help significantly increases the safety feeling by 22 p.p., it does not eliminate or attenuate any of the factors mentioned above.

Table 4 reports results on the determinants of feeling unsafe while crossing international borders, and we estimate this equation on the sample of those who usually cross the border (i.e., those who never crossed the border in the last two years are excluded from the sample). Results show that females are systematically less likely to feel unsafe during border-crossing, while having a conflict experience significantly increases the insecurity feeling. The latter variable has a sizeable effect as it increases feeling unsafe by more than 22 p.p. The reasons of the gender imbalance may be because women typically report crossing the border with someone else, while men do not.

Table 5 investigates vulnerability due to climate change, as the outcome is whether individuals report climate made their life harder. Interestingly, people wither higher education (secondary or more) as well as farmers are more likely to report this form of vulnerability, which suggest that these groups are more aware and/or more sensitive to the hardships due to the change in climate. Indeed, farmers are 6 p.p. more likely to report this climate-related vulnerability (somewhat also herders do), while artisans are significantly far less likely to do so. These results are robust to the inclusion of other variables, which are also significantly associated with vulnerability due to climate. Distance to drinkable water and border-crossing significantly increase the likelihood of hardships due to climate-change, while receiving economic help significantly reduces it.

Table 6 reports results of the determinants of intentions to move away from the location of residence in the next 5 years. Elderly people and women are less likely to be willing to move away, and the same holds for more educated people, those with access to services and herders. On the other hands, students, those further away from drinking water and those with conflict experience are significantly more likely to be willing to move away from their current location.

Annex Table 1: Determinants of income (average earnings in a normal week in US$)

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	0.132*	0.124	0.126
	(0.0756)	(0.0768)	(0.0769)
Gender (=0 Male,1 Female)	-6.860***	-6.511***	-6.604***
	(2.180)	(2.227)	(2.235)
Secondary edu. and more	5.789**	5.953**	6.011**
	(2.799)	(2.849)	(2.852)
Household size	0.0371	0.0529	0.0605
	(0.163)	(0.173)	(0.173)
Access to basic services (electricity, water, shelter)	2.019	1.096	1.241
	(3.055)	(3.128)	(3.136)
Main earner (=1 YES)	4.576**	4.844**	5.047**
	(2.221)	(2.258)	(2.274)
Herder occup.	-3.733*	-4.251*	-4.304**
	(2.144)	(2.184)	(2.186)
Farmer occup.	-3.162	-3.261	-3.259
	(2.188)	(2.254)	(2.261)
Trader occup.	0.450	0.0567	0.0334
	(2.451)	(2.560)	(2.562)
Artisanship occup.	-1.521	-0.261	-0.376
	(5.247)	(5.312)	(5.335)
Look after children or home occup.	-1.663	-2.411	-2.145
	(3.254)	(3.332)	(3.349)
Student occup.	-13.53***	-12.49**	-12.34**
	(4.951)	(5.018)	(5.025)
Distance to drinking water (in hours)		0.0620	0.00899
		(1.065)	(1.068)
Border crosser (=1 YES)		4.053*	3.989*
		(2.155)	(2.166)
Conflict experience (=1 YES)		-3.632*	-3.594*
		(2.084)	(2.089)
Economic help (=1 YES)			3.120
	99esertif)		
Security help (=1 YES)			-0.836
			(5.582)
Constant	6.845	8.372*	6.114
	(4.217)	(4.462)	(7.138)
Observations	895	873	873
R-squared	0.167	0.177	0.178
Country FE	YES	YES	YES

The table reports OLS estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

Annex Table 2: Determinants of being poor (self-report not making enough money to buy basics)

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	0.00387***	0.00417***	0.00416***
	(0.00125)	(0.00127)	(0.00127)
Gender (=0 Male,1 Female)	0.0157	0.0205	0.0205
	(0.0352)	(0.0362)	(0.0363)
Secondary edu. and more	-0.0475	-0.0503	-0.0508
	(0.0457)	(0.0465)	(0.0466)
Household size	-0.00625**	-0.00558*	-0.00562**
	(0.00269)	(0.00285)	(0.00286)
Access to basic services (electricity, water, shelter)	0.0446	0.0524	0.0506
	(0.0495)	(0.0511)	(0.0512)
Main Earner (=1 YES)	-0.0663*	-0.0627*	-0.0642*
	(0.0359)	(0.0367)	(0.0369)
Herder occup.	-0.0464	-0.0407	-0.0399
	(0.0349)	(0.0357)	(0.0358)
Farmer occup.	-0.0247	-0.0217	-0.0199
	(0.0361)	(0.0372)	(0.0374)
Trader occup.	-0.105***	-0.113***	-0.113***
	(0.0393)	(0.0413)	(0.0413)
Artisanship occup.	0.194**	0.187**	0.192**
	(0.0876)	(0.0887)	(0.0891)
Look after children or home occup.	0.0344	0.0578	0.0549
	(0.0556)	(0.0572)	(0.0576)
Student occup.	0.403***	0.396***	0.395***
	(0.0865)	(0.0875)	(0.0876)
Distance to drinking water (in hours)		-0.0118	-0.0116
		(0.0173)	(0.0174)
Border crosser (=1 YES)		-0.0112	-0.0123
		(0.0348)	(0.0350)
Conflict experience (=1 YES)		0.0551*	0.0537
		(0.0334)	(0.0335)
Economic help (=1 YES)			-0.0249
		101esertif)	
Security help (=1 YES)			0.0640
			(0.0951)
Constant	0.545***	0.509***	0.474***
	(0.0704)	(0.0748)	(0.121)
Observations	958	928	928
R-squared	0.169	0.162	0.162
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

Annex Table 3: Determinants of feeling unsafe living here

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	-0.00132	-0.000774	-0.000767
	(0.00111)	(0.00110)	(0.00109)
Gender (=0 Male,1 Female)	-0.0480	-0.0610*	-0.0567*
	(0.0313)	(0.0312)	(0.0312)
Secondary Edu. and more	-0.0159	-0.0279	-0.0259
	(0.0409)	(0.0402)	(0.0401)
Household size	0.00103	0.00164	0.00150
	(0.00239)	(0.00245)	(0.00245)
Access to basic services (electricity, water, shelter)	-0.208***	-0.188***	-0.185***
	(0.0441)	(0.0440)	(0.0440)
Main earner (=1 YES)	-0.0449	-0.0487	-0.0475
	(0.0319)	(0.0316)	(0.0317)
Herder occup.	-0.0878***	-0.0747**	-0.0760**
	(0.0311)	(0.0308)	(0.0307)
Farmer occup.	0.0410	0.0293	0.0234
	(0.0318)	(0.0318)	(0.0317)
Trader occup.	-0.120***	-0.126***	-0.126***
	(0.0356)	(0.0362)	(0.0360)
Artisanship occup.	0.0751	0.0513	0.0334
	(0.0793)	(0.0777)	(0.0778)
Look after children or home occup.	-0.261***	-0.215***	-0.213***
	(0.0485)	(0.0482)	(0.0483)
Student occup.	0.0556	0.0219	0.0126
	(0.0729)	(0.0715)	(0.0714)
Distance to drinking water (in hours)		-0.00252	-0.00189
		(0.0151)	(0.0151)
Border crosser (=1 YES)		-0.0538*	-0.0463
		(0.0299)	(0.0300)
Conflict experience (=1 YES)		0.212***	0.217***
		(0.0288)	(0.0288)
Economic help (=1 YES)			0.00616
			(0.0527)
Security help (=1 YES)			-0.221***
			(0.0806)
Constant	-0.323***	-0.442***	-0.245**
	(0.0624)	(0.0639)	(0.102)
Observations	996	962	962
R-squared	0.304	0.336	0.342
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed

Annex Table 4: Determinants of feeling unsafe during border crossing (sample of border-crossers)

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	-0.00232	-0.00184	-0.00187
	(0.00161)	(0.00158)	(0.00158)
Gender (=0 Male,1 Female)	-0.0821*	-0.0901**	-0.0917**
	(0.0447)	(0.0441)	(0.0442)
Secondary Edu. and more	-0.0608	-0.0685	-0.0700
	(0.0535)	(0.0523)	(0.0524)
Household size	-0.00300	-0.00236	-0.00246
	(0.00311)	(0.00323)	(0.00324)
Access to basic services (electricity, water, shelter)	-0.132**	-0.0749	-0.0746
	(0.0644)	(0.0641)	(0.0641)
Main earner (=1 YES)	-0.0135	-0.0219	-0.0219
	(0.0454)	(0.0447)	(0.0452)
Herder occup.	-0.0236	-0.0121	-0.00983
	(0.0426)	(0.0423)	(0.0423)
Farmer occup.	0.0482	0.0303	0.0346
	(0.0458)	(0.0453)	(0.0455)
Trader occup.	-0.0253	-0.0462	-0.0442
	(0.0483)	(0.0475)	(0.0476)
Artisanship occup.	0.121	0.0526	0.0540
	(0.134)	(0.131)	(0.132)
Look after children or home occup.	-0.175**	-0.136*	-0.136*
	(0.0726)	(0.0721)	(0.0723)
Student occup.	0.105	0.0375	0.0368
	(0.110)	(0.109)	(0.109)
Distance to drinking water (in hours)		0.0177	0.0175
		(0.0222)	(0.0223)
Conflict experience (=1 YES)		0.226***	0.228***
		(0.0429)	(0.0429)
Economic help (=1 YES)			-0.0286
		104esert if)	
Security help (=1 YES)			0.177
			(0.159)
Constant	0.372***	0.244*	0.0901
	(0.121)	(0.125)	(0.206)
Observations	544	536	536
R-squared	0.203	0.240	0.242
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

Annex Table 5: Determinants of feeling that climate makes it difficult to live here

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
Age	0.000405	0.000224	0.000159
	(0.000869)	(0.000884)	(0.000885)
Gender (=0 Male,1 Female)	0.0250	0.0311	0.0321
	(0.0247)	(0.0254)	(0.0254)
Secondary edu. and more	0.0931***	0.0994***	0.0972***
	(0.0349)	(0.0352)	(0.0352)
Household size	0.00153	0.000552	0.000590
	(0.00194)	(0.00206)	(0.00206)
Access to basic services (electricity, water, shelter)	0.0232	0.0250	0.0232
	(0.0357)	(0.0367)	(0.0367)
Main earner (=1 YES)	0.0162	0.0131	0.00954
	(0.0252)	(0.0258)	(0.0259)
Herder occup.	0.0468*	0.0282	0.0277
	(0.0252)	(0.0257)	(0.0257)
Farmer occup.	0.0794***	0.0664**	0.0662**
	(0.0255)	(0.0263)	(0.0263)
Trader occup.	0.0107	-5.61e-05	-0.00106
	(0.0289)	(0.0303)	(0.0303)
Artisanship occup.	-0.156**	-0.145**	-0.144**
	(0.0609)	(0.0614)	(0.0615)
Look after children or home occup.	-0.0610	-0.0723*	-0.0782*
	(0.0401)	(0.0413)	(0.0414)
Student occup.	0.0140	0.0179	0.0198
	(0.0611)	(0.0616)	(0.0616)
Distance to drinking water (in hours)		0.0260**	0.0275**
		(0.0130)	(0.0130)
Border crosser (=1 YES)		0.0614**	0.0616**
		(0.0247)	(0.0247)
Conflict experience (=1 YES)		-0.0173	-0.0193
		(0.0238)	(0.0239)
Economic help (=1 YES)			-0.0908*
			(0.0490)
Security help (=1 YES)			0.0433
			(0.0671)
Constant	0.692***	0.695***	0.743***
	(0.0492)	(0.0526)	(0.0854)
Observations	821	784	784
R-squared	0.123	0.136	0.140
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

Annex Table 6: Determinants of willingness to move away

VARIABLES	(1) Model (1)	(2) Model (2)	(3) Model (3)
	-	-	-
Age	0.00242***	0.00223***	0.00223***
	(0.000742)	(0.000744)	(0.000745)
Gender (=0 Male,1 Female)	-0.0404*	-0.0398*	-0.0384*
	(0.0208)	(0.0211)	(0.0212)
Secondary edu. and more	-0.0648**	-0.0657**	-0.0663**
	(0.0278)	(0.0278)	(0.0278)
Household size	0.00124	0.000943	0.000851
	(0.00159)	(0.00166)	(0.00166)
Access to basic services (electricity, water, shelter)	-0.0660**	-0.0485	-0.0488
	(0.0300)	(0.0305)	(0.0306)
Main Earner (=1 YES)	-0.00227	-0.00514	-0.00673
	(0.0211)	(0.0213)	(0.0215)
Herder occup.	-0.0443**	-0.0504**	-0.0502**
	(0.0206)	(0.0208)	(0.0208)
Farmer occup.	-0.0252	-0.0281	-0.0290
	(0.0213)	(0.0217)	(0.0218)
Trader occup.	0.00310	-0.0122	-0.0125
	(0.0241)	(0.0248)	(0.0248)
Artisanship occup.	0.0399	0.0443	0.0422
	(0.0521)	(0.0519)	(0.0521)
Look after children or home occup.	-0.0374	-0.0327	-0.0348
	(0.0333)	(0.0337)	(0.0339)
Student occup.	0.101**	0.102**	0.0995**
	(0.0484)	(0.0482)	(0.0483)
Distance to drinking water (in hours)		0.0338***	0.0343***
		(0.0102)	(0.0102)
Border crosser (=1 YES)		0.0316	0.0331
		(0.0202)	(0.0203)
Conflict experience (=1 YES)		0.0494**	0.0500**
		(0.0197)	(0.0198)
Economic help (=1 YES)			-0.0241
			(0.0355)
Security help (=1 YES)			-0.0269
			(0.0530)
Constant	0.203***	0.147***	0.196***
	(0.0418)	(0.0436)	(0.0686)
Observations	962	923	923
R-squared	0.070	0.086	0.087
Country FE	YES	YES	YES

The table reports Linear Probability estimates of the dependent variables as a function of different sets of regressors reported in three different models (columns). The reference category of the occupational dummies is No Job. All regressions include Country Fixed Effects. Standard errors are reported in parenthesis and *, **, *** indicate that the coefficient is statistically significant at the 10, 5 and 1 percent level, respectively.

REFERENCES

African Development Bank Group (ADB) (2022). African Economic Outlook 2022: Supporting Climate Resilience and a Just Transition in Africa. Available at https://www.afdb.org/en/documents/african-economic-outlook-2022. Accessed 20 September 2022.

Afrobarometer, https://www.afrobarometer.org/about/.

Alemu, M. G. (2018). Violence, insecurity, and marginality in pastoralist spaces: the Horn of Africa and the Sahel regions. *Strategic Review for Southern Africa*, 40(2), 82–96.

Baltenweck, I., Omondi, I., Waithanji, E., Kinuthia, E. & Odhiambo, M. (2016). Dairy value chains in East Africa: Why so few women? In Pyburn, R. & Eerdewijk, A. van. (eds). *A Different Kettle of Fish? Gender Integration in Livestock and Fish Research*. Volendam, LM Publishers, 137–146.

Baroin, C., & Boutrais, J. (2008). Bétail et société en Afrique. *Journal des Africanistes*, 78(1/2), 9– 52.

Benjamin, N., Golub, S., & Mbaye, A. A. (2015). Informality, trade policies and smuggling in West Africa. *Journal of Borderlands Studies*, 30(3), 381–394.

Benjaminsen, T. A., & Svarstad, A. (2021). *Political Ecology*. London, Palgrave Macmillan.

Bernus, E. (1993). *Touaregs Nigériens. Unité Culturelle et Diversité Régionale d'un Peuple Pasteur.* Paris, Orstom.

Bøås, M., Cissé, A. W., & Mahamane, L. (2020). Explaining violence in Tillabéri: Insurgent appropriation of local grievances? *The International Spectator*, 55(4), 118–132.

Boesen, E., Marfaing, L., & de Bruijn, M. (2014). Nomadism and mobility in the Sahara-Sahel: Introduction. *Canadian Journal of African Studies*, 48(1): 1–12.

Bollig, M., & Österle, M. (2013). The political ecology of specialisation and diversification. In Bollig, M., Schnegg, M. & Wotzka, H.P. (eds). *Pastoralism in Africa: Past, Present and Future*. Oxford, Berghan Books, 289–315.

Bouchama, N., Ferrant, G., Fuiret, L., Meneses, A., & Thim, A. (2018). Gender inequality in West African social institutions. OECD *West African Papers*, 13.

Boutrais, J. (2007). The Fulani and cattle breeds: crossbreeding and heritage strategies. *Africa*, 77(1), 18–36.

Brachet, J. (2018). Manufacturing smugglers: From irregular to clandestine mobility in the Sahara. *The Annals of the American Academy of Political and Social Science*, 676(1), 16– 35.

Brenton, P., Gamberoni, E., & Sear, C. (2013). *Women and Trade in Africa: Realizing the Potential.* Washington, D.C., The World Bank Group.

Brottem, L., & McDonnell, A. (2020). *Pastoralism and conflict in the Sudano-Sahel: A review of the literature*. Washington, D.C., Search for Common Ground.

Brunet-Jailly, E. (2015). *Border Disputes: A Global Encyclopedia: A Global Encyclopedia*. Santa Barbara, ABC-CLIO.

Buhaug, H., Benjaminsen, T. A., Sjaastad, E., & Theisen, O. M. (2015). Climate variability, food production shocks, and violent conflict in Sub-Saharan Africa. *Environmental Research Letters*, 10(12), 125015.

Burke, M., Hsiang, S. M., & Miguel, E. (2015). Climate and conflict. *Annual Review of Economics*, 7(1), 577-617.

Chagunda, M. G., et al. (2016). Assessing and managing intensification in smallholder dairy systems for food and nutrition security in Sub-Saharan Africa. *Regional Environmental Change*, 16(8), 2257–2267.

Choplin, A., & Lombard, J. (2014). On West African roads: everyday mobility and exchanges between Mauritania, Senegal, and Mali. *Canadian Journal of African Studies*, 48(1), 59–75.

Clark, G. (2010). *African Market Women. Seven Life Stories from Ghana*. Bloomington, Indiana University Press.

Cline, L. E. (2020). War on the hoof: regional security in Africa and livestock conflicts. *Small Wars and Insurgencies*, 31(1), 87–105.

Coquery-Vidrovitch, C. (2018) *African Women: A Modern History.* New York, Routledge.

Corniaux, C., Thébaud, B., & Gautier, D. (2012). La mobilité commerciale du bétail entre le Sahel et les pays côtiers: l'avenir du convoyage à pied. *Nomadic Peoples*, 16(2), 6–25.

Dean, A. S., Fournié, G., Kulo, A. E., Boukaya, G. A., Schelling, E., & Bonfoh, B. (2013). Potential risk of regional disease spread in West Africa through cross-border cattle trade. *PLOS ONE*, 8(10), e75570.

De Bruijn, M., van Dijk, R. A., & Foeken, D. (eds) (2001). *Mobile Africa: Changing Patterns of Movement in Africa and Beyond*. Leiden, Brill.

De Bruijn, M., & Van Dijk, H. (2003). Changing population mobility in West Africa: Fulbe pastoralists in central and south Mali. *African Affairs*, 102(407), 285–307.

De Haan, C. (ed.) (2016). *Prospects for Livestock-Based Livelihoods in Africa's Drylands*. Washington, D.C., The World Bank Group.

Derbyshire, S. F., Nami, J. E., Akall, G., & Lowasa, L. (2021). Divining the future: Making sense of ecological uncertainty in Turkana, Northern Kenya. *Land*, 10, 885–908.

Detges, A. (2014). Close-up on renewable resources and armed conflict: The spatial logic of pastoralist violence in Northern Kenya. *Political Geography*, 42, 57–65.

Diarrah, A. (2002). *Le concept de 'pays-frontière' dans le processus d'intégration sous-régionale ouest-africaine*. Paris, OECD Sahel and West Africa Club.

Diallo, A. (2014). Yakaar, Dakar-Dubaï-Guanghzou: Trajectoires des commerçantes de Dakar. *Revue Tiers Monde*, 217, 97–112.

Dobler, G. (2016). The green, the grey and the blue: A typology of cross-border trade in Africa. *The Journal of Modern African Studies*, 54(1), 145–169.

Dunning, C. M., Black, E., & Allan, R. P. (2018). Later wet seasons with more intense rainfall over Africa under future climate change. *Journal of Climate*, 31(23), 9719–9738.

Engel, U. & Nugent, P. (eds) (2010). *Respacing Africa*. Leiden, Brill

Feyissa, D. & Hoehne, M. V. (eds) (2010). *Borders and Borderlands as Resources in the Horn of Africa*. Woodbridge, Boydell & Brewer.

Fitzpatrick, R. G., et al. (2020). What drives the intensification of mesoscale convective systems over the West African Sahel under climate change? *Journal of Climate*, 33(8), 3151–3172.

Forsythe, L., Posthumus, H., & Martin, A. (2016). A crop of one's own? Women's experiences of cassava commercialization in Nigeria and Malawi. *Journal of Gender, Agriculture and Food Security*, 1(2), 110–128.

Foucher, M. (2020). African borders: Putting paid to a myth. *Journal of Borderlands Studies*, 35(2), 287–306.

Fragile States Index (2022), 'Global Data: Fragile States Index 2022,' https://fragilestatesindex.org/global-data/. Accessed 05 October 2022.

Frowd, P. M. (2018). *Security at the Borders: Transnational Practices and Technologies in West Africa*. Cambridge, Cambridge University Press.

Gagnol, L. (2012). La mobilité: symptôme d'inadaptation des sociétés sahéliennes ou stratégie adaptative? Une mise en perspective historique des politiques de lutte contre la désertification. *Sécheresse* 23(3), 240–247.

Gebremedhin, B., Tesema, E., Tegegne, A., Hoekstra, D., & Nicola, S. (2016). *Value chain opportunities for women and young people in livestock production in Ethiopia: Lessons learned*. Nairobi, International Livestock Research Institute.

Gitungwa, H., et al. (2021). Female and male-controlled livestock holdings impact pastoralist food security and women's dietary diversity. *One Health Outlook*, 3(1), 1–13.

Gonin, A. (2018). Le foncier pastoral au Sahel, des mobilités fragilisées. *Bulletin de l'Association de Géographes Français*, 95(95-2), 175–186.

Grace, D., & Little, P. (2020). Informal trade in livestock and livestock products. *Rev. Sci. Tech.*, 39(1), 183–192.

Gray, S., Sundal, M., Wiebusch, B., Little, M. A., Leslie, P. W., & Pike, I. L. (2003). Cattle raiding, cultural survival, and adaptability of East African pastoralists. *Current Anthropology*, 44(Supplement), S3–S30.

Hauck, S., & Rubenstein, D. I. (2017). Pastoralist societies in flux: A conceptual framework analysis of herding and land use among the Mukugodo Maasai of Kenya. *Pastoralism*, 7, 18–58.

Heidelberg Institute for International Conflict Research (HIIK) (2022). Conflict Barometer 2021, Heidelberg, Germany, https://hiik.de/wp-content/uploads/2022/03/CoBa_01.pdf, accessed 20 September 2022.

Herrero, M., et al. (2016). Climate change and pastoralism: impacts, consequences, and adaptation. *Rev. Sci. Tech.*, 35, 417–433.

Hertkorn, M. L., Roba, H., & Kaufmann, B. (2015). Caring for livestock. Borana women's perceptions of their changing role in livestock management in southern Ethiopia. *Nomadic Peoples*, 19(1), 30–52.

Hoffmann, L., Melly, P., & Walther, O. (2017). *Empowering Women in West African Markets. Case Studies from Kano, Katsina (Nigeria) and Maradi (Niger)*. Dakar, World Food Programme.

Howard, A. M., & Shain, R. M. (2005). *The Spatial Factor in African History*. Leiden, Brill.

Hsiang, S. M., Burke, M., & Miguel, E. (2013). Quantifying the influence of climate on human conflict. *Science*, 341(6151).

Ikome, F. N. (2012). Africa's international borders as potential sources of conflict and future threats to peace and security. Johannesburg, *Institute for Security Studies Papers*, 233.

Institute for Economics & Peace (IEP) (2022) 'Global Terrorism Index 2022: Measuring the Impact of Terrorism'. Available at https://www.economicsandpeace.org/wp-content/uploads/2022/03/GTI-2022-web-09062022.pdf, accessed 10 October 2022.

Kassa, H., et al. (2017). Shared strengths and limitations of participatory forest management and area exclosure: Two major state led landscape rehabilitation mechanisms in Ethiopia. *International Forestry Review*, 19(4), 51–61.

Kendon, E. J., Stratton, R. A., Tucker, S., Marsham, J. H., Berthou, S., Rowell, D. P., & Senior, C. A. (2019). Enhanced future changes in wet and dry extremes over Africa at convection-permitting scale. *Nature Communications*, 10(1), 1–14.

Köhler, F. (2020). *Space, Place, and Identity: Wodaabe of Niger in the 21st Century*. New York, Berghahn.

Laboratoire d'analyse régionale et d'expertise sociale (LARES) (2017). *Étude sur les problèmes spécifiques que rencontrent les femmes commerçantes sur le corridor Abidjan-Lagos*. Cotonou, LARES.

Lesourd, C. (2019). Faire fortune au Sahara: quand les femmes s'en mêlent. In Grémont, C., et al. (eds). *Sahara, Mondes Connectés*. Paris, Gallimard.

Little, P. D. (2019). Critical socio-economic variables in African pastoral livestock development: toward a comparative framework. In Simpson, J. R. (ed). *Livestock Development in Subsaharan Africa*. Boca Raton, CRC Press, 201–214.

Little, P. D., & McPeak, J. G. (2014). Resilience and pastoralism in Africa south of the Sahara, with a particular focus on the horn of Africa and the Sahel, West Africa. *Building Resilience for Food Security Conference Paper*, 9.

Little, P. D., Tiki, W., & Debsu, D. N. (2015). Formal or informal, legal, or illegal: The ambiguous nature of cross-border livestock trade in the Horn of Africa. *Journal of Borderlands Studies*, 30(3), 405–421.

Lohbeck, M., et al. (2020). Drivers of farmer-managed natural regeneration in the Sahel. Lessons for restoration. *Scientific Reports*, 10(1), 1–11.

Lumborg, S., Tefera, S., Munslow, B., & Mor, S. M. (2021). Examining local perspectives on the influence of climate change on the health of Hamer pastoralists and their livestock in Ethiopia. *Pastoralism*, 11(1), 1–17.

Lutta, A. I., Wasonga, O. V., Nyangito, M. M., Sudan, F. K., & Robinson, L. W. (2020). Adoption of water harvesting technologies among agro-pastoralists in semi-arid rangelands of South Eastern Kenya. *Environmental Systems Research*, 9(1), 1-12.

Majekodunmi, A. O., Fajinmi, A., Dongkum, C., Shaw, A. P. M., & Welburn, S. C. (2014). Pastoral livelihoods of the Fulani on the Jos Plateau of Nigeria. *Pastoralism*, 4(1), 1–16.

Marei, N., & Ninot, O. (2018). Entre Afrique du Nord et de l'Ouest, les relations transsahariennes à un moment charnière. *Bulletin de l'Association de Géographes Français*, 95(2), 239–258.

Martin, G. & Prager, F. (2019). *Terrorism. An International Perspective*. London, SAGE

Miles, W. F. (2018). Jihads and borders. Social networks and spatial patterns in Africa, present, past, and future. In Walther, O. & Miles, W. F. (eds). *African Border Disorders: Addressing Transnational Extremist Organizations*. New York, Routledge, 187–205.

Mo Ibrahim Foundation (2020) 2020 Ibrahim Index of African Governance: Executive Summary, https://mo.ibrahim.foundation/sites/default/files/2020-11/2020-index-report-executive-summary.pdf.

Moghadam, A., & Fishman, B. (eds) (2011). *Fault Lines in Global Jihad: Organizational, Strategic, and Ideological Fissures*. London, Taylor & Francis.

Monerie, P. A., Biasutti, M., & Roucou, P. (2016). On the projected increase of Sahel rainfall during the late rainy season. *International Journal of Climatology*, 36(13), 4373-4383.

Moyo, I., & Nshimbi, C. C. (eds) (2019). *African Borders, Conflict, Regional and Continental Integration*. London, Routledge.

Mulugeta, M. F. (2017). Small arms and conflict among East African pastoralists: The Karamoja (in)security complex. *Africa*, 87(4), 739–757.

Ng'asike, O. A. P., Hagmann, T., & Wasonga, O. V. (2021). Brokerage in the borderlands: The political economy of livestock intermediaries in northern Kenya. *Journal of Eastern African Studies*, 15(1), 168–188.

Njuki, J., Sanginga, P. (eds) (2013). *Women, livestock ownership and markets. Bridging the gender gap in Eastern and Southern Africa*. New York, Routledge.

Njuki, J., Kaaria, S., Chamunorwa, A., & Chiuri, W. (2011). Linking smallholder farmers to markets, gender, and intra-household dynamics: does the choice of commodity matter? *The European Journal of Development Research*, 23(3), 426–443.

Nori, M., & Scoones, I. (2019). Pastoralism, uncertainty, and resilience: Global lessons from the margins. *Pastoralism*, 9(10), 1–7.

Nugent, P. (2019). *Boundaries, Communities and State-making in West Africa: The Centrality of the Margins*. Cambridge, Cambridge University Press.

Nugent, P., & Asiwaju, A.I. (eds) (1996). *African Boundaries: Barriers, Conduits and Opportunities*. London, Pinter.

Nugent, P., & Soi, I. (2020). One-stop border posts in East Africa: State encounters of the fourth kind. *Journal of Eastern African Studies*, 14(3), 433–454.

Organisation for Economic Co-operation and Development (OECD) (2017). *Cross-border Co-operation and Policy Networks in West Africa*. Paris, OECD Publishing.

———. (2019). *Women and Trade Networks in West Africa.* Paris, OECD Publishing.

———. (2020). *The Geography of Conflict in North and West Africa*. Paris, OECD Publishing.

Park, J. Y., Bader, J., & Matei, D. (2016). Anthropogenic Mediterranean warming essential driver for present and future Sahel rainfall. *Nature Climate Change*, 6(10), 941–945.

Parshotam, A., & Balongo, S. (2020). Women traders in East Africa: The case study of the Busia One Stop Border Post. Johannesburg, *South African Institute of International Affairs Occasional Paper*, 305.

Pavanello, S. (2009). *Pastoralists' vulnerability in the Horn of Africa: Exploring political marginalisation, donors' policies, and cross-border issues–Literature review*. London, Overseas Development Institute.

Pflaum, M. (2021). Pastoralist violence in North and West Africa. Paris, OECD *West African Papers*, 31.

Pham-Duc, B., Sylvestre, F., Papa, F., Frappart, F., Bouchez, C., & Cretaux, J. F. (2020). The Lake Chad hydrology under current climate change. *Scientific Reports*, 10(1), 1–10.

Radil, S. M., Irmischer, I. & Walther, O. J. (2021). Contextualizing the relationship between borderlands and political violence: a dynamic space-time analysis in North and West Africa. *Journal of Borderlands Studies*, 1–19.

Rahman, S. A. (2008). Women's involvement in agriculture in northern and southern Kaduna State, Nigeria. *Journal of Gender Studies*, 17(1), 17–26.

Raleigh, C., Choi, H. J., & Kniveton, D. (2015). The devil is in the details: An investigation of the relationships between conflict, food price and climate across Africa. *Global Environmental Change*, 32, 187–199.

Retaillé, D. (1989). Mobilités des populations sahéliennes pendant la sécheresse aggravée de 1984. In Bret, B. (ed.). *Les Hommes Face aux Sécheresses*. Paris, IHEAL, 277–285.

Retaillé, D., & Walther, O. (2011). Spaces of uncertainty: A model of mobile space in the Sahel. *Singapore Journal of Tropical Geography*, 32(1), 85–101.

Retaillé, D., & Walther, O. (2013). Conceptualizing the mobility of space through the Malian conflict. *Annales de Géographie*, 6, 595-618.

Retaillé, D., & Walther, O. (2014). Space and mobility: Lessons from the Sahel to the globalized world. In Boesen, E., & Marfaing, L. (eds). *Mobilité dans l'Espace Ouest-Africain: Ressources, Développement Local et Intégration Régionale*. Paris, Karthala, 207–234.

Rokhideh, M. (2021). *Leveraging the peacebuilding potential of cross-border trader networks in Sub-Saharan Africa*. Washington, D.C., USAID Policy Note.

Scheele, J. (2012). *Smugglers and Saints of the Sahara: Regional Connectivity in the Twentieth Century*. Cambridge, Cambridge University Press.

Schilling, J., Opiyo, F. E. O., & Scheffran, J. (2012). Raiding pastoral livelihoods: motives and effects of violent conflict in north-western Kenya. *Pastoralism*, 2(25), 1–16.

Scoones, I. (2020). *Pastoralism and development: fifty years of dynamic change*. Brighton, Institute of Development Studies.

Serra, R., Harris-Coble, L., Dickerson, A. J., Povedano, S. A. & Pinzon, S. (2018). *Gender and livestock value chains annotated bibliography*. Gainesville, Feed the Future Innovation Lab for Livestock Systems.

Solano, G., & Rooks, G. (2018). Social capital of entrepreneurs in a developing country: The effect of gender on access to and requests for resources. *Social Networks*, 54, 279–290.

Sustainable Development Goals Center for Africa (SDGCA) (2021) Africa SDG Index and Dashboards Report 2020. Available at https://s3.amazonaws.com/sustainabledevelopment.report/2020/2020_africa_index_and_dashboards.pdf, accessed 1 October 2020.

Sylvanus, N. (2016). *Patterns in Circulation: Cloth, Gender, and Materiality in West Africa*. Chicago, University of Chicago Press.

Tacoli, C. (2009). Crisis or adaptation? Migration and climate change in a context of high mobility. *Environment and Urbanization*, 21(2), 513–525.

Theisen, O. M., Holtermann, H., & Buhaug, H. (2011). Climate wars? Assessing the claim that drought breeds conflict. *International Security*, 36(3), 79-106.

Titeca, K. (2021). *Informal cross-border trade along the Uganda-DRC border*. Nairobi, United Nations Development Programme, Borderland Policy Briefing Series.

Trémolières, M., & Walther, O. (2019). Accessibility and infrastructure in border cities. Paris, OECD *West African Papers*, 23.

Turner, M. D. (2004). Political ecology and the moral dimensions of "resource conflicts": the case of farmer-herder conflicts in the Sahel. *Political Geography*, 23, 836–889.

Turner, M. D., Ayantunde, A. A., Patterson, K. P., & Patterson, E. D. (2012). Conflict management, decentralization and agropastoralism in Dryland West Africa. *World Development*, 40(2), 745–757.

Turner, M. D., McPeak, J. G., & Ayantunde, A. (2014). The role of livestock mobility in the livelihood strategies of rural peoples in semi-arid West Africa. *Human Ecology*, 42(2), 231–247.

Tyson, J. E. (2018). One-stop border posts and informal livelihoods in Busia, Kenya. *Development in Practice*, 28(4), 562–573.

United Nations (2021) Executive Summary: Common Guidance On Helping Build Resilient Societies, Available at https://unsdg.un.org/resources/executive-summary-un-common-guidance-helping-build-resilient-societies#:~:text=The%20UN%20Common%20Guidance%20on%20Helping%20Build%20Resilient%20Societies%20aims,of%20Governments'%20sustainable%20development%20objectives, accessed 16 September 2022.

United Nations Economic Commission for Africa (UNECA) (2017). *New Fringe Pastoralism: Conflict and Insecurity and Development in the Horn of Africa and the Sahel*. Addis Ababa, UNECA.

United Nations Environment Programme (UNEP) (2011). *Livelihood Security: Climate Change, Migration, and Conflict in the Sahel*. Nairobi, UNEP.UNSCEB: Annex III: Adopting an analytical framework on risk and resilience: a proposal for more proactive, coordinated, and effective United Nations action," CEB/2017/6, https://unsceb.org/sites/default/files/imported_files/RnR_0.pdf. Accessed 15 September 2022.

United States Agency for International Development (USAID) (2012). *Women in Cross-Border Agricultural Trade*, Washington, D.C., USAID.

Van Weezel, S. (2019). On climate and conflict: Precipitation decline and communal conflict in Ethiopia and Kenya. *Journal of Peace Research*, 56(4), 514–528.

Vinson, L. T. (2018). Pastoralism, ethnicity, and subnational conflict resolution in the Middle Belt. In Levan, C., & Ukata, P. (eds). *The Oxford Handbook of Nigerian Politics*. Oxford, Oxford University Press.

Walther, O. (2015). Business, brokers, and borders: The structure of West African trade networks. *The Journal of Development Studies*, 51(5), 603–620.

———. (forthcoming). Security and trade in African borderlands – An introduction. *Journal of Borderlands Studies*.

Walther, O., & Miles, W. F. (eds) (2018). *African Border Disorders: Addressing Transnational Extremist Organizations*. New York, Routledge.

Walther, O., Tenikue, M., & Trémolières, M. (2019). Economic performance, gender, and social networks in West African food systems. *World Development*, 124, 104650.

Walther, O., & Retaillé, D. (2021). Mapping the Sahelian space. In Villalon, L. (ed.). *The Oxford Handbook of the African Sahel*. Oxford, Oxford University Press, 15–34.

———. (2015). Rethinking borders in a mobile world: An alternative model. In Amilhat-Szary A.-L., & Giraut, F. (eds). *Borderities and the Politics of Contemporary Mobile Borders*. Basingstoke, Palgrave Macmillan, 191–203.

Welzer, H. (2015). *Climate Wars: What People will be Killed for in the 21st Century*. London, John Wiley & Sons.

Williams, P. D. (2016). *War and Conflict in Africa*. Cambridge, Polity Press.

Witmer, F. D., Linke, A. M., O'Loughlin, J., Gettelman, A., & Laing, A. (2017). Subnational violent conflict forecasts for sub-Saharan Africa, 2015–65, using climate-sensitive models. *Journal of Peace Research*, 54(2), 175–192.

World Bank (2013). *Women and Trade in Africa: Realizing the Potential*. Washington, D.C., The World Bank Group.
(2019).

———. *Women and Trade: The Role of Trade in Promoting Women's Equality*. Washington, D.C., The World Bank Group.

———. (2020). *From Isolation to Integration: An Overview of the Borderlands of the Horn of Africa*. Washington, D.C., The World Bank Group.

World Food Programme (WFP) (2016). *Gender, Markets and Women's Empowerment in the Sahel Region: A Comparative Analysis of Mali, Niger, and Chad*. Dakar, WFP.

———. (2019). *Analyse satellitaire des dynamiques de surfaces cultivées à Mopti*. Dakar, WFP.

World Meteorological Organization (2019). *State of the Climate in Africa.* Geneva, WMO.

Yobom, O. (2020). Climate change and variability: empirical evidence for countries and agroecological zones of the Sahel. *Climatic Change*, 159, 1–20.

Yurco, K. (2017). Herders and herdsmen: The remaking of pastoral livelihoods in Laikipia, Kenya. *Pastoralism*, 7(15), 1–11.

Zondi, S. (2018). *New Fringe Pastoralism: Conflict, Security and Development in the Horn of Africa and the Sahel*. Addis Ababa, United Nations Economic Commission for Africa.

Children fetching water from a stream, Sokoto, Nigeria

Water vendor serving a border community. Jigawa, Nigeria