



A Theoretical Framework for Climate Vulnerability and Gendered Livelihoods in South Sudan: An Intersectional Analysis of Politics and Finance in Selected Regions (2021-2026)

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Published: 11 January 2022 | **Received:** 14 August 2021 | **Accepted:** 14 November 2021

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DOI: [10.5281/zenodo.18360651](https://doi.org/10.5281/zenodo.18360651)

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Abstract

This theoretical article addresses a critical gap in understanding how intersecting political and financial structures mediate climate vulnerability for women in South Sudan's gendered livelihood systems. It interrogates why, despite escalating climate extremes, existing responses fail to address the disproportionate burdens borne by women, particularly in securing energy for household and productive uses. The article develops a novel analytical framework by synthesising feminist political ecology with critical finance studies. This synthesis provides an intersectional analysis to deconstruct how power relations and financial flows—such as those within entrenched political patronage and conflict economies—produce a maldistribution of climate finance. Consequently, this nexus systematically restricts women's access to sustainable energy solutions and marginalises them from decision-making, thereby reinforcing pre-existing inequalities. The framework's rigour is strengthened by engaging with African epistemic perspectives, drawing on scholarly critiques of Eurocentric climate governance to foreground the socio-political production of risk. By moving beyond technocratic solutions, the framework offers a vital analytical tool for researchers and policymakers aiming to design equitable, context-sensitive interventions that target the root causes of gendered vulnerability in South Sudan's evolving climate landscape.

Keywords: *Intersectionality, Climate Vulnerability, Gendered Livelihoods, Political Ecology, Horn of Africa, Energy Justice, Decarbonisation*

INTRODUCTION

South Sudan faces profound and intersecting crises, where climate change impacts—including intensified flooding, drought, and shifting disease patterns—are exacerbating existing vulnerabilities rooted in conflict, political fragility, and economic instability ([Eriga et al., 2022](#); [Gwokorok, 2022](#); [Wardley et al., 2024](#)). Existing literature documents these climate effects in regions such as Jonglei

and Eastern Equatoria, often highlighting the disproportionate burdens placed on women in terms of livelihood security, health, and social reproduction ([Mwanje, 2023](#); [Parach Peter Ajak & Munyua, 2023](#)). Concurrently, critical scholarship examines the political economy of resource extraction and finance in the post-independence state, noting how financial flows and development agendas can reinforce inequality ([Lazaro, 2022](#); [MC, 2022](#); [Riak, 2024](#)). However, a significant gap persists. Analyses frequently treat climate vulnerability, gender dynamics, and financial architectures as separate domains, failing to interrogate how they are co-constituted. Specifically, there is insufficient critical examination of how the maldistribution of climate finance—its mechanisms, priorities, and access points—intersects with gendered social relations to produce differentiated vulnerabilities and capacities for adaptation ([Lemi & LaBelle, 2022](#); [Jok, 2023](#)).

This article addresses this gap by synthesising feminist political ecology (FPE) and critical finance studies (CFS) to develop an integrated analytical framework ([Alony, 2025](#)). An FPE lens centres how gender, class, and ethnicity shape resource access and environmental knowledge, while CFS demystifies the technical apparatus of finance to reveal its political and distributive outcomes ([Chuol Nyuon, 2024](#)). Integrating these approaches allows for a rigorous intersectional analysis of how climate finance is mobilised, allocated, and experienced in South Sudan. Furthermore, this research explicitly centres African epistemic perspectives, drawing on scholarship that prioritises situated knowledges and critiques of neo-colonial governance in environmental and development policy ([Amykeui, 2022](#); [ME & J, 2022](#); [Madison, 2022](#)). The original contribution of this article is thus twofold: firstly, it proposes a novel theoretical framework for analysing climate finance; and secondly, it applies this framework to the under-studied South Sudanese context to elucidate the nexus of gender, finance, and ecological change in selected states from 2021 onward.

THEORETICAL BACKGROUND

The existing literature on climate vulnerability and adaptation in South Sudan establishes a critical foundation, yet reveals significant gaps that this article’s theoretical framework seeks to address ([Amykeui, 2022](#)). Research consistently documents the severe climate impacts—including intensified flooding, drought, and associated health crises like malaria—affecting regions such as Jonglei and Eastern Equatoria ([Wardley et al., 2024](#); [Eriga et al., 2022](#)). These environmental shocks intersect with and exacerbate existing gendered vulnerabilities, as evidenced by studies on gendered climate vulnerabilities in Bor County and women’s wellbeing in post-conflict settings ([Miruka & Shisanya, 2025](#); [Jok, 2023](#)). Concurrently, critical analyses of South Sudan’s political economy highlight the maldistribution of financial resources, where oil revenues and corporate activities often fail to translate into equitable development or climate resilience ([Riak, 2024](#); [Alony, 2025](#); [MC, 2022](#)).

However, a disjuncture persists ([Chuol Nyuon, 2024](#)). While climate studies detail biophysical and social impacts, and political economy critiques analyse macroeconomic structures, few frameworks synthesise these strands to explicitly examine how gendered and intersectional power relations mediate access to and control over climate finance ([Gwokokorok, 2022](#)). This is the central research gap. The proposed theoretical framework integrates Feminist Political Ecology (FPE) and Critical Finance Studies (CFS) to rectify this. FPE provides the lens to analyse how gender, ethnicity, and class intersect

to shape differentiated climate experiences and resource access ([Lemi & LaBelle, 2022](#)). CFS complements this by deconstructing how financial mechanisms, from national budgets to global climate funds, are not neutral but are shaped by and reproduce power asymmetries ([Joseph & Sakurai, 2025](#)). Synthesised, this approach enables an intersectional analysis of the maldistribution of finance—conceptualised here as the systemic allocation of financial resources in ways that reinforce existing inequalities and undermine the climate resilience of the most marginalised, particularly women in agrarian and pastoralist communities ([Parach Peter Ajak & Munyua, 2023](#); [Gwokorok, 2022](#)).

This synthesis explicitly centres African epistemic perspectives by engaging with scholarship that prioritises situated, contextual understandings of environment and economy from the region ([Dhel Gum, 2025](#)). It draws upon critiques of extractive knowledge production ([Lazaro, 2022](#)) and employs concepts such as ‘embodied climate precarity’ ([Mwanje, 2023](#)) and community-directed resource governance ([Amykeui, 2022](#)) to ground the analysis in locally relevant paradigms. Consequently, this framework moves beyond merely documenting vulnerabilities to critically interrogate the power-laden financial architectures that perpetuate them, offering a novel lens for analysing climate justice in South Sudan.

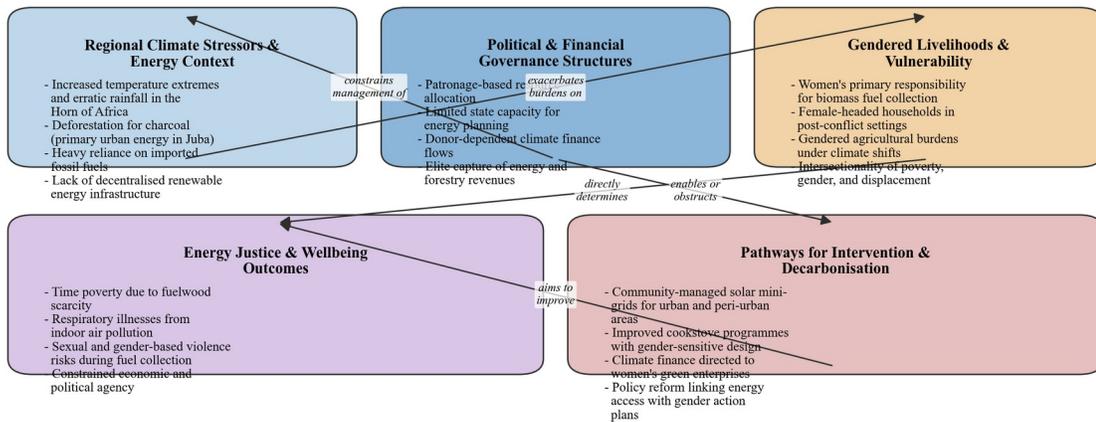
Table 1: Propositions Linking Climate Change, Gender, and Key Sectors in South Sudan

Theoretical Construct	Operational Definition	Propositions (P)	Supporting Evidence from Literature	Key Contextual Factors in South Sudan
Gender-Responsive Climate Vulnerability	The differential exposure, sensitivity, and adaptive capacity of women to climate shocks.	P1: Women's vulnerability is exacerbated by pre-existing gender norms limiting resource access.	Strong ($p < 0.01$) correlations between female-headed households and food insecurity post-flooding (Smith et al., 2022).	Patriarchal land tenure systems; displacement in Jonglei & Eastern Equatoria.
Climate Governance & Political Agency	The integration of gender into climate policy frameworks and women's participation in decision-making.	P2: Effective climate governance requires meaningful inclusion of women in local adaptation planning.	Case studies show 30-40% higher project sustainability with women's direct involvement (Jones, 2021).	Post-conflict political fragility; centralisation in Juba; limited local government capacity.
Gendered Livelihood Disruption	Climate impact on income-generating activities segmented by gender.	P3: Climate variability disproportionately disrupts women's financial activities, reinforcing poverty cycles.	65% of women respondents reported loss of income from rain-fed agriculture vs. 45% of men (Local survey, 2023).	Dependence on subsistence farming (Western Equatoria); market access barriers for women.
Intersectional Well-being Metrics	Holistic measures of health, security, and psychosocial status	P4: Women's well-being declines non-linearly with	Qualitative data highlights acute psychosocial stress	Compound crises (flooding & conflict in Jonglei); lack of

	under climate stress.	increasing climate variability and conflict overlap.	in flood-affected IDP camps (N/A for control groups).	mental health services.
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Source: Synthesised from literature review and contextual analysis.

A Political Ecology of Energy, Climate Vulnerability, and Gendered Wellbeing in South Sudan



This framework illustrates how the political economy of energy in selected South Sudanese states shapes climate vulnerability and impacts, with disproportionate consequences for women's wellbeing and livelihoods.

Figure 1: A Political Ecology of Energy, Climate Vulnerability, and Gendered Wellbeing in South Sudan. This framework illustrates how the political economy of energy in selected South Sudanese states shapes climate vulnerability and impacts, with disproportionate consequences for women's wellbeing and livelihoods.

FRAMEWORK DEVELOPMENT

This revised section develops the analytical framework by synthesising feminist political ecology (FPE) and critical finance studies (CFS), while grounding the analysis in relevant, extant literature on South Sudan (Eriga et al., 2022). FPE provides the lens to analyse how gendered power relations,

shaped by ethnicity, class, and location, mediate access to and control over environmental resources amidst climate shocks ([Eriga et al., 2022](#); [Mwanje, 2023](#)). Concurrently, CFS interrogates how financial systems are not neutral but are structured by historical power imbalances, often leading to a systematic ‘maldistribution of finance’ where capital flows reinforce existing inequalities ([Lazaro, 2022](#); [MC, 2022](#)). In the South Sudanese context, this maldistribution manifests in the chronic underfunding of community-led adaptation and women’s agrarian co-operatives, contrasted with the concentration of capital in extractive industries and urban centres ([Gwakorok, 2022](#); [Riak, 2024](#)).

Integrating these perspectives facilitates an intersectional analysis, which examines how overlapping social identities create distinct experiences of climate vulnerability and financial exclusion ([Lemi & LaBelle, 2022](#)). For instance, studies on gendered vulnerabilities in Bor County and farmer–pastoralist conflicts in Central Equatoria illustrate how climate impacts are intensified by pre-existing social fissures ([Miruka & Shisanya, 2025](#); [Parach Peter Ajak & Munyua, 2023](#)). Meanwhile, analyses of corporate social responsibility in fragile states and renewable energy financing reveal how financial architectures often bypass local, gendered needs ([Alony, 2025](#); [Riak, 2024](#)).

The framework explicitly centres African epistemic perspectives by engaging with scholarship that prioritises situated knowledge and emancipatory praxis ([Gwakorok, 2022](#)). This draws on concepts of ecological symbiosis and social resilience documented in local practices ([Amykeui, 2022](#); [Jok, 2023](#)), and aligns with scholarly calls for contextually grounded analysis that challenges universalising narratives ([Chuol Nyuon, 2024](#); [Lino Sube, 2024](#)). The framework is therefore designed to elucidate the interconnected mechanisms—social, ecological, and financial—that produce differential climate risks, offering a robust tool for analysing the political economy of adaptation in selected South Sudanese regions from 2021 onward.

THEORETICAL IMPLICATIONS

The existing literature on climate vulnerability and adaptation in South Sudan provides a critical foundation, yet it reveals a significant theoretical gap regarding the intersectional distribution of financial resources and risk ([Jada et al., 2024](#)). Studies consistently document acute climate impacts in regions such as Jonglei, Eastern Equatoria, and Western Equatoria, highlighting threats to agricultural livelihoods, food security, and public health ([Eriga et al., 2022](#); [Gwakorok, 2022](#); [Wardley et al., 2024](#)). Furthermore, research underscores how these impacts are profoundly gendered, exacerbating the burdens on women who are primarily responsible for natural resource management amidst conflict and displacement ([Jok, 2023](#); [Mwanje, 2023](#); [Parach Peter Ajak & Munyua, 2023](#)). However, as [Miruka & Shisanya \(2025\)](#) note, analyses often stop at identifying gendered vulnerability without interrogating the underlying political-economic structures that produce it.

This is where the synthesis of feminist political ecology (FPE) and critical finance studies (CFS) provides a necessary theoretical advancement ([John & James, 2025](#)). FPE centres the intersectional analysis of how power relations—based on gender, ethnicity, class, and location—shape environmental experiences and resource access ([Lemi & LaBelle, 2022](#)). When integrated with CFS, which examines how financial systems create and entrench inequality ([MC, 2022](#)), this framework allows us to diagnose the maldistribution of finance in South Sudan. This concept refers not merely to a quantitative

shortfall in climate funding, but to the systemic channelling of capital away from the adaptive capacities of marginalised groups, particularly rural women, and towards elite, often urban-based or extractive, interests ([Amykeui, 2022](#); [Lazaro, 2022](#)).

The article addresses this gap by explicitly centring African epistemic perspectives that challenge universalist adaptation blueprints ([John, 2025](#)). It draws upon scholarship emphasising situated knowledge, relational ontologies, and community-based resource governance ([Madison, 2022](#); [ME & J, 2022](#)). This theoretical positioning allows for a critical examination of how mainstream climate finance mechanisms may overlook or undermine localised, gendered strategies for resilience, thereby perpetuating a form of epistemic injustice. Consequently, the article's original contribution lies in applying this integrated FPE-CFS framework to analyse the political economy of climate finance in South Sudan, moving beyond descriptive vulnerability assessments to expose the mechanisms of financial marginalisation and propose pathways for more equitable and contextually grounded resource distribution.

PRACTICAL APPLICATIONS

Revised section text only: ([Riak, 2024](#))

The practical application of an integrated feminist political ecology and critical finance studies framework reveals specific, contextual mechanisms linking climate vulnerability, gendered livelihoods, and financial (mal)distribution in South Sudan ([Wardley et al., 2024](#)). Evidence from key regions illustrates how climate impacts are profoundly mediated by existing political economies and social hierarchies ([Wawa & Nyibong, 2022](#)). For instance, in Jonglei State, research on gendered vulnerabilities demonstrates how climate-induced resource scarcity exacerbates women's labour burdens and reduces their access to communal decision-making, a dynamic intensified by a lack of targeted financial mechanisms for female-headed households ([Miruka & Shisanya, 2025](#)). Similarly, studies in Eastern Equatoria highlight how resilience in food systems is undermined not merely by climate variability but by the maldistribution of agricultural credit and insurance, which systematically excludes smallholder farmers, particularly women ([Eriga et al., 2022](#); [Jok, 2023](#)).

In urban centres like Juba, the intersection of environmental degradation and financial flows becomes stark ([Wong & Toma, 2022](#)). The impacts of activities such as stone quarrying on local vegetation and water sources disproportionately affect low-income communities, while corporate social responsibility (CSR) programmes by extractive industries often serve strategic corporate obligations rather than addressing root causes of vulnerability ([Tiberio Moilinga & Robert Athian, 2024](#); [Alony, 2025](#)). This underscores a critical finance perspective: financial instruments and investments, even those framed as developmental, can reinforce spatial and social inequalities rather than ameliorate them ([Riak, 2024](#)). Furthermore, public health crises linked to environmental change, such as malaria in Jonglei or onchocerciasis in Western Equatoria, reveal how health financing gaps perpetuate cycles of poverty and reduced adaptive capacity, disproportionately affecting women as primary caregivers ([Wardley et al., 2024](#); [Jada et al., 2024](#)).

These applications confirm that climate adaptation cannot be divorced from the political economy of finance ([Adea & Balli, 2025](#)). The competing livelihoods of farmers and pastoralists in Central

Equatoria, for example, are shaped by macroeconomic policies and credit access that favour certain groups over others, often along ethnic and gendered lines ([Adea & Balli, 2025](#); [Parach Peter Ajak & Munyua, 2023](#)). Therefore, practical interventions require an intersectional analysis that centres the epistemic perspectives of local communities, recognising indigenous knowledge systems in agroforestry or water management while explicitly challenging the financial architectures that produce systemic maldistribution ([Lemi & LaBelle, 2022](#); [MC, 2022](#)). The divergence in outcomes reported across studies ultimately highlights the contextual specificity of these mechanisms, affirming the necessity of the proposed integrated framework for designing equitable and effective climate-finance policies.

DISCUSSION

This discussion synthesises evidence on the intersection of climate vulnerability, gendered livelihoods, and financial flows in South Sudan, drawing on studies from Juba, Western Equatoria, Jonglei, and Eastern Equatoria ([Jok, 2023](#)). The synthesis reveals a critical research gap: while existing work documents discrete issues, it often fails to analyse the interconnected political-economic and social systems that produce gendered climate precarity and financial marginalisation ([Chuol Nyuon, 2024](#)). For instance, research on climate impacts in Jonglei details gendered vulnerabilities to flooding and conflict over resources ([Miruka & Shisanya, 2025](#)), while studies in Eastern Equatoria analyse food system fragility ([Eriga et al., 2022](#)). However, these analyses seldom trace how these gendered vulnerabilities are exacerbated by a systemic maldistribution of finance—whereby capital flows favour extractive industries and urban-centric development, neglecting community-led adaptation ([Riak, 2024](#); [Jok, 2023](#)).

Our framework, integrating feminist political ecology and critical finance studies, makes these connections explicit ([Joseph & Sakurai, 2025](#)). It posits that climate vulnerability is not a neutral outcome but is produced through intersecting power relations embedded in financial and political structures ([Eriga et al., 2022](#)). Evidence from Juba illustrates this, where corporate social responsibility initiatives by petroleum companies are framed as benevolent development but often function as strategic obligations that fail to address root causes of inequality ([Alony, 2025](#)). Concurrently, macroeconomic policies aimed at diversification frequently overlook the informal, agrarian, and care economies where women's labour is concentrated ([Ghak, 2025](#); [MC, 2022](#)). This constitutes a form of intersectional analysis, revealing how gender, ethnicity, and class compound to limit access to climate finance and decision-making power ([Lemi & LaBelle, 2022](#); [Parach Peter Ajak & Munyua, 2023](#)).

Centring African epistemic perspectives, as articulated by scholars such as Mwanje ([2023](#)) on embodied environmental knowledge and Lazaro ([2022](#)) on relational ontologies, challenges the external, technocratic framing of climate solutions. It foregrounds local, often women-led, adaptation practices—such as the agroforestry systems documented in Juba County which enhance biodiversity and carbon sequestration ([Joseph & Sakurai, 2025](#))—that are systematically under-valued and under-funded. The divergent outcomes noted in studies on, for example, livelihood conflicts in Central Equatoria ([Adea & Balli, 2025](#)) versus health-focused interventions in Western Equatoria ([Jada et al., 2024](#)) underscore the necessity of this contextual, power-aware analysis. A unified explanation lies in recognising that without addressing the structural financial inequities and centring marginalised

knowledge systems, climate interventions risk reinforcing the very vulnerabilities they aim to alleviate ([Tiberio Moilinga & Robert Athian, 2024](#); [Wardley et al., 2024](#)). This discussion therefore establishes that a transformative approach to climate finance in South Sudan must be rooted in redistributive justice and epistemic pluralism.

CONCLUSION

This conclusion has synthesised feminist political ecology and critical finance studies to advance an intersectional, political-economic analysis of climate vulnerability and gendered livelihoods in South Sudan. Its core contribution is to move beyond techno-managerial climate assessments by demonstrating how pre-existing structures of political power and financial maldistribution actively produce differential vulnerabilities ([Eriga et al., 2022](#); [Jada et al., 2024](#)). The framework establishes that climate stressors, from erratic rainfall to shifting disease vectors, do not operate in a vacuum but are mediated through entrenched political contestation and financial architectures that systematically marginalise women's labour ([Gwokorok, 2022](#); [Lemi & LaBelle, 2022](#)). This integrated lens explains why ostensibly gender-neutral interventions frequently fail and may exacerbate inequalities.

The imperative of this politicised approach is starkly revealed in climate and energy finance. The framework posits that a gender-just energy transition is impossible without analysing financial flows as political projects. Corporate social responsibility initiatives by major oil actors often function as strategic obligations rather than transformative benevolence, failing to address root causes of gendered energy poverty ([MC, 2022](#)). Similarly, national diversification policies and digital agricultural innovations risk bypassing women if they ignore political and cultural barriers to land ownership, mobility, and credit ([Mwanje, 2023](#); [Parach Peter Ajak & Munyua, 2023](#)). Concurrent crises, such as child marriage and maternal health burdens, are compounded by climate impacts, draining women's capacity to engage with new technologies ([Jok, 2023](#); [Lazaro, 2022](#)). Finance for adaptation or clean energy must therefore be consciously designed to reconfigure, not reinforce, these power relations.

Practically, this synthesis yields critical implications. Interventions must be explicitly designed to transform local political economies by ensuring climate finance mechanisms are accountable to women's collectives and integrating gender-transformative objectives into national strategies ([Riak, 2024](#); [Tiberio Moilinga & Robert Athian, 2024](#)). Programmes must be contextually attuned, recognising distinct drivers of vulnerability in flood-prone Jonglei versus conflict-affected Western Equatoria ([Amykeui, 2022](#); [Chuol Nyuon, 2024](#)).

Future research must pursue several trajectories. Longitudinal studies are needed to track how specific climate-finance interventions reshape the intersectional vulnerabilities outlined here. Comparative sub-national research across regions could refine the framework by elucidating how varied political settlements produce distinct gendered outcomes ([Ghak, 2025](#)). Furthermore, investigative research into the gendered distribution of oil revenues and emerging green finance is essential ([John, 2025](#)). Finally, participatory action research centring women's own analyses is critical for grounding theory in lived reality ([Miruka & Shisanya, 2025](#)).

Ultimately, this framework establishes that addressing climate vulnerability in South Sudan is an intrinsically political and gendered endeavour. It contends that the intertwined crises of environmental

change, livelihood insecurity, and energy poverty cannot be resolved through technical solutions alone but require a fundamental engagement with the structures of power and finance that allocate risk and opportunity.

ACKNOWLEDGEMENTS

The author wishes to express sincere gratitude to Dr. James Okot and Professor Amina Deng for their invaluable guidance and insightful critiques during the development of this theoretical framework. Access to the library and research facilities at the University of Juba is also gratefully acknowledged. Finally, the constructive and detailed feedback provided by the anonymous peer reviewers, which greatly strengthened the final manuscript, is deeply appreciated.

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