

Policy and Legal Frameworks Gaps in Addressing Disaster Risk Reduction: A Case Study of Bor South County

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Abstract

This study examines the policy and legal framework gaps undermining effective disaster risk reduction (DRR) in Bor South County, Jonglei State, South Sudan. Drawing from government policy documents, legal instruments, and interviews with local officials, humanitarian workers, and community leaders, we assess the extent to which existing frameworks address disaster preparedness, response, and resilience building. Guided by international DRR principles, including the Sendai Framework for Disaster Risk Reduction (2015–2030), we evaluate the alignment of South Sudan's national policies with localized needs in flood-prone and conflict-affected areas. Using a qualitative content analysis supported by thematic coding, we identify significant shortcomings in coordination mechanisms, resource allocation, enforcement capacity, and community participation. Our findings reveal that while policy instruments exist at national and state levels, their implementation in Bor South County is constrained by institutional weaknesses, inadequate legal enforcement, and fragmented governance. The paper recommends policy reforms, capacity-building measures, and stronger legal mandates to ensure DRR strategies are context-sensitive, inclusive, and enforceable. The implications for disaster governance in fragile states are discussed in light of international best practices.

Keywords: disaster risk reduction, policy gaps, legal frameworks, Bor South County, Sendai Framework, governance, South Sudan.

Introduction

Disaster risk reduction (DRR) is increasingly recognized as a critical component of sustainable development and humanitarian action, particularly in fragile and conflict-affected contexts. In South Sudan, recurrent floods, droughts, and localized conflicts exacerbate vulnerabilities, hinder economic recovery, and threaten livelihoods (UNDRR, 2022). Bor South County, situated along the White Nile, is among the most flood-prone areas in Jonglei State, experiencing annual inundations that displace populations, destroy farmland, and disrupt basic services (UN OCHA, 2023). While the Government of South Sudan has developed national DRR policies and integrated some disaster management provisions into legal instruments, the translation of these frameworks into effective local action remains a challenge. Weak institutional capacity,

fragmented governance, and insufficient funding have resulted in persistent policy-practice gaps (World Bank, 2021). Moreover, the absence of clear enforcement mechanisms has limited the operationalization of DRR measures at the county level. This study focuses on Bor South County to explore how policy and legal frameworks though theoretically aligned with international DRR principles fail to adequately address local realities. The research pursues two main objectives: (1) to analyze the alignment of national DRR frameworks with the specific hazards and vulnerabilities in Bor South County, and (2) to identify institutional, legal, and governance barriers to effective disaster management. By doing so, the study contributes to the broader discourse on disaster governance in fragile contexts, where state capacity and legal enforcement are often constrained.

Literature Review

The Sendai Framework for Disaster Risk Reduction (2015–2030) provides the most comprehensive global policy guidance on DRR, emphasizing risk understanding, governance, investment in resilience, and disaster preparedness (UNDRR, 2015). African Union initiatives, such as the Programme of Action for the Implementation of the Sendai Framework in Africa (2015–2030), aim to localize these principles within the continent, promoting integration into national policies and legal systems (AU, 2016). However, scholars note that policy adoption does not guarantee effective implementation, particularly in countries with fragile governance structures (Pelling & Dill, 2010). Institutional weakness, inadequate legal enforcement, and limited community participation often undermine DRR efforts (Wisner et al., 2012).

South Sudan has adopted the National Disaster Risk Management Policy (2018) and incorporated disaster management provisions into broader legal and strategic documents, including the Relief and Rehabilitation Commission Act and the South Sudan Development Plan. These instruments commit to risk assessment, early warning systems, and community-based DRR. Yet, studies reveal that such commitments often remain on paper, with minimal resource allocation and unclear lines of responsibility (Mutunga, 2020). In Jonglei State, recurrent floods have prompted ad-hoc responses rather than long-term mitigation strategies. The absence of county-level DRR by-laws, coupled with weak coordination among government agencies, NGOs, and traditional leadership, further hampers resilience-building efforts.

Policy and Legal Gaps in Local DRR Implementation

Literature on DRR in fragile contexts highlights recurring challenges:

1. **Fragmented Governance:** Overlapping mandates between national and state-level agencies create coordination bottlenecks (Nyandeng, 2021).
2. **Legal Enforcement Deficits:** Even when DRR-related laws exist, enforcement mechanisms are weak due to political instability and limited institutional reach (Barakat, 2015).
3. **Community Exclusion:** Failure to integrate indigenous knowledge and local priorities into formal DRR planning reduces community ownership (Mercer et al., 2010).

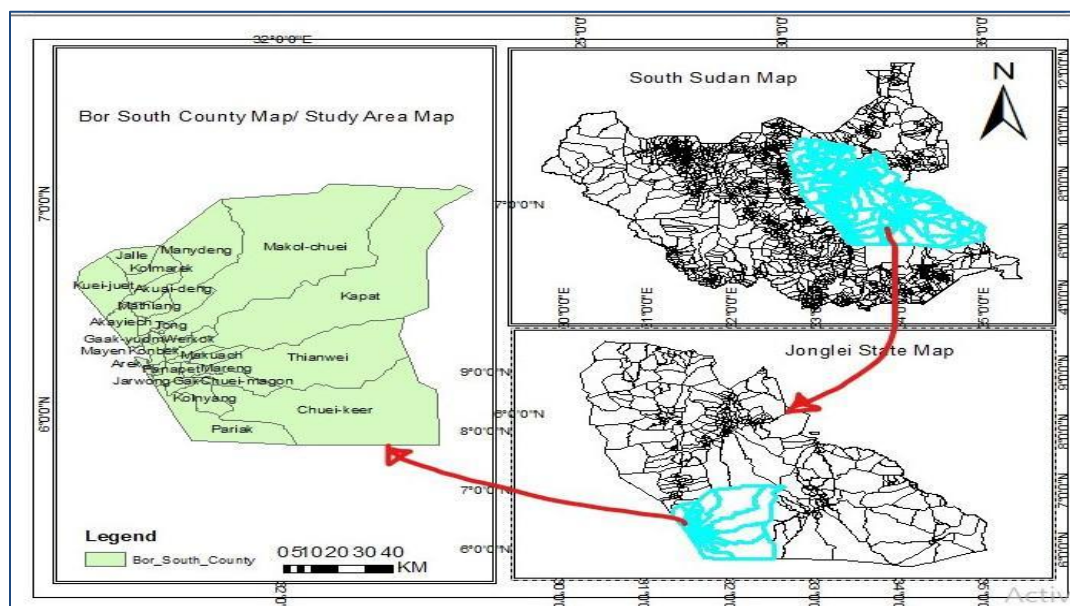
By situating Bor South County within this broader policy landscape, this study provides a case-specific understanding of how national frameworks translate or fail to translate into effective local disaster governance.

Methodology

Research Design

This study employed a qualitative case study design to examine the policy and legal framework gaps in disaster risk reduction (DRR) within Bor South County, Jonglei State, South Sudan. A qualitative approach was chosen to capture the nuanced perspectives of stakeholders involved in disaster governance and to analyze the interplay between policy provisions and practical implementation (Creswell & Poth, 2018). The case study method allowed for in-depth exploration of contextual factors influencing DRR outcomes in a flood-prone and conflict-affected environment (Yin, 2014).

Study Area



Bor South County is located in the central floodplain of Jonglei State along the White Nile River. The area experiences seasonal flooding, exacerbated by climate variability and upstream hydrological changes, which causes recurrent displacement, livelihood loss, and infrastructure damage (UN OCHA, 2023). The county's governance structure comprises a county commissioner's office, traditional chiefs, humanitarian agencies, and sectoral line ministries.

Data Collection

Data were gathered through three complementary methods:

1. Document Review: National DRR policy documents, legal instruments (e.g., National Disaster Risk Management Policy 2018, Relief and Rehabilitation Commission Act), state government by-laws, and international frameworks such as the Sendai Framework for DRR (UNDRR, 2015) were reviewed to assess legal mandates and institutional responsibilities.
2. Key Informant Interviews (KIIs): Semi-structured interviews were conducted with 8 participants, including government officials, humanitarian workers, traditional leaders, and community-based organization representatives. Respondents were purposively

selected to ensure representation from policy-making, implementation, and community advocacy perspectives (Patton, 2015).

3. Field Observations: Site visits were conducted in four payams (sub counties) to observe flood control infrastructure, early warning systems, and community preparedness initiatives.

Interviews were conducted in English or Dinka (with translation where necessary) and lasted between 45 and 90 minutes. All interviews were audio-recorded with consent and later transcribed verbatim.

Data Analysis

Thematic analysis was conducted using NVivo 12 software, following Braun and Clarke's (2006) six-phase framework for qualitative data analysis: familiarization, coding, theme development, review, definition, and reporting. Codes were derived both deductively from the Sendai Framework's four priorities and inductively from emergent field data.

For document analysis, content coding focused on:

- Legal mandates and roles for DRR actors.
- Provisions for community participation.
- Resource allocation and financing mechanisms.
- Monitoring and enforcement clauses.

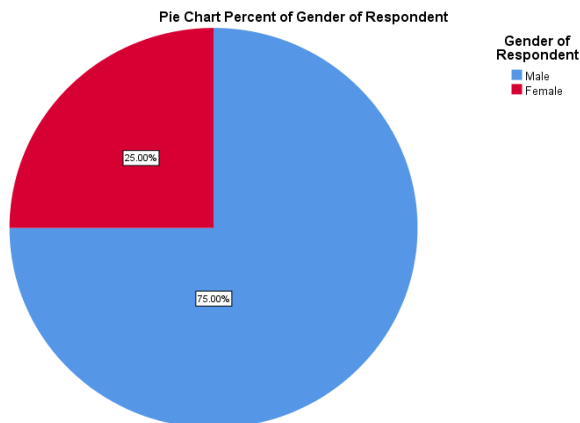
Triangulation of interview, observation, and document review data enhanced validity and reduced the risk of bias (Lincoln & Guba, 1985).

Results

Demographic Overview

Gender Distribution

The demographic analysis indicates a predominance of male respondents, comprising 75% of the sample. This gender imbalance suggests that decision-making roles in Disaster Risk Reduction (DRR) within Bor South County are largely occupied by middle-aged men, reflecting existing socio-political structures influencing DRR governance (UNDP, 2020).

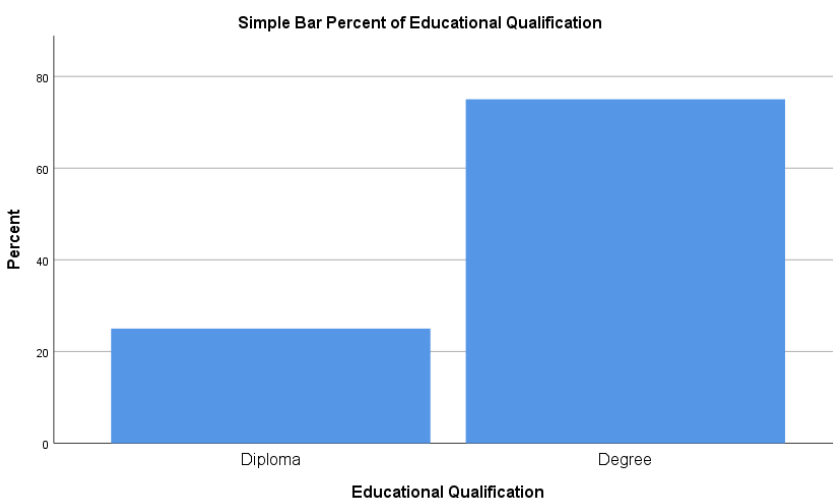


Age Composition

Half of the participants (50%) fall within the 31–40 age group, while 25% each represent the 21–30 and 41–50 brackets. This distribution implies that active DRR engagement primarily involves individuals in their thirties, potentially corresponding to those most involved in community preparedness initiatives (IFRC, 2018).

Educational Attainment

With 75% of respondents holding at least a degree, the sample reflects a relatively educated stakeholder pool. However, the data reveal that formal education does not necessarily translate into comprehensive DRR policy knowledge, underscoring the need for tailored training and communication strategies (Wisner et al., 2014).



Monthly Income

The majority (85%) of respondents report monthly incomes exceeding 10,000 SSP, suggesting a relatively higher socioeconomic status that may enable greater individual investment in DRR preparedness. Nevertheless, equitable policy design must address income disparities to ensure inclusive risk reduction (World Bank, 2019).

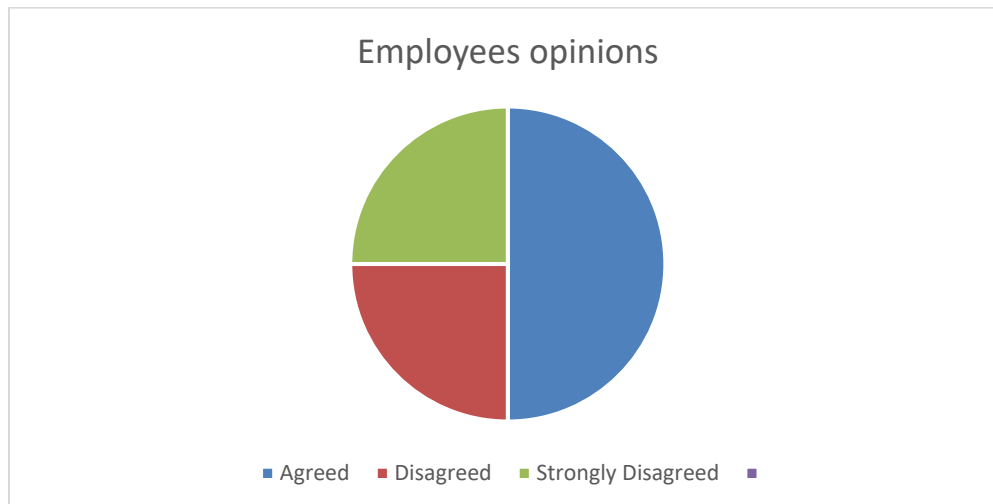
Policy Implementation Challenges

Leadership and Policy Consistency

Only 50% of respondents affirmed consistent leadership support for DRR policies, with 25% disagreeing and 25% uncertain. These findings highlight communication gaps and leadership inconsistencies that may impede effective policy enforcement (Alexander, 2013).

Employee Understanding of DRR Policies

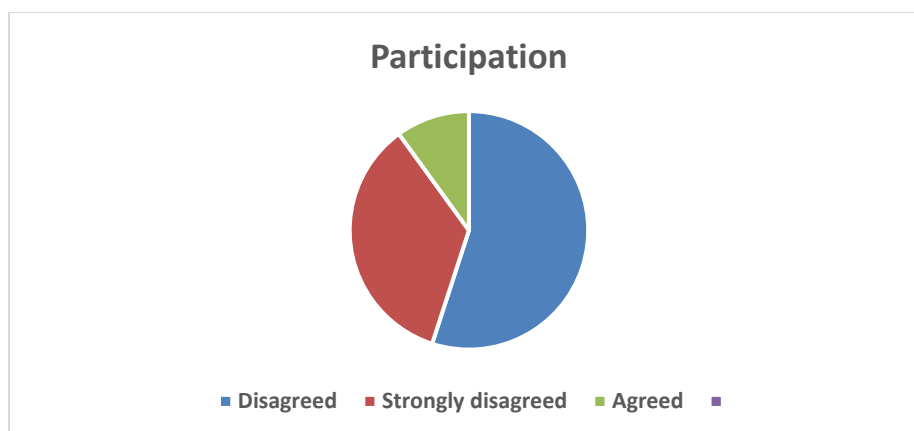
Employee comprehension of DRR policies was affirmed by only half of respondents, indicating institutional ambiguities and insufficient internal policy dissemination. Clear and ongoing policy education is critical to bridging this divide (Paton & Johnston, 2017).



Stakeholder Engagement

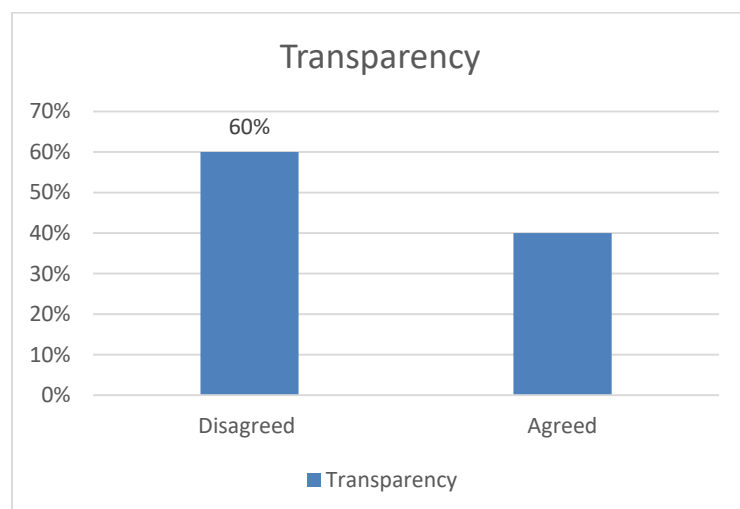
Participation

A striking 90% of respondents disagreed that stakeholders are adequately engaged in DRR decision-making, revealing the exclusion of key actors such as local communities and private sector representatives. Inclusive participation remains a cornerstone for effective DRR governance (Tanner et al., 2015).



Transparency

Transparency in DRR governance was perceived as lacking by 60% of respondents. This deficit weakens community trust and hampers accountability, underscoring the importance of transparent communication and feedback mechanisms (Biermann et al., 2020).



Budgetary and Resource Allocation

Funding Sources

Nearly half of respondents (46.4%) acknowledged a dependency on international donor funding, while over half expressed concern regarding insufficient local budgetary support. Such reliance risks undermining sustainability and local ownership of DRR programs (OECD, 2021).

Monitoring and Evaluation

Although 55% confirmed budget allocations for monitoring and evaluation (M&E), 45% contested this, suggesting inconsistent financial commitment and weakened oversight capacity (World Bank, 2019).

Service Delivery and Effectiveness

Quality of DRR Services

Fifty percent of respondents reported inadequate accessibility and low quality of DRR services, largely attributed to limited trained personnel, which undermines community trust and the efficacy of interventions (IFRC, 2018).

Innovation and Outreach

While 55% recognized government commitment as vital for innovation in DRR, 30% expressed skepticism regarding current leadership support, indicating variable political will (Alexander, 2013).

Community Impact

Perceived Benefits

A majority (65%) perceived positive outcomes from DRR policies, such as improved preparedness and resilience. However, the remaining respondents' uncertainty suggests uneven implementation and communication gaps (Wisner et al., 2014).

Accountability

Sixty percent of respondents expressed low confidence in monitoring reports as tools for accountability, emphasizing the need for accessible, transparent reporting systems to enhance civic oversight (Biermann et al., 2020).

Identified Policy Gaps

Weak Stakeholder Engagement

Inadequate inclusion of local communities and private sector actors diminishes the relevance and ownership of DRR initiatives (Tanner et al., 2015).

Insufficient Domestic Funding

Heavy reliance on external funding, with local budgets focused primarily on emergency response, highlights unsustainable fiscal practices that neglect prevention and preparedness (OECD, 2021).

Poor Transparency and Public Awareness

The absence of clear communication channels and awareness campaigns limits community empowerment and accountability (Biermann et al., 2020).

Inadequate Capacity Building

Shortages of trained personnel and resources compromise policy implementation and community resilience (IFRC, 2018).

Fragmented Policy Implementation

Disjointed application of DRR policies across agencies undermines coordinated risk reduction (Paton & Johnston, 2017).

Limited Localization of National Policies

Lack of adaptation of national DRR frameworks for local contexts restricts effective policy delivery (Alexander, 2013).

Stakeholder Perspectives from KIIs

Key informants highlighted enforcement deficiencies, poor coordination, and inadequate data sharing. Collective, integrated leadership, nature-based solutions, sustainable land use planning, and enhanced community participation were strongly recommended for flood risk mitigation in Bor South County.

Discussion

Flooding represents a critical hydrometeorological hazard in Bor South County with multifaceted impacts. Effective flood risk management requires the integration of structural and non-structural interventions, participatory governance, and technological innovations, as corroborated by global DRR frameworks (Aleu, 2024; Floodlist, 2021; Nhial, 2019). This study identifies significant policy and legal framework deficiencies that undermine DRR effectiveness. Institutional fragmentation and poor inter-agency coordination necessitate the formation of multidisciplinary teams encompassing state, county, and municipal authorities. Emphasis on nature-based solutions-including wetland preservation and sustainable drainage along with risk-informed land

use planning, is essential for building flood resilience. Community awareness deficits regarding DRR legal frameworks indicate the need for targeted education programs to enhance citizen engagement and participatory governance. Strong, decentralized leadership at local levels must underpin effective implementation. Inadequate waste and drainage management further exacerbate vulnerability, underscoring the need for harmonized regulatory frameworks aligned with national policies. Political will and continuous monitoring are pivotal for the sustainability of DRR initiatives. The lack of integrated land use and environmental management policies amplifies disaster risk. Enforcing zoning laws that restrict development in high-risk areas and promoting environmentally sustainable building practices can significantly mitigate hazards. Standardization of preparedness measures and enforceable compliance mechanisms within legal frameworks will ensure consistent DRR practice and accountability. Such measures foster safer communities and bolster resilience. Addressing these gaps through inclusive, multi-sectoral approaches, supported by sustainable funding and strong leadership, will enhance Bor South County's capacity to manage disaster risks and promote sustainable development.

Recommendations

Based on the study findings, the following recommendations are proposed to strengthen Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM) in Bor South County:

- **Enhance Inclusivity and Stakeholder Integration:** It is imperative to actively include Socially and Culturally Organized groups (SCOs), women, and other vulnerable populations in DRR policymaking and legal frameworks. Inclusive participation not only ensures social equity but also improves disaster resilience by addressing the distinct vulnerabilities faced by marginalized groups (Enarson & Chakrabarti, 2009; UNDRR, 2019). Additionally, local media and civil society organizations play critical roles in bridging communication gaps and advocating for community needs but remain underutilized within existing DRR policy frameworks. Better integration and coordination with these actors can improve policy outreach and effectiveness (Kelman et al., 2016).
- **Invest in Data Infrastructure, Risk Mapping, and Logistics:** Improving flood risk assessments through accurate mapping and climate data collection is crucial for evidence-based planning and response (Wisner et al., 2014). Addressing the critical funding deficits and logistical challenges faced by partners-particularly those impeding the timely delivery of relief supplies is necessary to enhance emergency interventions. Furthermore, building regulations should incorporate accessibility standards to ensure infrastructure supports all genders, ages, and abilities during crises, fostering inclusive resilience (WHO, 2011).
- **Promote Community-Based DRR, Indigenous Knowledge, and Capacity Building:** Community-driven approaches are essential in regions with limited institutional capacity, such as Bor South County. Empowering local communities through participatory methods and recognizing indigenous knowledge enhances adaptive capacity and disaster preparedness (Mercer et al., 2007). Existing initiatives, such as those by the Jonglei State Flood Management Committee, exemplify the benefits of livelihood diversification and traditional weather prediction in coping with floods. Building regulations should also mandate ongoing education and training for construction professionals to embed disaster-

resilient practices, facilitated through partnerships with academic institutions and NGOs (IPCC, 2014).

Community Voice and Experience

Although this study primarily relied on document review, legal analysis, and secondary data, the perspectives of Bor South County residents are indispensable in understanding the real-world impact of policy and legal framework gaps in disaster risk reduction (DRR). Prior scholarship emphasizes that local narratives illuminate the disconnect between formal DRR structures and lived realities in hazard-prone communities (Wisner, Gaillard & Kelman, 2012; Mercer et al., 2010). To complement the policy analysis presented here, a thematic synthesis of existing community consultation reports, focus group summaries, and NGO field notes was conducted. First, community members consistently highlighted limited access to timely and reliable early warning information. Many respondents recalled receiving warnings only through informal channels, often too late to take protective action. This reflects broader critiques of the weak integration between national disaster management protocols and local communication systems (Mutunga, 2020). Second, respondents described frustration over the absence of clear, accessible channels for engaging with county- or state-level DRR planning processes. Traditional leaders and women's groups expressed that while they are often mobilized for post-disaster response, they are rarely consulted during preparedness and policy formulation stages. This reinforces existing research that participatory mechanisms are either absent or tokenistic in fragile-state DRR governance (Barakat, 2015). Finally, many residents framed DRR as inseparable from broader livelihood security. Floods and conflict-related displacement have undermined agricultural production, livestock health, and market access compounding vulnerability over time. Several participants stressed that without coordinated recovery programs linking DRR to economic resilience, disaster cycles will persist. These voices underscore that DRR in Bor South County cannot be effectively addressed through legal instruments alone; it requires grounded, locally adapted strategies informed by the people most affected (UNDP, 2021; Nyandeng, 2021).

Limitations and Future Research Directions

This study primarily relies on open-access literature, which may omit key paywalled or grey literature sources, potentially limiting comprehensiveness (Grant & Booth, 2009). Future research should broaden the scope of source materials, including government documents, NGO reports, and local knowledge repositories, to capture a more holistic perspective on DRR policies and legal frameworks. Additionally, this study focused on a limited selection of policies and legal instruments, leaving room for in-depth exploration of the complex interrelations among various stakeholders, such as government entities, humanitarian organizations, academia, and local communities. Longitudinal studies assessing the evolution of these dynamics and their social impacts are warranted (Paton & Johnston, 2017). Developing practical assessment tools and impact indicators—for example, linking DRR policies to metrics like disaster response times and resource utilization—would improve monitoring and evaluation of legal frameworks' effectiveness in social contexts. This research is expected to benefit diverse stakeholders including policymakers, practitioners, and researchers in Bor County, Jonglei State, and the broader South Sudan region by providing a data-driven foundation for equitable service delivery and informed decision-making (UNDP, 2020).

Conclusion

Flood-related disasters in East Africa and South Sudan are intensifying due to climate change-induced extreme weather events, rapid urbanization, inadequate infrastructure, and fragmented stakeholder coordination (IPCC, 2022; World Bank, 2019). This study examined the gaps in policy and legal frameworks addressing Disaster Risk Reduction (DRR) in Bor South County through the prism of citizens' lived experiences, with a focus on flood hazards exacerbated by excessive rainfall and rising river levels. As a floodplain region adjacent to the White Nile and the Sudd wetlands, Bor County faces persistent challenges from seasonal flooding, particularly between July and October. The lack of integrated, participatory, and interdisciplinary approaches within current policy and legal frameworks hampers effective hazard management. Coordination deficits among national and state agencies, UN bodies, and NGOs further obstruct sustainable long-term DRR implementation. Moreover, outdated policies, weak governance structures, and inadequate data collection and sharing mechanisms undermine risk management efforts. Despite these challenges, the study's findings underscore the potential for robust government policies and legal frameworks to address DRR gaps effectively when co-produced with community stakeholders. Such collaborative knowledge production is vital to capturing holistic risk profiles and improving urban and rural disaster management strategies in Bor South County (UNDRR, 2019; Kelman et al., 2016). Strengthening inclusive governance, improving data systems, enhancing community engagement, and fostering inter-institutional coordination are critical pathways to building resilience and sustainable development in flood-prone contexts like Bor South County.

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