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# Unpacking the progression of climate uncertainty into precarity in the urban context of drylands: the case of floods in Lodwar, Turkana

Marina Korzenevica <sup>a</sup>, Peter Ewoton <sup>b</sup>, Ellen Dyer <sup>a</sup>, Mary Ngikadelio<sup>c</sup> and Philemon Ong'ao Ng'asike <sup>d</sup>

<sup>a</sup>School of Geography and Environment, University of Oxford, Oxford, UK; <sup>b</sup>St. James Pokotom Secondary School, Turkana, Kenya; <sup>c</sup>Adventist Development and Relief Agency (ADRA), Egerton University, Nakuru, Kenya; <sup>d</sup>College of Agriculture and Veterinary Sciences, University of Nairobi, Nairobi, Kenya

## ABSTRACT

Climate uncertainty has always existed both as a socio-ecological reality for pastoralists living with climate variability in drylands and as a component within climate modelling, yet there is little consideration as to the experiences of poor people in the urban drylands living with intensified hazards. This paper discusses an emerging conceptual nexus of uncertainty and precarity, using the example of flood disaster governance in Lodwar, a small yet rapidly growing urban centre in the Arid and Semi-Arid Lands of Kenya. The paper is grounded within feminist political ecology and is based on multiple predominantly qualitative research methods, mainly semi-structured interviews. We conclude that precarity unfolds through a combination of climate uncertainty, arbitrary vertical (institutional support) and horizontal (social network) disaster governance, and vulnerability defined by structural causes. It manifests through stressful living in suspension waiting for governmental support, as well as unpredictability in relation to support within social networks that can be both crucial but also unpredictable and exclusionary. Finally, precarity is intersectional and subjective; vulnerable people experience high unpredictability and suffering and have a low ability for strategic adaptation even if they manage to be resourceful during the disaster.

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## KEYWORDS

Climate precarity; floods; gender; disaster governance; climate uncertainty




## 1. Introduction

Climate uncertainty has a prominent yet ambiguous at times position across many disciplines. It has been explored from the perspective of resilience to climate variability, particularly for pastoral societies (Bollig & Österle, 2008; Derbyshire et al., 2021; Maru et al., 2022; Pas, 2018; Scoones, 2019), in relation to forecasting or outcomes of climate change coupled with human-environment interactions (Pelling et al., 2020). Nevertheless, uncertainty in climate modelling is the main dimension that has been unpicked by the latest IPCC report (2023). The scholars have argued that pastoralists have unique strategies to adapt and are best positioned to cope with climate extremes, particularly through dynamic mobility and transhumant pastoralism (Pelling et al., 2020; Scoones & Stirling, 2020; Semplici & Campbell, 2023). At the same time, sedentary residents of urban towns in drylands have reduced mechanisms of adaptation and experience different socio-political pressures that affect their coping mechanisms and daily lives; therefore, we link climate uncertainty with climate 'precarity'.

The concept of precarity was first originally developed by Bourdieu in the 1970s to describe a lack of secure and protected employment conditions (Hardy, 2017; Masquelier, 2019; Standing, 2011). The concept of precarity shares many similarities with the concepts of vulnerability and risk; though

precarity critically analyses the *production* of precarity alongside individualized experiences, and therefore the term has been conceived as both a *condition* and a potential for *mobilisation* (emphasis in original, Waite, 2009). Climate precarity has been recently conceptualized as an integral component of cumulative ecological, social and political structural challenges (Griffin, 2020; McElwee et al., 2023) and the lens for analysis of power relations that shape detrimental impacts of climate change (Natarajan et al., 2019; Parsons et al., 2022; Parsons et al., 2024). Our paper continues this emerging discussion with a conceptualization of climate precarity from the perspective of perpetual suffering caused by the unpredictability of climate hazards, arbitrary horizontal and vertical disaster governance, as well as structural causes defining vulnerabilities.

The case study is based in Lodwar, which is the capital of Turkana County in northern Kenya and is composed of nearly 83 000 inhabitants (Kenya National Bureau of Statistics, 2019), see Figure 1. In the last couple of decades, Turkana has experienced multiple changes, such as Kenya's devolution (2010/2013), the discovery of oil (2012), and the international infrastructural megaproject Lamu Port South Sudan Ethiopia Transport Corridor (LAPSSET, starting in 2010). Lodwar is a town of growing capital, the emerging middle class (often related to the development industry), and, at the same time,

**CONTACT** Marina Korzenevica  marina.korzenevica@ouce.ox.ac.uk  School of Geography and Environment, University of Oxford, South Parks Road, Oxford, OX1 3QY, UK.  @MarinaKorProu

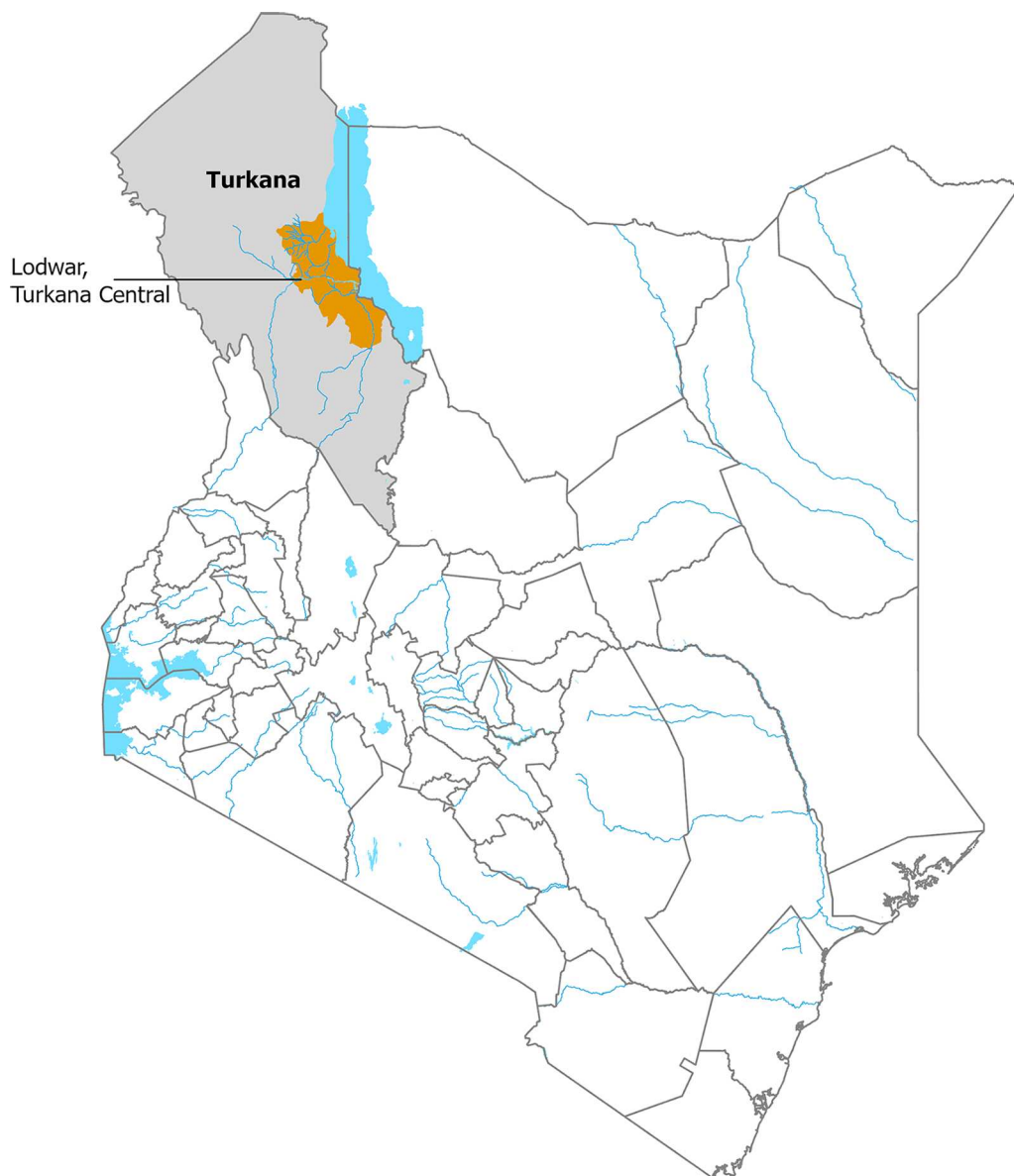
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extreme poverty (with people unable to secure two meals a day regularly) and the highest increase in inequality in 2015/16 relative to 1994 compared to other counties in Kenya (KNBS et al., 2020). Lodwar is also a hub for multiple (international) non-governmental organizations (INGOs) working in Turkana that work on poverty eradication.

The study is positioned within the underexplored field of growing small towns in Sub-Saharan Africa, particularly drylands. Despite the fact that they are estimated to be inhabited by at least half of the urban population (Tuholske et al., 2019), have unique characteristics in comparison to big cities, and serve as crucial regional centres (Korzenevica et al., 2022), they have received undeservingly little attention across academics. Urbanization in Arid and Semi-Arid Lands (ASAL) is contested: it partially evolves around continuous ecological variability, relief food distribution, and provides alternative livelihoods, but it also encroaches on dry-season grazing areas, constraining mobile pastoralism (Akall, 2021).

Moreover, small towns have the simultaneous presence of both strong to non-existent rural-urban connections, as our data demonstrate, particularly defined by the type of migration, e.g. people who flee violence will have limited networks compared to others. Lodwar, like most of northwestern Kenya, is situated in a context of climate extremes. Lodwar's climate is currently very dry and punctuated by intense rainfall and flooding, the latter being the focus of the paper. High rainfall variability is not new (Ongoma et al., 2018), though the intensity of rainfall is expected to rise alongside the temperature and conditions for drought, increasing the severity of floods (Ongoma et al., 2018; Trisos et al., 2022).

The analysis rests on multiple pillars. Firstly, we follow Waite's (2009) invitation to critically deconstruct the socio-political causes of precarity; in our case, through a multifaceted analysis of disaster governance. Secondly, we see disasters as social constructs (Gerulis-Darcy, 2008; Marino, 2015; Singh, 2015; Sun & Faas, 2018), refute the objectivity of climate



**Figure 1.** Map of Kenya. Credit: Dr. Sonia Hoque.

data due to political influences, deficiencies in modelling, and the impact of socio-economic unknowns (Jones, 2023), as well as highlight structural causes of intersectional vulnerabilities (O'Brien et al., 2007). Thirdly, we focus on subjective and emotional experiences as well as embodiments of climate precarity (Natarajan et al., 2019; Sultana, 2011), drawing from feminist political ecology. Similarly to Gupta (2012), we acknowledge good intentions and efforts by different institutions involved in disaster risk management, whilst at the same time we aim to point out the impact on people's daily lives of arbitrary outcomes of *angarasit* [dir. translation: 'support', 'aid', usually denotes development aid by official institutions].

In the next sections, we discuss the relation between climate uncertainty and precarity concepts and how precarity appears in vertical and horizontal disaster governance. We later contextualize the urbanization and floods in Lodwar, followed by an analysis of experiences of precarity and arbitrary disaster governance.

## 2. Climate uncertainty-precarity continuum

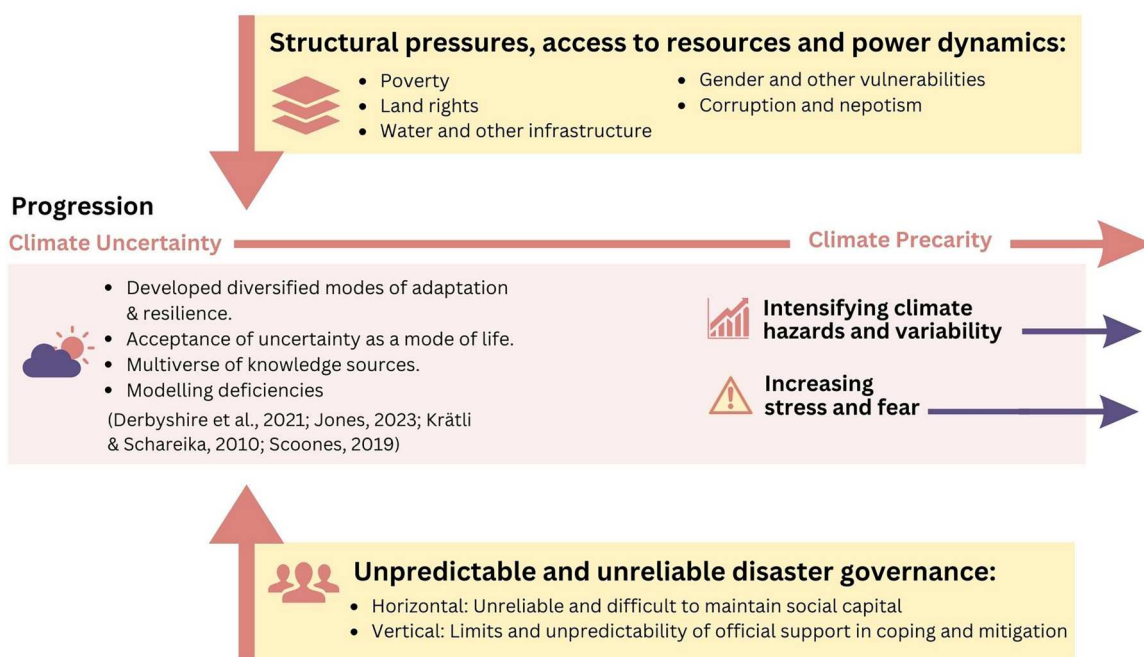
In this section, we further develop the term 'precarity' in the context of climate hazards, urbanization, and disaster governance. Natarajan et al. (2019) have conceptualized climate precarity through the analysis of agrarian distress caused by climate change in Cambodia that has triggered debt-bonded farmers to migrate and become kiln workers. In our case study, we define climate precarity as a subjective perspective on hardships in personal daily life caused by cumulative structural pressures, intensified climate hazards, and erratic seasons, as well as unpredictable and unreliable horizontal and vertical disaster governance (see Figure 2). In this definition, we draw from feminist political ecology and focus on

subjective experiences (Natarajan et al., 2019; Sultana, 2011), climate data, and multi-scale disaster governance (Tierney, 2012) as socio-political drivers of precarity (Marchezini, 2015).

We see climate uncertainty and precarity as separate and linked; thus, climate precarity is not in contradiction or isolation from a myriad of studies on the overall adaptation and resilience of drylands; it rather indicates how and why uncertainty develops into precarity in urban contexts. Climate uncertainty encapsulates relations between climate variability and limited predictability, modelling deficiencies and socio-economic unknowns in the future (Jones, 2023), but also fluid resilience and a political approach to tackling climate variability and climate change. Prediction of climate variability in Turkana has been difficult due to generic gaps in a time series, too few points of observation in space, chaotic physical climate, very few meteorological gauging stations and lack of understanding of the Turkana Jet (Munday et al., 2022).

Nevertheless, societies in the ASAL appreciate climate variability through developed mechanisms of resilience, such as constant movement and adaptation, fluidity, and flexibility (Derbyshire et al., 2021; Krätli & Schareika, 2010; Scoones, 2019). Climate variability ensures that key resources can be relied on in short-lived concentrations (Krätli et al., 2013); moreover, pastoralism is the most efficient form of livelihood both for humans and the ecosystem (Semplici & Campbell, 2023). Moreover, while operating with this poorly predictable information, there is a potential for embracing multiple forms of knowledge (Pelling et al., 2020; Scoones et al., 2018; Scoones & Stirling, 2020). Though variations in resilience by transhumant pastoralists have been embraced, urban populations do not rely on the same strategies and experience different pressures in relation to infrastructure and disaster governance.

Originally, the term precarity was developed by Bourdieu (1963) to describe the unpredictable and dangerous conditions



**Figure 2.** Relation between climate uncertainty and precarity in the urban context of Lodwar.

of casual workers as opposed to permanent workers in Algeria in the 1960s. It is usually distinguished from precariousness/*précarité* (Butler, 2004), which describes the fragility and powerlessness that societies face in front of political structures (see also Ettlinger, 2020). The term precarity has been frequently criticized as being positioned within broader western stability (Neilson & Rossiter, 2008; Waite, 2009), aimed at eliminating and predicting any risks (e.g. Beck, 2004; Gordon, 1991). While the term is westernized, it allows for deconstruction and emphasis on structures and highlights daily life experiences, subjectivities, and emotions.

Climate precarity is a recently emerging concept that deconstructs layers of inequities, local and/or global political economy, colonialism, and ecological crisis that produce precarity and amplify climate change impacts (Griffin, 2020; McElwee et al., 2023; Parsons et al., 2022; Parsons et al., 2024). The concept has been conceptualized in different ways, in relation to agrarian transformations (McElwee et al., 2023; Natarajan et al., 2019), food sovereignty (Griffin, 2020), workers' conditions (Newman & Humphrys, 2020) or global trade (Parsons et al., 2022; Parsons et al., 2024). Natarajan et al. (2019) have emphasized that climate precarity encapsulates issues of power in adaptation to climate change, arguing that power is reproduced by structural determinants and changing relations within the labour market and economy of the Global South. It aligns with multiple studies accentuating the production of vulnerabilities to hazards through cumulative historical, political, cultural, and other determinants (Faas, 2016; Marino, 2015; Wisner et al., 2003). It does not mean that power structures are unchangeable but rather relational and contingent (Ahlborg & Nightingale, 2018; Allen, 2021; Butler, 1999).

All these factors produce a subjective sense of precarity that is experienced in daily life (Natarajan et al., 2019), characterized by the perception of liminality, the (in)ability to imagine possibilities and to navigate one's past and future, lack of flexibility and freedom, as well as the (lack of) capacity to plan (Cangià, 2018; Griffin, 2020; McElwee et al., 2023). These experiences are not uniform and are embodied in subjectivities of intersectional difference, particularly of gender, race, and class (see discussion on intersectionality in Crenshaw, 1989). Precarity penetrates the lives of underprivileged groups or individuals (Adger et al., 2020; Ettlinger, 2020; McElwee et al., 2023; Sultana, 2020) and creates rupture, embodied abjection, and feelings of being lost (Cangià, 2018; Sultana, 2020). Multiple studies have indicated that women are more vulnerable to disasters due to the care economy (Tickamyer & Kusujarti, 2020); moreover, relocation strategies have a strong gendered impact (Artur & Hilhorst, 2014; Brickell & Speer, 2022; Kusakabe et al., 2015). Suffering is not passive but can be productive (Page, 2018) as people develop resilience, resist, and continuously renegotiate their position (Korzenevica et al., 2024; Sultana, 2020).

Disaster governance is one of the crucial components of the production of precarity. It denotes disaster management and risk reduction activities in the context of both societal and disaster-specific governance frameworks (Tierney, 2012). Disaster governance can be roughly divided into two categories (Tierney, 2012): horizontal governance which includes local

actors, such as communities and vertical governance managed by state or regional actors. Vertical disaster governance is biopolitical as the population is managed as an object (see discussion on biopolitics in: Foucault, 2007) through procedures such as the calculation of risks, provision of relief, and recovery (Marchezini, 2015). It is uneven as some groups are prioritized over others through the politics of difference (Butler, 2004). Horizontal disaster governance depends on resourcefulness in maintaining social networks (Cleaver, 2005). The outcome of both disaster governance levels depends jointly on power relations at different scales and arbitrariness, the relation between which can be described both as recursive reproduction and arbitrariness being a by-product of power webs.

Arbitrariness is a common feature in the entanglement of biopolitical disaster governance and social order. It creates incoherent agendas and a convoluted context of heterogeneous actors with contradictory agendas or cross-purposes. Arbitrariness has been coined by Gupta (2012) to describe the arbitrary consequences of the politics of care due to the complex bureaucratic organization in India. He has argued that arbitrariness perpetuates structural violence as efficiency goals are not necessarily aligned with justice goals. In relation to support distribution in disasters, arbitrariness is manifested in the approach of categorization of victims into lists and evaluation of their deservingness of the support (Marchezini, 2015). To prove deservingness of benefit inclusion, people need to manoeuvre through layers of power structures and arbitrariness by demonstrating their suffering (Sökefeld, 2022), navigating through local gatekeeping and rules of cooperation, nepotism, and corruption – tasks that are at times impossible for certain households (Faas, 2015, 2017).

Social capital is one of the celebrated resources that poor people can use during disasters, and yet it can be unreliable. Social capital is broadly defined as social relations, obligations, cooperation, and resources that can be mobilized through social networks (Coleman, 1988; Lin, 2008; Putnam, 1995; Uphoff, 2000). The ability to benefit from social capital often depends on investments, robustness, able-bodiedness, and the ability to represent themselves – all of which are often inaccessible for many, especially the poor (Cleaver, 2005). Several authors point that social capital can reproduce and solidify exclusion, slow down recovery for outsiders (Aldrich, 2011), and is insufficient by itself (Roque et al., 2020). Though social safety nets can have a major impact on recovery (Faas & Jones, 2017; Panday et al., 2021) and particularly when investments have been made in them; without a targeted, contextual, participatory, and power-transformative approach, they are likely to have a myriad of unintended consequences (Devereux, 2002). Moreover, safety nets are not a panacea to structural causes of poverty, such as bad policies and weak institutions (Devereux, 2002). In pastoral communities in northern Kenya, people consciously build strong social networks to mitigate risks (Bollig, 2006; Moritz, 2013); however, networks at times can be harmful. In our study, several of our women respondents were forced to flee to Lodwar due to a lack of social protection. Finally, social capital is not universally strong, particularly in urban areas.

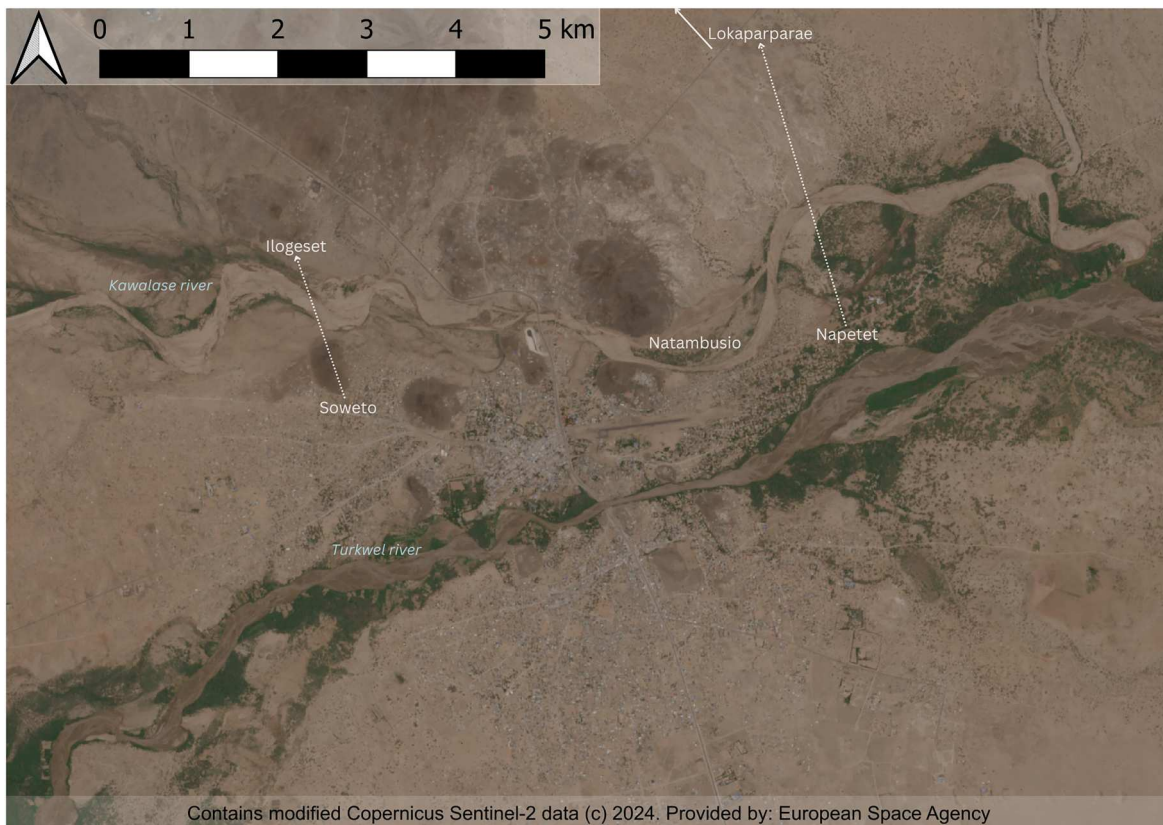
### 3. Urbanization of Lodwar amid climatic and socio-political changes

Turkana is one of the poorest counties in Kenya, which, until recently, was isolated from the rest of the country geographically and subjectively. As of 2021, the overall poverty in Turkana accounted for 77.7 percent compared to the national average of 38.6 percent (KNBS, 2023). It has been historically marginalized, the British colonial regime (1918–1963) was very violent, imposed restrictive policies on nomad pastoral lifestyles, and excluded Turkana from development funds (Otieno, 2016). Perpetual legacies of this regime were maintained until the twenty-first century when the dynamics started to change: devolution and shift of power to the local government, the construction of the LAPSSET international infrastructural corridor, and oil discovery have filled Turkana with great optimism and hopes for greater connectivity (Aalders et al., 2021; Derbyshire, 2017). These changes have been exclusive as current governmental policies and regulations are weak in working towards political empowerment, inclusion, and the sharing of benefits for pastoralists and other citizens (Aalders et al., 2021; Mkutu et al., 2019), moreover, corruption in regulatory bodies and processes is widespread (Ong'ao, 2020).

The lives of the urban poor in Lodwar are characterized by extensive precarity, reflecting what Adger et al. (2020) have

described as ‘wide asymmetrical power relations running through systems of urban life’, instability from income generation, access to basic services, health, and infrastructure. Lodwar represents a mix of pastoral practices, an urban economy, a high influx of migrants, and unequal growth. Among our respondents, many migrants moved to Lodwar, pushed by droughts, ethnic or electoral violence, family conflicts, and poverty, attracted by the promises of capital accumulation caused by multiple factors, especially devolution. Most of them are at the bottom of urban income security, surviving through ‘hustling’, finding opportunistic jobs, small-scale trade of food items, occasional farming, and small-scale pastoralism. Several of them were not always able to secure two meals a day.

Lodwar, like most of northwestern Kenya, is situated in a context of climate extremes, being very dry and punctuated by intense rainfall and flooding. In the period 2020–2022, northern Kenya experienced a severe drought that left over 2 million people in critical food insecurity, pushed pastoralists to move to towns and perpetuated poverty (DRC, 2022). In recent years, the traditional predictability of rains has changed with a less pronounced division between wet and dry seasons (Derbyshire et al., 2021). The climate is likely to become an amplified version of current conditions (Kendon et al., 2019), however, now we have better information about the current climate that could help with adaptation



Soweto	Five communities that are central to the study
	Arrows that indicate routes of relocation
	Lokaparparae is located in that direction

Figure 3. A map of Lodwar.

measures. In other parts of Kenya, Kagunyu et al. (2016) have argued that indigenous knowledge is not sufficient anymore to predict the crucial onset of rains due to increased climate variability and therefore modern climate forecasting is crucial. For example, Armstrong et al. (2022) showed that rainfall intermittency is associated with a more reliable uptake of improved water supply in future climate conditions. However, even when forecasts are available and well received, action is not guaranteed (Bruno Soares et al., 2018), and the individuation of responsibilities for environmental risks is common (Senanayake & King, 2021). Whilst there are initiatives of climate forecast knowledge co-production in Turkana between official institutions like the National Drought Management Authority and emurons ('seers', esteemed elders) using traditional prediction systems (Haines et al., 2017), people that we interviewed did not rely on any of these systems.

Lodwar is prone to floods caused by extreme rainfall and its position between the two rivers, Turkwel (originating in Mount Elgon in Uganda) and a tributary river, Kawalase (see Figure 3). The last major floods (that are covered by the data) happened in 2016, 2019, and 2020. Lodwar is susceptible to flash flooding due in part to the fact that when it rains, it rains intensely; moreover, hot dry spells followed by intense rainfall occasionally trigger flash flooding in the dry Kawalase riverbed (Haines et al., 2017). From the 1980s to the early 2000s, total rainfall in Lodwar has been decreasing against a background increase in temperature (Ongoma et al., 2018). Average yearly precipitation is within 53.3 mm, with 138.32 mm during April (the wettest month) in Lodwar (Climate, 2024), though during flooding, like in 2019, rainfall can reach up to 400% above normal (Nicholson et al., 2022). According to model projections, climate change will increase the intensity of rainfall during long rain seasons (Kendon et al., 2019), and the conditions for drought and flash flooding are set to increase due to future temperature increases, for which there is high confidence (Trisos et al., 2022). Moreover, there is a continuous risk of Turkwel Gorge Dam overflowing in northwest Kenya (Munday et al., 2020; The county government Turkana, 2020; Turkana county government, 2020a) that can cause displacement of 300 000 people.

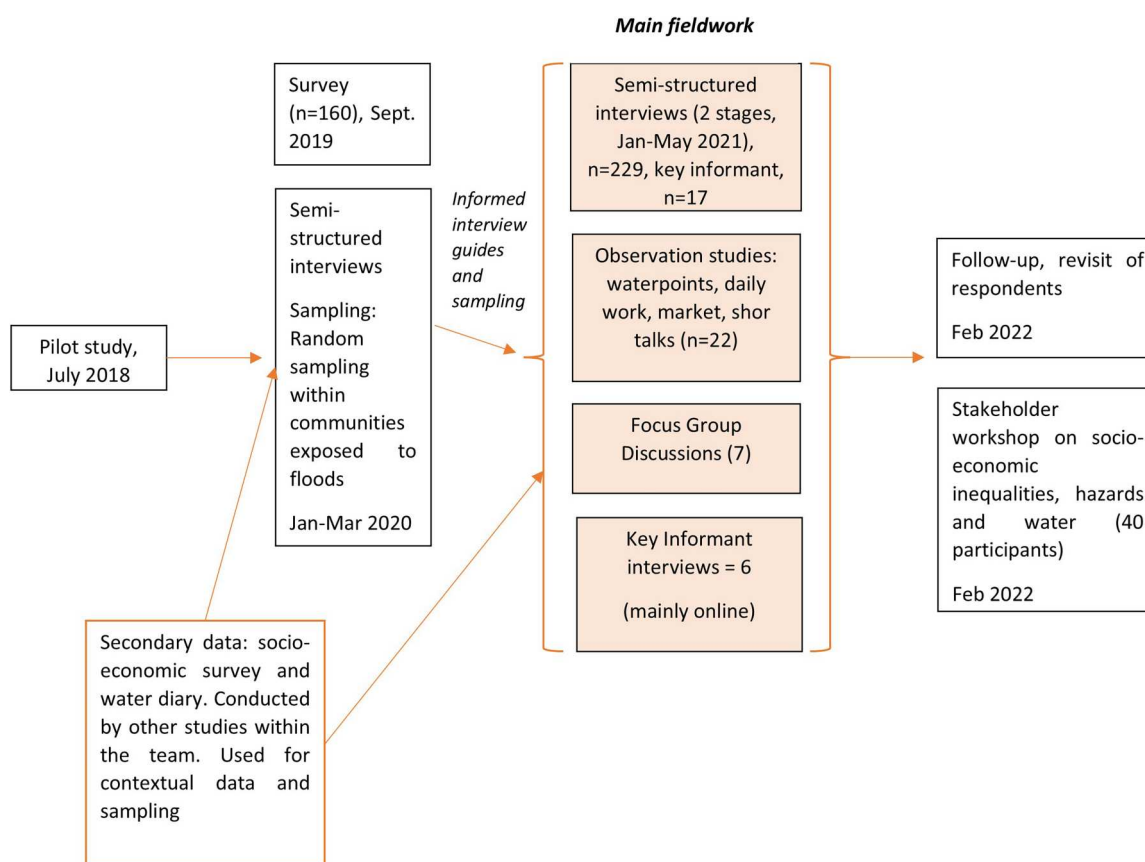
The experiences, resilience, and recovery from floods depend on multiple socio-political, gendered and economic factors. Our data indicate, that due to patriarchal gender norms exacerbated by infrastructural failures (e.g. with water supply) and socio-economic insecurities, women, children, the elderly, and the sick are most affected by the immediate floods due to being present at home. Women are solely responsible for house recovery, while men are more likely to engage in adaptation planning and immediate rescue operations. Following the floods, permanent relocation (mostly from urban to peri-urban Lodwar) has been considered the most sustainable solution and has been occasionally partially or fully assisted by (I)NGOs, government or churches. However, the process is often problematic (Korzenevica et al., 2024) and people's socio-economic conditions worsen due to relocation, particularly for women who bear the burden of unsafe water and lack of income sources.

## 4. Methodology

The paper is based on multiple separate and joined qualitative studies by paper co-authors, the core of which were conducted in the period 2018–2022 (see Figure 4). We mainly relied on semi-structured interviews, complemented by seven participatory focus group discussions, an initial small survey, observation studies, six stakeholder interviews, and a workshop with stakeholders that discussed socio-economic inequalities in water and floods and gave a perspective on institutional difficulties (Korzenevica et al., 2024). Semi-structured interviews were chosen as the main method to balance the necessity of open exploration while also respecting the privacy of people who have developed fatigue from data collection. Originally, the research was designed around a different topic; however, during the scoping visit, people were inadvertently returning to the experiences of floods, referring to their losses, fears, and emotions. We have re-shaped research questions with sensitivity to emotional geography (Sultana, 2011) and allowed space to discuss and analyze vulnerability to floods. The interview guide's modules were constructed around impact of floods, adaptation to floods, relocation, water access, income and poverty, land problems, water access, community, family, and gender norms, vulnerability, river diversion (for some communities), livelihood, and *angarasit* that respondents frequently started the conversation with. Special attention was paid to rapport with respondents, who often felt over-researched but still unheard. Local researchers, who have carried out the longest periods of data collection (3 months of simultaneous data collection), have prioritized giving sufficient time to interviews, meeting several people multiple times, talking to different family members, and engaging in their daily activities.

The sampling has been transformed with the evolvement of the research as it followed the principles of grounded theory modified by the epistemology of constructivism (Charmaz, 2005, 2008; Clarke, 2007), namely, by developing theoretical categories through tentative interpretations and then returning to the field to further develop categories. At first, we chose communities that were geographically exposed to or relocated due to floods (using proximity to the Kawalase river as a measure), and due to that, we got a wide representation of affected people. Later, we developed a narrower set of criteria (see Figure 4 for communities in focus), such as water sources, flood impacts, worry about floods, socio-economic vulnerabilities, and relation to relocation or river management processes. Within the communities, we made a random selection of houses, attempting to have an equal representation of sexes and ages. Finally, on several days, researchers were purposefully approaching vulnerable people as defined by the community: disabled, widowed, extremely poor, and the ageing (Table 1).

Data have been analyzed through the software NVIVO, using a mixture of case study, thematic, and narrative approaches. Coding followed ground theory's principles of evolving analysis and research; analysis and data collection were done simultaneously and iteratively. Thematic analysis was done through a deductive approach to pattern recognition and consecutive development of the categories (Roberts et al., 2019) through 5 steps as defined by Braun and Clarke (2006, 2018, 2021).



**Figure 4.** Methodology flow.

**Table 1.** Profile of respondents from the main fieldwork.

Parameter	% of total
Sex	53% women, 47% men
Age	18-29 (24%), 30-39 (22%), 40-49 (14%), 50-59 (15%), 60-69 (13%), 70+ (5%), unassigned (7%)
Total number of people living in the household	3-7 (61%), 8-11 (23%), 0-2 (11%), 12-16 (2%), 17 + (2%)
Family status	Married or living jointly (62%), widows (17%), divorced (8%), single (6%), polygamous marriage (5%), other (2%)
Land ownership	Ownership without documents (65%), legal ownership (18%), living on someone else's land (13%), renting (1%), other (2%)
Formal schooling	No formal education (43%), primary school finished (12%), unfinished primary school (10%), college finished or unfinished (9%), secondary school unfinished or finished (7%), high school finished or unfinished (3%), university degree (2%), unassigned and other (14%)

The study was approved by the Oxford CUREC committee SOGE1A2020-193, and permission was also granted by the National Commission for Science, Technology & Innovation in Kenya (NACOSTI/P/22/21885).

## 5. Living in suspension for hazards and institutional support

Multiple forms of waiting have strongly impacted people's daily lives. Waiting for floods has been intertwined with

waiting for institutional support (*angarasit*), creating perpetual worry. People have also been waiting for the promised *angarasit* related to other events, e.g. COVID-19 or locust invasion. Particularly worried have been women, as they spend considerably more time at home (hence being more exposed to hazards), are traditional carers of children, and are reluctant to leave children alone because floods can come very suddenly. As one mother mentioned,

When I see heavy clouds circulating in the atmosphere of Turkana, I fear for the safety of my children because I can't predict when the floods will come. I am not doing anything now [to build resilience] because I thought the government could have a protective approach for all villages prone to floods.

Kenya has multiple Disaster Risk Reduction (DRR) policy frameworks (Vision 2030, Kenya's Climate Change Response Strategy, the National Disaster Risk Management Policy, and others); however, since devolution, local counties have faced challenges with legislation and implementation, experiencing difficulties keeping up with intensifying hazards. According to the comprehensive review by Nyandiko (2020), frameworks in arid counties are poorly designed in terms of risk planning by the devolved governments. In Turkana, the County Steering Group and the County Disaster Committee have been merged into one to ensure a concerted effort between the main stakeholders (governmental institutions, (I)NGOs, faith-based organizations, and others) in DRR; specifically, the Kenya Red Cross Society has been acknowledged as an 'auxiliary to governmental capability' (Turkana



county government, 2020b, p. 37). Its first strategic goal is to ensure that communities are able to anticipate, prepare and recover from crises (Kenya Red Cross, 2019). Turkana has developed country-integrated development plans (CIDP) that were meant to be inclusive of various social groups and participatory; however, this process was curtailed by a lack of funds and experts (Nyandiko, 2020), and as a result, the current Turkana CIDP admits low disaster preparedness and management (County Government of Turkana, 2023). However, corruption, nepotism, and political rivalry have been problems along with a shortage of experts and funds, leading to a poor quality of frameworks. Across Africa as a whole, there is 'sluggish progress' in updating DRR strategies according to the Sendai Framework (Otwori & Nyandiko, 2024). In the organized workshop by the authors, stakeholders admitted both a success in coordination but also a remaining lack of systematic approach and cooperation in crucial resources like water.

The process of *angarasit* distribution is convoluted, non-transparent, and often arbitrary; it involves operations with inadequate funds that cannot solve underlying poverty and power dynamics that often entrench inequalities. The distribution is designed to be inclusive, considerate, and democratic (as evident from the interview with the Kenya Red Cross). Everyone admired the good intentions of (I)NGOs and beneficiaries expressed their profound gratitude for having 'their lives saved'. However, similarly as with DRR (Nyandiko, 2020), others have pointed at the prevailing nepotism and corruption in the process, e.g. elders modifying the list of recipients for their own or kin's benefits or asking for a bribe. For example, our respondent (a married woman in 30s with three children) has been sure that the next flood would sweep her house away due to the devastating effects of the last flood; her name was listed on two lists for relocation, but later she figured out that she was not mentioned on the final list (and she was not notified of that). After waiting she figured out that the last list prioritized people related to the elder. She feels unsafe in her house now, and every time it starts to rain, she starts collecting her belongings in the middle of the house and tries to find an alternative place to sleep with her children.

The process was also tiring and seemingly endless, as people needed to remember multiple stages and requirements but were not aware of whether there was still any hope. Every affected respondent could recite the exact quantity and type of humanitarian support they received from INGOs or governmental agencies, usually in the form of jerrycans, utensils, blankets and food enough for one meal. With bitterness, interviewees admitted that the government, NGOs or media come, take photos of their misery, write their names and leave. Most of our respondents were interviewed at least three times in relation to floods without getting any clarity on what happens afterwards. Some speculated that interviewers get aid on their behalf. After the collection of names, a process of endless lists and applications follows, with alleged mistakes either from the officials, involved elders or applicants themselves, who are mostly illiterate and are distressed due to losses they had experienced. As a result, people balance their fatigue from being constantly measured while also trying harder to get

onto the right list. The two most common phrases by the respondents were: '*We are still waiting, but we are losing hope*' and '*The government has been lying to all of us about compensation*'.

Problematic land tenure, a lack of participation in mitigation, and poorly managed urbanization have been adding unpredictability to adaptation. The County Steering Committee has agreed to aid the process of relocation to the specially agreed patches of peri-urban land (Lokaparparae); however, land-grabbing conflicts in Lodwar are a real problem (Turkana county government, 2020b), partially evolving due to poor land management, documentation, and tenure systems (County Government of Turkana, 2023) that have been recently announced to be regulated (Turkana County Government, 2023). Socio-political conflicts (Lane, 2013 [1998]), land speculations, grabs (Akall, 2021), and marginalization, particularly of women (Greiner, 2017), have been on the rise. Moreover, Turkana faces weak urban management (Turkana County Government, 2023), making disaster management more difficult.

During data collection, unregulated land management and the delayed provision of infrastructure were critical components of perpetual feelings of precarity. Everyone needed to develop multiple strategies to secure land in Lokaparparae that was granted by the government, the Red Cross, or privately accrued, usually through immediate relocation or using familial networks (Korzenevica et al., 2024). Socially vulnerable respondents (single mothers, widows, elders, and disabled) were lacking the necessary resources and experienced significant difficulties in claiming and maintaining their ownership; therefore, it was often grabbed by the more powerful groups through corruption or manipulation of documents. Those who have managed to relocate to Lokaparparae after the floods, faced acute water shortages due to the lack of improved water sources. This burden was particularly experienced by women as they are traditionally responsible for water access. As a result, relocated women spend 4–8 h a day collecting unsafe water from wells dug in the dry riverbed. Improved water sources are available in the form of water tanks provided by the government or construction companies. Both are rare and unreliable. The provision of water in this place is currently a matter of political power negotiations; the tank in the peri-urban locations is filled after the village elder (a man) reaches out to the Ministry of Water to complain. The local water manager of the tank (a woman) feels intimidated to remind the elderly about this task. Water tanks were also regularly filled shortly before the elections in 2022 but stopped soon after.

Several researchers have argued that relief assistance in northern Kenya weakens mechanisms of pastoral resilience by creating aid dependency (Bersaglio et al., 2015); moreover, interventions fail to support pastoral livelihoods (Akall, 2021). Amid the literature on relief programmes (Lind, 2005), it is important to critically evaluate the impact of the biopolitics of disaster governance on people's lives and wellbeing in the context of urbanization and weak infrastructural development. Institutionalized flood support combines the messy, precarious reality of biopolitical arbitrariness both through support and also the continuous collection of data through lists, corruption,

and a lack of transparency. Moreover, it is further positioned within the structural causes of urban hardship and poverty: an unregulated land tenure system, failures in infrastructure, and difficulties generating income. Inadequate social protection makes it difficult for adaptation projects to be efficient and for people to recover (Davies et al., 2009; Devereux et al., 2006; Siddiqi, 2011). Within this polarity of possible outcomes, people are constantly navigating the complexities of socio-ecological instability (see more on navigation: Vigh, 2006). People wait in suspension – they wait for the next hazard to come, they wait for transparency and clarity as per recovery mechanisms, and they wait for water to be provided as they wait for the government to provide for its citizens (see also: O’Leary, 2016). While precarity is a ubiquitous experience for the poor in the Global South (Waite, 2009), in the case of Lodwar, it is further exacerbated by intensifying climate hazards and arbitrary disaster governance.

## 6. Uncertainties within social networks: between a blessing and a challenge

Pastoral living heavily relies on social networks that aid resilience to climate hazards (Angelopoulos et al., 2023); however, the patterns of Lodwar’s urbanization both contest and confirm this argument. On one hand, our data indicate the presence of tight social relations, particularly for those who were born in Lodwar or have developed symbiotic relations with rural parts that are indispensable in the process of recovery from shocks. On the other hand, respondents who are migrants have weaker social protection embedded in gender norms, such as women who have fled domestic violence, people who have escaped ethnic or electoral violence, women who have migrated to Lodwar to generate better income to support their left-behind families elsewhere, or men who solo migrated to Lodwar in a search of a better life. Very often those people have been displaced from their social circles. Moreover, the increase of urban poor and extremely poor has decreased the capacity of mutual help due to limited resources. We discuss how helpful, but at times, exclusionary, and arbitrary networks are in the context of floods by drawing on variations of vulnerabilities and methods of coping with floods. All the stories demonstrate how people were trying to benefit from social connections after being denied any *angarasit*.

One of our respondents, a single mother, 35 years old who was abandoned by a husband with six children (the oldest one has just turned 18, and all are enrolled in schooling) lost all her savings (ksh. 30 000 [213 EUR]) and children’s that they jointly earned from their small hustling businesses alongside the school over years, ksh. 18 000 [128 EUR], and all her possessions in the house as she needed to focus on saving her disabled daughter during the flood. [Laughing] ‘People who had husbands got supported during the crisis. I just carried my kids’. Though being a Turkana, she was not embedded in the security of social networks being a migrant. They needed to sleep in the school and upon their return to their house they encountered an increase of rent that they could not manage. She did not get any *angarasit* as she was considered too rich. She was asked to give a bribe, but she refused. She has turned

to the bishop who helped to find a temporary house; moreover, she took a loan of ksh. 60 000 (426 EUR) from the saving association. With this money, she paid for children school expenses and transport and started a small trade of soaps. Eventually, church members helped with some utensils and moral support. Despite a seeming economic ability to somewhat cope with the disaster, she was mentally disturbed after the floods and needed to get medical help from the hospital. Ever since, she exclaimed: ‘When it rains, I am so worried as I suffered a lot’.

Arbitrariness and delay of help are prominent in most of the cases. For example, a family with 7 kids, has lost the house and all their belongings during the floods. Our respondent, a wife (34y), returned to her plot after the floods, not knowing what to do, and stayed under the Prosopis tree for a week until her neighbour offered them a room to stay in for free until they managed to rebuild their house, which is financially a difficult task. The family is constructing the house in their old plot, approximately 20 metres from the river, commenting: ‘I fear [floods] a lot, but what can I do, I don’t have money to buy a different plot and live’. Moreover, several respondents did not manage to get any social support at all; in one extreme case, a single mother became homeless for a whole year during which she slept with her children under an open sky, covering themselves with fabric or plastic sheets. Eventually, one NGO noticed their condition and helped to rebuild the house. Both respondents had no access to saving associations.

The ability to access particular social networks was also grounded in gendered subjectivities. Among our respondents, those were only two or more adult households who were able to build multiple social schemes to prepare for floods through building adaptive capacity, as they involved mobile living by male relatives and friends in different houses and locations, to ensure the protection of land and enable dynamic adaptation. Most of them were led by men who organized extended family networks to save livestock; they also split families to benefit from income generation in flood-prone zone areas but also have a safe plot in the safety, e.g. men stayed in the centre of town until floods while women stayed in the area not exposed to floods. Women were more likely to engage their kin in rebuilding the house post-hazard, as this has been considered their primary responsibility. Women have the additional vulnerability of domestic conflicts with their husbands or co-wives triggered by the floods; however, often elders manage to help by providing those expelled women with a plot to live on; however, usually, it is in extremely flood-prone areas. That said, men experience a stronger risk of harm; in some locations, they formed rescue networks since the roads were frequently not passable for the official operations. Unsurprisingly, the success of these initiatives was patchy and often even harmful. One of our male respondents became disabled as he tried to rescue neighbour’s children from the water.

Social capital has also been particularly exclusionary. All six non-Turkana respondents who have been affected by floods have reported systematic exclusion and marginalization by the local community. Even though different ethnic groups co-habit amicably, there has been a strong sense of

belongingness in Turkana land to Turkana people and a wish to support ‘own’ people. Non-Turkana people, often Kikuyu who have migrated to Lodwar to engage in trade and support their families elsewhere, are slightly better off economically, though socially vulnerable, particularly during times of hazard or distribution. All the non-Turkana respondents have said that they are purposefully not informed about upcoming meetings or *angarasit* processes, and they also do not benefit from social help. Elders do consider them not belonging to the community, and to be too rich to deserve any *angarasit* considerations. For example, our respondent was a single mother who came to Lodwar 15 years ago to work to be able to send remittances to her children back in Kitale. An orphan herself, she had only her sister back in Kitale, who was her only support network. Floods have swept away all her cash and belongings, so she was forced to fry fish for others and take a loan from different people totalling 4000 Ksh [28.9 EUR] and 2000 from her sister that she expects to repay within two years. During floods, she had no place to go and no friends to rely on. Even though she was labelled as better off due to her business, she was extremely vulnerable due to multiple gender-defined duties, marginalized due to her ethnicity, and unable to recover quickly due to her caring responsibilities. Two years after the floods, she was still frying fish for others.

This section has demonstrated the complexity of social capital’s arbitrariness as it can be sometimes useful, but more often delayed and unreliable. The stories above, but also wider data show that, during the floods itself, the degree of support varies, in most cases (with some remarkable exceptions), people focus on saving close family and personal livelihood, rather than extended networks. It is not unusual that in the post-flood phase, neighbours or the church would provide support; however, it was not guaranteed nor expected. As we asked a disabled ageing woman, foreseeing the inevitable loss of her house, constructed by an NGO on the eroding bank of the Kawalase river: ‘*What will happen when the river takes your house? Will anyone support you? Who will help you if at all? Church, neighbours, NGOs?*’ Her only answer was: ‘*I don’t know*’.

Arbitrariness is not equal and proportionate, but very intersectional in the ability to exercise resourcefulness in mobilizing social networks. The lens of resourcefulness allows us to evaluate the process of coping and not just the end result, like resilience (Mackinnon & Derickson, 2013). Families with two main adults and especially connections with rural areas often manage to develop multiple adaptation strategies that often reflect exceptional pastoral adaptive capacity to variability and extremes (Semplici & Campbell, 2023). Most of the vulnerable urban residents, such as single mothers who were interviewed, have experienced significant difficulties developing any adaptive capacity before the hazard and have relied on the arbitrariness of the post-flood tactics often embedded in desperation, such as waiting in the open space for someone to react. The majority of people were not members of any saving association. They could not obtain membership, mirroring Cleaver’s (2005) arguments that poor people are excluded from the ability to maintain and benefit from social networks as they lack material and physical assets and have socio-cultural constraints that impede their exercise of agency. The

first case was an exception, as the woman managed to benefit from the membership. However, while economically she is not extremely poor, she is very vulnerable to shocks by being the only adult, and she has struggled physically, mentally, and financially; reflecting arguments that non-(extremely) poor people can be very vulnerable to disasters too (Devereux et al., 2006). Finally, social support has been perpetuating marginalization (see also: Aldrich, 2011; Panday et al., 2021; Rahill et al., 2014) through the continuous exclusion of non-Turkana members.

## 7. Conclusion

Climate uncertainty has always existed both as a socio-ecological reality for people living in environments with high climate variability and as a component within climate modelling. This paper implicitly relates to the emerging field of what it means to live with expectations of hazards that are expected to increase in small towns in ASAL. Lodwar as an urban town represents some elements of the complexity of both pastoral resilience to ecological instability and climate variability (Derbyshire et al., 2021; Semplici & Campbell, 2023) but also the dynamics of urban socio-politics, diverse social networks, intense urban land tensions, infrastructural pressures, and difficulties in managing casual hustling jobs.

We analyze progression of climate uncertainty into precarity, seeing both as distinguishable and relatable concepts in a continuum. Using the example of floods in Lodwar, we have further developed the emerging concept of climate precarity (McElwee et al., 2023; Natarajan et al., 2019) and have argued that uncertainty develops into precarity due to power relations defining arbitrary horizontal and vertical disaster governance, the unpredictability of climate hazards, as well as structural causes shaping urban vulnerabilities in drylands. We have demonstrated the benefits of multiscale conjoint analysis of power relations and arbitrariness in both vertical and horizontal disaster governance as we focused on an individual as a recipient of help from different sources, not only official institutions but also their kin. In their daily lives, people navigate the increased intensity and frequency of climate hazards, together with convoluted processes of flood support distribution by the government or (I)NGOs. While at times it is beneficial, it is also highly problematized by an unregulated land tenure system, corruption, and a lack of transparency, resulting in people living in the continuous status of waiting to be placed on arbitrary lists of beneficiaries and living in suspension for the outcomes. Horizontal disaster governance in the form of social networks can be equally useful but also sporadic, delayed, and unreliable.

Precarity, waiting, and suspension are subjective and experienced through intersectional and embodied subjectivities. Our analysis has demonstrated that men in joined households can develop strategic adaptive capacity by leveraging social networks, while single mothers typically try to benefit from social ties after the hazard, thus experiencing hardship until they receive support that can be significantly delayed. Moreover, non-Turkana people are systematically excluded from local social networks and need to rely on connections far away. Finally, precarity evokes intense emotions, as both

women and men experience high levels of stress in various ways while waiting: for new floods as they watch dark clouds gather, for governmental aid to arrive, for infrastructure to adapt to relocation strategies, and for social support to become available.

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## Notes on contributors

**Dr. Marina Korzenevica** is a researcher in the feminist geography of water and climate at the University of Oxford. She has focused on injustices, vulnerabilities and marginalities at different scales. She specialises in intrahousehold and community-level processes and power dynamics, with a specific interest in environmental justice, local politics, gender and youth.

**Peter Ewoton** is a teacher at St. James Pokotom with a keen interest in enhancing teaching and learning methodologies while passionately advocating for climate change awareness. He is dedicated to shaping young minds and integrates innovative educational practices with a commitment to fostering environmental stewardship.

**Dr. Ellen Dyer** is a climate scientist who specialises in African climate systems. Her interests include understanding challenges in using climate information in Africa - from difficulties in capturing physical processes in models to the confidence users have in information at a local scale and everything in between.

**Mary Ngikadelio** is a gender and development researcher and an NGO practitioner. Mary's current interests include the exploration of the relation between migration and socio-cultural change, with a particular focus on the uptake of contraception among the Karamojong of Uganda and the Turkana community of Kenya.

**Dr. Philemon Ong'ao Ng'asike** is a Post-Doctoral Researcher for the Drylands Transform Project hosted by the University of Nairobi, and a Programme Manager for the USAID - Nawiri Program implemented in Turkana County by Mercy Corps Kenya. His research interests are sustainable livelihoods in the drylands, climate governance and state building initiatives for fragile territories of the Horn of Africa.

## ORCID

Marina Korzenevica  <http://orcid.org/0000-0003-0900-4326>

Ellen Dyer  <http://orcid.org/0000-0002-8668-7987>

Philemon Ong'ao Ng'asike  <http://orcid.org/0000-0003-2456-5762>

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