

POLICY BRIEF

ENHANCING PASTORAL ADAPTATION STRATEGIES IN WAU AND JUR RIVER COUNTIES, SOUTH SUDAN

Resilience to recurrent climate, economic and social shocks and crises

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Key messages

- **To protect livelihoods from the adverse effects of climate change, government and development partners should catalyse the adoption of alternative livelihood activities alongside traditional livestock keeping and crop production.** This requires capacity development, vocational training, business development services and financial services in the community.
- **They should promote gender and youth inclusion in decision-making and economic participation to mitigate patriarchal social systems.** This means facilitating Village Savings and Loans Associations (VSLAs) and gender-targeted support to women and youth.
- **They should support integrated conflict resolution programmes that promote inclusive resource sharing.** Government and development partners must engage with local community leaders, community-based conflict resolution initiatives and strategies for resource management to reduce tensions between pastoralists and crop cultivators.



Woman buying preserved fish in Nyal, South Sudan, 2017 © J. Huxta/Mercy Corps

Introduction

This policy brief draws on data collected in 2023 and 2024 to investigate how pastoralist communities in Wau and Jur River counties of South Sudan adapt their livelihood strategies in response to recurrent droughts, armed conflict, economic volatility, floods, and other shocks and crises. Residents of the research area live under constant threat and within an overall context of gender inequality. Despite significant investment from donors and the national government, interventions have failed to create sustainable solutions. As the world's youngest nation, South Sudan may lack both the experience and resources to address these severe challenges.

The SPARC study examined individual and group experiences to identify effective resilience strategies and determine how external organisations can better support these communities. Data was collected from 20 key informant interviews (KIIs) (10 men and 10 women) and 17 focus group discussions (FGDs) with 124 men and 91 women, comprising both community members and local leaders. The research focused on understanding coping mechanisms and adaptive social and economic changes in response to evolving conditions. This policy brief highlights key challenges and offers practical recommendations to build resilience and improve livelihoods.

Analysis of the issues

Climate change and its disruptive impact on traditional livelihoods

The Wau and Jur River Counties have a tropical climate with significant climate variability. This impacts agriculture and pastoralism, which support most livelihoods. Projections indicate that, by 2050, average temperatures in South Sudan could rise by 1.5°C to 2°C, leading to more intense heatwaves (African Development Bank, 2018). Increasing temperatures, erratic rainfall and droughts threaten food security and agricultural productivity.

FGD participants identified drought as the primary shock of concern, causing reduced yields and livestock deaths. During prolonged droughts, crops suffer pest infestations while livestock become weak. Agricultural productivity is further threatened by locusts and wild animals, while tsetse fly-borne diseases impact livestock health. Communities use pesticides and traditional methods for pest management with little success. Limited veterinary and agricultural support remain significant challenges, forcing poor households to sell sick animals they cannot treat, which worsens economic hardship.

Droughts are a recurring natural calamity, which, in recent times have surged in their frequency, surpassing the levels experienced 10 years ago. (Male FGD participant, Jur River)

The crops mainly grew during that time when the rain was abundant and the land was very fertile. A household could farm in just a small piece of land, and they would produce enough. There was no fear of insecurity, households would consider going to cultivate in far villages. (Female FGD participant, Wau County)

Community engagement in climate adaptation

Livestock keeping is integral to pastoralist livelihoods in Wau County, symbolising wealth while providing income and sustenance. Jur River communities, who are traditionally sedentary agriculturalists, have adopted livestock farming following interactions with pastoralist groups. During dry seasons, communities migrate for better water and pasture, which means they risk diseases, hunger and conflicts with crop farmers who are competing for limited resources. In Marial Bai, drought-related displacement strains existing resources and infrastructure.

Despite challenges, livestock mobility helps communities evade drought and conflict and it generates cash income for essential expenses. Communities destock during droughts, though economic instability reduces demand for disposed livestock.

To improve resilience, pastoralists need information about drought-resistant livestock breeds, veterinary services and sustainable feeding systems. Training on strategic destocking and the promotion of smaller species like goats could improve food security and reduce conflict.

I do crop farming because that is what I learnt from my parents. I don't want cattle keeping because cattle cause problems by destroying people's farms and you have to move with cattle from one place to another. For us we raise chickens and recently we started keeping goats. (Male KII respondent, Wau County)

Sorghum, groundnuts and corn are vital in the study region for food security and cash income, with women adding value through processing. Harvested crops are stored for consumption, and some are sold to purchase other necessities and start new income-generating activities.

In Kangi, Jur River County, international development organisations have provided ploughs to farming groups, thereby increasing efficiency and acreage. Farmers grow fast-maturing sorghum varieties but often prefer traditional crops that require less intensive management.



Training on drought-tolerant crops and climate-smart practices is essential for sustainable production.

Communities have adapted through irrigation-dependent vegetable farming near rivers, with support from non-governmental organisations (NGOs). The growing urban population provides a ready market, though participation in vegetable farming is limited by costs and equipment shortages. In Koor Mudir, some men have started water delivery businesses, while others hunt or collect wild foods during dry seasons.

In both counties households are supported by fishing, with men and boys catching fish and women handling sales. Chicken rearing has emerged as an effective coping strategy during seasonal food shortages.

Crop farming is not doing well, so people are fishing in the nearby rivers and then selling the fish in Aweil and Wau. They use the income to buy sorghum for household use. (Male KII respondent, Jur River County)

The harsh environment and climate variability require government policy interventions to establish early warning systems, alongside community coping efforts to educate and guide residents on improved land use.

The far-reaching effects of conflict on communities

FGD participants ranked conflict as the second most significant community shock. Ethnic violence stems from cattle rustling, land disputes and political struggles. Wau was a key battleground during the 2013–2018 civil war, leading to widespread displacement.

Drought intensifies competition over grazing land and water resources, with migrant livestock keepers creating tension by invading crop land. In peri-urban areas, land scarcity and political rivalries have intensified resource conflicts, while cultural traditions like cattle raiding for dowry payments perpetuate violence.

Conflicts also destroy vital assets including livestock and crops, thus undermining livelihoods and food security. Men frequently suffer injuries or death, often fleeing for safety, which places additional household responsibilities on women who must cultivate smaller plots for subsistence only. Children suffer both immediate food shortages and long-term psychological trauma that affects their development and wellbeing.

We relocated from our homes to this area due to land conflicts. We narrowly escaped death. Our houses were burnt while we were still sleeping. Those of us who were only dependent on farming and small business such as grass cutting are the most vulnerable because our produce was burnt. Those who had cattle and goats and had guns to fight the enemies and defend themselves ran away with their livestock to another area where they are freely grazing and selling their livestock to get money to cover their needs. The women who had chickens and goats but had no one to defend them, all their animals were taken. (Female FGD participant, internally displaced person (IDP), Jur River County)

Community-led initiatives for conflict resolution

The communities in Wau and Jur River have access to dispute-resolution mechanisms to minimise conflict and tension between farmers and livestock keepers during livestock migration seasons. These mechanisms are utilised by community leaders, chiefs and authorities to diffuse fear and violence among rival groups.

One such mechanism is the Marial Bayi Agreement, which aims to address insecurity and conflict in the region. It is a code of conduct with a mobile court to handle cases that cannot be resolved through mutual agreement. The Agreement provides compensation for lost animals and property damage, such as when cattle graze on crops. However, study participants noted that this mechanism has become weakened because of political influence and patronage that negate accountabilities between different communities.

We have what we call the Marial Bayi Agreement which guides us: you can come here with your cows to graze, but you must not carry weapons, or fight among yourselves. You must ensure your cattle do not enter other people's farms. (Male KII respondent, Majak)

We have tried to engage in dialogue with the cattle keepers to move back to their communities, but there has been no progress. We urge the government to facilitate their relocation, as it is the rainy season and their presence will make it difficult for us to cultivate. (Male FGD participant, crop farmer, Jur River County)

Persistent insecurity from inter/intra-community tensions and political interests requires effective conflict resolution systems that address differences, facilitate resolutions and help affected communities rebuild. These mechanisms would be more effective if supported by appropriate national and regional policy interventions.

The role of economic instability in escalating poverty

Economic volatility ranked third among significant shocks, driven by limited economic diversity, dependence on unpredictable oil exports and severe inflation (105% in 2024 – see World Bank, 2025). Political instability, conflict and poor infrastructure have worsened this situation. Rising living costs have pushed many households into poverty, especially large families without land or livestock.

The South Sudanese currency continues to lose value due to heavy government spending and reliance on printing money, together with shrinking foreign reserves. This has pushed up the cost of imports and disrupted normal trade. Government responses, including the 2015 currency re-evaluation and international assistance from the International Monetary Fund (IMF) and World Bank have had limited success. These challenges have driven men's migration to towns in search of employment, which in turn has created a poverty cycle that complicates recovery from drought and conflict.

Lack of health care and staff is a problem. Health workers only visit our community every Monday; once in a week, which is a big problem in our community especially in the case of an emergency. We need health care services. (Male KII respondent, Wau County)

Opportunities that have promoted new livelihood activities

Urban growth and lifestyle changes have transformed livelihoods. Government jobs primarily benefit men and cash reliance has increased. East African and Sudanese traders have further promoted cash-based exchanges. Growth of urban centres drives rural production of goods like charcoal and bricks, while creating employment in service sectors. These opportunities contribute to household economic stability.

Everything needs money, e.g. food, medicine, even to be able to buy more cattle, you now need to buy them using money and not just exchange them with bags of sorghum as before. (Female FGD participant, Jur River)

The influx of international NGOs has significantly influenced livelihoods too, by offering training in tailoring, cooking and baking, and by enhancing business skills. These organisations have also supported women to establish VSLAs – helping women access capital and fostering economic empowerment and entrepreneurial ventures, while promoting gender inclusivity in various practices.

Livelihood shifts and trends for resilience

Households have diversified their livelihoods to enhance their resilience against economic shocks, focusing on strategies that require minimal capital investment. Natural resource-based activities include charcoal production that provides reliable year-round income, honey collection by men, and bricklaying for both men and women. Women primarily engage in seasonal grass cutting and traditional soda ash production. Research participants expressed concerns about the environmental sustainability of these practices, however.

Wealthier men are establishing retail shops, while some women run capital-intensive restaurants that generate significant household cash income. Female participants from Rocrocdong in Jur River County noted that, with good planning and saving skills, anyone can start their desired business despite the capital required. Other women pursue smaller ventures like tea selling and bread baking. In Muolam in Wau County, some women have successfully operated beauty salons for about 15 years. Initial capital typically comes from other income sources such as charcoal sales, farm produce or livestock. Yet women face barriers in decision-making and resource access. Economic instability and currency depreciation undermine business sustainability for men and women.

Local communities continue with traditional livelihoods or adopt new ones for subsistence and cash income. But to build resilience, communities need access to training and skills development to apply these practices effectively. This support should include effective cash resource mobilisation, savings strategies and funding to ensure the sustainability and growth of new enterprises. National- and regional-level policy interventions are needed to create an enabling environment.

FIGURE 1: COMMON LIVELIHOODS: PERCENTAGE OF ALL FGD PARTICIPANTS* WHO MENTIONED EACH



* Men and women.

Source: SPARC Pastoral strategies dataset, 2023–2024

Gender dynamics

Shifts in gender roles are reshaping how communities cope with persistent shocks and changing socio-economic conditions. Men are increasingly engaging in activities once dominated by women, such as restaurants and baking; women are moving into traditionally male livelihoods like charcoal burning and timber selling. Men are also taking on household roles such as childcare and cooking.

Duties that were culturally meant for women are also being done by men, e.g., if a woman is cooking and the child is crying, the men are now helping to take care of the children, unlike in the past where it was a woman's responsibility. NGOs that are teaching us about equality are the ones who are influencing us to do this. (Male FGD participant, Jur River)

Armed conflict and the associated injuries or deaths among men and male youths have also shaped ongoing changes in gender roles and livelihoods. Women participants noted that men provide essential decision-making functions and labour in their households, and their absence creates difficulties for managing the household and caregiving. When men leave their homes due to shocks or crises or to migrate to join the police or army, women shoulder the burden of child-rearing and household management. This exacerbates the challenges that women face and impacts family stability and wellbeing.

Some women, when their husbands abandon them and they see that they are suffering, they run away and they leave their children. They don't care, that is why you see some children roaming around the village. Some go to Juba, Wau and Warrap. They don't come back home because if they do, their husbands will kill them. (Female FGD participant, Jur River County)

The increased responsibilities placed on women have prompted more consultations between couples and families on resource utilisation, as men can now see women's contribution to family income. Indeed, the data shows that more women than men are engaged in small businesses such as selling tea, baking and restaurants, and in vegetable farming. Women must report their business earnings to their husbands, however, and involve them in financial planning. While men primarily control the cash income from women's activities, women can independently manage their earnings up to a certain point.

I call my husband to tell him about the business and the money realised, and he advises on how the money should be spent. The money is used for paying school fees for children, to buy food, and some I send to my husband because he is a soldier and they don't have much money since the government delays to pay their salaries. (Female KII respondent, businesswoman, Jur River)

Narratives from study participants show that gender roles are shifting as households adapt to climate change, persistent conflict and other shocks. Men and women are taking on each other's roles out of necessity, revealing gender-specific vulnerabilities and coping strategies. In this sense, these changes reflect flexible responses to circumstance, rather than deeper transformations in underlying gender norms. However, such flexibility – which is reinforced by NGO advocacy for gender equality – contributes to resilience by broadening the range of livelihood and caregiving strategies available to households.

National and community-wide awareness efforts are needed, coupled with targeted support, to deliver tangible benefits across genders and strengthen resilience for long-term development. Such interventions must be managed through national and international policies that respectfully guide community traditions towards socially legitimate reforms, while also providing gender-tailored support mechanisms.

Policy considerations

Given the observed contextual challenges affecting communities in Wau and Jur River Counties and emerging coping strategies, policy interventions are recommended in the following areas.

1. Support for integrated conflict resolution programmes

Overall land and natural resource governance must be strengthened to address persistent insecurity that is rooted in intercommunity tensions. This means not only establishing effective and socially legitimate conflict resolution mechanisms, but also improving management practices to reduce competition and disputes. National and regional policies should engage community leaders, reinforce local peace initiatives and support the functioning of existing frameworks such as the Marial Bayi Agreement. While government leadership is essential, NGOs – both national and local – are key in facilitating community dialogue, promoting peaceful coexistence and empowering local actors.

2. Catalyse the adoption of alternative economic activities

To support communities that are balancing traditional and new livelihoods, policies are required that promote economic diversification. This includes capacity building, vocational training, business services and financial access. The government must incentivise entrepreneurship while development agencies provide targeted training for women and young people. Local leaders and NGOs should expand community access to education, inputs, loans and markets, while the private sector supports entrepreneurship through mentoring and the promotion of climate-smart practices. Success depends on the integration of effective resource mobilisation and savings strategies to ensure the sustainability of enterprises.

3. Promote gender inclusivity and empowerment

Gender-specific vulnerabilities require policy responses that balance national programmes and respect traditional livelihoods. Interventions should promote inclusive decision-making and economic participation. The government must design inclusive policies while development agencies implement community programmes to build leadership skills among marginalised groups. Local leaders should champion cultural changes that support women and youth access to capital and engagement in community development.

Conclusion

Coordination and inclusivity must improve to address climate change, conflict, economic instability and gender inequality in the study areas. The national and local governments must partner with donors, NGOs, local leaders and businesses to build resilience and promote sustainable development. Priorities include integrating traditional knowledge into climate strategies, supporting economic alternatives, and ensuring women, youth and marginalised groups participate in decisions and opportunities. All actors – at international, national and local levels – working to support these communities should acknowledge the different stakeholders and coordinate their engagement to increase impact. This would prevent duplication and build more resilient, prosperous and equitable communities.

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Acknowledgements

This policy brief is published through the Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) programme, which is supported by the United Kingdom's Foreign, Commonwealth & Development Office (FCDO).

The authors are grateful to the individuals who gave up their time to participate in this study, as well as gender and development experts Ramona Ridolfi (independent consultant) and Elizabeth Daley (Gender Equity and Social Inclusion Advisor, SPARC) for their review and feedback.

Thanks also go to the SPARC communications team, including Julie Grady Thomas, along with Jo Fottrell for copyediting, Lucy Peers for design and Nina Behrman for proofreading.

About SPARC

Climate change, armed conflict, environmental fragility and weak governance, and the impact these have on natural resource-based livelihoods, are among the key drivers of both crisis and poverty for communities in some of the world's most vulnerable and conflict-affected countries.

SPARC aims to generate evidence and address knowledge gaps to build the resilience of millions of pastoralists, agro-pastoralists and farmers in these communities in sub-Saharan Africa and the Middle East.

We strive to create impact by using research and evidence to develop knowledge that improves how the FCDO, donors, non-governmental organisations, local and national governments, and civil society can empower these communities in the context of climate change.

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How to cite: Njoroge, G. and Moses, N. (2025) 'Enhancing pastoral adaptation strategies in Wau and Jur River Counties, South Sudan: resilience to recurrent climate, economic and social shocks and crises'. Policy Brief. London: SPARC Knowledge (<https://doi.org/10.61755/TPDU7731>).

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Funded by



This material has been funded by UK aid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies.