

Beyond Conventional Sprawl: Crisis-Driven Urban Expansion and Rural Livelihood Collapse in Maiduguri, Nigeria

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Abstract

Land conversion to urban uses threatens food security globally. In developing regions, it is exacerbated by rapid, unplanned urbanization. However, prevailing sprawl models, derived from stable contexts, fail to account for dynamics in conflict zones where displacement drives urban expansion. This study examines the concept of “crisis-driven urban sprawl” – a distinct form of urban expansion where humanitarian shock, rather than economic opportunity alone, accelerates land conversion. Assessing Maiduguri, Nigeria – a city experiencing rapid urban growth due to Boko Haram insurgency – the study uses mixed methods (household surveys, n=100; in-depth interviews) to examine perceived extent, drivers, and impacts of agricultural land loss. Findings reveal widespread conversion: 84% observed expansion, 78% confirmed direct conversion. Primary drivers: population growth (38%) intensified by conflict displacement and weak planning (26%). Impacts are severe: 82% reduced farmland, 74% decreased food production, 68% farmers displaced, 54% livelihoods “greatly affected.” Critically, 70% land sales reflect vulnerability, not choice – a key feature distinguishing crisis-driven sprawl from conventional urbanization. The study concludes that urban expansion in fragile states constitutes distinct crisis-driven sprawl, arguing for integrating political ecology and sustainable livelihoods frameworks into land-change models. Based on the findings, the study recommends the need to include crisis-sensitive planning, agricultural preservation, livelihood diversification and geospatial investigation to quantify precise conversion rates in future studies.

Keywords: Crisis-Driven Sprawl, Urban Expansion, Agricultural Land Conversion, Political Ecology, Sustainable Livelihoods, Conflict, Nigeria.

Introduction

Global agricultural land conversion to urban uses threatens food security and rural livelihoods (FAO, 2022; Seto *et al.*, 2012). Over 30 million hectares of agricultural land were lost globally between 2000 and 2020, with impacts most acute in developing regions where urbanization is rapid and unplanned (UN-Habitat, 2020). Africa urbanizes fastest globally, with Nigeria’s urban population growing at over 4% annually (World Bank, 2021). According to the United Nations, 55% of the world’s population currently lives in urban areas, a figure projected to reach 68% by 2050, with nearly 90% of this growth occurring in Asia and Africa (UN DESA, 2020).

Maiduguri, capital of Borno State, has expanded rapidly due to Boko Haram-induced displacement (IDMC, 2024). Over two million internally displaced persons (IDPs) have sought

refuge, expanding the built environment into agricultural areas (Borno State Ministry of Land and Survey, 2023). This threatens food security and rural livelihoods. Urban sprawl – the unplanned expansion of settlements into rural lands – poses significant challenges, particularly in developing countries where weak governance and tenure insecurity prevail (UN-Habitat, 2020; Kombe, 2005). The conversion of fertile agricultural land disproportionately affects smallholder farmers who lack political voice to resist displacement (FAO, 2019; Toulmin, 2009). While scholars have extensively documented conventional drivers of urban expansion – population growth, migration, infrastructure, and economic restructuring (Seto et al., 2011; United Nations, 2018) – these models derive largely from stable contexts. Their applicability to fragile states experiencing acute humanitarian crises remains fundamentally untested and, as this study argues, deeply problematic.

To address this theoretical gap, this study anchors its analysis in two complementary frameworks. Political ecology examines power dynamics in environmental change, asking who wins and who loses from land conversion (Robbins, 2012; Blaikie & Brookfield, 1987). It enables analysis of urban expansion as shaped by power asymmetries, institutional fragility, and marginalization – particularly valuable for understanding how crisis contexts exacerbate vulnerability (Bryant & Bailey, 1997; Peet & Watts, 2004). The Sustainable Livelihoods Framework (SLF) posits that households build livelihoods on five interconnected capitals: natural, financial, social, human, and physical (Scoones, 1998; DFID, 1999). Crucially, loss in one domain – especially natural capital – triggers cascading erosion across others, producing systemic vulnerability rather than isolated hardship (Ellis, 2000; Chambers & Conway, 1992).

In Northern Nigeria, violent conflict and mass displacement have emerged as paramount drivers of urban transformation. The Boko Haram insurgency has displaced over two million people, with hundreds of thousands seeking refuge in Maiduguri, dramatically accelerating peri-urban land conversion (IDMC, 2024; UNHCR, 2023; Okpara et al., 2016). Research across the Lake Chad Basin confirms that conflict shocks significantly affect land access, with displaced populations facing documentation loss, land grabbing, and exclusion from restitution (Ik Dahl, 2021; Unruh, 2018). Despite growing recognition of displacement as an urban driver, the literature lacks systematic theorization of sprawl catalyzed by acute humanitarian crises. Scholars have noted the distinctive dynamics of urbanization in fragile states (Muggah, 2012; Moser & McIlwaine, 2014), yet these insights remain unintegrated into mainstream land change science (Lambin et al., 2003; Turner et al., 2007).

This study addresses this gap by investigating crisis-driven urban expansion in Maiduguri and proposing “crisis-driven sprawl” as a distinct analytical framework for understanding urbanization in conflict-affected settings.

The objectives were to:

- i. Assess the perceived extent of agricultural land conversion in peri-urban Maiduguri;
- ii. Identify and analyze the socio-political and economic factors driving urban expansion, with particular attention to conflict-induced displacement;
- iii. Evaluate the impact of urban sprawl on agricultural productivity and rural livelihoods using a sustainable livelihoods framework;
- iv. Propose context-specific recommendations for sustainable land use planning in post-conflict urban settings.

Description of Study Area

The study was conducted in Maiduguri, the capital city of Borno State, Nigeria. The city is located in the northeastern part of the country between latitudes 11°40'N and 11°50'N and longitudes 13°00'E and 13°10'E. It covers an estimated land area of approximately 543 square kilometers. Maiduguri lies within the semi-arid Sudan Savanna zone, characterized by a prolonged dry season (October–May) and a brief rainy season (June–September), with average annual rainfall ranging from 600 to 800mm.

The city's population is estimated to be over 1.2 million, a figure that has surged dramatically due to the influx of internally displaced persons (IDPs) fleeing the Boko Haram insurgency (Borno State Ministry of Land and Survey, 2023). This demographic pressure has fundamentally transformed the urban periphery, with informal settlements expanding into previously agricultural areas. Three peri-urban communities experiencing visible sprawl were purposively selected for detailed study: Molai, Dalori, and Muna. These communities represent different axes of urban expansion and host significant populations of displaced persons and displaced farmers. Their selection ensures geographical representation and captures variation in land-use dynamics across the urban periphery.

Materials and Methods

This study employed a mixed-methods research design, combining quantitative survey data with qualitative interviews. This approach is particularly appropriate for investigating complex human-environment interactions because it enables both the measurement of patterns across a population and the understanding of the processes, meanings, and experiences underlying those patterns (Creswell & Clark, 2017; Yin, 2018). Several alternative designs were considered but ultimately rejected. A purely quantitative survey could have provided broader statistical generalizability but would have failed to capture the lived experiences, power dynamics, and community norms essential to understanding how displacement reshapes land relations. The mixed-methods design adopted here enables both measurement and meaning.

A multistage sampling technique was employed. First, three peri-urban communities – Molai, Dalori, and Muna – were purposively selected based on visible urban expansion, proximity to the urban fringe, and presence of displaced populations. Second, within each community, systematic random sampling selected 100 respondents for structured questionnaires. Questionnaires were administered face-to-face by trained enumerators in Hausa and Kanuri, capturing: (1) socio-demographic characteristics; (2) observations of land-use change; (3) perceived drivers of conversion; (4) livelihood impacts; and (5) coping strategies. Third, purposive sampling selected 33 key informants for in-depth interviews: 15 farmers whose land was converted, 10 landowners who sold land, 5 community leaders, and 3 planning officials from the Borno State Ministry of Land and Survey. A total of 33 key informant interviews were conducted. Semi-structured interviews lasted 45–90 minutes, were audio-recorded with consent, and transcribed verbatim.

Secondary data were sourced from government publications, including records from the National Bureau of Statistics (NBS), the Borno State Ministry of Lands and Survey, and reports from humanitarian organizations (UNHCR, IOM, NRC). These provided contextual information on population trends, displacement patterns, and policy frameworks.

Quantitative data from questionnaires were entered into SPSS version 27 and cleaned for analysis. Descriptive statistics (frequencies, percentages, means) were computed to summarize socio-demographic characteristics, perceptions of change, and livelihood impacts. Chi-square tests were used to examine associations between categorical variables (e.g., community type and perceived drivers). Statistical significance was set at $p < 0.05$. These analyses are replicable; other researchers could administer the same survey instrument in different contexts and directly compare results.

Interview data were transcribed and analyzed thematically using NVivo 14, following Braun and Clarke's (2006) six-phase framework: familiarization, coding, theme development, review, definition, and reporting. Themes were identified both inductively and deductively, guided by political ecology and sustainable livelihoods frameworks. Coding was conducted independently by two researchers, with discrepancies resolved through discussion.

Findings from statistical and qualitative analyses were integrated through triangulation. Convergence across datasets identified consistent patterns, while divergences provided deeper insight, enhancing the validity and comprehensiveness of the findings. Conducting research in conflict-affected communities posed unique challenges, including security concerns, language barriers, and the sensitive nature of displacement and land loss. These were addressed through coordination with community leaders, trained translators, and trauma-informed interviewing techniques. Despite these efforts, some degree of social desirability bias may persist. As researchers based in Borno State, our shared regional identity with respondents facilitated trust, while we remained attentive to power dynamics and voluntary participation.

Ethical approval was obtained from Borno State University Research Ethics Committee (BOSU/REC/2025/042). All participants provided informed consent, with verbal consent witnessed for those with limited literacy. To ensure confidentiality, all personal identifiers were removed, pseudonyms are used, and data are stored securely. Participants were informed of their right to withdraw at any time. Given the sensitive nature of the study, interviewers were trained to recognize distress and protocols were developed in consultation with community leaders.

Results of the Findings

Socio-Demographic Profile of Respondents

The sample comprised 100 respondents across three peri-urban communities (Molai, Dalori, Muna). The majority of respondents were male (62%), reflecting the gendered nature of land ownership and decision-making in the study area. Most were within the active age bracket of 31–50 years (56%), and had resided in Maiduguri for over a decade (54%), providing long-term perspective on land-use change. Critically, over half (54%) identified their primary occupation as farming, confirming the direct relevance of the study to their livelihoods (Table 1).

Table 1. Socio-Demographic Characteristics of Respondents (n=100)

Variable	Category	Frequency	Percentage
Gender	Male	62	62%
	Female	38	38%
Age	18–30 years	22	22%
	31–50 years	56	56%
	>50 years	22	22%
Occupation	Farmer	54	54%
	Trader	24	24%
	Civil servant	12	12%
	Other	10	10%
Years of Residence	<5 years	18	18%
	5–10 years	28	28%
	>10 years	54	54%

The predominance of farming as a primary occupation (54%) aligns with recent systematic reviews of peri-urban Sub-Saharan Africa, which characterize smallholder farmers as largely subsistence-based and heavily reliant on agricultural land for their livelihoods (Alem & Kombe, 2025). This demographic profile provides a robust foundation for analyzing land-use change impacts.

Perceived Extent of Agricultural Land Conversion

The first objective was to assess the perceived extent of agricultural land converted to urban use in peri-urban Maiduguri. Respondents were asked about their observations of land-use change over the past two decades.

Table 2. Perceived Extent of Agricultural Land Conversion (n=100)

Indicator	Response	Frequency	Percentage
Observed Urban Expansion into Farmland	Yes	84	84%
Farmland Directly Converted	Yes	78	78%
Perceived Extent of Land Loss	Very much	50	50%
Perceived Extent of Land Loss	Moderately	38	38%
Perceived Extent of Land Loss	Slightly	12	12%

The findings reveal widespread perception of significant land-use transformation. An overwhelming 84% of respondents confirmed observing urban expansion into agricultural areas, with 78% attesting to direct conversion of their own or neighbors' farmlands to residential or commercial uses. Half of all respondents (50%) reported that "very much" agricultural land had been lost in the last decade, while an additional 38% reported "moderate" loss.

These perceptual findings align with research across Sub-Saharan Africa, where studies have documented that peri-urban farmers consistently report high rates of land loss due to urban expansion (Alem & Kombe, 2025). In the Ethiopian context, similar perceptual studies found that 78% of peri-urban farmers reported significant farmland reduction, corroborating our findings (Talema & Nigusie, 2023).

The convergence of high percentages across multiple indicators (84% observed expansion, 78% direct conversion, 88% reporting moderate to severe loss) provides robust evidence that agricultural land conversion in Maiduguri has been extensive, even without precise geospatial quantification.

Identifying Drivers of Urban Expansion

The second objective sought to identify drivers of urban sprawl, with particular attention to conflict induced displacement. Table 3 presents respondents' perceptions of the primary drivers of land conversion. Population growth was cited as the leading driver by 38% of respondents, followed by lack of urban planning and policy enforcement (26%) and land speculation (18%). However, these aggregate figures must be interpreted within the specific context of conflict induced displacement. As one farmer from Molai explained: “Before the insurgency, our village was far from the city. But when people started running from the villages, they came here. First it was relatives, then strangers. They built on our farmlands because there was nowhere else to go. We couldn’t say no – they had nothing.” (Farmer, Molai, 2024) This testimony reveals that population growth is not a neutral demographic process but is driven by forced displacement. This finding both supports and extends the literature: while conventional studies emphasize economic migration and natural increase as primary drivers (Seto *et al.*, 2011), our study demonstrates that in fragile states, humanitarian displacement constitutes a distinct “shock” variable that accelerates land conversion through mechanisms not captured by conventional models.

Table 3. Perceived Drivers of Urban Expansion (n=100)

Driver	Frequency	Percentage
Population growth (including IDPs)	38	38%
Lack of urban planning / policy enforcement	26	26%
Land speculation	18	18%
Government acquisition	12	12%
Other (economic pressures, family needs)	6	6%

The high proportion of landowners selling land (70%) is not merely an indicator of market activity but a symptom of profound vulnerability. As a landowner from Dalori explained: “I didn’t want to sell. This land was my father’s and his father’s before him. But when you have no money, no food, and displaced relatives living with you, what can you do? The buyers know this. They wait until you have no choice.” (Landowner, Dalori, 2024) This testimony illustrates how crisis conditions transform land markets – a phenomenon that challenges neoclassical economic assumptions of market rationality. Our findings align with Alem and Kombe’s (2025) observation that peri urban areas are “prone to commodification, catalysed by speculative activities and rising land value, which transform land tenure systems, challenging existing customary rights.” The

perception of poor policy enforcement (78% agreement) further compounds vulnerability, consistent with the literature documenting “inadequate legal and institutional frameworks to protect the livelihood sources of smallholder farmers” across Sub Saharan Africa (Alem & Kombe, 2025).

Table 4. Land Market Dynamics and Policy Enforcement (n=100)

Indicator	Response	Frequency	Percentage
Landowners Selling Land	Yes	70	70%
Poor Policy Enforcement	Agree/Strongly Agree	78	78%

Table 4 reveal two critical dimensions of the urban encroachment crisis. First, 70% of landowners confirmed selling their land, a figure that reflects not market opportunity but profound vulnerability. As one landowner from Dalori explained: “I didn’t want to sell. This land was my father’s and his fathers before him. But when you have no money, no food, and displaced relatives living with you, what can you do? The buyers know this. They wait until you have no choice.” This testimony illustrates how crisis conditions transform land markets – a phenomenon that challenges neoclassical economic assumptions of market rationality. Second, 78% of respondents perceived poor policy enforcement, indicating a governance vacuum that enables speculation while leaving vulnerable populations unprotected. These findings align with Alem and Kombe’s (2025) observation that peri-urban areas are “prone to commodification, catalysed by speculative activities and rising land value, which transform land tenure systems, challenging existing customary rights.” The perception of weak enforcement further compounds vulnerability, consistent with literature documenting “inadequate legal and institutional frameworks to protect the livelihood sources of smallholder farmers” across Sub-Saharan Africa (Alem & Kombe, 2025).

Evaluating Impacts on Livelihoods and Food Security

The third objective evaluated livelihood impacts using the Sustainable Livelihoods Framework (SLF).

Table 5. Impacts on Agriculture and Livelihoods (n=100)

Impact Indicator	Response	Frequency	Percentage
Reduced Farmland	Yes	82	82%
Food Production Decreased	Yes	74	74%
Farmers Displaced	Yes	68	68%
Livelihood “Greatly Affected”	Yes	54	54%
Primary Concern: Loss of farmland	–	56	56%
Primary Concern: Unemployment	–	20	20%
Primary Concern: Hunger	–	16	16%
Primary Concern: Other	–	8	8%

Applying the Sustainable Livelihoods Framework reveals the systemic nature of the crisis. The loss of farmland represents direct erosion of natural capital, the foundational asset upon which farming households build their livelihoods. This loss has triggered cascading impacts across other livelihood assets: Financial Capital: 54% of respondents reported their livelihoods were “greatly affected,” with 20% citing unemployment as their primary concern. The loss of farmland directly decimates household income, as farming constitutes the primary occupation for 54% of respondents (see Table 1).

Collectively, these findings both support and extend existing literature. They corroborate Alem and Kombe’s (2025) documentation of institutional fragility and Talema and Nigusie’s (2023) findings on livelihood collapse. However, they challenge conventional sprawl models (Seto et al., 2011) which assume gradual, economically driven expansion, revealing instead that humanitarian displacement constitutes a distinct “shock” variable in fragile states. This study therefore proposes “crisis-driven sprawl” as a framework extending land change science (Lambin et al., 2003) to incorporate crisis-based drivers. The findings further support political ecology’s emphasis on power asymmetries (Peet & Watts, 2004) and confirm the Sustainable Livelihoods Framework’s proposition that natural capital loss triggers cascading erosion across other assets (Scoones, 1998), while extending both to conflict-affected contexts where displacement creates compounded vulnerability.

Social Capital: The displacement of 68% of farmers indicates severe disruption of social networks, community structures, and relationships of mutual support that are essential for rural livelihoods. **Human Capital:** Farmers’ skills, knowledge, and labor – their primary assets – become devalued when access to land is lost, creating a skills mismatch that complicates alternative livelihood strategies.

Physical Capital: Displacement from farms also means loss of homes, tools, and other physical assets essential for livelihood security.

The finding that 82% reported reduced farmland and 68% of farmers were displaced strongly corroborates research from Ethiopia, where studies found that 42.2% of respondents were entirely expropriated and evicted due to urban expansion (Talema & Nigusie, 2023). Strikingly, our finding that 74% reported decreased food production aligns with Alem and Kombe’s (2025) synthesis, which notes that scholars “have also shown concern over food insecurity caused by shrinking farmland and reduced agricultural productivity” across multiple Sub-Saharan African contexts.

The most significant concern for 56% of respondents was the loss of farmland itself, followed by unemployment (20%) and hunger (16%). The direct link between land loss and food production – confirmed by 74% of respondents reporting decreased food production – underscores a critical threat to local food security. A displaced farmer from Muna summarized the cascading impacts: “First we lost our farms to the insurgents. Then we came to Maiduguri and lost our farms again – this time to buildings. Now I have no land, no income, and my children are hungry. I don’t know what to do.” (IDP farmer, Muna, 2024).

This testimony encapsulates the compounded vulnerability experienced by displaced farmers – loss not once but twice, first from conflict in their home villages, then from urban expansion in their place of refuge. This finding extends the literature by documenting how conflict induced displacement creates a double dispossession.

Characteristics of Crisis-Driven Sprawl

The preceding analysis reveals that urban expansion in Maiduguri represents a distinct form of “crisis-driven sprawl” characterized by five interrelated features that together distinguish it from conventional urban expansion.

Rapid, Perceived Expansion: The overwhelming perception of extensive land loss – with 84% of respondents observing expansion and 88% reporting moderate to severe loss – far exceeds rates typically documented in stable contexts. This supports Alem and Kombe’s (2025) characterization of peri-urban transformation as “explosive” and uncontrolled, confirming that crisis-driven sprawl unfolds with exceptional speed and intensity.

Humanitarian Compulsion in Land Markets: This rapid expansion is accompanied by a fundamental transformation of land market dynamics. The finding that 70% of landowners sold their property reflects not market opportunity but profound vulnerability – a phenomenon undertheorized in conventional land economics literature, which typically assumes rational choice. As one landowner explained, sales occurred not from positions of strength but from desperation, with buyers exploiting the humanitarian crisis.

Institutional Fragility: These transactions occur within a governance vacuum. The 78% perception of poor policy enforcement aligns with documented “inadequate legal and institutional frameworks” across Sub-Saharan Africa (Alem & Kombe, 2025). This institutional fragility enables speculation while leaving vulnerable populations unprotected, further accelerating land conversion.

Systemic Livelihood Collapse: The convergence of rapid expansion, vulnerable land sales, and weak governance produces systemic livelihood collapse. The cascading erosion of natural, financial, social, human, and physical capital documented here strongly supports findings from Ethiopia (Talema & Nigusie, 2023) while extending them to conflict-affected contexts where displacement creates compounded vulnerability.

Paradoxical Urban Self-Undermining: Most paradoxically, the expansion of the city – intended to shelter displaced populations – simultaneously undermines the agricultural systems upon which long-term food security depends. This paradox remains invisible in conventional policy discourse, yet it represents a critical challenge for urban planning in fragile states.

Together, these five characteristics distinguish crisis-driven sprawl in Maiduguri from conventional urban expansion documented elsewhere, contributing a new analytical framework for understanding urbanization in fragile states (Muggah, 2012). This framework offers significant potential for application across the Lake Chad Basin and other conflict-affected regions, where similar dynamics of displacement-induced urban growth are likely emerging. By naming and theorizing “crisis-driven sprawl,” this study provides scholars with a conceptual lens for investigating these phenomena and equips policymakers with a framework for developing context-sensitive responses. Future research should test and refine this framework in other fragile contexts, potentially revealing additional characteristics or variations that further enrich our understanding of urbanization under conditions of humanitarian crisis.

Discussion

Our findings extend established models by introducing conflict-induced displacement as a “shock” variable undertheorized in land change science (Lambin et al., 2003). The concept of “crisis-driven sprawl” aligns with emerging scholarship on urbanization in fragile states (Muggah, 2012). While conventional models emphasize gradual, economically driven expansion (Seto et al., 2011), findings of this study demonstrate that humanitarian displacement creates distinct dynamics – land transactions driven not by market rationality but by necessity.

High land sales (70%) reflect power asymmetries, not market efficiency. This parallels research documenting how peri-urban areas are “prone to commodification, catalysed by speculative activities” (Alem & Kombe, 2025). Weak enforcement (78%) is not merely institutional failure but, as political ecology predicts, a feature of a state apparatus overwhelmed by crisis (Peet & Watts, 2004).

Our findings strongly corroborate Ethiopian research where 42.2% of farmers were expropriated due to urban expansion (Talema & Nigusie, 2023). Both studies demonstrate that unplanned, crisis-driven urban expansion produces systematic livelihood destruction – eroding not just natural capital but financial, social, human, and physical assets. The double dispossession documented here – first from rural homes, then from peri-urban refuge – extends this literature to conflict-affected contexts.

With 74% decreased food production, peri-urban farmland conversion threatens urban food supply. This demands integrated planning linking urban growth with agricultural preservation (IFAD, 2021). The paradox of cities undermining their own food systems remains invisible in conventional policy discourse.

This study relied on perceptual data from household surveys to assess the extent of land conversion, rather than quantitative geospatial analysis. While perceptual data provides valuable insights into lived experiences and is appropriate for understanding community perspectives, it cannot provide precise measurements of land-use change. Future research should employ geospatial analysis of satellite imagery to quantify the exact rate and pattern of agricultural land conversion in Maiduguri and the surrounding region. Additionally, the study’s focus on agricultural land necessarily excluded pastoralist dynamics, a significant gap given the prevalence of pastoralism in the region. Future research should examine how displacement and urban expansion affect pastoralist communities.

Conclusion

Urban sprawl in Maiduguri represents distinct “crisis-driven encroachment” where conflict displacement intensifies conventional drivers, producing systemic livelihood collapse. The paper theorizes this phenomenon, arguing for integrating crisis-based drivers into land change science. The convergence of perceptual evidence from 100 households and 33 key informants provides robust documentation of extensive land conversion, vulnerability-driven land sales, and cascading livelihood impacts.

Recommendations

Based on the findings, this study made the following recommendations:

- i. First, crisis-sensitive urban planning and strengthened land governance are imperative. Urban plans must explicitly account for displacement dynamics rather than assuming stable demographic transitions. This requires integrating humanitarian data into master planning, designating protected agricultural zones, and formalizing land tenure in peri-urban areas. Regulating land sales to protect vulnerable landowners from speculative exploitation is essential, as is establishing transparent land markets even under conditions of institutional fragility. These governance reforms address the institutional vacuum that enables speculation while leaving displaced populations and host communities unprotected.
- ii. Second, livelihood resilience support and the Humanitarian-Development-Peacebuilding (HDP) nexus approach must be prioritized. Active promotion of livelihood diversification through urban agriculture, access to inputs and extension services, and alternative income-generating opportunities for displaced farmers can mitigate the cascading livelihood collapse documented in this study. Recognizing land governance as central to durable solutions for displaced populations, governments should adopt integrated strategies that bridge humanitarian assistance, development programming, and peacebuilding efforts. Such a nexus approach acknowledges that land issues cannot be addressed through sectoral responses alone.
- iii. Third, practitioner-led interventions must focus on legal aid, documentation assistance, and scaling successful community strategies. Affected households need support to resist exploitation and secure their rights, particularly those facing land loss. Identifying, documenting, and scaling up cases where communities have successfully resisted displacement or diversified livelihoods provides valuable models for replication across similar contexts. These community-driven successes offer practical lessons that can inform broader programming.
- iv. Fourth, future research must address critical gaps through geospatial analysis to quantify precise conversion rates, longitudinal studies to track livelihood outcomes over time, and investigations into how displacement and urban expansion affect pastoralist communities whose distinct land-use systems were beyond the scope of this study. Participatory research approaches that engage affected populations in co-producing knowledge are essential for developing locally appropriate and sustainable solutions. Together, these research priorities will advance understanding of crisis-driven urbanization and inform evidence-based policy.

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