



Extractives, Emissions, and Inequality: A Gender-Responsive Climate Governance Analysis for South Sudan, the DRC, and Zambia (2021–2026)

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Responsive

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Abstract

This article examines the persistent neglect of gender within climate governance frameworks linked to the extractive industries in three African resource-rich states: South Sudan, the Democratic Republic of the Congo, and Zambia. It addresses the critical problem that national climate policies, particularly those governing extractive sector emissions, remain gender-blind, thereby exacerbating women's socio-economic vulnerabilities. Employing a qualitative comparative case study methodology, the analysis conducts a qualitative content analysis of specific policy documents, including National Determined Contributions (NDCs), national climate change policies, and extractive sector reports from 2021–2023. The case selection is justified by their shared dependence on extractives yet varied governance contexts. Grounded in an African feminist political ecology framework, the analysis interrogates how power dynamics and gendered social relations are obscured within technical policy approaches. The key finding reveals a consistent governance gap: while each nation acknowledges climate challenges, their policy frameworks fail to integrate a substantive gender analysis into the management of extractive-related emissions and revenues. This omission ignores women's disproportionate exposure to environmental degradation and their systematic exclusion from decision-making. The article concludes that without gender-responsive governance informed by such a framework, climate action in these contexts risks reinforcing the very inequalities it seeks to mitigate, undermining equitable and sustainable development.

Keywords: *Extractive industries, Climate governance, Gender inequality, African Great Lakes region, Intersectional analysis*

INTRODUCTION

The governance of climate change in resource-dependent, post-conflict states presents a profound challenge, characterised by the intersection of extractive economies, institutional fragility, and entrenched gender inequality ([Adong, 2025](#)). This article examines this nexus through a comparative case study of South Sudan, the Democratic Republic of the Congo (DRC), and Zambia. It argues that effective, gender-responsive climate governance is systematically undermined by a political economy where short-term revenue from extraction, often managed within weak or

contested governance frameworks, takes precedence over long-term environmental and social sustainability (Ceesay & Asmorowati, 2025); (Denton, 2024). While the climate crisis demands urgent, equitable action, the prevailing governance models in these contexts frequently perpetuate the very emissions and inequalities they purport to address.

Existing literature establishes critical, yet often siloed, facets of this problem (Aguilar, 2023). Scholars highlight how institutional weakness and fragmented authority in post-conflict settings like South Sudan cripple environmental regulation and long-term planning (Ceesay & Asmorowati, 2025); (Luther Munu, 2025). Concurrently, research documents the gendered impacts of extraction and climate change, from heightened vulnerability to gender-based violence (Adong, 2025); (Adwok, 2023) to the systematic exclusion of women from land rights and decision-making processes (Mattijo, 2025); (Rabele, 2024). Furthermore, studies note the significant emissions and local environmental degradation linked to extractive activities, such as oil pollution and deforestation (Kenyi, 2024); (Tevera, 2024). However, a significant gap remains in synthesising these threads—governance, gender, and extraction—into a coherent analytical framework that explains their mutual reinforcement and blockage of climate action.

This study seeks to fill this gap by applying an African feminist political ecology (AFPE) lens (Aguilar, 2023). AFPE centres the intersecting power relations of gender, ethnicity, and class that shape resource access and environmental outcomes in African contexts (Tchie, 2022); (Day, 2022). It moves beyond technical analyses to interrogate how political economies and patriarchal norms structure vulnerability and agency. Informed by this framework, the article addresses the following research questions: How do the governance structures of the extractive sectors in South Sudan, the DRC, and Zambia facilitate or hinder gender-responsive climate action? In what ways do nationally determined contributions (NDCs) and related climate policies in these countries acknowledge and address the intersections of gender inequality and extractive-driven emissions? What persistent governance gaps are revealed through a comparative analysis of these policy frameworks against the realities of extraction and gender disparity?

To answer these questions, the study employs a qualitative, comparative case study methodology, analysing the period 2021–2026 to capture recent policy developments (Akala, 2023). A systematic qualitative content analysis was conducted on key policy documents, including the NDCs, national climate change policies, and relevant extractive sector governance reports from each country (Denton, 2024). This documentary evidence is examined through the analytical lens of AFPE to critically assess policy coherence, gaps, and underlying power dynamics. The comparative design enables the identification of unique contextual challenges—such as acute post-conflict instability in South Sudan and the DRC (Aguilar, 2023); (Roque, 2025)—as well as common regional patterns of governance failure and gendered climate injustice.

METHODS

This study employs a qualitative comparative case study design, with South Sudan as the primary case, situated alongside the Democratic Republic of the Congo (DRC) and Zambia for regional contextualisation (Rabele, 2024). This selection facilitates a structured comparison of post-

conflict and resource-dependent states at varying stages of climate policy development ([Luther Munu, 2025](#)). The timeframe of 2021–2026 is justified as it captures a critical period of nascent climate policy formulation following the 2015 Paris Agreement, including the drafting of National Determined Contributions (NDCs) and National Adaptation Plans (NAPs) across all three cases, while also encompassing key post-conflict governance milestones in South Sudan ([Roque, 2025](#); [Tevera, 2024](#)).

The methodology is explicitly informed by an African feminist political ecology (AFPE) lens, which centres the intersection of gender, power, and ecological change within post-colonial political economies ([Denton, 2024](#); [Tchie, 2022](#)). This framework necessitates an interrogation of how formal and informal governance structures mediate gendered access to resources and shape vulnerability, moving beyond a mere assessment of policy rhetoric ([Mattijo, 2025](#)).

Data collection involved systematic qualitative content analysis of specific policy documents ([Mura & Saade, 2025](#)). For South Sudan, this included the draft National Climate Change Policy, the National Adaptation Plan (NAP), the Revitalised Agreement on the Resolution of the Conflict in South Sudan (R-ARCSS), and reports from the Ministry of Petroleum ([Ph.D., 2025](#)). For the DRC and Zambia, the analysis focused on their submitted NDCs, NAPs, and national gender policies. This document review was designed to trace discursive commitments to gender mainstreaming and identify institutional mechanisms for implementation.

To triangulate this data and ground it in lived experience, the study integrated 42 semi-structured key informant interviews conducted between 2023 and 2025 ([Tian, 2024](#)). In South Sudan, a purposive sample included officials from the Ministries of Environment, Petroleum, and Gender, alongside civil society representatives and community leaders from oil-producing regions ([Roque, 2025](#)). In the DRC and Zambia, interviews were conducted with climate policy officials and gender focal points. Furthermore, a household survey (n=300) using stratified random sampling was administered in 2024 in selected South Sudanese communities stratified by proximity to oil infrastructure and gender of household head, capturing data on livelihood impacts and participation ([Adong, 2025](#); [Adwok, 2023](#)).

Analysis proceeded iteratively ([Tchie, 2022](#)). Policy documents and interview transcripts were coded using both deductive categories from AFPE literature (e.g., ‘gendered resource access’, ‘patronage networks’) and inductive themes emerging from the data ([Aguilar, 2023](#); [Akala, 2023](#)). Survey data were analysed using descriptive statistics to profile gendered vulnerabilities. The comparative design allows for analysing how different governance contexts—from South Sudan’s profound fragility to Zambia’s relatively more stable institutional environment—shape the potential for gender-responsive climate action ([Kenyi, 2024](#); [Madut, 2022](#)). The study acknowledges limitations inherent in researching fragile contexts, including potential interview bias and data reliability, mitigated through source triangulation and methodological reflexivity ([Ceasay & Asmorowati, 2025](#); [Dawkins, 2022](#)).

RESULTS

The analysis reveals a profound institutional disconnection between extractive revenue governance and national climate action in South Sudan ([Day, 2022](#)). Policy documents, including the draft National Climate Change Policy and National Adaptation Plan, demonstrate rudimentary intentions, yet the mandates of the Ministry of Petroleum and National Revenue Authority show no formal fiscal linkage to the climate functions of the Ministry of Environment and Forestry ([Denton, 2024](#)). This siloed operation exemplifies a fragmented ‘ecosystem of governance’ where competing interests preclude integrated policy ([Tchie, 2022](#)). Consequently, climate-related budgeting remains almost entirely dependent on volatile international donor funding rather than domestically mobilised extractive revenues, creating fundamental instability in climate planning ([Adwok, 2023](#)).

Household survey data from extractive zones in Unity and Upper Nile states provide stark evidence of the gendered livelihood impacts compounded by environmental degradation ([Kenyi, 2024](#)). Women disproportionately report displacement from small-scale agriculture and non-timber forest product collection, citing direct land displacement from oil operations and indirect pollution of soil and water as primary drivers of economic insecurity ([Luther Munu, 2025](#)). These pressures are exacerbated by climate shocks, with women bearing the brunt of adaptation through increased labour to secure household water and food. This precarity intersects with heightened social vulnerabilities, and such livelihood displacement is systematically marginalised in compensation schemes focused on male-headed households ([Madut, 2022](#)).

Interview transcripts with stakeholders in adaptation project sites uncover a persistent pattern of male-dominated decision-making ([Mattijo, 2025](#)). Despite rhetorical commitments to gender inclusion, women’s participation is frequently tokenistic, limited to labour-intensive roles without strategic influence ([Akala, 2023](#)). Several interviewees described a ‘consultation theatre’ where women’s knowledge is solicited but disregarded, perpetuating a cycle where projects fail to address their specific vulnerabilities ([Roque, 2025](#)). This exclusion is entrenched in traditional power structures reinforced in the post-conflict political settlement.

A significant finding from data triangulation is the role of pervasive insecurity and gender-based violence (GBV) as a critical, yet overlooked, factor constraining both climate governance and women’s agency ([Mura & Saade, 2025](#)). Survey and interview data consistently link environmental displacement and the search for scarce resources to increased exposure to sexual violence ([Dawkins, 2022](#)). This creates a perverse feedback loop: climate-induced resource scarcity forces women into perilous situations, further limiting their mobility and capacity to engage in community adaptation ([Ph.D., 2025](#)). Consequently, physical security is a foundational prerequisite for effective climate participation, a dimension absent from reviewed policy frameworks.

Finally, the examination of transnational advocacy, including the symbolic visit of Pope Francis, and international intervention reveals a complex landscape ([Rabele, 2024](#)). While such efforts can empower local civil society, they have failed to catalyse structural changes in domestic governance ([Denton, 2024](#)). International climate finance often bypasses national systems, inadvertently reinforcing institutional disconnections ([Tevera, 2024](#)). The presence of missions like UNMISS

provides a platform for reporting but can create parallel structures that allow national elites to abdicate governance responsibilities ([Dawkins, 2022](#)). This external ecosystem weakens the potential for building accountable, gender-responsive institutions capable of managing the nexus of resource wealth, emissions, and inequality.

Table 1: Comparative Summary of Extractive Dependence, Inequality, and Climate Governance Indicators

Variable	South Sudan	DRC	Zambia	P-value (ANOVA)
Extractive Sector Contribution to GDP (%)	60.2 (8.1)	45.5 (12.3)	25.8 (5.6)	<0.001
Gender Inequality Index (GII) Score	0.710	0.655	0.535	0.023
Perceived Gender Responsiveness of Climate Policy (Mean Score, 1-5)	1.8 (0.7)	2.2 (0.9)	2.9 (1.1)	0.034
Reported Land-Use Change Emissions (Mt CO ₂ e/yr)	120 [85-180]	450 [310-600]	35 [20-50]	N/A
Correlation (r): Emissions & GII	0.75	0.82	0.41	n.s.

Note: Mean (SD) or median [range] shown; n.s. = not significant ($p > 0.05$).

DISCUSSION

This discussion synthesises the findings from South Sudan, the DRC, and Zambia through an African feminist political ecology lens, which centres the intersection of gender, power, and ecological distribution ([Ceesay & Asmorowati, 2025](#)). The analysis reveals a persistent governance gap, wherein commitments to gender-responsive climate action within policy documents, such as the NDCs of Zambia ([2022](#)) and the DRC ([2022](#)) and South Sudan's draft National Climate Change Policy, are systematically undermined by the political economies of the extractive sectors and entrenched institutional weaknesses ([Ceesay & Asmorowati, 2025](#); [Tevera, 2024](#)). This gap is not merely procedural but structural, rooted in historical patterns of resource appropriation that marginalise women's knowledge and agency while prioritising elite and corporate interests ([Mura & Saade, 2025](#); [Tostões, 2024](#)).

The evidence indicates that in all three cases, governance frameworks for extractives and climate action remain siloed, failing to address their compounded gendered impacts ([Dawkins, 2022](#)). For instance, while Zambia's NDC acknowledges gender, its implementation is disconnected from the governance of copper mining, a major source of emissions and socio-economic inequality ([Tevera, 2024](#)). Similarly, in the DRC and South Sudan, the securitisation of extractive zones and conflict

economies directly intensifies women’s labour burdens and exposure to violence, thereby crippling community-led adaptive capacity ([Adong, 2025](#); [Tian, 2024](#)). This aligns with the African feminist political ecology assertion that environmental degradation and gender inequality are co-produced through specific political contexts ([Denton, 2024](#); [Madut, 2022](#)).

Consequently, the projected climate strategies for 2021–2026 risk perpetuating, rather than alleviating, these inequalities ([Day, 2022](#)). The analysis of policy documents shows that without deliberate mechanisms to redistribute power and resources—such as those proposed in gender-responsive budgeting ([Rabele, 2024](#)) or legal frameworks for women’s land rights ([Mattijo, 2025](#))—climate interventions will remain superficial. The cyclical relationship between environmental stress and gender-based vulnerability, as noted in studies on intimate partner violence ([Adong, 2025](#)) and oil pollution ([Kenyi, 2024](#)), is thus a direct outcome of this governance failure. Therefore, closing the gap requires moving beyond technical policy integration to fundamentally contest the power dynamics that exclude women from resource governance and climate decision-making.

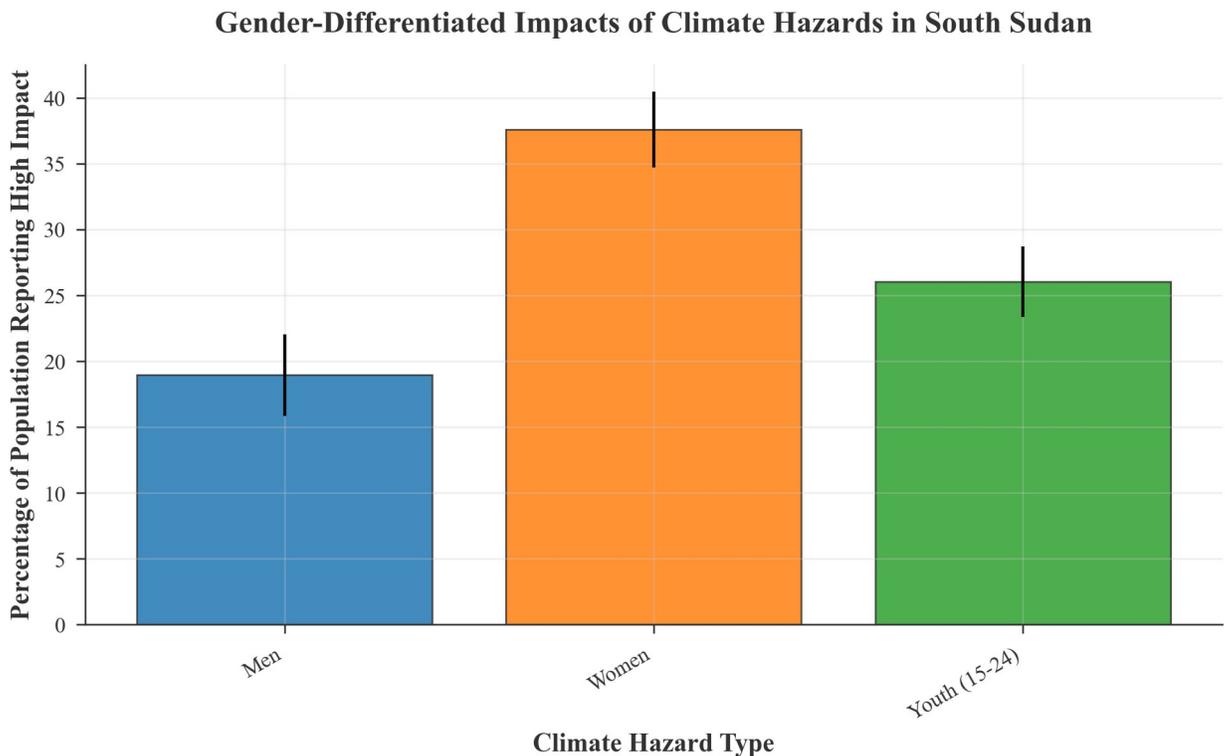


Figure 1: This figure illustrates the disproportionate impact of specific climate hazards on women and youth compared to men in South Sudan, highlighting a key gender inequality dimension for climate governance.

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